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Report

CCDC-30:

The new Integrated Project Delivery contract takes design and construction collaboration and risk sharing to a new level

New technologies:

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Editor's viewpoint



This issue includes stories about documentation, technology and legislation – all related to the interplay and coordination between owners, architects, engineers and contractors. The goals: To reduce friction, enhance co-operation, and ensure payments are reasonably prompt.

Documentation relates to the CCDC resources, including the new CCDC 30 for Integrated Project Delivery (IPD), setting out contract rules where the design and construction team co-ordinate their work and share in the risk (and rewards for successful results). Technological changes have the potential to truly disrupt the AEC industry and shatter long-standing business norms. Finally, while specific to Ontario, the new provincial Construction Act has become the model for impending federal legislation, and several other provinces are developing their own prompt payment and adjudication systems based on the new Ontario rules.

These are exciting times for the AEC industry, and I expect the rewards will be immense if you embrace the changes (and you may run into problems if you stick your head in the sand and refuse to adapt or implement new business practices and technologies.)

As always, I welcome your observations and announcements. You can reach me at buckshon@cadcr.com.

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CCDC-30:

The new Integrated Project Delivery contract takes design and construction collaboration and risk sharing to a new level



Geza Banfai discusses CCDC 30 at an Ottawa workshop.

Canadian Design and Construction Report staff writer

The Canadian Construction Documents Committee (CCDC) has introduced a new standard form contract for Integrated Project Delivery (IPD) – reflecting the current trend towards projects where design and construction are collaborative, with shared risk and opportunities for profit if things go right, and penalties and risk-limiting controls if they go wrong.

CCDC chair Mark Mulholland, vice-president project delivery services operations at BGIS, and construction lawyer Geza Banfai from McMillan LP, outlined the concepts behind the new CCDC 30 contract and explained how it compares to other construction contract models at a May 4 workshop in Ottawa, one of several held across the country.

“CCDC 30 reads like nothing you are really used to,” Mulholland said. “It’s intensely collaborative. If you can’t play nicely in the sandbox, there are mechanisms to have you thrown out. The risk pool to my mind is the element of the contractual arrangements that give it its power.”

Success is very clear because the parties spend a great degree of time on mutually agreeing upon the price, scope, schedule, and quality. “When you achieve success, you get your risk pool,” he said. If the project goes

above budget, and the final cost burns into the contingencies, pre-identified by mutual agreement, “then you are into the risk pool and the owner is now spending your profit.”

However, if the project is way off budget, “the owner continues to pay the costs if they are above the risk pool and contingencies.”

“Owners like it, because the risk of costs increasing above the top line is closely and collaboratively managed,” Banfai said. “Contractors like it, because at least they are going to (recover) their costs. In the worst case scenario, they aren’t going to get a profit but they are going to get their costs.”

Of course, the process requires quite a bit of co-ordination and planning, since the key players including the owner, design consultants, general contractor, and key subtrades need to participate as a team from the start, even as they compete for the contract, which will be for a building for which there is not yet a design.

“On day one, when CCDC 30 is signed, as of this date, there is no project yet,” Banfai said. “There may be a budget but it’s just a thumbnail. There’s no scope, there’s no design, even all of the parties may not be confirmed. At this point, the project is a gleam in the owner’s eye.”

The first stage, Banfai said, is the “validation phase”.

"This can extend for a number of months, when a whole bunch of things happen. Owners, and design and construction teams meet intensively to take this gleam in the owner's eye and turn it into something that will be sufficient to allow a go/no go decision."

During this time, the team coalesces psychologically, with a project management team, senior management team and project implementation teams.

"At this stage, the design is worked up to a point, where a base target cost can be comfortably determined," Banfai said. "The site investigations are done, usual due diligence along the way is done, all under the management of the project team."

Participants conduct meetings where the expected profits are identified and tabled in an open-book way so as to establish a Risk Pool, and risk allocation percentages are determined.

Then a "validation report" is produced, which "essentially is the business case for the project."

If the business case cannot be met, the owner has the option of terminating the contract, paying the design and construction team for their costs but not their profit. "The profit of the construction and design team members is at risk from day one."

If the project is a "go", then the design and procurement phase commences, overlapping slightly with the construction phase which follows. During design and procurement, the design is refined taking constructability and value engineering into account and looking for ways to "tweak the design so as to bring greater value to the owner for the dollars committed and/or savings, and at the conclusion of which you come up with a final target cost."

"This number is the one that really matters for risk

pool distribution purposes," Banfai said. "The idea is that during the design and procurement phase, the parties seek to find innovations and savings."

Typically, this work is done collaboratively in a "big room" – with desks, computers, blueprint machines, cork-boards and whiteboards on the walls and sticky colour coded notes.

The concept is new and the speakers acknowledged that while it is "taking off slowly in Canada, more and more (IPD projects) are coming on line."

"I don't want to suggest this is for everybody," Banfai said. "It starts with an owner who gets it."

Earlier in the session, lawyer Banfai said he believes the most important quality for project success or failure are the individuals running the job.

"It's amazing how just one person – the wrong person – can completely screw up a project," Banfai said. "Multi-million dollars worth of failure, can happen because of one sociopath."

Banfai said it is important to get these troublesome people out of the job as soon as possible.

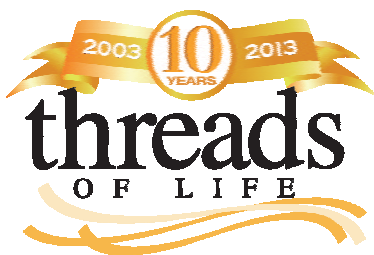
"Sometimes it is really hard, especially if the individual is at the top of the food chain," he said. "That is a real problem. The only effective way is that you have to remove this person from the project one way or another."

"If the problem is at the project management level, it helps if the senior management and the members of the project team have a strong relationship and strong social trust, so that they can have these candid conversations about "Frank" and have the troublemaker removed."

Fortunately, these issues would become apparent and be resolved early in true IDP projects, where CCDC-30 would be used.

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New technologies: How will they redefine the architectural, engineering and construction community?

Mark Buckshon, *Canadian Design and Construction Report*

Is the Canadian design and construction industry about to experience a radical, transformative and critical technological revolution?

The answer, according to some industry leaders, is “yes” – as the industry’s inefficiencies and intermediary-loaded framework experiences stress as owners press for greater efficiencies and disruptive integrated organizations are changing the meanings of modular design-build to much more comprehensive and wide-scale applications.

Not surprisingly, many of these changes are being led by U.S.-based organizations, though there are significant areas including artificial intelligence (machine learning) where Canadians have a leadership role.

To learn more about where the industry is heading, I accepted a media invitation to attend the TECH+ Conference in Manhattan in May, sponsored by the Architect’s Newspaper. (In exchange for a secondary media sponsorship status, we received an attendee pass, but I paid my own travel and accommodation costs.)

During the day-long event, several speakers outlined critical issues, including collaboration/BIM, sustainability and visualization, as a variety of industry technology businesses demonstrated their products and services.



Several speakers observed that the AEC industry is near the bottom of the bell curve in technological adaptation, only slightly better than architecture.

Perhaps the biggest “wow” moment occurred for me when Chris Meyer, Boston-based general contractor and Suffolk’s chief information officer, displayed a graph showing the sudden and dramatic market decline for newspaper advertising in the last decade. We’ve published a story in our U.S. publications about Suffolk’s multi-city Smart Lab concept, but I didn’t connect the dots until his speech that Meyer had previously been the Boston Globe’s publisher.

Meyer displayed a graph that showed that, while the newspaper industry was well aware of the Internet’s rise and developed different models to cope with the change, it could not stop the steep and dramatic crash that started about the turn of the millennium, as Google





and Facebook grabbed most of the advertising market. In fact, newspaper advertising revenue has declined by about four-fifths in the past decade, so advertising revenues are now even lower than they were in the 1950s. Newspaper digital sales have made the slightest gain; but the data is clear – the conventional newspaper industry has been pushed over the cliff, and in just a few years.

Meyer suggested that AEC, like the newspaper business, is an “intermediary” industry – that is, most practitioners are serving others in the value chain rather than end users – and he suggested this could create a situation where there will be major disruptions as new technologies capture market presence and share.

Will this happen anytime soon? That is the big question. And the AEC industry may be saved (or ultimately destroyed) by its current structure, where various professionals often work in their own silos.

Keynote speaker Dennis Sheldon, director of the Digital Building Laboratory (DBL) at the Georgia Institute of Technology, shared some insights into the challenges (and opportunities) that the technology creates for linkages and collaboration between the various AEC industries, including BIM, virtual and augmented reality.

Meanwhile, Phil Bernstein, the associate dean at the Yale School of Architecture, said current trends suggest big data, computational design and integrating machine learning could “eventually help architects design more optimized buildings and reduce the waste that comes when expectations don’t line up with how a building actually performs in the real world.” The Architect’s Newspaper reported.

But BIM and virtual reality have been around for several years now, and while they have certainly influenced design and construction practices, they haven’t changed the universe, it seems. Something else needs to give –

and the suggestion from some speakers is that it will come from highly capitalized new integrated industry organizations, and individual owners demanding greater technological adaptation and accountability.

The disruptors, such as Kattera, combine modular/factory building with a beginning-to-end design, engineering and construction collaboration process, meaning that the owner places the order, architects and engineers (often in remote locations), prepare the design, and the work is scheduled in factory settings, with modular components shipped to the actual construction site for rapid assembly.

If these services catch on – and billions of dollars in investment capital have been staked on the proposition – the traditional design and construction model will be upended as designers, contractors and subtrades either need to buy into the new competing mammoth building organizations, or fight for a shrinking market share where traditional practices and relationships remain in place.

Another drive for change is happening at the ownership level. Jeremy Munn, a senior capital project manager for the design and construction department within the facilities division of Northeastern University in Boston, for example, described how the university is finally getting all the pieces together in a digital procurement/building cycle, but not by using a one-size fits all system, and with plenty of training and support to encourage compliance (and this progress is coming because the owner is driving the agenda, not the architects, engineers or contractors.)

Munn said his department manages 250 new projects a year, of varying size and complexity, from minor retrofits to multi-million dollar new structures.

His goal: Build an e-procurement and building system that has consistent templates, reporting dashboards, au-

tomated project delivery processes, and advanced document management capabilities.

There are different software packages that do some, but not all, of the tasks the university is seeking – but the solution is not to force everything into a single piece of software, but rather to integrate the different tools and software resources appropriate to the different stages in the design, construction and operation cycle.

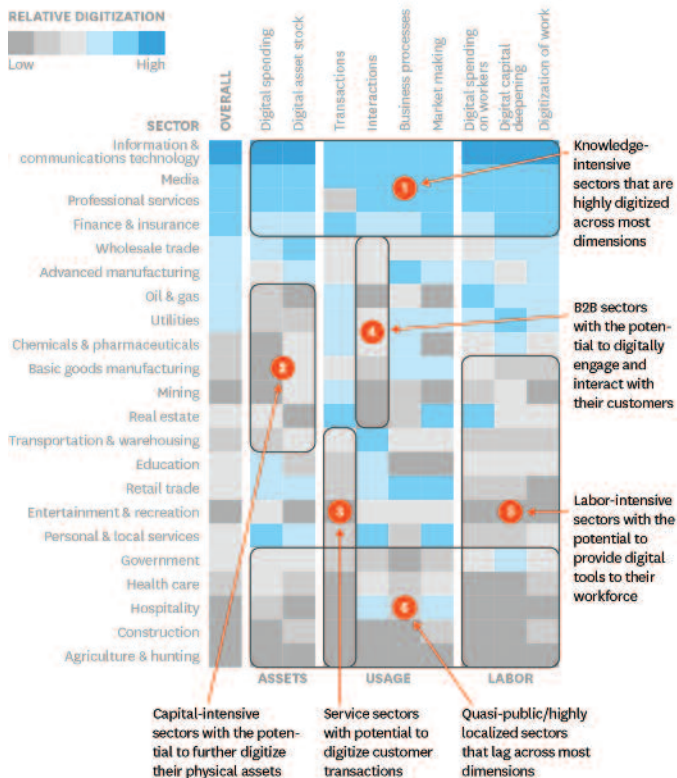
He said the university had 206 active users in its e-management system in 2016; by 2018, the active users had increased to 660. “Most are consultants,” he said. As more capital projects have been managed by the system, he said the number of automated processes increased from nine in 2016 to 27 in 2018. There’ll be more changes including managing capital expenditures and operations, moving from a manual to automated deferred maintenance program, better BIM integrations, more robust and consistent laser scanning of existing conditions, and the introduction of virtual reality to present projects to senior leadership.

“Our value proposition is not to build faster and quicker,” he said. “It is to get students into classroom seats and researchers into labs so they can spend their NIH (National Institute of Health) grants.”

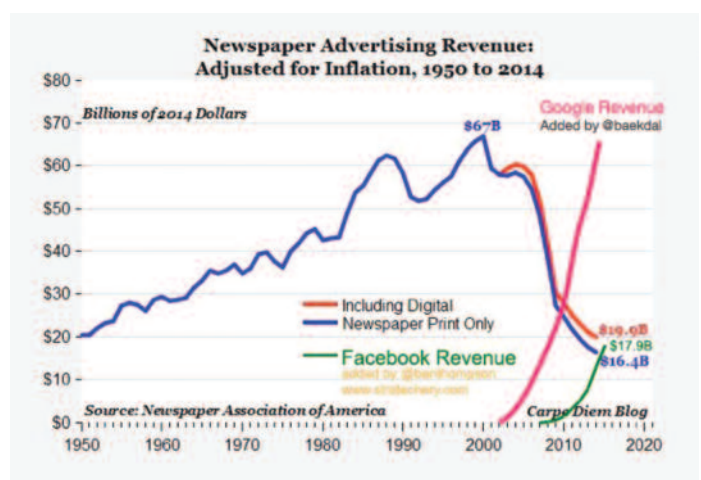
Meanwhile architect Jan Leenknecht of BIG hinted at how working as an architect for Google on a massive new million plus sq. ft. office complex in Sunnyvale is challenging traditional design practices with new technological resources. (I may be able to see the site first-hand this fall when the search-engine giant invites me to the northern California community for its annual Google Product Experts summit/meet-up. Leenknecht could only

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This graph shows the incredible and sudden decline in newspaper advertising revenue correlated with Google and Facebook’s rise.

<https://charman-anderson.com/2016/09/28/us-newspapers-lost-advertising-revenue-found/>

allude to the building’s design challenge because he, like most contractors and others with some direct access to Google staff, including me, are required to sign non-disclosure agreements.)

However, speaking generally, he explained how collaboration is pushing “interoperability across contractual boundaries” as the number of design tools is declining through consolidation, and documentation is becoming increasingly automated. He also said BIM is becoming increasingly important, and is vital for complex architectural designs.

However, technology doesn’t replace the human element. Owners, designers and contractors need to “bring (software) tools to the teams and empower intelligent humans,” he said. “The tools are not the same for every project.” There needs to be training, standards and templates, annual BIM model audits, and feedback.

Can we draw any take-action conclusions from these observations? The answer, I think, is we need to be aware of the technology adaptation drivers/disruptors – namely forward-thinking owners and disruptive technology service/building companies, and develop our own awareness on how to integrate and implement the new tools in a more collaborative environment. Otherwise, we might be caught in the newspaper industry trap, through which only a few nimble, creative and technologically astute businesses are surviving.

Mark Buckshon is the president of the Construction News and Report Group of Companies, which publishes Canadian Design and Construction Report and several other publications. See his blog at www.constructionmarketingideas.com.



See this video re digital take up by industry

Federal government stops Chinese takeover of Aecon: CCA applauds decision

Canadian Design and Construction Report staff writer

The federal cabinet has blocked the proposed \$1.5 billion takeover of Toronto-based Aecon by a Chinese-government owned company, citing national security threats.

The decision follows extensive lobbying by other businesses in the Canadian construction industry, represented in part by the Canadian Construction Association (CCA), which asserted that the state ownership of the business would create unfair advantages to the foreign business.

The decision against the takeover by China Communications Construction Co. Ltd. follows a national security review that the *Globe and Mail* reports determined was not in Canada's national security interest.

The newspaper reported: "Intelligence agencies in both Canada and the United States have warned that companies owned or partly owned by the Chinese government are not merely profit-seeking operations; they are also prone to passing on information or technology to Beijing and making business decisions that could conflict with Canadian interests but serve the agenda of the authoritarian Communist Party of China."

"Our government is open to international investment that creates jobs and increases prosperity, but not at the expense of national security," innovation minister Navdeep Bains said in a statement.

Aecon reported to investors that it is reviewing the decision and will have a "more detailed response in due course."

"While we are disappointed with the government's decision, Aecon is and will continue to be a leading player in the Canadian construction and infrastructure market," Aecon chief executive officer John Beck said in a statement.

"While we have been prevented from pursuing the transaction, we are moving forward from a position of strength."

Ward Elcock, a former CSIS director who had urged for the deal to be rejected, welcomed Ottawa's decision, the *Globe and Mail* reported.

"A state-owned company will always do the bidding of China," Elcock said in an interview with the newspaper. "At the end of the day, China is not an ally of Canada. It is a trading partner – and a crucial one. ... But having said that, the interests of China are not always going to be the interests of Canada."

He said the problem with allowing Aecon to be purchased by a Chinese state firm is that the Canadian company plays a significant role in major infrastructure projects, from the refurbishment of nuclear facilities to



British Columbia's massive Site C hydro-electric dam. Mr. Elcock said he thinks the difficulty facing federal decision-makers was that they couldn't fashion a workable constraint on Aecon's future activities under Chinese state ownership.

"The problem, I suspect, is there is really no way to put in a restriction that prevents a company that simply pours concrete one day from undertaking a major infrastructure project on another day," he said.

The Chinese embassy in Ottawa said the decision will hurt Canada's economy. "There is no doubt that the decision made by Canadian government is by no means good news for the investment co-operation between China and Canada," the embassy said in a statement.

"This will seriously undermine the confidence of Chinese investors."

In a statement, the Canadian Construction Association (CCA) said it is pleased with the decision.

"CCA wishes to express its satisfaction with the government's confidence in the Canadian construction industry," said CCA president Mary Van Buren. "We are happy that the government recognizes the fact that government-owned or controlled entities have no place to compete against private and publicly-traded companies in the Canadian construction industry."

CCA said has always advocated for the establishment and maintenance of a free-flowing international system of trade, both in terms of goods as well as services. CCA supports international free trade agreements, including provisions respecting government procurement.

The Canadian construction industry is highly complex, using sophisticated, technology-forward and innovative techniques. From drones to IoT on bridges to 3D modelling, Canadian know-how is exceptional, and CCA welcomes the government's commitment to encouraging entrepreneurialism.

The Government of Canada is engaging in a massive infrastructure program, investing more than \$180 billion of Canadian taxpayers' money. CCA members are proud that the government is trusting the close to 1.4 million Canadians making their living in construction to build a better Canada.

Ontario's new Construction Act:

What changes on July 1 and how can you prepare for the new rules?



OGCA president Clive Thurston with Chris Stanek, a partner at Gowling WLG at the CDAO Construction Act seminar

Canadian Design and Construction Report staff writer

When Ontario's new Construction Act goes into effect July 1, there will be major changes in the way owners, contractors and design professionals fulfill their legal obligations and protect their interests. However, the biggest changes are another 18 months away, when significant prompt payment and new adjudication rules go into effect.

The Ontario legislation is significant elsewhere in the country because the federal government and several other provinces are preparing new construction laws incorporating many of the provisions of the new Ontario legislation.

Several lawyers and consultants outlined the changes – including challenging transitional provisions – at a May 14 seminar sponsored by the Construction and Design Alliance of Ontario (CDAO).

Geza Banfai with McMillan LLP outlined the reasons for the new rules, which trace their roots to lobbying several years ago from the National Trade Contractors Coalition of Canada (NTCCC), which led to a private member's bill that failed to move forward after government ministries and agencies, private owners, general contractors, consultants and lenders raised strong objections.

However, the provincial government agreed to commission lawyers Bruce Reynolds and Sharon Vogel to conduct an extensive review of old *Construction Lien Act*, dating back from the 1980s. After extensive consultation

with stakeholders, Reynolds and Vogel submitted 101 recommendations, which became the foundation for the new *Construction Act*, which was passed and proclaimed just before Christmas last year.

By late April, government officials had drafted the necessary enabling regulations.

The changes in Bill 142 include several fundamental changes in lien periods, holdbacks, trust obligations, claims and procedures, said Ted Betts, the head of Gowling WLG's Infrastructure and Construction Sector Group.

"A lot of these (legislative) changes are in the 'modernization' bucket," he said. "It's worthwhile for everyone to read through all of them."

The so-called "modernization" changes include:

- An extension of the lien "preservation period", from 45 to 60 days and a longer lien "perfection period" from 45 to 90 days after the last day the lien could have been preserved; both of these ensure there "is more time to negotiate and work out disputes rather than come to the lawyers;" and
- Mandatory holdback release by the end of the holdback period, unless owners publish their intentions not to release the holdback in a public notice no later than 40 days after the publication of the Certificate of Substantial Performance.

"There's a large deliberate gap," Betts said. "An owner has to put their cards on the table" so that contractors and subtrades know where they are ahead of the lien filing deadline. Effectively, the new rules give the contractors and owners "an extra 20 days to settle disputes and avoid standoffs."

The new legislation also allows for owners and contractors to release holdback on larger projects (\$10 million or more) before the project is completed.

"The theme throughout all of the changes, in these subtle changes, is getting cash flowing through the project faster from the owners through the contractors to suppliers and subcontractors, and avoiding disputes.

There are other changes, as well:

- Multiple improvements can be treated as separate contracts for the purposes of determining the substantial performance date and lien periods; so contractors don't have to wait for every bundled part of the overall project to be completed before receiving their holdbacks. However, this provision applies at the owner/general contractor level, and Betts said "It's not clear how this will play out on subcontractors and suppliers."

- New trust accounting rules require a separate trust account for contractors and subcontractors (though several projects can be funded through the same trust account). “Trust funds must be segregated and traceable in a contractor’s or subcontractor’s trust account,” as much as possible. This provision will help prevent creditors from grabbing trust funds (including holdbacks) when a contractor or subcontractor goes bankrupt as the trustee can now (hopefully) see clearly the trust account status.

- There are several new forms, and new tools for contractors to request information about their projects.

One issue with the new legislation, said Bird Construction board member Paul Raboud, is the “tricky transition periods.”

The regulations and legislation suggest that if any contract is in force or “if there is any activity such as a pre-qualification happening before July 1,” the old rules apply.

Someone in the audience asked what the status would be if you were on a general pre-qualification list rather than one for a specific project. Panelists responded by saying they aren’t sure – this may be one issue that would need to be resolved through a judicial process, but Raboud had a simple answer: “Assume (the lien period) is 45 days and not 60 days” – in other words, behave as if the old law applies, unless you are certain the new rules will be valid.

WeirFoulds LLP partner Glenn Ackerley said the “substantial performance” criteria has changed – monetary limits have been doubled. Now, substantial performance occurs when the value of the project outstanding meets the test of three percent of the first \$1 million of the project’s value (instead of \$500,000); two per cent of the second \$1 million (again, instead of \$500,000) and one per cent of the remaining value.

Jerry Paglia, director of procurement for the Regional Municipality of York, says there is a “lot of training needed for owners and consultants.”

“The phasing in of requirements (including the future prompt payment and adjudication provisions) is going to create complexity,” he said. “With two phase in periods, there could be three different forms of contract at the same time.”

“Owners, staff and consultants are going to have to know which contract applies to the project, with longer period for lien rights and less flexibility in what we can deduct from the payments.”

“We can’t deduct funds from other projects. The administration for the contracts will take longer.”

“There’s going to be more scrutiny on dealing with general contractors, terminating and not paying – we’ll have to publish it. (There’ll be) more of a public relationship, as that information trickles down to subcontractors.”

Eric Hoffstein of Minden Gross LLP said there will be new bookkeeping challenges, especially for smaller businesses, because of the much more stringent trust account requirements. “If you don’t have an outside

bookkeeper helping with the accounting, now might be a good time to do that.”

Meanwhile, Steve Ness, president of the Surety Association of Canada (SAC), outlined new bonding rules, including the significant requirement that all public projects greater than \$500,000 must have 50 per cent performance and payment bonds. “Public” includes the broader public sector such as school districts.

Other changes are intended to bring much greater clarity and responsiveness to the bond claims process, with finite deadlines for responding to claims by either accepting, denying or seeking more information.

The speakers indicated that, while the regulations going into effect on July 1 will impact the industry, the really big changes will occur in October 2019, when the new law’s remaining provisions will be implemented.

These include mandatory prompt payment requirements. In about a year and a half, “owners must pay within 28 days of receipt of proper invoices,” said Chris Stanek, a partner at Gowling WLG. There are specific requirements in defining a “proper invoice”.

Owners can dispute the invoice “but must provide written notice in the prescribed form” within 14 days of receiving the invoice. The notice/response system is designed to tie in with a new adjudication system, which allows an exceptionally rapid decision on payments by a third-party expert adjudicator (agreed to by the parties or selected from a qualified panel) to determine if the payment would actually be due.

“If the owner has not paid but delivered a notice of non-payment, the contractor must give notice of dispute within seven days after receipt of the owner’s notice of non-payment,” Stanek said.

Betts added that there is an additional concern for contractors. “If a notice of non-payment has also not been delivered, the contractor will have 35 days to decide to either pay its subcontractor out of its own pocket, or to commence a fight with the owner through adjudication.”

Everyone in the construction supply chain will subject the notice/prompt payment provisions and if you don’t pay, “you will need to pay statutory interest.” If payments aren’t made after an adjudicator renders a determination, contractors and suppliers can leave the job site and charge remobilization fees if they return.

Banfai said the prompt payment and adjudication provisions, when they are implemented, are “collectively nothing short of a cultural change in the industry.”

One audience member asked what the rules will be for federal contracts. Betts responded that Reynolds and Vogel are currently conducting a review for the federal government, which is expected – along with several other provinces – to pass similar prompt payment legislation soon. These changes will bring Ontario and Canada to the state of practice in Britain, Europe, Australia, and most U.S. states.

The new rules are a “significant change in the way we will be doing things going forward,” Banfai said. “I think it is all for the better.”

Contributing to business and community

CDCR staff writer

How do you select 10 leaders within BC and Alberta's architectural, engineering and construction community?

In some respects, the task is easy. There are exceptional accomplishments, meaningful community service, and visibility from clear and obvious accomplishments.

In other respects, it is challenging, because (while there are objective criteria), the ultimate decision is subjective. We've probably left many worthy businesses and individuals out of this list.

Setting a Top 10 list is challenging enough, ranking within the list is almost impossible, given the many variables that go into ensuring it is right to include anyone on the list. So these individuals are listed alphabetically by surname, followed by their companies.

Marc-Antoine Cuerrier, True North Labor Inc.

Marc-Antoine Currier is just 35 years old, but already he has built a reputation in a leadership role at the Vancouver Regional Construction Association's U-40 Council. True North Labor, a Burnaby-based staffing agency, provides skilled workers to trade contractors in the ICI construction industry. Currier also works as a volunteer developing a cross-fit program for youth with autism.

"It's important to continue to learn and grow and not to be afraid to make mistakes," he said. "Most often there is no 'doing it right the first time' so you just have to get up and keep going."

Alan Fletcher, AFC Construction

Allan Fletcher is the current chair of the BC Construction Association's (BCCA) board of directors, clearly indicating he belongs in this Top 10 list. Fletcher has owned successful construction companies in Victoria and Courtenay/Comox over the past two decades. His business specializes in commercial, light industrial and multi-family projects, as well as award-winning custom homes.

He is a licensed carpenter and joiner and currently completes about \$10 million annually in construction projects, and has served as a board member of the Vancouver Island Construction Association. He has spoken at several conferences for the construction and development industry.

Jason Glue, Graham Construction

Jason Glue, a BCCA board member works as Graham Group Ltd's district manager in Delta, and has been a member of the VCRA for six years. The BCAA

observes that he believes that associations represent and support the industry as well as educate and advocate. "We offer the industry a voice as well as a place to gather and network," he says. "It brings people together and develops relationships."

Maegan Harvey, ROV Consulting

Richard Visscher, president of Kelowna-based ROV Consulting, calls structural engineer Maegan Harvey brilliant and incredibly helpful to all the homebuilders with whom she works. "As structural engineers we touch many projects and are instrumental in solving many problems as we create the 'skeleton' for the homebuilders," he said. "Maegan has been working for ROV Consulting for six years, as well as during her work co-op terms while going to UBCO. It's high time she be recognized for her many talents as an engineer."

In addition to her formal responsibilities, Harvey helped put together ROV's OQM (Organizational Quality Management Program) manual, which allowed the company to become certified with APEGBC (Association of Professional Engineers and Geoscientists of British Columbia.)

Matt Hanlon, Kays Road Contracting

Matt Hanlon built a small residential and excavation company in Nelson, BC into a trusted contractor working with home builders and civil projects across the West Kootenay region. In the past year, the company's 10 employees completed 60 projects. The company supports local initiatives including the Kootenay Lake Hospital Foundation, the ALS Walk, Little Oasis Benefit Society and Castlegar Rotary. (See story page x.)

Paul Heyens, Alberta Glass Company Inc.

Paul Heyens is chair of the Alberta Construction Association. In his business description, he makes these observations, which reflect his values:

"We strive for excellence every day. We are always on the hunt for new and innovative ideas. There is nothing more important than the health of our people, the public and providing a safe operating environment for both. We excel at effective identification, evaluation and execution of opportunities.

"We value our suppliers and technical support providers as they are integral parts of our success. Together they enable us to develop new products and systems to provide state of the art projects."

Angela McKerlich, Capri Insurance Service

BCAA vice-chair Angela McKerlich is a partner and contract surety manager, based in Kelowna. In a statement, the BCAA observers that her extensive volunteerism on behalf of the construction industry "comes from a belief that advocating for—and creating—proactive solutions to industry problems helps to foster fair, open and transparent practices that strengthen the sector as a whole and build trust." She focuses her association work on risk management education and advice for members and the industry at large.

Sonny Sangha, ICE Development Ltd.

Sonny Sangha has translated his project management into a passion for construction, building (since the company's founding in 2004 when he was 27) a corporate culture of growth and learning. The general contractor has close to 50 staff, with 20 to 30 projects at a time.

"My dad taught me that respect and reputation have to be earned," he says. "With every project we take on, that is the goal, to earn respect and continue to grow our reputation for being able to deliver projects successfully."

Claire Seymour, Lacey Developments

Claire Seymour has achieved success, turning a temporary work visa opportunity in 2006 into her Canadian citizenship and a senior role with Lacey Development Inc.

Lacey came from Australia. "Erik (Lacey—president of the company) realized that I knew how to use power tools and I guess he saw my potential," she said. "As Erik's company started to grow I transitioned out of working on site as much and started helping him manage projects. I completed a construction management course and now I look after all of our new custom housing projects."

Tiffany Whitnack, NORR

Architect Tiffany Whitnack has progressively taken on more responsibilities and management duties at NORR. She now works on large and complex projects within the company's Public Works studio. She engages with the Kinette Club of Canada. "Along with this group of wonderful women we are enhancing quality of life in our community by promoting service, fellowship, positive values and national pride." (See story page 16.)

Kays Road Contracting serves civil and residential projects within B.C.'s West Kootenay region



Canadian Design and Construction Report special feature

From its roots as a small residential landscaping and excavation company, Nelson, B.C. based Kays Road Contracting (Kays Contracting), has grown into a trusted contractor, involved with home builders, and civil projects across the province's West Kootenay region including Nelson, Castlegar, Trail, Slocan Valley, North Shore of Kootenay Lake, Salmo and all areas in between.

Today the company works with homeowners on residential projects, as well as with general contractors, developers and municipal and provincial government clients on civil projects.

Kays Contracting's range of residential services include project planning, excavation, septic system installation, utility connections and landscaping. Civil project services include road repair and installation of water mains, sanitary sewer and storm sewer.



The company owns and maintains a diverse fleet of equipment to take on a variety of projects, and also has trusted relationships with other local contractors for whom it can source other equipment that may be required.

Owner Matt Hanlon says his staff of 10 last year completed 60 projects. "Our range of services offers great value to clients. We are able to perform more aspects of projects than many competitors and deliver the results they need with less management."

One recent project on which the team was able to offer multiple services was the demolition, excavation and site services required for the new Taghum Shell service station construction west of Nelson.

Hanlon says Kays Contracting has become a relied-upon partner for many local general contractors because of its key values that include the tenacity to work through challenges with a cool head; quality; and personal accountability.

Hanlon says the company supports local initiatives including the Kootenay Lake Hospital Foundation, the ALS walk, Little Oasis Benefit Society and Castlegar Rotary.

For more information, visit www.kayscontracting.com.



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Tiffany Whitnack at NORR incorporates collaborative approaches to achieve design success for large and complex projects

Canadian Design and Construction Report special feature

Always interested in problem solving and understanding how things worked, Tiffany Whitnack set her sights on architectural technology, gained some experience in the field and then pursued her designation. She is now an architect with NORR.

Whitnack came to NORR during her internship through the University of Calgary's Master of Architecture program and after graduation, was hired as an architectural designer. Over time she progressively took on more responsibilities and management duties and, she says, plans to continue her advancement with the company.

As an architectural designer in NORR's Public Works studio, Whitnack tends to work on large and complex projects. Her responsibilities often include project design and co-ordination of the design and consultation teams, both internal and external to the office.

"I work closely with the client and often their chosen construction management team. Once the project progresses to construction drawings I work with our team lead and technologist team to ensure that the project vision and intent are carried through to the completion of the project."

As a female in a male dominated industry, Whitnack says her natural introversion can mean she is overshadowed in a group of people and sometimes she finds she must work twice as hard to have her credibility recognized when meeting with new clients or consultants. "I look younger than I am as well so often struggle to be recognized as the authority in a room of men. I feel that I need to fight harder to be recognized as the leader."

Part of that struggle may be what she describes as her greatest challenge in her career – her own expectations and the need she feels to constantly improve and push herself.



Architecture. Engineering. Planning. Landscape Architecture. Interior Design



She is proud to have earned her registration as an architect. "It was a dream that I worked hard to achieve. I did not always have the support of those around me, but I proved that with determination and hard work that my dream was achievable. I also see this as a success in the fact that so few women with a Master of Architecture follow through on the process to become registered."

Despite the challenges she has experienced, Whitnack says she could not think of a more rewarding profession. "Every day we make a difference in peoples' lives. Though the impact can vary - we create labs for those finding the cure for diseases, we create affordable homes for those that need a helping hand, we create spaces for people to age in place – we

are always touching the lives around us."

She says for that reason alone, she would encourage more women to consider becoming architects. "Every day presents you with a new challenge and provides new opportunities to grow as a person and change the life of someone else, even in a small way."

Whitnack also believes that women bring a different type of management skill to the top down leadership styles of men; a leadership style that is more collaborative and that welcomes others' point of views with information sharing.

Sharing concern for team members and seeking help from others would have been seen as signs of weakness or inability in the past. However, this approach fits well with the current collaborative design philosophies for construction. "By having more women on the design teams and in management roles we can find new and better ways to communicate and collaborate."

Her advice to women: "I love the adage 'What does not kill you only makes you stronger.' There is no point in complaining about something that does not go your way. Pick yourself up and find a way to make something even better from the experience. There is always something new to learn."

When she is not pursuing her career goals, Whitnack is a member of the Kinette Club of Calgary, an all Canadian service organization made up of outstanding community volunteers. "Along with this group of wonderful women we are enhancing quality of life in our community by promoting service, fellowship, positive values and national pride."

She also represents tenants on her condo board and holds a position on the Chinatown Community Association.

NORR

norr.com
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Lori Haywood-Farmer breaks the barriers in carpentry at Timeless Developments

Canadian Design and Construction Report special feature

Growing up on a farm, working with horses and involved in all kinds of sport, Lori Haywood-Farmer's path has included a degree in biology and an apprenticeship in carpentry. She is now a key member of the team at Kamloops, BC-based custom homebuilder, Timeless Developments.

Haywood-Farmer says she originally went to work for Timeless Developments when the owner, a friend of her

in timber frame homes, built green, Energuide certified homes and general contractor renovations including bathrooms, kitchens and decks.

Haywood-Farmer says she enjoys the work's variety, which is one of the reasons she would recommend a career in carpentry to women. "There is some work that is more labour intensive but so many different things open to you once you get started. If you enjoy making things, have an eye for detail, or are a hands on person, there is so much potential."



brother, needed labour help. That was in 2003. She has since acquired her carpentry papers and is now involved with many different aspects of the custom homebuilding process.

When she was studying carpentry, she says there were no other women in her program. In the workforce though, and working for Timeless Developments, she says she has worked with a few and that really, anyone who is interested in and willing to work is welcome.

She says there is a certain satisfaction that comes from taking a home from concept to final product. "When you work with a client to understand what they want, get the drawings, and then help create their dream, that is something special."

Her favourite role, she says, is the finishing work that must be done to complete each project. Whether it is the interior details, the custom furniture or accessory pieces she crafts to complete the home's aesthetic, this she says, provides balance and allows her to be flexible and creative.

"There is a lot of interest in barnwood these days," she says. "For me, growing up on the farm, that feels full circle. I love being able to work with something that is so familiar and natural to me, and to turn it into something new, something that will add to a new home's feel."

Timeless Developments constructs several custom homes annually and in 2012, picked up Gold at the Keystone Awards in the category of Best Single Family Detached Home 2,000 to 2,499 sq. ft. The team specializes



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Safety, community leadership, and a focus on quality and integrity

CDCR staff writer

It isn't easy to qualify to be a Top 10 Open Shop Contractor in Alberta, because membership on this list goes beyond the company's size and the obvious requirement that it be an open shop contractor.

We looked for other indications of workforce and community leadership including whether it had achieved membership in the Alberta's Top 70 Employers competition, or leadership in relevant business and community associations.

The list here is based on subjective and objective measurements, so we will not attempt to rank businesses within the Top 10. Accordingly, the list is alphabetical, referencing also head office locations.

Botting & Associates Alberta Ltd., Calgary

This mechanical contractor has been in business since 1953. Employees participate in an exceptional benefits program. "At Botting, we foster a challenging atmosphere which will encourage our employees to grow and mature both on and off the job," the company says. "Friendly co-workers and a safe comfortable workplace are also important elements of employment with Botting."

Chandos Construction Ltd., Edmonton

Chandos Construction Ltd. belongs to both the Top 70 Alberta Employers and Canada's Best Managed Companies. The business says it focuses its charitable efforts "on at-risk youth and individuals working in trades" and additionally encourages employees to give back to the community by providing as many as three paid days off for voluntary initiatives, while it matches employee donations.

Chandos has 389 employees in Edmonton, Calgary and Red Deer, as well as out-of-province offices in Regina, Vancouver, Toronto and Ottawa.

Clark Builders, Edmonton

The company has applied an attitude of "continuous improvement" in its 40 year history. This includes defining success, collaboration and innovation.

"Our company was founded by two people who never stopped looking for a better way to do construction," it says. "Forty years later, that commitment to relentless improvement lives on through initiatives like our use of Building Information Modelling, lean construction, and new project delivery models. By emphasizing innovation before work begins at site, we make new ideas easier and less expensive to carry out."

Concept Group, Calgary

This full-service electrical contractor has been in business since 1997. Its diversity of services encompasses electrical, HVAC and refrigeration, security and fire/life safety, data, controls and plumbing. It has locations in Edmonton, Fort McMurray, Bonnyville and Saskatoon.

G & M Plumbing and Heating, Grand Prairie

This company has been in business since 1979 and has achieved CoR health and safety recognition. "Our technicians are the best plumbers in the industry, paying careful attention to detail and finishing projects on time and on budget."

Fillmore Construction Management, Edmonton

Founded in 1991, this Edmonton based company also has offices in Calgary and Grand Prairie, and is on the Alberta Top 70 list. The company's motto is: "Passion for Excellence" and it is one of Canada's 100 Best Managed Companies in 2018.

Fillmore supports many community and charitable organizations, including the MS Bike Tour, Habitat for Humanity, Bicycles for Humanity, B4H0, Haddrell Residence, Pedal Power for Edmonton's Food Bank and Unruh Residence.

Montech Mechanical (Insight Mechanical), Edmonton

This business offers a full range of mechanical services, from initial concept and budgeting to complete mechanical design and construction. "From the office to the field, all team members work collaboratively to ensure we exceed client expectations," the business says.

Insight Mechanical became a wholly owned Montech Mechanical subsidiary in 2006, and the company overall has a

25-year history with a focus on design-build and pre-engineered projects.

On its website, the company says: "Our 'Total Responsibility' approach leads to cost effective, forward thinking and practical solutions to many design and job site conditions. With over two decades of experience, our firm is very familiar with industrial and commercial site requirements enabling us to identify any potential deficiencies long before they become costly changes or delays."

Stuart Olson Dominion Construction Ltd.

This \$1 billion plus organization "representing one of the largest and most respected construction services companies in Canada," is one of Alberta's Top 70 employers. The company employs more than 4,000 people.

The company's leadership takes health, safety and the environment (HSE) extremely seriously. It engages all employees in health and safety training year-round, with executive members leading by example through committee chairmanships, events, and the creation of policy and expectations. "And our internal compliance is rigorous. Each month all operations are monitored and graded based on their HSE performance."

SITE Management Ltd., Sherwood Park

SITE describes itself as a "fully-integrated energy services company that provides exceptional environmental, infrastructure and access services for oil, gas and resource development companies."

The business advocates for extensive community involvement and participation, including supporting Aboriginal communities. It supports community high school sports, arts and achievement clubs, agricultural associations and clubs, minor hockey and soccer, and seasonal festivals, rodeos and more.

"SITE takes every opportunity to form joint ventures and partnerships with local community stakeholders in a communal effort to increase local economic, social and environmental efforts," the company says.

ICBA leads fight for more construction and responsible resource development

Canadian Design and Construction Report special feature

From humble beginnings has come an open shop giant. Founded in 1975 in the small town of Trail, B.C., by a group of open shop contractors denied access to bidding, the Independent Contractors and Businesses Association (ICBA) has grown to be a powerful voice for the open shop construction and responsible resource development industries.

With a reach that extends across Canada, the association represents 2,000 member companies and clients who collectively employ more than 50,000 people. ICBA speaks out on issues that impact members, including labour and employment policies, fair tendering, safety policies, regulation, taxation and infrastructure. ICBA fights for fair and open competition in awarding contracts for public projects.

ICBA communications director Jordan Bateman says advocacy is one of the association's key member benefits. Pushing government at all



levels to approve projects, he says ICBA is unapologetic in its support of construction and resource development. "We're doing everything we can to get the Kinder Morgan Trans Mountain pipeline project built. We fought hard to get a yes for this and now we're doing all we can to make it stick."

Construction is a tough industry, Bateman says, and ensuring the industry's voice is heard above the din of professional protestors, pandering politicians, and negative non-governmental organizations (NGOs) requires a similar toughness.

"Unlike many associations who fear rocking the boat, we consider



ourselves an advocacy machine,” said Bateman. “While we offer solid, well-reasoned policy advice, our DNA has shaped us into a battle tank, rather than just a think tank.”

The association’s second largest member benefit is, in fact, benefits. ICBA offers the number one solution for industry, balancing a simple system for health, drug and retirement benefits that are inexpensive for members. “These benefits save employers time and money, and help them recruit, retain and protect their employees,” said Bateman.

Beyond essential health and retirement, the specialized benefits arm also offers consulting and specialized services including travel benefits for employees working abroad, bonding, liability, and property and casualty insurance.

While ICBA represents some of Canada’s largest companies, Bateman says about 90 per cent of the membership is comprised of small businesses. “We have a lot of passion for small companies and for

those just starting out. They are our lifeblood.”

Part of supporting these businesses involves training. Last year, Bateman says the association trained 3,500 employees through 250 courses. “We are the single largest sponsor of trades apprentices in B.C., taking care of the paperwork so our members can focus on training and working directly with their apprentices.”

Understanding the growing challenge to the workforce, ICBA supports trade schools with donations to buy new equipment, supports the appeal of trades careers through wage and benefit analysis, and takes part in other activities to promote and educate the public on the advantages of related occupations.

“Construction offers a great income to start but also great potential for anyone with any kind of entrepreneurial bent to create their own opportunities,” said Bateman. “Today’s workers are often tomorrow’s company owners.”



**Rachel Pattenden -
ICBA automotive glass
technician apprentice**

Protecting Open Shop Construction Workers

ICBA Benefits

Our full-service insurance brokerage does what many companies thought was impossible: we make benefit plans simple. Whether it’s health, dental, prescription or retirement plans, ICBA is the #1 solution for the construction industry. Our flexible plans, in-house expertise, and in-depth knowledge of construction helps companies save time and money and protects employees with outstanding benefits.

ICBA #Get2Yes

We fight hard to push to #Get2Yes on construction and responsible resource development. ICBA is a loud voice for the Trans Mountain pipeline expansion project. We are fighting the Trudeau government tooth and nail on Bill C-69, and its effort to harm the oil sands. We take action on issues that impact your company, including labour and employment policies, fair tendering, regulation, and taxation.



icba.ca





CDCR staff writer

How do you determine who should qualify to be on the Top 10 list for Ontario's cement and concrete finishing industry? A logical starting point is the relevant trade association, the Cement Finishing Labor Relations Association (CFLRA), which serves as the employer bargaining authority with relevant labor unions. We also looked for community contributions and the number of years in business in compiling this list.

The list here is alphabetical, so you shouldn't consider the order of names here to be in a ranking order.

Paul Bravo, Bravo Cement Contracting, Windsor

Paul Bravo has been this southern Ontario company's president for more than 27 years and he has served on the CFLRA's board of directors, including a term as the association's chairman.

The business offers a diversity of services in new concrete floor construction and maintenance, with a commitment to technology and service.

Vince Caruana, Diplock Floor, Mississauga

Caruana has served on the CFLRA's board of directors. The business has been in operation since 1986.

Frank Guida, Tri-Con Concrete Finishing Ltd., North York

Frank Guida has built this successful industrial, commercial and institutional concrete flooring business to a high level from its start in 1982, with major projects including massive car plants, Pearson International Airport's Terminal 1 and 3, and major distribution warehouses for Home Depot and Walmart. The company has also pioneered in technology, notably steel fibre jointless flooring, and has installed flooring on more than 100 ice rink surfaces. (See separate profile page 10.)

Joe Guida, PATTERNED CONCRETE® ONTARIO, North York

Joe Guida has been president of this business, established in 1987, for 31 years. It focuses on professionally and durably stamped and decorative concrete, largely for the residential market. See separate profile page 12.)

Jeff Haid, Tri-Con Haid, St. Clements

Jeff Haid leads this western-Ontario business which began in 1995 as Haid & Haid Construction Ltd. It has suc-

ceeded at industrial and commercial works, as well as residential projects.

In 2002, the business merged with Tri-Con Concrete Finishing Co. Ltd. (see separate profiles).

Tri-Con Haid has won several awards, including an exceptional number of Grand Valley Construction Association (GVCA) Awards of Merit.

Les Hinz, Tire Pressure Control International Ltd., (Tireboss™) Edmonton

Les Hinz is the vice-president (and a principal of) this business, which implemented the first tire pressure control systems in commercial truck transport applications in North America.

Geoff Kinney, Concrete Floor Contractors Association of Canada (CFCAC), Oakville

Geoff Kinney leads the relevant national association – and also is president of the specialized CFLRA, serving unionized Ontario contractors. He has been the CFCAC's executive director since 2010, providing technical leadership, product development and promotion, ethics, risk management, education and quality planning.

Ernie Perfetto, Metro Concrete Works (2016) Inc., Concord

Ernie Perfetto is the CFCA's 2018-2021 chair. He also leads Metro Concrete Works.

Luc Rancourt, Duron Services, Ottawa

When floods threatened areas of Ottawa in 2017, CFLRA director Luc Rancourt helped out as a volunteer to protect neighbourhood homes. Rancourt is the company's president, leading the business established in 1995, with the commitment: "We focus on safety, performance and quality for each and every project."

Jim Woods, Apollo Concrete Contracting, Hamilton

Jim Woods has received the Concrete Floor Contractors of Canada (CFCA) Geoff Kinney Sr. Industry Award for "his many selfless and continuing efforts to improve our trade," the association says.

Frank Guida — Tri-Con Concrete Finishing Ltd.

Leading in the ICI concrete finishing world, with award-winning recognition and community support



Canadian Design and Construction Report staff writer

Tri-Con Concrete Finishing Co. Ltd. has provided concrete floor finishing services for industrial, commercial and institutional ICI projects in the GTA area for more than 35 years.

The enterprise handles a diversity of projects with individual attention and a focus on detail because, as founder and company president Frank Guida says, “you need to do it right the first time.”

In this business, concrete floors are a specialty in themselves. Tri-Con provides a full-service approach, from super flat, heavy duty warehouse and retail floors to exterior concrete and architectural work.

Along with Frank, brothers Sandy and Joe Guida and partner Jeff Haid oversee the business with more than 100 employees. Joe has responsibility for PATTERNED CONCRETE® Ontario exterior concrete finishing (see separate story) and Sandy takes care of day-to-day site operations. Haid leads the award-winning Tri Con Haid Concrete Finishing Ltd., producing highest quality concrete floors from its base in St. Clements, western Ontario.

“Dealing with operations has allowed me to be involved in so many interesting conditions and has given me the opportunity to build tremendous knowledge in the field of concrete placement and finishes,” Sandy Guida said. “We have the capacity to install a million square feet a month like clock work.”

Projects have included massive car plants, Terminal 1 and 3 at Pearson International Airport, and major distribution warehouses for Home Depot and Walmart. Tri-Con has also provided jointless concrete floor (with no saw cuts) for The Toronto Rock lacrosse team. The company has worked on more than 100 hockey rink projects, including the challenging task of installing the new third-floor ice rink surface at the Mattamy Athletic Centre for Ryerson University in the converted Maple Leaf Gardens.

“Since 1982, we have always sought to use the latest techniques, equipment and technologies such as steel fibre and applying them to concrete floors,” said Frank Guida.

Tri-Con’s professionals work with clients at the design stage, suggesting the best methods to achieve priorities including wear resistance, loading or flatness.

“Our focus is on our customer satisfaction and the pro-

professional installation of concrete floors with the highest quality, service, safety; using the latest technology with value-added products and equipment," Frank said.

Tri-Con has used steel fibres to replace the conventional wire mesh or rebar concrete floors since 1983 to achieve design versatility and improved characteristics in concrete. With steel fibres, concrete floors can be designed thinner and offer better performance.

Optimizing steel fibre in concrete floor design, Tri-Con has successfully installed jointless crack free floors without saw cuts. These are easier to maintain, while saving wear on equipment such as lift trucks, he said.

Frank Guida has shared his innovations at World of Concrete presentations. As well, Tri-Con has pioneered in architectural design polished and decorative/stamped concrete.

Tri-Con has more than \$2.5 million in state-of-the-art concrete finishing equipment including steel fibre blowers, laser guided screeds, automated hardener spreaders, curing systems

and sealers. The result: floors with exceptional flatness with wear resistance, dust free and guaranteed quality – turning retail floors into "works of art," and long lasting and low maintenance industrial and commercial floors.

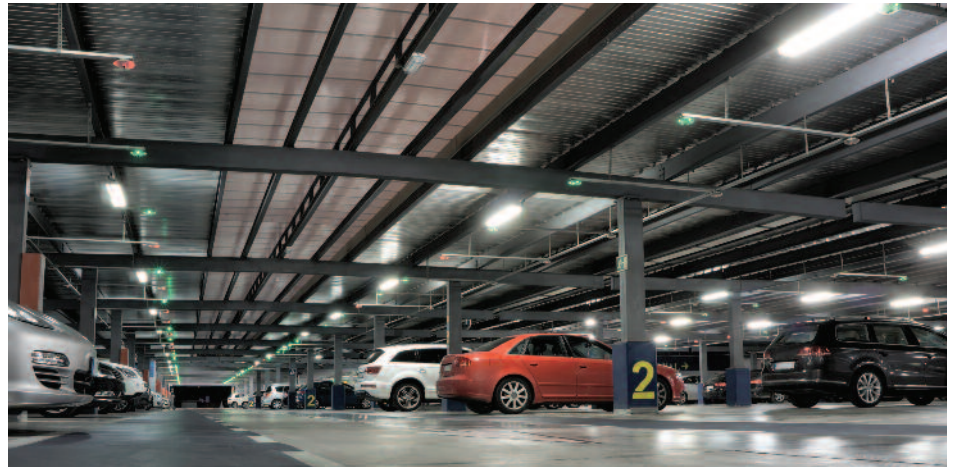
"A professionally designed, placed and finished industrial or commercial concrete floor offers a lot of versatility," Tri-Con said. "Whether it's a super flat warehouse, showroom, or a retail floor, our floors will add the finishing touch that elevates the charac-

ter of your building to new levels."

Frank Guida doesn't just think about concrete – he has a passion for community service and accordingly co-ordinates annual charity golf and pro-am fishing tournaments.

The company and related businesses have received several awards and recognitions including several Golden Trowel Awards, GVCA Awards of Excellence and Merit, and Ontario Concrete Awards.

For more information, see www.triconconcrete.com.



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Joe Guida of PATTERNED CONCRETE® Toronto

Durability and natural quality enhance company's stamped and decorative concrete inter-generational reputation



Joe Guida leads this business, focusing on professionally and durably stamped and decorative concrete, under the PATTERNED CONCRETE trade name. In addition to residential applications, projects include municipal works, parks, skate parks and exterior commercial works.

The business started in the late 1980s after Joe's older brother Frank Guida, who leads Tri-Con Concrete Finishing Ltd. (see separate story) noticed the growing popularity of stamped concrete, which involves applying color and texture to make concrete look like natural stone, cobblestone, brick, or even wood. They purchased the PATTERNED CONCRETE trade name and founded Patterned Concrete Ontario Inc. in 1990, with Joe as president.

Today, the company employs more than 70 workers, but

Joe remains actively involved with the business and client files. And he has met clients who had work done in the early 1990s, reporting everything looks just as good as it was when the work was first done.

With natural stone forms, the decorative concrete doesn't look at all artificial. Guida says the company has successfully fine tuned materials and procedures to withstand the colder Canadian climate.

"There have been situations where a high-end pool company goes to see a client with a multimillion dollar house," Joe said in a published report. "They say they definitely want a natural stone, then they look through the book of examples and choose a stamped concrete installation by PATTERNED CONCRETE."

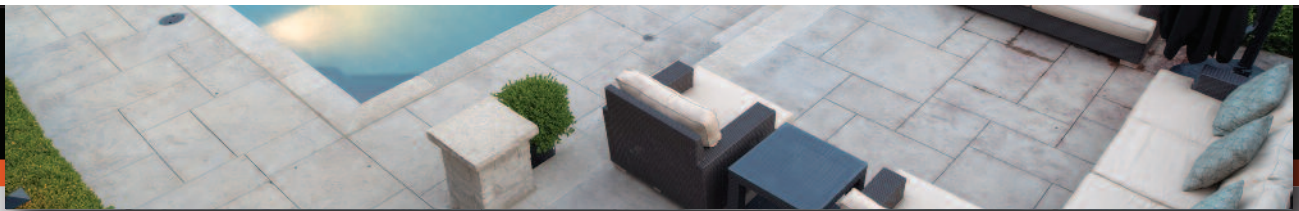
"They're amazed by how authentic the concrete looks," he told *Our Homes* magazine. The success relates to the company's stamping tools. "Because a lot of our stamps are made from natural stone, they have a deeper imprint, so they allow us to do grouting," he said. "It just takes stamped concrete to another level, where all of a sudden it does not look like stamped concrete. Plus the natural stone means that the textures and details of the source material are reflected in the final product."

The PATTERNED CONCRETE team includes specially trained licenced contractors. Guida is looking at new stamping tools and finishes and carrying the work on to the next generation.

"The things we've built become part of our customer homes, a part of their families," he said. "Kids will play on their patio when they're two or three years old. Then when they're 25 or 30, or even after marriage, it's still there and part of their lives."

"A good concrete job is to be enjoyed as part of the culture and part of the conversation. It could – and should – last for generations."

For more information, see www.patternedconcrete.ca or phone (800) 252-4619.



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Canadian Design and Construction Report

From its beginnings in 1996, Edmonton, AB based Tire Pressure Control International Ltd. (TPC International) has grown to be a global presence, providing on/off-road mobility solutions for trucking applications in the forestry, oilfield, concrete, agriculture, and power utility industries with their TIREBOSS™ Tire Pressure Control Systems. Founders and company vice-president Les Hinz and president Brian Spreen, were instrumental in the implementation of the first Tire Pressure Control systems for North American commercial truck transport applications. They have 25+ years each in implementing Tire Pressure Control Systems for the benefit of various industries around the world.

Hinz says the first application addressed a need in forestry and grew from there. Today the team supports upwards of 8,000+ systems worldwide.

"We see our product addressing different needs in dif-

ferent regions around the world and in different industries," he said. "In Florida, for instance, the application is well suited to dealing with sand. In some industries, the issue we address may be field compaction or road sensitivity. In others, it may be mobility in the mud related to a specific jobsite."

An explanation on TIREBOSS's website explains the benefits: "Tire inflation pressures are generally specified to permit a vehicle to carry a full payload at highway speeds without overheating its tires. Consequently, when the vehicle is partially loaded, unloaded, or traveling at reduced speeds, its tires are overinflated for the operating conditions. Overinflated tires can contribute to a variety of problems including poor mobility, increased vehicle vibration, tire wear, an occurrence of tire punctures and damage to the road surface."

He says the company's TIREBOSS system is beneficial anywhere trucks are off-road or have mobility issues. Related to the concrete industry, he says benefits include

a cost-effective alternative to all-wheel drive, improved mobility and traction, better site access and reduced site damage. Vehicle maintenance costs are also reduced from the smoother ride and less vibration."

The product can be installed on, and transferred to,



any truck so it provides a long lasting solution. It also increases the life of tires by ensuring they are always at the correct pressure at various stages of the haul cycle."

The technology can be applied to any vehicle from delivery trucks to pumpers, to ready-mix vehicles.

Hinz says safety is a key focus of TPC and built into TIREBOSS. The technology has been designed to monitor the vehicle's speed and to alert the driver if the tire pressure should be adjusted, and will automatically inflate the tires if the alerts are ignored.

"Safety is a big focus of what we do. From the system design to the training tools and on the ground training we provide drivers, we work to ensure driver safety."

Hinz says that TIREBOSS is a long term quality product. Part of the company's reputation, he says, is based on its strong technical support, and in part on TPC's success serving its clients so they can better serve their clients. "Our focus is our client, on ensuring they are well taken care of, that the system is working efficiently, that any issues are addressed and that the customer is as happy in year one as year 10."

TPC is a member of Florida Independent Concrete & Associated Products Inc., and a member of the National Ready Mixed Concrete Association.

For more information, visit www.tireboss.com/benefit-for-concrete.

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BRITISH COLUMBIA

BC engineering/construction GDP rises 48.7 per cent in 2017: StatsCan

The engineering and construction sector are fueling B.C.'s economic growth and Gross Domestic Product (GDP), says Statistics Canada (StatsCan) data. In fact the growth last year reached a staggering 48.7 per cent.

For the first time since 2011, GDP by industry increased in every province — rising 3.3 per cent in 2017 — following declines for two consecutive years, according to the latest StatsCan data. B.C.'s economy had the second-highest growth rate at 3.9 per cent, trailing only Alberta, StatsCan reports.

StatsCan section chief Guillaume Dubé said the growth related to new projects including a natural gas expansion project in Dawson Creek and a Prince Rupert propane export terminal.

Fifteen out of 19 subsectors saw increases — but wood product manufacturing, the largest manufacturing subsector in B.C., declined 2.1 per cent, Dubé said. He explained that many sawmill and wood-preservation operations were forced to shut down during last year's wildfire season, the worst in the province's history since 1958.

Dubé said that GDP doesn't take into account the distribution of wealth or whether the wealth of individuals is growing.

ALBERTA

Alberta carpenters union signs on as a sponsor for SCNC 2018

Skills/Compétences Canada (SCC), a not-for-profit organization that actively promotes careers in skilled trades and technologies, says the Alberta Regional Council of Carpenters and Allied Workers (ARCCAW), has partnered with it in support of the Skills Canada National Competition (SCNC). The next competition will be June 4 and 5 at the Edmonton EXPO

Centre.

ARCCAW will be sponsoring the Launch Pad at SCNC, where students are introduced to the competition through a cutting-edge, youth focused, audio-visual experience that leads them to a career exploration event.

SCNC is an opportunity for youth to discover many of the career options that are available to them in these sectors.

"With Alberta's economy rebounding and diversifying, we want to ensure that young people know that a career with the union is a great way to make a good living," said ARCCAWA executive secretary-treasurer Derrick Schulte. "We offer quality and safely performed work in return for good family supporting jobs, and Skills Canada is a natural partner — and one we are proud to support."

Through the support of its many sponsors and suppliers, SCC is able to raise awareness of skilled trade and technology careers at SCNC. At the 2018 Skills Canada National Competition, representatives from industry, government, and labour, along with educators and youth will gather in Edmonton. More than 550 secondary and post-secondary students will compete for the title of national champion in more than 40 skilled trade and technology contest areas.

In addition, there will be more than 50 interactive Try-A-Trade and Technology activities to give the approximately 7,500 visiting students the opportunity to learn about careers in the skilled trade and technology industries. ARCCAW will be hosting a large Try-A-Trade and Technology activity at the Carpentry Skill Area during SCNC.

(raymond for image see <https://youtu.be/GxRgVqDtdGc>)

SASKATCHEWAN

Saskatchewan's Ministry of Highways and Infrastructure has placed 24 highway projects for tender in late May, worth an estimated \$65 million.

"Safety is the most important priority on our provincial highway system," highways and infrastructure minister David Marit said in a press release.



"We are pleased with this year's spring tender plan and the continuation of passing lane expansion throughout the province."

In addition to the passing lanes, the tenders cover the twinning of Highway 7 around Vanscoy.

Construction start dates depend on when the tender is awarded, contractor availability, and weather.

Combined with the tenders released in September 2017, there are over 130 Saskatchewan highway projects in progress, with an estimated value of million \$285 million.

MANITOBA

WCA president speaks out about prompt payment legislation

Winnipeg Construction Association (WCA) president Bill Hambley says the province's prompt payment legislation, Bill 218, "needs some significant amendments before it will work as intended."

In a note to members, he writes that the WCA has met with the bill's sponsor, Progressive Conservative MLA Reg Helwer.

"He advised there is currently a window of opportunity for the industry to come together, discuss practical solutions to the payment issue and present a unified position on the draft legislation," Hambley wrote.

In response, Hambley says WCA's General Contractor and Trade Contractor divisions held meetings in early May and agreed they would work together with the Manitoba Prompt Payment Coalition to see if

consensus can be reached on improvements to Bill 218.

As well, the WCA board agreed to appoint a group made up of two members from each the association's General Contractor, Electrical Contractor and Trade Contractor Divisions to meet with the Manitoba Prompt Payment Coalition (led by the Mechanical Contractors Association) to review the bill. This group will also look at the recently adopted Ontario Construction Act to see if ideas can be borrowed from that legislation. The intent is to provide a piece of workable consensus legislation in Manitoba.

Hambley said the WCA has committed to providing members with regular updates, like this, on the status of Bill 218 and our conversations with the Manitoba Prompt Payment Coalition.

ONTARIO GTA

IO and Metrolinx sign \$2.5 billion contract for Finch West LRT project

Infrastructure Ontario (IO) and Metrolinx have signed a \$2.5-billion contract with Mosaic Transit Group to design, build, finance and maintain the Finch West Light Rail Transit project



Mosaic will be responsible to design, build, finance and maintain the 11-km LRT in a semi-exclusive lane along Finch Ave. This consists of a below-grade terminal stop at Humber College, 16 surface stops, as well as an underground interchange station at Keele Street that connects with the new Finch West Subway Station on the Toronto-York Spadina Subway Extension.

The project also includes a maintenance and storage facility for the light rail vehicles and other required components, such as trackworks, signaling, communications, and public infrastructure.

Mosaic's team includes:

- **Applicant lead:** ACS Infrastructure Canada, Aecon Concessions – a division of Aecon Construction Group, CRH Canada Group.
- **Construction:** Aecon Infrastructure and Management, Dragados Canada, Dufferin Construction Co. – a division of CRH Canada Group.
- **Design:** Arup Canada, Dillon Consulting Ltd., DPM Energy, DTAH, Perkins + Will Canada, Sener SES Canada.
- **Maintenance:** ACS Infrastructure Canada, Aecon O&M – a division of Aecon Construction Group.
- **Financial advisor:** RBC Dominion Securities

Mosaic is scheduled to begin construction in fall 2018.

OTTAWA

Hard Rock Casino receives approval for \$318-million expansion project

Ottawa City Council has approved Hard Rock Casino Ottawa's plans to expand the Rideau Carleton Raceway and Slots.

The \$318-million project includes a redevelopment of the Rideau Carleton Raceway at 4837 Albion Rd.

The casino plans to build an entertainment venue with a 2,500-seat theatre for live shows, restaurants, a nine-storey hotel and a parking garage for as many as 1,200 cars.

The investment is expected to create approximately 3,100 construction jobs.

The multi-year project is scheduled to be complete by 2022.

QUEBEC

Governments commit \$70 million for Quebec City, Trois-Riviers transit systems

The federal government and the Government of Quebec have an-

nounced more than \$70 million in funding for capital and other projects to support the municipal transit systems of Quebec City and Trois-Rivieres.

The May 7 announcement for Trois-Rivieres covered 19 projects being undertaken by the Societe de transport de Trois-Rivieres (STTR). The Government of Canada will provide \$5.8 million for the projects and the Government of Quebec will contribute \$4.6 million.

Besides the purchases of new rolling stock, the STTR will build bus shelters to serve the CEGEP, Trois-Rivieres hospital, college Lafleche and the University of Quebec at Trois-Rivieres, indicated a media statement.

The total spend announced May 16 for Quebec City will be \$60.9 million for 24 projects being carried out by the Reseau de transport de la Capitale (RTC) under the Public Transit Infrastructure Fund.

The Government of Canada will provide \$33.8 million for the projects and the Government of Quebec will contribute more than \$27 million. The RTC will provide the remaining funding.

Among the projects receiving funding are the rehabilitation of the Lebourgneuf operations centre roof, as well as work to refurbish the maintenance workshop, the statement said. The RTC will also build a new terminal, the Terminus de la Faune, and a Park-o-Bus at the Quebec City Airport.

"The RTC is on the eve of a historic development period and is thrilled with this support from the governments of Canada and Quebec. These contributions will allow the RTC to start putting foundational infrastructure like the park and ride in place for our future network, and to continue improving the customer experience and diversifying our bus fleet. Everyone in the area will benefit from this announcement," said Remy Normand, president of the Reseau de transport de la Capitale, in a statement.

NEW BRUNSWICK

Fredericton's \$8.9 million downtown makeover includes permanent Officer's Square stage

Fredericton is getting a \$400,000 permanent main stage at historic Officers' Square as part of an \$8.9 million makeover of the downtown space, CBC reports.



The stage will be made of corten steel, which rusts in the elements and forms a protective outer layer. "We wanted to find an element that's both recyclable and durable, but beautiful," said architect Monica Adair of Acre Architects.

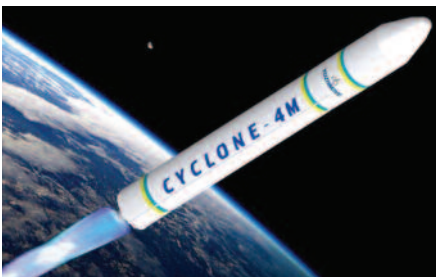
The stage will be built next to the Fredericton Region Museum. Construction will start next year.

NOVA SCOTIA

\$200 million Canso spaceport construction delayed

The start date for the construction of Canada's only commercial spaceport has been delayed.

Stephen Matier, president of Maritime Launch Services, had hoped to break ground this spring on the \$200-million project on Nova Scotia's Eastern Shore. However, Matier says the Canso rocket launch site likely won't start being developed until later this year.



He told CBC that he had hoped the process would be moving faster, but his firm doesn't plan on cutting corners.

The project aims to attract consortiums of firms that want to put satellites into orbit for commercial purposes, such as near-Earth imaging, rather than putting humans into space.

The private-sector venture requires the province's environmental approval and further regulatory approvals for launching procedures. Matier said his company will submit an environment assessment to the province within the next month.

The company is still aiming for the first round of satellite launches to begin in 2021, he said.

PRINCE EDWARD ISLAND

StandardAero plans 30,000 sq. ft. Summerside plant expansion

StandardAero Summerside, formerly known as Vector Aerospace, is preparing a 30,000 sq. ft. expansion.

Jeff Poirier, vice-president and general manager for StandardAero, says work currently done in Winnipeg will now be transferred to Summerside.

"Summerside's reputation in the industry for great quality, great turn time and superb customer service allowed them to transfer this work that was formerly done in Winnipeg to Summerside with very little concern," Poirier said.

"It's a full-level expansion of the entire facility, entire company," Poirier said. "This is not just a good news story for Summerside, this is a great news story for Prince Edward Island as a whole."

He said Slemon Park Corporation will put out a request for tender in the coming weeks to construct the expanded facility, with the construction process to begin soon after. The work is expected to be completed by the end of the year.

NEWFOUNDLAND AND LABRADOR

Government to remove secrecy about Muskrat Falls contractor pay

A proposed change to the Energy Corporation Act means the identities and amount of money paid to contractors hired directly by Nalcor for work on the Muskrat Falls project will soon be available for public disclosure under Newfoundland and Labrador's access to information laws, CBC reports.

Natural Resources minister Siobhan Coady said in May that an amendment to the act will modify the definition of "commercially sensitive information" related to the project's temporary workers.

The names of so-called embedded contractors and payments received from Nalcor Energy will no longer be protected, and that disclosure will be retroactive to past contracts, she said.

The change will bring Nalcor in line with other Crown corporations and agencies with respect to information disclosure and accountability, where the secrecy was "not reasonable or necessary," she said.

She said the change is part of the Liberal government's commitment to openness and transparency.

CBC reports the amendment follows intense media scrutiny of the issue in 2017, with Nalcor saying it was unable to release billing rates and the names of hundreds of contractors working on the massive project, which is billions over budget and years behind schedule, because of limitations in the Energy Corporation Act.

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