



TIMES

Number 8 | December 2017



To our valued customers



Marie Glenn

As another year comes to an end I'd like to first and foremost thank you all for your continued trust in our team to deliver the products you rely on to build Canada's infrastructure.

Over the past two years, under our new ownership by CRH, we have continued to grow our business, strengthening our production and distribution network to continue creating value for our customers. Through our acquisition of a quarry in St-Jacques, Quebec and assets from K.J Beamish Construction in Ontario this past year, we continue to focus on our vertical integration so that we can provide end-to-end solutions to increasingly large and challenging infrastructure projects across the country.

With investments in infrastructure, innovation and housing from different levels of government, 2018 promises to be another strong year for the economy. We have good fundamentals driven by rebounding commodity prices which are particularly beneficial for the Alberta market. Household wealth remains strong and interest rates appear to have stabilized after two subsequent increases from the Bank of Canada that have helped stabilize housing prices.

While there are many positive indicators for the economy, we continue to face increasing pressures across our industry. Increasing fuel prices are resulting in higher transportation costs and carbon pricing legislation is driving the need for major investments

in how we produce and process many carbon-intensive products including cement and steel – key components of our country's infrastructure.

Lastly, as the winter season continues, please remain vigilant on the roads. Daylight hours are shorter, the roads are slippery and driving conditions are compromised so please remember to drive defensively and always put safety first.

On behalf of our entire team I wish you and your loved ones a happy holiday season and a strong and prosperous year ahead!

Marie Glenn
General Manager
Cement Marketing
Ontario and Great Lakes

Focused growth CRH Canada acquired assets from K.J. Beamish Construction Co.

In May 2017, CRH Canada reached an agreement with K.J. Beamish Construction Co., Limited (Beamish) for the purchase of certain of its road construction assets and aggregate pits, quarries and properties north of the Greater Toronto Area (GTA).

The acquisition included nine Beamish facilities located in Bark Lake, Barrie, Coboconk, Holt, King City, Lindsay, Midland, and Orillia, and a joint venture asphalt plant in Barrie, Ontario. We proudly welcomed approximately 250 employees to the CRH Canada family as result of this transaction.

The aggregate pits and quarries have been integrated into our Dufferin Aggregates business while the rest were integrated into our Dufferin Construction division and operate under that brand or under the brand Royel Paving.

We are proud to continue growing our business and are confident that this acquisition allows us to be closer to our customers in developing urban areas to better meet their needs in the long term.



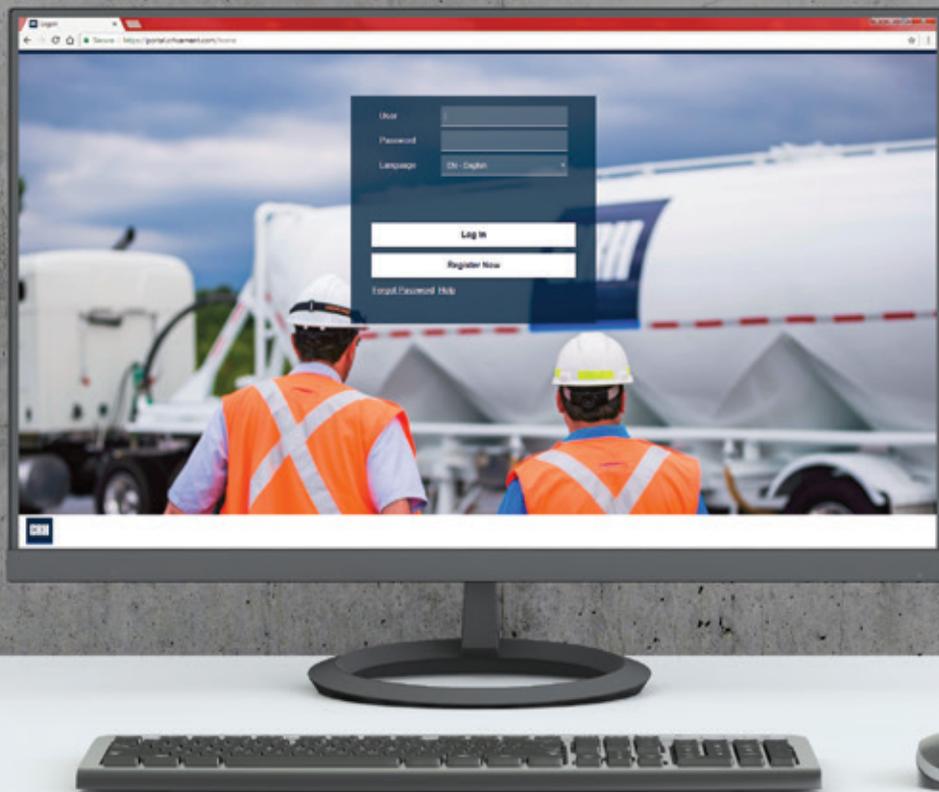
Have you seen our new website and customer portal?

Our customer portal has always been a tool that helps you access your invoices, tickets and order history. As technology has evolved, we upgraded this tool to make the portal an easy-to-use, intuitive tool that will help you run your business more efficiently.

Our customer portal is a private, secure site that enables you to pull account specific information on your orders, invoices, credit status and more. It provides 24/7 access to up-to-date information, containing everything that you need in one place.

In parallel, we have created a dedicated website for everything you need to know about CRH Cement. Containing relevant information on our products, services, locations and projects, the dynamic new site was created to provide you with more information about our business and how we can serve you better.

We are confident the new website and improved portal will allow users to find content that is relevant with ease and simplicity. We are excited to share our new customer portal and website at www.crhcement.com. Click Customer Login to register for our new portal. Please note that existing customers will need to re-register on the new portal as previous usernames and passwords will not work.



Lobby day in Ottawa

Largest gathering of Canada's cement and concrete industry heads to parliament hill to deliver one message: "Build it once. Build it right. Build it to last."

By: Adam Auer, Cement Association of Canada

From October 16th to 18th, the cement and concrete industry came together in its largest gathering ever. This gathering took place to communicate to Canadian members of parliament and senior civil servants about the construction industry's central role in Canada's economy with the transition to a low-carbon clean future economy. By some accounts, it was among the largest advocacy effort Parliament Hill has ever seen.

Between all three levels of government, some \$800 billion will be spent in renewing and expanding Canada's infrastructure over the next ten years. Our core message to all three levels of government is

focused on this once-in-a-lifetime opportunity to not only modernise Canada's aging infrastructure, but to modernise the process through which infrastructure decisions are made.

This will ensure that all infrastructure investments in Canada are subject to three basic due diligence screens:

- 1) Lifecycle cost analysis
- 2) Lowest lifecycle carbon footprint screening
- 3) A best available technology assessment that recognises low carbon innovations like Contempra – a lower carbon cement product – and emerging carbon capture and utilization technologies.



Adam Auer from the Cement Association of Canada and Minister of Environment and Climate Change, The Honourable Catherine McKenna.

This message was very well received by parliamentarians of all political stripes, by senior civil servants and especially by the Minister of the Environment and Climate Change. The Minister of

Environment and Climate change has been challenged, and is challenging her colleagues, to think holistically about how to build a low-carbon, climate-resilient and prosperous Canadian economy.

“The Concrete Industry Federal Lobby Days are a great example of how the various concrete product associations can work together with the cement industry to jointly promote the use of our products across the entire country. While we often are aware of the smallest differences between the various concrete products that each of our members produces, at the political level, we are all seen as being one product with its strongest attributes being resiliency and durability. This event placed all concrete products in a highly favourable light and made the case for why concrete should be the material of choice for all infrastructure projects.”

Bart Kanters
Concrete Ontario

“The cement and concrete industry is uniquely positioned to help all levels of government in Canada achieve their climate change priorities, while also ensuring best value for money invested. The materials we produce – concrete and concrete products – are essential to all public infrastructure projects due to their renowned strength, durability, resilience and versatility. Far less well known is that our sector is also leading the clean economy transition, improving our environmental profile through constant innovation, and rapidly emerging as a massive cleantech opportunity for Canada to leverage.”

Michael McSweeney
President and CEO of the
Cement Association of Canada





Concrete is meeting the low carbon challenge

The question for government is how to secure and capitalize on Canada's leadership in this unique clean economy space, so that the country fully benefits from being at the forefront of this innovation play. Carbon pricing is an essential but insufficient part of such a strategy.

BY MICHAEL MCSWEENEY

Governments are preparing to spend hundreds of billions of dollars over the next decade on infrastructure, an investment characterized by elected officials as short-term stimulus to meet ambitious longer-term social, economic and environmental needs.

It's hard to imagine getting this right without considering concrete. Activities related to our industry contribute \$73-billion a year to the economy, maintaining 151,000 jobs across the country. Concrete is the most used building material on the planet—by a long shot—double all other materials combined. Whether it's buildings, roads, public transit, sewers, airports or power plants, most public infrastructure projects wouldn't be possible without it.

While concrete is known for its strength, durability, resiliency and versatility, our sector is also emerging as a massive clean-tech opportunity where Canada is well positioned to lead—and profit from—the transition to a low-carbon and climate-resilient built environment.

Governments, which procure more than half of all building materials consumed in Canada, are beginning to recognize the importance of aligning public infrastructure procurement with the need to reduce GHGs and adapt to climate change. British Columbia's climate plan, for example, prioritizes the use of Contempra, a cement product that costs and performs exactly as regular cement does, but reduces GHGs by 10 per cent. At a national scale, Contempra is a no-cost, one-megatonne GHG reduction opportunity. In Ontario, where the phase-out of coal-fired electricity still holds the title as the most significant GHG reduction action in North America, government attention has turned to helping our sector transition from coal to lower carbon alternatives—an opportunity that could reduce the GHG intensity of our sector by an additional 20 per cent. And in communities across Canada, concrete's unique properties (e.g. thermal mass, lower rolling resistance, etc.) are playing key roles in net-zero buildings, climate-resilient in-

frastructure and lower carbon roads and highways.

On their own, these are significant steps forward. But in Canada's journey toward a clean economy future, concrete's role as a first application for an emerging class of technologies known as CO₂ utilization (CO₂U) is a game changer. These technologies use post-industrial carbon dioxide as an ingredient to make valuable products. A recent report by The Global CO₂ Initiative found that CO₂U could provide \$1.1-trillion in new market value, and reduce global greenhouse gas emissions by 15 per cent, by the year 2030.

Canada has an enormous opportunity to lead the world by building on its strong foundation in CO₂U technologies. For example:

Halifax-based CarbonCure Technologies has developed a technology that takes waste carbon dioxide from industrial processes and injects it into concrete to make it stronger and greener. CarbonCure's Technology is commercially available, and is being used by nearly 60 concrete plants with significant domestic and export growth potential.

Solidia Technologies® is a carbonation-based process that reduces the carbon footprint of concrete by up to 70 per cent and water consumption by 60-80 per cent while enhancing concrete's other performance attributes.

Pond Technologies takes CO₂ from the cement manufacturing process to grow algae that can be converted to biofuels and other low-carbon products such as animal feeds, soil amendments and pharmaceuticals/nutraceuticals.

Other CO₂U opportunities include sequestering CO₂ in mineral waste products from

other industrial sectors to create a "carbonated" aggregate that can reduce environmental impacts in two ways—replacing virgin aggregate in concrete while storing significant CO₂ in the process.

The question for government is how to secure and capitalize on Canada's leadership in this unique clean economy space, so that the country fully benefits from being at the forefront of this innovation play. Carbon pricing is an essential but insufficient part of such a strategy. As a major purchaser, directly and indirectly through transfers to provinces and municipalities, the federal government must also shape procurement decisions to favour low-carbon products. Doing so will have three key benefits:

First, it will reduce GHGs across the economy.

Second, it will incent export and domestic markets (rather than lag them) for these products as well as the technologies that support them—a strategy that Ontario is already pursuing.

And finally, by ensuring that all infrastructure projects that receive public dollars are required to account for the full economic and carbon lifecycle impacts, it will allow governments to align their environmental priorities with the objective of ensuring value for money.

In other words, these measures will help ensure better value for public infrastructure spending, lower GHG emissions and create a wave of innovation and job creation as we transition to our clean economy future.

Michael McSweeney is president and CEO of the Cement Association of Canada.
The Hill Times

Edmonton LRT

Improving transit in one of Canada's fast growing cities

With a growth rate of 13.9% (2016 census), Edmonton is one of Canada's fastest growing cities. This has put added pressure on balancing the city's transportation needs and its infrastructure capacity.

Developing and expanding the existing public transportation system while capitalizing on new opportunities for public transportation within the greater Edmonton area are cornerstones of the city's transportation master plan. The light rail transit (LRT) network is a large part of this plan, with ongoing investment to ensure the city continues to thrive.

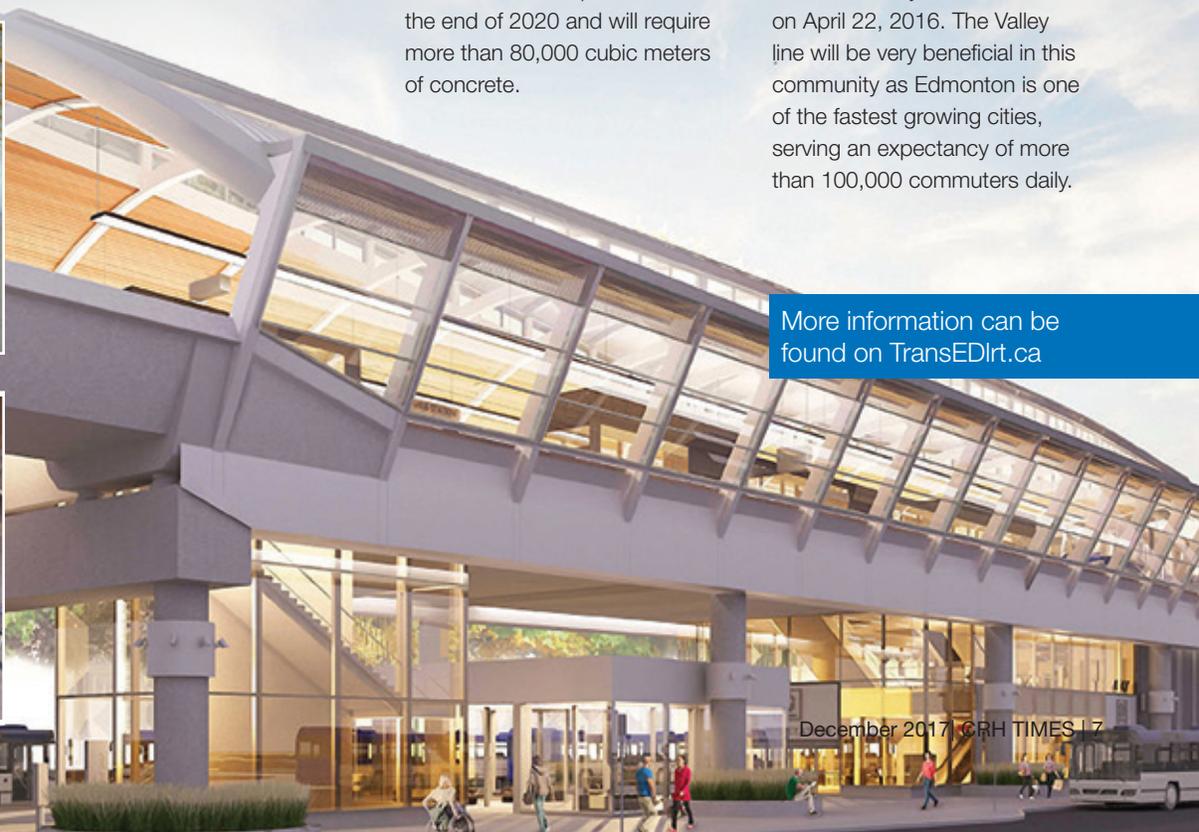
Currently, Edmonton's LRT consists of 18 stations on 24 km of track on 2 lines, the Capital

Line and the Metro Line, which added over 3 km of new track in 2015. With help from the federal and provincial government, the City of Edmonton will be able to pursue the largest infrastructure project in its history: stage one of the Valley Line LRT. A new LRT line is a significant infrastructure project that requires many years to plan, design and build, and also requires a wide range of material and service providers to bring the project to life.

At a total capital cost of \$1.8 billion—\$800 million provided by the City of Edmonton, \$600 million from the Province of Alberta and \$400 million from the Government of Canada—stage one of the Valley Line LRT will run 13 km. The line will include 11 stops with signalized pedestrian crossings, a station to include a 1,400-spot park and ride and transit centre, a new bridge spanning the Saskatchewan River, and a tunnel on the north side of the river valley. This first stage is scheduled to be operational at the end of 2020 and will require more than 80,000 cubic meters of concrete.

The city has approved a public-private partnership (P3) project delivery model to design, build, finance, supply vehicles, operate and maintain the 13 km line, with TransEd Partners who are composed of Bechtel, EllisDon, Bombardier, and Fengate Capital Management Ltd. Through the P3, TransEd Partners will be responsible to design and build stage one of the Valley Line LRT, as well as operate and maintain the line for 30 years.

The official groundbreaking of the new LRT Valley Line occurred on April 22, 2016. The Valley line will be very beneficial in this community as Edmonton is one of the fastest growing cities, serving an expectancy of more than 100,000 commuters daily.



More information can be found on TransEDlrt.ca

Recognizing continuous

At CRH Canada, and throughout the Oldcastle Materials Group at the North American level, we focus on continuous improvement through employee engagement and grassroots initiatives. We look for employees or groups of employees that undertake initiatives to improve health and safety in our business, find efficiencies in our operations or increase the value we add to our customers. Through our awards programs, we seek to recognize these employees and share best practices within the company so everyone can benefit from our collective knowledge and experience.

This year, our President's Awards for OH&S Excellence, our Inspire Action Awards and the Oldcastle Innovation Awards recognized over 50 employees across the company. Our cement teams took home two prestigious prizes at the awards this year.



Inspire Action Award
Winning Import Strategy at the Duluth Terminal
Cement Marketing, Great Lakes, Ontario, West (GrOW)

Steve Bottero, Mackenzie Johnston, Emma Schindler, David Bangma, Dave Sobczak, Ken Lerner, Jose Angel Magan, and Jorge Arbones, with Wayne Lazzarato

The cement sales and logistics team engaged with our global CRH Trading group to source a low alkali cement and a vessel suited to travel into the Great Lakes and able to be unloaded by our Duluth terminal ship unloader to better meet supply for this product in the region. The vessel arrived and was successfully unloaded at the terminal for the first time in late 2016 and has proven to be a winning strategy to meet our customers' needs in the area.



Oldcastle Innovation Award
Masonry Task Force
Mississauga Cement Plant, CRH Canada

Dennis Baker, David Bangma, Marco Carlini, Marie Glenn, Alain Peeters, Phil Truck with Wayne Lazzarato

In 2014, a masonry task force was formed to continue improving the plant's masonry cement offering and focus on improving workability and board life. With a common objective to address customer needs, team members worked together for nearly two years to achieve a sustainable solution. By working in collaboration and by keeping an open dialogue with customers—to better understand the issues they were facing—Production and Marketing together developed a new Masonry Cement that worked for our customers—year round. Since its implementation in 2016, customers have remained satisfied with the product's quality and consistency. This project not only helped make the business better, it also highlighted the importance of having the right people, at the right place, at the right time, working together, to innovatively tackle an issue.

improvement

The health and safety of our employees, our customers and our neighbours is driven by each and every employee's commitment to take our safety pledge to heart: **when I SEE something, I will STOP and DO something.**

As we work toward our goal of ZERO Harm, it is even more important that we recognize and share best practices so everyone can benefit from our collective knowledge and experience.

Our President's Awards for OH&S Excellence celebrated at this year event were:



GOLD
Guidance System for Sawing Concrete Barriers, from Demix Construction

Robert Bessette, Dominic Martel, Rebecca-Jennifer Bourgeois, Philippe Mergl and Yan Boucher with Wayne Lazzarato

Developing a safer, more ergonomic and efficient tool to saw concrete barriers on job sites.



SILVER
Customer Job Safety Talk Program, by Dufferin Concrete and Ontario Redimix

Marco Adamo, Dave Zappa, Geri Calleja-Gera, John Cultera, Cam Carbe, Nazz Difonzo and Stan Jovanovski with Wayne Lazzarato

Providing safety toolbox talks on customer job sites as well as documentation to contribute to third-party site safety for our employees, as well as providing value added service for our smaller customers.



BRONZE
Cement Recovery System, Cement Marketing Québec & Atlantic, Bedford Terminal

Darrell White, Matthew Bowman and Kevin Sears with Wayne Lazzarato

Developing a system that would prevent cement powder from overflowing during unloading, hence making the process more efficient and avoiding unsafe tasks related to recovering overflow cement from a pit.



Dear Dave,

I love the look of a bright concrete driveway! I am thinking about installing one at my house but some of my neighbours have warned me that fall is too late in the season and it won't last. Is this true? Could you clarify and explain what important practices should be considered when placing concrete late in the fall?

*Thanks,
Autumn Leaves*

Dear Dave

Who needs Dear Abby when you've got a Dave on your team!

Have a question on your mind?

Send him a note and "Dear Dave", our Technical Services Manager David Bangma, will answer it and publish it here so we can all be a little better informed.



Dear Autumn,

What an important and great question you ask! It is absolutely crucial that concrete has sufficient time to both cure and dry prior to being exposed to freeze-thaw cycles. Due to this, concrete placements from October onwards should be considered very carefully or avoided.

According to CSA A23.1, achieving a minimum of 70% design strength and 7-days wet curing requires a minimum of 10°C. Wet curing provides moisture to allow the cement to efficiently hydrate and develop the necessary durability properties. However, there is a 28-day dry out period that must occur before a freeze-thaw cycle. If this does not occur, there is a much higher chance of spalling as the water in the concrete will expand and turn to ice.

It is also essential to use the right concrete. The Ontario Building Code requires 32 MPa and a maximum of 0.45 water to cementitious material ratio with 5-8% air for freeze-thaw durability. Lastly, during the first winter do not apply de-icers. De-icing salts will increase the number of freeze-thaw cycles and hence increase the chance of spalling especially with concrete that is not at ultimate strength.

After you've successfully made it through the first winter a good practice to enhance long-term durability is to apply a penetrating sealer the following summer. As you can see, the answer is not so simple with varying weather conditions. You should ensure proper curing time, proper drying time and apply the best practices listed above so that you can enjoy your new driveway for many years.

David Bangma

david.bangma@ca.crh.com





Winter safety tips

It's that time of year again, when most of Canada is entering the deep freeze of winter and working outdoors brings with it the additional hazards of slips, falls, frost bite and hypothermia.

Workers are at an increased risk for frostbite or hypothermia when they:

- Have health conditions such as cardiovascular disease, diabetes or hypertension
- Are taking certain medications
- Are in poor physical condition or have poor eating habits
- Are working alone

Take precaution

How to avoid slips and fall injuries

- Remove ice and snow where possible
- Apply sand or salt to frozen roads, walkways and stairs
- Wear safety footwear designed for cold and/or slippery conditions
- Attach ice grippers to boots for extreme conditions
- Avoid assigning work that involves climbing ladders or working from heights

Protect workers from frostbite and hypothermia

- Be aware of and react to workplace conditions
- Use the buddy system so co-workers can watch for signs of frostbite or hypothermia
- Train workers to recognize the symptoms for frost bite and hypothermia and what to do
- Make sure workers are properly dressed for the conditions
- Provide cold weather PPE as required
- Arrange for more frequent warm-up breaks
- Provide warm, sweet drinks (no caffeine)

Warm-up breaks should begin when the temperature reaches -26°C (-15°F) with winds of 16 km/h (10 mph) or greater. In the winter, Environment Canada reports wind chill factors and/or equivalent temperatures. When this information is available, warm-up breaks should begin when the wind chill reaches

1,750 watts per square metre (Equivalent Temperature of -32°C). All non-emergency work should stop by the time the wind chill reaches 2,250 (Equivalent Temperature of -51°C).

The number of breaks should be increased when work involves riding on an unshielded vehicle or another activity that generates wind. If effective protection against the wind can be provided by work modification, shields or screens or other measures, then the work warm-up schedule for "no noticeable wind" would apply.

Masonry blitz 2017

Visiting masons in the field is one of the best parts of our jobs. We not only get to meet these hard-working folks that are literally building our homes and schools first-hand, but we also get to see our materials in action and make sure they are meeting the needs of our customers.

By: Marco Carlini, Market Manager, CRH Canada

At the end of the summer this year, the market managers and I had the pleasure of visiting five sites in the Greater Toronto Area



(GTA) speaking to masons from vendors including Blair Building Materials, Senso Building Supply and Ferrell Builders' Supply. While onsite, we asked for feedback about our products to see how they were performing and whether they had any issues that we needed to address. This feedback is incredibly helpful for us to take back to our business and work with our technical and quality teams to ensure that the products are meeting our customers' expectations.

It's always great for us to meet the tradesmen that put our product to the test every day and we enjoy visiting the communities that these masons are building featuring new design trends and classic techniques.

In November, we had the chance to connect with masons in Ottawa where our good friends at Merkley Supply joined us to visit several indoor sites and see the masons at work. They had great feedback about our product's performance and it was nice to thank them in person

for using our product. It was great to see that they too were interested in meeting us and they were also happy to see us on site!

We had a great time visiting our customers at sites throughout the GTA and Ottawa again this year. If you have any ideas on sites or companies we should meet with in 2018 please let your market manager know, we would love to organize a visit to come out and see you!





GROWING together at our annual sales meeting

Our Great Lakes, Ontario and Western Canada (GrOW) team, along with colleagues from our US and Quebec regions descended on Niagara-on-the-Lake for our annual sales meeting this fall. With representation from all of our cement, concrete, aggregates and construction teams, we were ready to tackle two days of learning, team building and fun.

The annual sales meeting presents us with an opportunity to take a step back from our day to day operations and focus on our strategy as a company, the initiatives

that we're undertaking to achieve our goals and what our next steps are to continue delivering on our commitments and making our business better.

The agenda this year tackled health and safety, improvements to our customer service offering through our new portals, websites and e-invoicing, economic activity indicators to help us prepare for the year ahead and updates on cap-and-trade to better understand how it will affect our business going forward.

A very important part of the two days was having a chance to break bread with one another as a group. The whole team is only together under one roof once a year, so you can be sure there was not a moment of silence for the entire evening. The event was a success and the team left feeling energized and armed with more knowledge to better service our customers.





Holiday spirit

The holiday season is a time for celebration with family and friends. It is a time of giving and receiving, filled with joy and reflection. For our Mississauga plant employees, it is a time to come together to make a difference in our local community by giving to families in need so they too can experience the joy of the holiday season.

For the past several years, our Mississauga plant employees have volunteered their time to decorate Armagh House, a local second-stage housing program offering secure and affordable housing to abused women and their children. Emma Schindler, Logistics Manager at the Mississauga plant says, "Decorating Armagh for the holidays is something I look

forward to and has become somewhat of a holiday tradition for the employees at the plant. To know that we are bringing some joy to these women and children is what the holiday season is all about. It is very personal and emotional for all of us."

The Shoebox Project has also become a holiday tradition for our employees. Through fundraising activities and lots of shopping, the employees fill shoeboxes with gifts for women who are homeless or at-risk of homelessness in Peel Region. "When we go shopping for the gifts, we try to imagine what these women would like and what would make them feel special," explains Nives Greco, Executive Assistant, Marketing. "When we are packing the

shoeboxes with the gifts, it is nice to know that these women will have something to open on Christmas morning and to know that someone cares."

The employees at the plant are looking forward to another holiday season filled with joy and surprises for deserving families in their community.



CRH Canada is very fortunate to have such caring employees. Each year our employees willingly give their time and talent to helping make a difference in the community - whether decorating trees and mantles with holiday decorations, or packing shoeboxes with thoughtful gifts. It is our employees who truly help make our community a better and happier place to live, especially during the holidays.



Hellyer competes in the LPGA Canadian Women's Open

There was quite a buzz around the CRH camp in August as Hannah Hellyer, daughter of Louise and John Hellyer, competed in the 2017 Canadian Pacific Women's Open.

Hannah shot a 3-under 69 at Camelot Golf & Country Club in Cumberland Ontario, qualifying her for the LPGA Canadian Pacific Women's Open at the age of 26. Hellyer is a PGA professional golfer out of St Georges Golf & Country Club in Toronto and she has been golfing since the age of 6.

The 2017 Canadian Women's Open was in Ottawa at the Hunt and Golf Club held from August 24 to 28. This year's edition of the tournament featured 98 of the top 100 world female competitors with an entire field of 144 women.

Hannah had quite a following of good friends and relatives watching her experience her first LPGA event. She showed tremendous composure throughout despite some adverse situations.

Although Hannah didn't make the cut, she was satisfied with the overall experience.

"In one day you go from eating egg salad sandwiches to eating Beef Wellington," commented Hannah on the experience. "I actually had a young boy ask me for my autograph!"

Hannah has plans to continue with her golf career and experience more of the LPGA in the future.

The Hellyer family would like to thank all who supported Hannah with their positive thoughts and wishes throughout the event.



Photo Gallery

- 1- The cement marketing team at the 2017 Concrete Ontario Masquerade Ball
- 2- Kyle Imrie, David Bangma, Clyde MacDuff and John Hellyer
- 3- CCPPA members at the Oktoberfest dinner
- 4- The winning Concrete Canoe team at Concrete Ontario AGM
- 5- Dino, John and Derek at the Concrete Ontario golf event
- 6- Toronto Redi-Mix concrete canoe team looking dapper
- 7- Carol and Andy enjoying the Canoe Race at the Concrete Ontario conference
- 8- The Bricklayer Regional Qualifier at Conestoga College

