

## From the Desk of Sasha Kisin...

As the year progresses, a new sense of normalcy has begun to set in as the masonry industry, along with everyone else, adapts to the realities of functioning during a global pandemic. This past summer once again saw lower activity among the masonry contractors which added to an already slow first half of the year. The outlook for this fall and early 2021 also does not look strong; however, a variety of small to medium sized projects should keep crews employed during this time. On a more positive note, discussions with various members of the design community are indicating that announcements regarding infrastructure funding from the various levels of government earlier this year have resulted in an increased workload among the local design offices. This should cause more projects out for tender in the near future and hopefully a return to full employment within the masonry industry in the second half of 2021.

SMI and its partners continue to work with government agencies to implement a multi-year infrastructure strategy so that masonry contractors, and the construction industry in general, can more effectively predict future labour requirements and have the confidence that there will be enough work to hire and retain apprentices. Achieving stability in the labour market will result in lower and more consistent masonry construction costs. Thankfully, the various levels of government have recognized the importance of this issue are now moving to multi-year budget cycles and infrastructure plans which will benefit the construction industry and taxpayers alike. SMI and its members continue to seek and promote the trades to today's youth as a viable and lucrative career option. Although there have been setbacks in local in-class apprenticeship programs, SMI and its national partners have undertaken various new initiatives with the goal to getting more masonry programs at the high school level.

SMI contractor members' proven track record of superior workmanship and accountability, along with SMI's lobbying efforts, continues to result in more



developers, owner groups, and members of the design community explicitly requiring that proponents bidding on their projects must be members in good standing of the SMI. The SMI membership hopes to ensure this trend continues in the future by providing new educational programming and literature to the design community as well as maintaining the high standard of workmanship and professionalism on the jobsite.

SMI was also pleased to welcome Wilhelm Masonry as a new contractor member earlier this year! After years of growing their operation, taking on more complex projects, and garnering praise from several members of the local design community, the SMI board of directors was happy to accept their application. We look forward to their representation at SMI meetings to help shape the future of our industry. Turn to page 9 for more information on Wilhelm Masonry's company biography and previous projects.

**Please note the SMI design awards committee has decided to postpone the next iteration of the Design Awards until September 16, 2022 and extend the submission deadline for projects to May 31, 2021. Refer to pages 10 & 11 for more information.**

The Canada Masonry Design Centre continues to bridge the gap between the design community and the masonry construction industry by providing masonry-related technical support to design professionals and advancing the state of the art in Masonry Design.

Notable projects the CMDC staff are currently undertaking include:

- The release of MASS™ software Version 4.0 which has the ability to design masonry shear walls to comply with the S304-14 new seismic standards and allow for the design of boundary elements. It also features a completely new module for multi-story masonry shear walls
- Developing the next edition of the Masonry Structures Behaviour and Design Textbook
  - The first 6 chapters have been released to several universities including Bruce Sparling at the University of Saskatchewan to help with course development
- Completion of an initial cost study for a multi storey condominium in Atlantic Canada with the CCMPA
  - Has already resulted in a proposed project switching to masonry as its primary structural system
- Working with Saskatchewan Polytechnic's Architectural Technology and Interior Design programs to develop masonry-specific lectures presented by CMDC staff
- Organizing and preparing for the 14<sup>th</sup> Canadian Symposium scheduled to take place May 16 - 19, 2021 in Montreal

- Working with counterparts in the United States (NCMA) to harmonize our masonry design standards
  - This work is also supported by CSA, for which CMDC was able to successfully apply for a \$50,000 grant towards this harmonization project
- Continued support of masonry research across Canada in partnership with CCMPA and our local masonry associations
- Continuing to provide complimentary copies of Masonry Structures Behaviour and Design and MASS™ software to students enrolled in the Masonry Design Class at the U of S




**The Benefits of Designing with Masonry:**

- Durable
- Resilient
- Low Maintenance
- Energy Efficient
- Cost Effective
- Timeless

[www.saskmasonry.ca](http://www.saskmasonry.ca)

 @saskmasonry 

## Saskatchewan Centre for Masonry Design

Despite the pandemic, the Saskatchewan Centre for Masonry Design's (SCMD) Structures Lab at the U of S is full of newly constructed masonry specimens with multiple projects about to enter the testing phase.

M.Sc. student, Thomas Vachon's specimens were constructed in early September and are ready to be tested in the coming weeks. The specimens for his



project consist of full-scale beam specimens as well as special wall specimens with the same reinforcing layout as the beams. The wall specimens were particularly difficult to construct since lap splices were not allowed along the entire height of the wall. This resulted in the mason and the students having to individually thread each concrete block over almost three meters of protruding bar. The objective of this research project is to re-evaluate the chi-factor that

currently being used in the CSA S304 flexural design equation for masonry beams. If the results prove favourable, it may result in an increased structural capacity for masonry beams and lintels in future CSA masonry design standards.

The other two students currently in the lab are Gordon and Nitesh. Both students' M.Sc. projects consist of

testing masonry prisms of various sizes and geometries. In total, over 200 prisms will be constructed for the two projects. Gordon will be comparing testing standards for masonry prisms between the Canadian CSA S304 and American ASTM C1314. Meanwhile, Nitesh will be testing the new CMU designs that comply with the American ASTM C90. Nitesh's results will be used to establish a database that will be used to potentially amend the next edition of CSA A165 to also include these new unit geometries.

Olga Savkina is the newest M.Sc student at the SCMD and is also under the supervision of Dr. Feldman. She completed her undergraduate degree at the U of S last spring and began graduate studies this past September. Her project is a continuation of Nitesh's work where she will focus on the reduced web thicknesses that are allowed by the current ASTM C90. The results of her research will also impact the provisions in future CSA A165 standards. Olga hopes to start constructing her specimens in the first half of 2021.

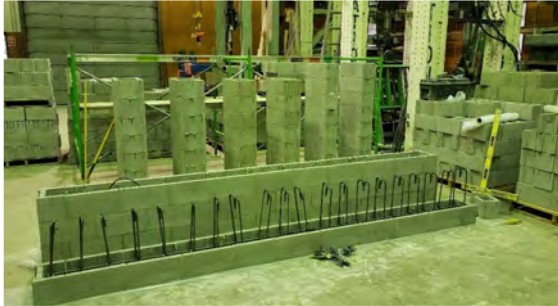


The other positive news from the SCMD is that in addition to the \$230,000 NSERC Collaborative Research and Development Grant (CRD), Dr. Feldman obtained with the help of the CMDC, she also found out she was successful with her application for a MITACS Cluster grant, with the CMDC serving as the industry partner. This grant is valued at almost \$300,000 and will be received over a five-year period. It focuses on "Concrete Masonry Unit Geometry for Improved Structural Efficiency, Sustainability, and Constructability." Olga is the first student under this grant and will therefore be spending 25% of her time at the SMI office in order



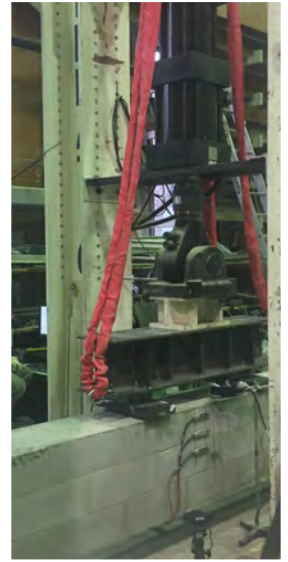


To fulfill one of the obligations of the grant which encourages industry collaboration with the students.



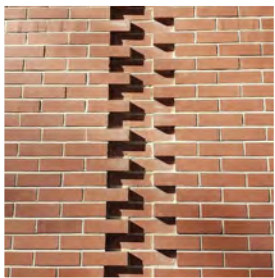
Unfortunately, the SMI's plan to host an open house this Fall to showcase the masonry research being conducted at the U of S by having the students talk about the projects and even conducting a live test

on a masonry specimen has been put on hold indefinitely due to the COVID-19 virus. All of this research would not be possible without the support of the Saskatchewan Masonry Institute, the Canadian Concrete Masonry Producers Association, and the Canada Masonry Design Centre. Members of these associations understand the need the importance of investing back into their industry and universities to ensure future prosperity.



## Highlights from our Instagram Account

[@saskmasonry](https://www.instagram.com/saskmasonry)



## Luc Durette Retirement



*2016 Masonry Design Awards - Residential- Single  
Family Award of Excellence*

Earlier this year, the SMI membership bid farewell to longtime SMI board member and past president, Luc Durette, as a result of his retirement from the masonry industry.

Luc's career in the construction industry started in 1976 as a bricklayer's helper and he quickly went on to become an apprentice. He received his Journeyman's Certificate from the Moose Jaw SIAST Trade School in 1979 where he was also awarded the Golden Trowel Award for his achievements in the apprenticeship program.

Luc became a project foreman early in his bricklaying career and then quickly moved on to superintendent, project foreman, and regional company manager. He then finally became company owner and manager of the Saskatchewan Division of Scorpio Masonry in 2005.

He has worked on countless projects in all of the western provinces but one of his most memorable was the Gordon Oak's Student Centre at the U of S which won the presidential Design Award at the 2016 Saskatchewan Masonry Design Awards.



*Gordon Oakes Red Bear Student Centre, U of S  
Campus*

Luc was heavily involved in various industry associations and was an integral part of the SMI executive for multiple decades. His opinions were always well thought out, valued by the other board members and helped shape the current prosperity of the SMI.

The SMI members wish Luc a happy retirement where he can work on his home projects, spend time with family and enjoy his hobbies!



*2005 SMI Golf Tournament - The Willows,  
Saskatoon*



*2008 Masonry Design Awards*



*2019 SMI Golf Tournament - Royal  
Regina Golf Club, Regina*



## SMI's Annual Golf Tournaments

Unfortunately, due to COVID-19, SMI's Annual Golf Tournaments were cancelled this summer. Here's a look back at some of SMI's golf tournaments over the years.









**The Canadian Masonry Construction Association Second Edition Textbook**

**SMI Member Price**

**\$75/Textbook including tax**

**Plus \$15/textbook shipping**

**Non-Member Price**

Textbook of

**CANADIAN  
MASONRY**

SECOND EDITION



CANADIAN MASONRY CONTRACTORS ASSOCIATION





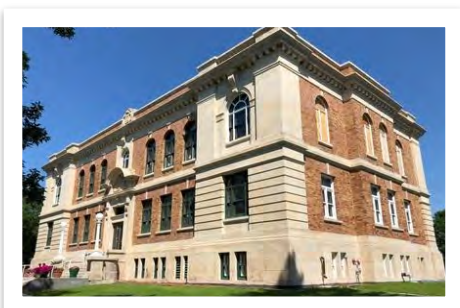
We would like to welcome a new member to the SMI—Wilhelm Masonry. Wilhelm Masonry was started by Shawn Wilhelm, a RedSeal Journeyman Bricklayer, in 2008. At Wilhelm Masonry they specialize in structural and load bearing Masonry. Whether it be Industrial, Commercial or Institutional, Wilhelm Masonry has the manpower, equipment, and expertise to get your project complete.

Projects range from elevator shafts and firewalls, concrete block foundations walls, split face architectural blocks, as well as brick and stone cavity wall construction.

From privately built homes to historical buildings, restoration will become inevitable to preserve the quality and originality of older masonry buildings. At Wilhelm Masonry they have the required skills and personnel to get your building back to its original condition, if not better. Whether its tuck pointing, stone repair or sealants to historical restoration, they can do it all and with confidence to provide a high quality service for you.

At Wilhelm Masonry “Our mission is to perform for our customers the highest level of quality workmanship, while providing for our employees a challenging and rewarding career within a safe work environment. Our mission is to ensure the longevity of our company through repeat and referral business achieved by customer satisfaction in all areas including timeliness, attention to detail and service-minded attitudes. To maintain the highest levels of professionalism, integrity, honesty and fairness in our relationships with our suppliers, professional associates and customers”.

For more information on Wilhelm Masonry Inc., visit their website <http://wilhelmmasonry.com/>



## 2022 Design Awards

The Saskatchewan Masonry Design Awards are held every four years to recognize architects, engineers, designers, builders and owners for substantial, imaginative and/or creative use of masonry in building design and construction in the province. The next iteration was to be held in September 2021, but due to the uncertainties around COVID-19, the awards will be held on **September 16, 2022 in Regina, SK**. Below is a list of current entries. If you'd like to have your project entered and professionally photographed, contact the SMI office for an entry form. All requests must be submitted by May 2021.

## List of Entries to Date

\*Architect unknown

\*\*Structural Engineer unknown

\*\*\*Architect & Structural Engineer unknown

If you are the Architect or Structural Engineer on any of the following projects that has an asterisk beside it, please let the SMI office know.

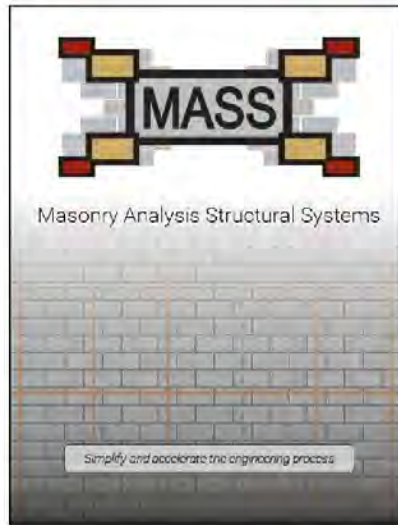
121 Greenbryre Cres - Residence*	Cornwall Centre H&M
135 Greenbryre St. - Residence**	Darke Hall
203 Greenbryre Cres - Residence	Ecole Connaught Community School***
318 Greenbryre Lane - Residence**	Evergreen Joint Use Facility
334 Saskatchewan Cres W***	Gemini 360 Mill Addition**
734 SK Cres W - Residence***	Hampton Joint Use Facility
Affinity Credit Union	Harbour Landing P3 School
Ahtahkakoop Health Centre**	Humboldt Post Office***
Argyle Street Strip Mall	Jim Pattison - Children's Hospital of Saskatchewan
Bank of Montreal**	Kakisiwew School***
Barrington Place Apartments*	KC Columbian Centre*
Blackstrap Service Centre	Kopahawakenum Elementary School
Brighton Marketplace Bldg A, B & E	Lakeside Medical Clinic
Buffalo Pound Provincial Park Pool	Landmark Cinema**
Buffalo Pound WTP & Electrical Substation	Lawson Heights Scotiabank**
Chief Kahkewistahaw Community School	Long Term Care Facility
Chief Sabitawasis School	Loraas Disposal Gore Facility*
Collaborative Science Building	Lot 2 & 3, Block 16 4th Ave E - Residence**
College Avenue Campus	Marquis Waste Hauler Station
College Quarter Hotel	Martensville Joint Use Facility
Compass Point Condos	Midtown Plaza
Co-op C Store & Car Wash**	Motion Fitness Lawson Heights Mall***



North Central Shared Facility - mamaweyatitan  
PACC Food Services Addition  
Pelican Narrows WTS Upgrade\*\*  
Penner Doors  
Prairie Sun Brewery\*\*  
Queen Street Medical  
RCMP Onion Lake Detachment  
Red Earth First Nation Health Centre\*\*\*  
Regina Minor Football Headquarters  
Remai Arts Centre  
Revera Greens on Gardiner  
River Street Reservoir\*\*\*  
Riverlanding East Tower  
Rosewood Joint Use School\*\*  
Rosthern School  
Safeway Lawson Heights Mall\*\*\*  
SAMA Office Building\*  
Sandy Beach Service Centre\*  
Saskatchewan Hospital North Battleford

Saskatoon Civic Operations  
Saskatoon Fire Hall No. 3  
Saskatoon Pediatric Dentistry\*\*\*  
SaskTel - 2121 SK Dr - 10th Flr  
Sherwood Industrial Park WTP & Auxiliary Works  
SPCC Living Unit C Upgrades  
St. Brieux School Addition & Renovation  
St. Matthew's Church\*  
St. Thomas More Cafeteria Expansion  
Starbucks - Idylwyld Dr.\*\*\*  
Stonebridge Joint Use Facility  
Teachers Credit Union  
The Bentley\*\*\*  
U of S Arena - Merlis Belsher Place  
U of S Health Science A/C Wing\*\*  
Visitor Reception Centre - Candle Lake\*\*\*  
Warman Joint Use School\*\*  
WCVM Pet CT & Oncology Centre





# Masonry Analysis Structural Systems

## Version 4.0

*Simplify and accelerate the masonry engineering process*

Masonry Analysis Structural Systems (MASS) is a powerful software package that analyzes and designs masonry Beams, Out-of-Plane Walls and Shear Walls in accordance with the CSA Masonry Standards. This program dramatically simplifies and accelerates the masonry design process and is specifically tailored to Canadian Engineers.

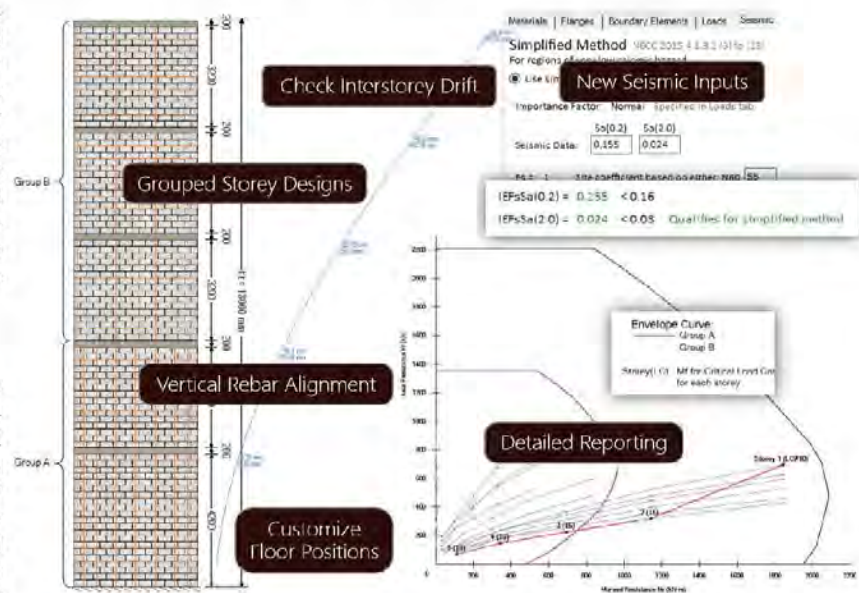
Masonry Analysis Structural Systems (MASS) is a visual, user friendly and dynamic structural software design package. MASS designs beams, out of plane walls, and shear walls for Moment, Shear, and Deflection. The newest version adds seismic considerations as well as a dedicated module for quickly designing multi-storey shear walls. *Everyone with a MASS™ license can be upgraded to Version 4.0 at no additional cost.*

### In a low seismic region?

MASS Version 4.0 has a new seismic input tab specifically tailored to areas deemed by the 2015 National Building Code of Canada as having relatively low seismic risk. Simply input site data and the software detects the method being used between the simplified approach in NBCC 2015: 418.1 or the equivalent static procedure.

### Designing Post-Disaster?

The higher ductility requirements for projects classified as being a Post-Disaster level of importance now require additional seismic considerations such as the ductility verification and the detailing of a plastic hinge region. MASS is able to perform these calculations and also check a shear wall against inter-storey drift limits.



## New to MASS?

Join more than 450 engineers across Canada in using MASS™ to save you valuable time on your next project. If you have not yet used the software, why not give it a try with a free trial copy? Simply contact support to request your trial.

NMDP would like to thank the following organizations:



To order MASS™ please contact NMDP's authorized service provider, the Canada Masonry Design Centre (CMDCC) at:  
360 Superior Blvd  
Mississauga ON L5T 2N7  
Tel: 888-338-3336 Fax: 905-564-5744  
mass@canadamasonrycentre.com

BEAM WALLS SHEAR WALLS DESIGN WALLS SHEAR WALLS SHEAR WALLS



## Local Architect Featured in National Journal

Saskatoon Architect, Heney Klypak, was recently interviewed by Jean Sorensen from Journal of Commerce by ConstructConnect where he talked about the use of masonry materials on projects located in remote regions in Saskatchewan. The resulting article is featured below.

### Masonry leading construction in remote Saskatchewan regions

Jean Sorensen August 17, 2020



*COURTESY OF BRXTON MASONRY — Saskatchewan Masonry Institute president Ryan Leech, whose company Brxton Masonry Inc. builds masonry structures in northern regions, said masonry not only provides generational buildings but also the flexibility to incorporate unique design features. The teepee design on the Kahkewistahaw school is made from local fieldstones collected by local First Nations artists.*

At the end of June, Saskatchewan architect Heney Klypak of Wallace Klypak Architects Ltd. was called to a remote First Nations reserve to examine fire damage in a school's change room caused by an electrical short in a vanity light. The damage was melted plastic, scorching to the laminate and wood and a lot of smoke damage, he said.

"It was really minor," said Klypak, who specializes in designing masonry buildings, with 90 per cent of his work on First Nations territories. "But, had the building not been masonry, the damage would have been much worse."

Klypak credits the stringent building standards now in place by Indigenous Services Canada (ISC), which sets out a life expectancy of 60 to 70 years for institutional buildings on First Nations lands. That longevity is best met using masonry.

As a result, First Nations in Saskatchewan are leading the way in setting down structures that have low maintenance, longevity and resilience.

Ryan Leech, Saskatchewan Masonry Institute president, called the move "generational" in construction with First Nations a fast adapter with schools and community centres, but it is also one popular in non-Indigenous applications.

"Masonry has been the material of choice for virtually all design firms when building in northern or remote locations," he said.

That generational attitude of enduring structures is one that Leech would like to see carried into all institutional buildings today, as it once was the past standard for what Leech calls, "the three pillars of society: education, health and religion."

Saskatchewan, because of a lack of milling facilities and a history of masonry and brick manufacturers, still retains many older masonry structures built over a century ago.

“We are building disposable buildings with a life of 25 to 50 years versus some of the older masonry buildings that have shown a life of 100 to 150 years,” he said, adding that the longer lifecycle of these generational structures should be measured against other construction modes today to realize the true value of masonry.



*COURTESY OF HENEY KLYPAK — Chief Sabitawasis school, designed by architect Heney Klypak to double as a community activity centre in the evenings, features an elders' room. The use of masonry in the structure permitted a circular room design while masonry also provides an effective thermal mass and sound barrier.*

As well, climate change and increased wildfires, floods and other dramatic weather events such as 120-kilometre winds, which ripped through northern Saskatchewan in June knocking over 40 railcars, are further indications these structures need to be sustaining, he said.

Community centres, schools, administration buildings, fire and police departments are all structures that Leech would like to see built to withstand catastrophic weather events and provide shelter or a quick return-to-life after such an event.

Saskatchewan has also experienced a school shooting and masonry walls add a layer of protection, he said.

“When we look for strength and permanency and resilience in these buildings, we are going to get it with masonry,” he said.

More resilient masonry buildings in northern applications such as on First Nations lands, where fire protection can be limited because of remoteness, parallels what has historically occurred in major cities. As large fires devastated downtown cores, building by-laws required merchants to construct replacement structures from masonry such as fieldstone, brick or other stone types, according to historians Margaret Hryniuk and Frank Korvemaker in their book, *“Legacy of Stone: Saskatchewan’s Stone Buildings.”*

Fire continues to be a threat in rural and remote regions throughout Canada, according to a 2018 House of Commons standing committee report which points to the Canada’s 2017 disastrous season.

“More than 5,300 fires burned over 34,000 square kilometres. During this period, First Nations faced 49 wildfire emergencies, and over 12,800 First Nations people were evacuated from their communities. Compared to non-Indigenous communities, First Nation communities are disproportionately affected by these emergency events for a number of reasons,



such as their relative remoteness, isolation in fire-prone areas and limited access to emergency services,” said the report.

In addition, First Nations people were 10 times more likely to die in a fire on a reserve than non-First Nations communities.

Klypak said masonry structures can be designed to withstand fires, but a more reoccurring problem in northern regions is power failures.

Today, he said, there are more masonry buildings being built with backup generators that can serve as emergency shelters if needed. An attribute of masonry is the thermal mass it offers, so it can retain heat or coolness during summer.

Leech, president of Brxton Masonry Inc., said the reality of northern construction is its expensive.

As a result, maintenance needs to be minimized.

“You want to build something that is going to be long-term and you don’t have to go back and work on or rebuild,” he said.

Klypak said access is often restricted to January and February when ice-roads allow for the trucks to bring in masonry blocks and materials. Masons usually work on scaffolds with a lift hoisting blocks or bricks.

“It is really modular construction and there is not a need for a special crane to lift them into place,” he said.

Sasha Kisin, a civil engineer employed by the Canadian Masonry Design Centre, but working out of the institute’s offices to provide technical assistance to masonry builders, said the advantage Saskatchewan has is a long history in masonry.

We have been able to learn from the past,” he said.

Klypak said masonry structures have provided architects with the ability to provide design features that would be difficult to replicate with other building materials in remote areas.

He recently completed the Chief Sabitawasis school at Fishing Lake First Nation with the school doubling as a community activity centre in the evenings.

The elders’ culture room is designed in a circle. A jogging track has been built on the mezzanine above the gymnasium. To facilitate the curved ends of the track, Klypak was able to use the building’s masonry to bow the walls at the end of the track.

Klypak has also used masonry to create shapes such as the rolling sloped shape of a credit union built to mimic the rolling countryside. Placing the exterior facing on such unique masonry buildings or rounded masonry buildings takes skill, but Saskatchewan’s history of building with stone and brick has yielded a legacy of skilled tradesmen.



*COURTESY OF HENEY KLYPAK — One of the structures, a school, designed by Saskatchewan architect Heney Klypak, is located on the Red Earth First Nation lands in northern Saskatchewan. The use of brick as a facing demonstrates the flexibility of masonry in expressing designs reflective of the Indige-*

Klypak said he uses stonemason Michael Serby, known for his skill but now retired, as a consultant on challenging projects.

“You are able to use someone who talks their (crew’s) language,” he said.



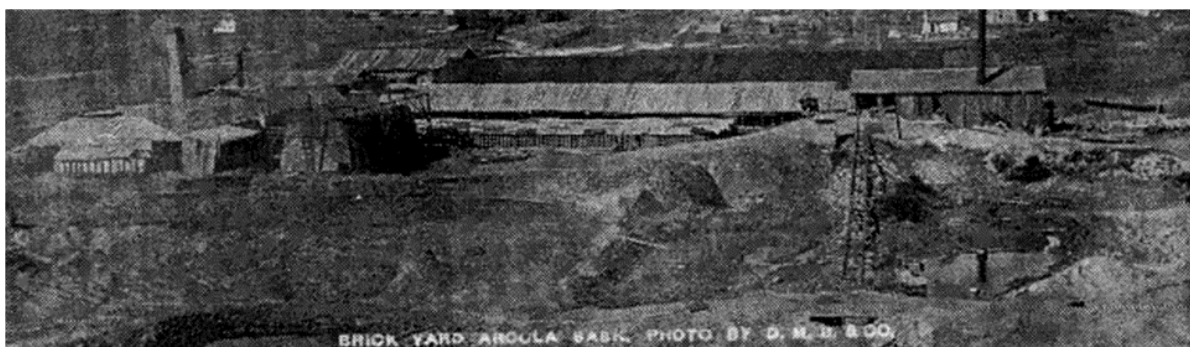
## ***Time for some contests!***

After the relative ease in which some people were able to locate the old Bruno Clayworks site in a previous newsletter, Sasha decided to increase the level of difficulty by challenging readers to locate the Rosthern Brick plant, which no one was able to do successfully. As a result, the series between Sasha and the newsletter readers currently stands at 1-1. The third installment of this challenge series is to locate the Arcola Brick Plant.

The Arcola Brick Co. was operated from 1903 to 1915 and represented one of the larger seasonal brickyards of this era. Units from this site are distinguished by a shallow frog running across one or both faces. Unfortunately, the variant stiff-mud process used at Arcola did not allow for branding, but was still relatively sophisticated for a seasonal brick yard from this era. The colour of the bricks was predominantly a yellow buff which was typical of the glacial clays in southeastern Saskatchewan. Several historic buildings in the town of Arcola are adorned with the bricks from the plant. Below are a few images of those buildings that remain today along with a picture of the brick plant when it was still in operation. The site today, unfortunately, does not contain any remnants of the brickyard.

Your challenge is to locate the old Arcola Brick Plant site on Google maps and email a Google Satellite view screenshot of it to [info@saskmasonry.ca](mailto:info@saskmasonry.ca). The first person to send the correct screenshot will be sent a prize!

Note: sources have been intentionally left out of the text to increase the level of difficulty of the challenge. Sources will be credited in a future issue of the newsletter. The correct answer to this challenge will be revealed in the next issue.



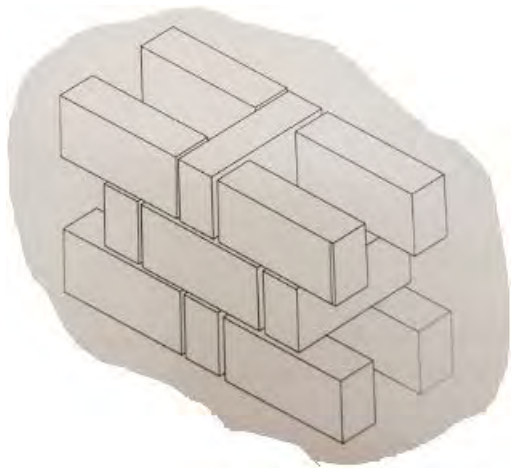


The second challenge is to name the masonry bond shown in the picture to the left. The first person to email the correct answer will be sent a prize!

Email your correct answers to: [info@saskmasonry.ca](mailto:info@saskmasonry.ca)

**Deadline for both contests: November 19 at 2:00 pm**

We will feature the winners in our next newsletter!



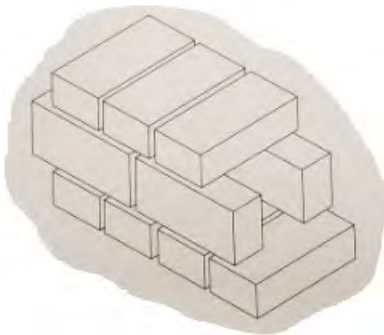
The Dynamics of Masonry magazine which premiered in 2013 features a wide array of technical articles written by industry experts, informative case studies and the latest developments in masonry design.

To receive a copy of this magazine please contact our office at:

[info@saskmasonry.ca](mailto:info@saskmasonry.ca)



Unfortunately, we didn't receive any correct answers to the contests posted in our Spring 2020 Newsletter. The first challenge was to locate the old Rosthern Brick Co. site on Google maps and email a screenshot of the Google Satellite view. Below is a screenshot with a star indicating its location.



The second challenge was to name the masonry bond shown in the picture to the left. We had a couple guesses, but no correct answers. The name of the bond shown is Dearne's Bond.

***Thank you to those who entered  
the contests!***