
Photo by Luc Durette

Symbolic Systemic Statement in Stone

Bucket List Challenge

Luc Durette

Throughout my career, I have always wanted to work on a Douglas Cardinal Building because I was so impressed with his previous work involving masonry.

When I first saw the designs for the Gordon Oak-Red Bear Student Centre, I knew that not only was this my chance to work with Douglas Cardinal, but also an opportunity to push the limits of masonry construction. It was also an opportunity to leave my mark on a university campus which already features numerous iconic masonry buildings.

When awarded to Scorpio Masonry, I knew the building would be a monumental challenge for the bricklayers because of its complex nature. None the less, I was confident that we could rely on our decades of experience to get the job done. A lot of planning was needed before the crew was even on site. The coursing of the Tyndall stone required five different sizes of stone. Ensuring that we would have the right stone sizes on site when we needed involved a lot of pre-planning. We also purposely left the complex thin wall until the end to allow tradesmen to gain experience with the intricacy of the coursing and curves on the less complex sections of the structure.

Tyndall stone wraps inside adorning the interior as accent.

Despite everyone's best efforts, constructability issues were inevitable with a building this complex. Installing the base flashing and ridged styrofoam insulation to follow the curve of the walls proved to be challenging. We solved the styrofoam issue by using multiple layers of thinner panels. While the Fero stainless steel stone anchors prevent corrosion, they also did a good job of holding the styrofoam to the backing wall. Additional mechanical anchors were strategically placed in areas where the radius of the curve tightened. The architect's vision for this building included many different colours of stone. Some of these, like the purple for the band of diamonds and the yellow stone to denote *east* were especially difficult as it is rare for stones of these colours to occur naturally. However, we spent many hours sourcing these materials since we knew colours held significance in the First Nations culture.

Another issue of concern was to lay curved walls in sections. There is a tendency for the wall at the end of each section to toe out due to the optical illusion that occurs when looking down a single section of a larger overall curve. We had to be very careful to not allow this to happen as it would result in the curved wall not looking continuous and thus not following the architect's vision for the building.

The iconic thin wall was the most technically-challenging aspect. Every stone had to be hand pitched. Trial and error were required to make sure every stone fit perfectly. These aspects made it a very time consuming process. In order to achieve the architect's desired curve in three dimensions, we used control points along the height of the wall and strung a cable between them while giving it enough slack to achieved the desired curve. Essentially, the curve shape was governed by gravity. To make the curve follow the convex and concave shape of the walls, the top point of the cable was shifted several inches for each successive course of stone. To make this even more technically challenging, this part of the building was completed under hoarding which meant we couldn't step back from our work to make sure the overall curve looked right. Instead, we had to rely on our cable system and experience. It was a very satisfying feeling the day the scaffolding came down and we could step back and confirm that everything looked just as we had envisioned.

I am proud that Scorpio Masonry was part of this project as I really see this work more as a piece of art than a building. It's also nice to know you've accomplished something that's never been done before and represents an extreme example of what can be achieved with masonry construction.

Scorpio's Project Superintendent John Hubbard was instrumental in getting this job done. He quite literally was willing to think outside the box. He was also very enthusiastic about the challenges presented by this project.

Thank you, Douglas Cardinal, for giving us this opportunity and for creating this magnificent structure using masonry, the only material that could realize your vision.

Luc Durette, President
Scorpio Masonry, Saskatoon, SK Canada
Masonry has been my life for 40 years with something new to learn most every day. Just when I had done everything possible, I had the opportunity to step up to this challenge, working on a Douglas Cardinal masterpiece. What a thrill. I'm grateful to have had this experience and work with this wonderful team accomplishing astonishing results.
lucscorpio@sasktel.net | 613.725.7796

Exhilarating Challenge

Every Scorpio bricklayer and laborer had a once-in-a-lifetime opportunity to work on this masterpiece with 250 tons of natural Manitoba Tyndall stone, 1350 pieces of Brazilian Lilas granite accents and 11,000 sf of white precast for window surrounds and soffets

Constructed in just 52 weeks, this resilient and sustainable work of art will last more than 100 – 1000 times the duration of its construction time

Thank you, Douglas Cardinal, for designing this landmark to pay respectful tribute to the Aboriginal tribes of Canada and thank you for designing it with textural sensual masonry