



Fort McMurray

SienaStone | Case Study

SienaStone. The Ideal Choice

Early design consultation & collaboration between parties can benefit all aspects of a project

This ambitious urban planning project combined an aesthetic contemporary design with challenging site requirements

How SienaStone's design flexibility met with the tight space constraints & stringent structural conditions



RisiStone
retaining wall systems



SienaStone in the Canadian North

Under budget and on-time, this major SienaStone project in Fort McMurray Alberta is a testament to what is possible when you combine one of the most experienced and knowledgeable Commercial Wall Builders in the Province with one of the most proven Wall Systems on the market.

The Situation

The Canadian North is well known for its harsh, unforgiving winter conditions and rugged landscape. When Commercial Wall Builders Com-Con Paving Stone Ltd began assessing the logistics and feasibility of installing over 5,500 sq.m (59,000 sq.ft) of Wall in Fort McMurray, Alberta, their 40 years of experience told them that weather, time and manpower restrictions would all be major factors. It was clear that speed of installation was critical, as well as the ability to machine place the Wall System, given the labour shortage in the area at that time. At over 200 kg (450 lbs) per unit (Standard 500), the SienaStone Wall System, manufactured by Expocrete Concrete, fit the bill. The SienaStone System is a machine laid, solid block Wall that can be installed at a rate of up to 100 sq.m (1000 sq.ft) /day with a 3-4 man crew. With machine placement, Contractors know that the rate of installation stays relatively constant all day long as it is not subject to worker fatigue.

The Site

Known as the Eagle Ridge Subdivision development, the Site consisted of a rolling landscape, necessitating substantial retaining walls for functional and aesthetic purposes. The installing Contractor, Com-Con, worked closely with the development Owner, Centron Residential Corporation, and the Site Geotechnical Engineer and Wall Designer, Brad Ellingwood, P.Eng., of E2K Engineering Ltd (www.E2keng.com) to address the many logistic and site issues typical to a project of this magnitude.

Given the residential nature of the development, aesthetics were also an important factor in the Wall product decision. With its linear, chamfered appearance, SienaStone strikes a balance between providing heavy duty performance, with a “non-commercial” aesthetic. In some areas, the Site Plan design facilitated access to walking paths, an ecological reserve, and residential properties using intermittent in-set Siena Stone stairways, an application the unit height of SienaStone is ideal to handle.



Wall Engineer

E2K Engineering Ltd.

Calgary AB

Wall Installer

Com-Con Paving
Stone Ltd.

St. Albert AB

Manufacturer

Expocrete Oldcastle

Edmonton AB

The Details

Over the life of the contract, many changes were made “on the fly” for aesthetic and logistic reasons by the Owner. The scope of work was altered to include placement of loam, gravel and other materials to accommodate the owners’ progressive development, in addition to the installation of the retaining wall. With clear communication between all parties established early on in the Project, Com-Con was able to provide dynamic, flexible solutions to whatever site modifications where necessary.

As this particular site allowed for sufficient space behind the wall for geogrid reinforcement, Walls were designed using the 500 Standard SeinaStone Block. This project was completed utilizing a four (4) man crew. Installation sequence and methods were streamlined to produce the walls efficiently and effectively, averaging approximately 600-800 sq.ft per day. Delivery of materials was timed in order to minimize the stockpile areas and ensure steady daily progress.

In the end, Com-Con completed this project 15% under budget, with the result being an amazing example of quality workmanship, heavy duty performance, and great Design.

The Installer

Com-Con was incorporated in May of 1976 as a family business with Reinhard and Werner Moellenbeck. At that time, paving stone installation was rare in Western Canada. The brothers worked with several different companies demonstrating their vast knowledge of paving stones and proper installation techniques. Reinhard collaborated with a local concrete manufacturer to develop their plant to produce paving stones in varying sizes and shapes allowing for more decorative and patterned placement. Eventually, Reinhard’s brother retired but operations continued on. In 2006, Reinhard’s son Jason, who is a Landscape Architectural Technologist, bought the company from his father. Jason has driven Com-Con to be one of Alberta’s primary Commercial Wall Builders and has firmly established a reputation of projects completed on time, within budget, impeccable work ethics and installation techniques.

Congratulations to Com-Con on over 40 years in business!



— SRW

Eagle Ridge | Fort McMurray Alberta Canada



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