



Case Study 1

First Nation Schools

Projects

Emily C. General Elementary School (1990-92)
and IL Thomas Elementary School (1992-94)

First Nation

Six Nations of the Grand River, Ontario

Architect

Brian Porter, MMMC Architects, Brantford, Ontario

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RAIC | IRAC

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By the 1980s, the primary schools scattered across Six Nations of the Grand River in Southern Ontario were long overdue for replacement. Most were still the original one-and-two-classroom schoolhouses dating from early in the 20th-century and woefully inadequate. The federal government had committed to their replacement, but with no firm date. By 1989, the problem was so acute that the whole community staged a boycott of primary schools to pressure for funding to build new ones. Approval from the Department of Indigenous and Northern Affairs (INAC) came shortly after that.

Emily C. General Elementary School

Source: www.tworow.com



“Brian paces the design process to the clientele, and does lots of listening.”

Ruby Jacobs, former Education Director,
Six Nations of the Grand River

Co-design Process

Six Nations of the Grand River is the most populous First Nation in Canada. It encompasses 18,000 hectares bordering the Grand River, with a total band membership of approximately 26,000, half of whom live in the home community. Through a master planning process, the community decided to build three regional elementary schools (kindergarten to Grade 8), each having a unique catchment area with convenient local access as opposed to the option of one central facility. For each of the schools, the community assembled a steering committee comprised of officials from the Six Nations Education Department, two band councillors, parent representatives from the local home-and-school group, Elders and an INAC technical representative.

For the Emily C. General Elementary School, a call for proposals process resulted in the selection of MMMC Architects which developed three initial designs. These were reviewed by the steering committee and at a community open house, allowing for a good dialogue between the architects and the community early in the process. Ultimately, the design created by architect Brian Porter, MRAIC, was selected.

As an architect and a member of Six Nations, Brian Porter was well grounded in the culture and expectations of his community. Having worked for one year with INAC in the late 1980s, he also had an understanding of INAC's mandated design process and its school space accommodation standards.

Part of the community's expectation was to communicate early and often, to constantly report and have dialogue back and forth. As former chair of the education department, Ruby Jacobs said, "We had a committee that trailed Brian Porter all through the project. Brian is from Six Nations and knows that in this community you keep your ear to the ground for the moccasin telegraph and really listen."

The Emily C. General School design was based on traditional building precedents. Oriented to the cardinal directions, with a skylight down the middle axis, the school functions as a huge sundial tracking the passage of the day from sunrise to sunset, as well as the changing angle of the sun through the seasons. The school is largely brick. The entrance of massive bolted steel beams painted bright blue pays homage to the Haudenosaunee steelworkers, famous for building skyscrapers in cities throughout the Northeastern United States and Canada. Brian Porter sees them as "new hunters" and part of a tradition and lineage from time immemorial; men had to leave home on hunting forays – trips charac-



IL Thomas Elementary School

Source: www.tworow.com

terized by camaraderie and risk – and came home to rest and regroup before venturing forth again.

The IL Thomas Elementary School followed a similar process starting with a call for proposals. This time, Elected Chief Steve Williams was quite clear that the shape of the school should resemble a turtle. Brian Porter and his colleagues provided a choice of three designs, of which Brian Porter's was ultimately selected. It has a rounded roof evocative of a turtle's shell, and the entrance resembles a turtle's head. The committee liked the efficient floor plan inside, with its good flow and circulation and the library at the heart of the building.

As Ruby Jacobs explained, “Every school has a particular design that the local parents and kids relate to – shaped like something from our culture. The turtle is right up there with the longhouse – the most important symbols in our Haudenosaunee tradition. And Emily C. General School follows the cycles of the season and reminds some of a ribbon shirt. For others, its shape is like a rattle or a lacrosse stick.”

“We built the schools ourselves. Both projects were on-time and on-budget.”

Brian Porter, Project Architect

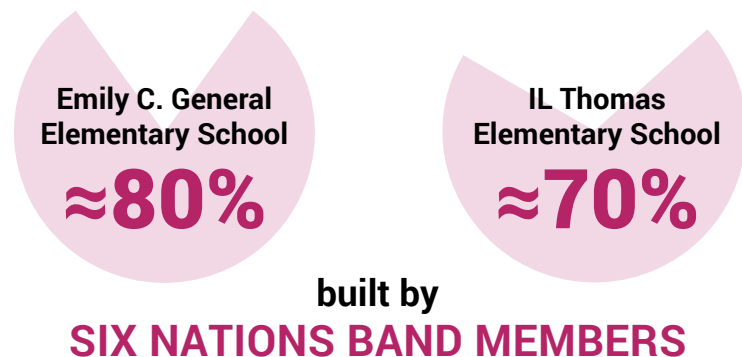
Building Process

Six Nations of the Grand River signaled its intention to take a construction management approach to build its schools. This was not welcomed by INAC which was trying to stop communities from building this way, preferring outside general contractors who were bondable and able to carry default insurance. But under the leadership of Chief Bill Montour, the community pushed back and obtained agreement from INAC. The First Nation extended the consultant services contract held by MMMC Architects to include not only design and contract administration services but to assist with construction management as well. In this role, Brian Porter was responsible for dividing the scope of work into trade divisions. He was also responsible for working with the project manager and construction supervisor to ensure the optimum participation of the local workforce while maintaining tight control of the budget and schedule.

A defining feature of the Six Nations membership is the large range of

skilled building trades. The building project was broken down into trade divisions, and competitive bids were sought from Six Nations contractors and tradespeople. Excavating, carpentry and framing, concrete and masonry, steel erection, drywalling, painting, electrical, flooring and general labour were all procured locally with the result being that approximately 80 percent of Emily C. General and 70 percent of IL Thomas Schools were built by Six Nations Band members. With obvious pride, Brian Porter said, “We built the schools ourselves. Both projects were on-time and on-budget with funds left over for better-quality desks and furnishings.”

One of Brian Porter’s anecdotes is about the heat pumps. In the 1990s, INAC still had a prohibition on air conditioning for schools in this region of Ontario. While INAC standards were based upon September to June usage, the community vision was to use these brand-new schools, with libraries, gymnasiums, and other modern facilities, all summer long. As required, Brian Porter costed out three different heating and ventilating systems. The ground-source heat exchange and heat pump system cost more upfront but scored as the lowest cost option over a 20-year life-cycle cost analysis and was approved based on INAC’s policy. In remembering this, Brian Porter said, “Given climatic trends and desired year-round usage, it would have been a huge mistake to build the schools without air



conditioning. One of the benefits of the approved system was that it provided both heating and cooling. We just always referred to it as a heating system in our reporting to INAC.” This was doubly satisfying because its environmental impact was the least of the three options, and aligned with community values to design with nature.

The INAC funding included 1.5 percent of the construction budget for art installations and Six Nations embraced this opportunity to reflect their culture in the schools. Inspired by the Wampum Belt, local artist Vince Bomberry created ornamental panels, gates, and screens of welded steel as interior design installations for Emily C. General school. Locally created tile mosaics and graphics designed by artist Arnold Jacobs adorn the floors and walls of IL Thomas school.

The steering committee assembled for the design phase continued through the building phase, providing input, guidance, and oversight. Ruby Jacobs explained that Brian Porter provided them with “a schedule all laid out right from the start, so we would know exactly what was to happen at each step. There was constant reporting back and forth and lots of dialogue. Both during the design and construction, committee members felt free to argue and disagree, and Brian would always bring alternative suggestions to the table.”

Outcomes and Reflections

Twenty -five years later, both schools continue in use and are well-maintained. The co-design process ensured the schools are culturally welcoming and as Brian Porter notes, “From the start, kids understood that their schools were built by their mums, dads, uncles, and aunts and they value that. Vandalism is low, and attendance is high.”



Emily C. General Elementary School

Source: www.tworow.com

“The government tried to block us. We had to fight every step of the way. People who use the schools are happy, especially considering what they had before.”

Ruby Jacobs, former Education Director,
Six Nations of the Grand River

And although in the 1990s INAC tried to stop the practice of communities building their own capital projects, the option is still available today for INAC-funded projects.

The two schools are named for educators esteemed by the community. IL Thomas was a long-serving school principal and band member. Emily C. General worked as a teacher on the reserve, but as a federal employee, she was required to pledge allegiance to the Crown. When she refused, she lost her job. She worked out her days doing mail delivery while continuing with her activism and community building. One of the band councillors suggested naming the new school in her honour. It was a special moment when Emily C. General, by then in her 80s, was able to be present for the school opening ceremony.

The legacy of community involvement in architectural co-design lives on. As Ruby Jacobs explains, she and other community members working with Brian Porter learned a lot about architectural design, how to build, and all the steps. A nurse by training, Ruby Jacobs went on to become director of the Six Nations Health Department and used the knowledge gained from these school projects on half a dozen subsequent projects.

After these school projects, Brian Porter went on to establish his firm, Two Row Architect. Since 1992, he has co-designed many other facilities including a number for First Nation clients, from Moose Factory and Blind River to the Saugeen First Nation, as well as across Canada and parts of the United States. Because not all of these communities have the broad range of construction trades, they have welcomed crews from Six Nations to help with the builds. Brian Porter reflects that Native American peoples have always traded and exchanged, often travelling long distances to trade what each has had to share.

Sincere thanks to those interviewed for this case study:

Brian Porter, MRAIC, Principal,
Two Row Architect, Ohsweken, Ontario

Ruby Jacobs, former Director of the Six Nations
of the Grand River Education Department & former
Director of the Six Nations of the Grand River
Health Services Department

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