Exposed heavy-timber construction and simple natural materials define a warm and nurturing environment around the fireplace, utilized in teaching native arts. The space borrows natural light from the entrance atrium and spaces above.

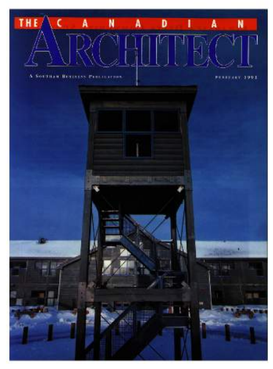
The ATHABASCA DELTA COMMUNITY SCHOOL project is a unique feat. Situated in the remote community of historic Fort Chipewyan in Northern Alberta, inaccessible by road, the school was designed to sustain community, heritage and local tradition.

The design concept is structured around native educational objectives, program-based facility requirements, site opportunities and constraints, and assumptions pertaining to an appropriate built form as influenced by the history and development of Fort Chipewyan.

The result is a building design that features appropriate environmental control systems , a heavy timber frame structure and a built form which is modeled in a large part on the historic fur trading posts first established in the Fort Chipewyan area almost 200 years ago.

In addition to sustaining the environment, the project set out to foster a sustained livelihood within the community. The design developed around use of local timbers in order to re-open a defunct sawmill and re-train local people in an indigenous trade.

Completed in 1986, Athabasca Delta Community School is a 'Green' building, ahead of its time.



This project received the Governor General's Medal for Architecture in 1986, and Award of Merit from the Council of Educational Facility Planners International in 1987, an Honour Award from 'Western Living Magazine' in 1990 and was featured in 'Canadian Architect' in February of 1991.

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2

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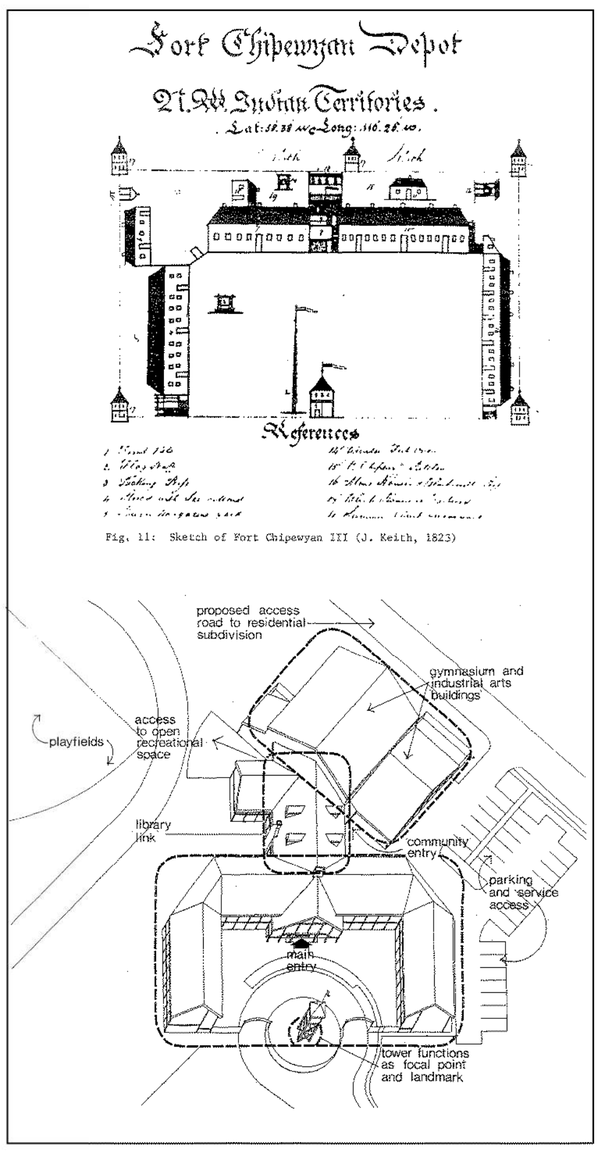
1. An interior view shows the exposed heavy-timber structure and natural clerestory light. 2. The Resource Centre's glazed walls with clerestory windows allow natural light to filter into the interior open space. 3. Main Entrance and Look-out Tower: The building's exterior is reminiscent of the historic Fort Chipewyan, as commissioned by the Native client population.



Illustrated in plan, Fort Chipewyan III constructed on the north shore of Lake Athabasca in 1803 serves as a precedent to the new School and Community Center.

SUSTAINABLE FEATURES

- **Reduced Building Area:**
  The design is efficient and functionally flexible in order to adapt to changing enrollments and curriculum needs.

  In addition to facilitating 450 students at all grade levels, the building accommodates continuing education and recreation programs for a community of 1,500 people. The facility was built adjacent to existing recreational facilities to expand on existing community life.

- **Sustainable Development:**
  Site measures to reduce environmental impact include: a compact building footprint; building placement in close proximity to existing access roads and municipal infrastructure; and preservation of existing woodland.

- **Locally Harvested Materials:**
  Taking into account the 'remoteness' factor, the project was designed to incorporate locally harvested materials, such as heavy timbers. The decision to think locally minimised transportation requirements and subsequent fuel consumption.

  Care was taken to specify materials that could be maintained locally by trades people in the community.

- **Natural Ventilation + Daylighting:**
  Outdoor courtyards are integrated into the plan to connect the indoor environment to natural light, ventilation and viewspace.

- **Waste Reduction, and elimination:**
  Exposed structural, mechanical and electrical systems were integrated into the design aesthetic, reducing the need for finish materials; the design expression focuses on indigenous materials, and methods of construction.

- **Innovative Design + Energy Efficiency:**
  An energy analysis was performed to assess long term energy cost-savings. For example, increasing the roof insulation from R-40 to R-60 alone would save $1010/yr (1986). The building envelope was designed to reduce energy consumption, and exceeded the Alberta Building Code's insulation requirements;

  High efficiency (80%) heating boilers were proposed;

  Circulating down draft fans direct warm air down to occupants at lower level to provide optimal thermal comfort;

  High efficiency lighting with multi-level switching was provided;

  The HVAC control system achieves optimal efficiency through night setback thermostats, sensors, timers, valves, dampers and other apparatus. In addition, car park receptacles are on timers and thermostatically controlled to conserve energy.

Athabasca Delta Community School

Fort Chipewyan, Alberta

Area: 4,200 m2

Cost: $6.3M

Status: Completed 1986

Key People: Deborah Scott, Design Principal and Project Architect

Client Reference: Northland School Division No. 61

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