

Response to Design Latitudes Themes.

***The North as a challenge to designing good buildings***

Up to now, the architectural design community at large has not fully investigated nor examined the potential of good design solutions for the Canadian North.

The buildings we have been attempting to design in the Canadian North have only partially met the physical needs of the users of the buildings. We have gone a little way to including cultural needs and the aesthetic and low-carbon sustainability responses, but these responses have been less than stellar.

I believe that there is a great deal that can be done, which needs to be pursued with the involvement of the indigenous people who know their communities, know the climate, know the history of the place. Designers can bring technical expertise and ways that can solve design problems, but must be done in concert with those who own local knowledge.

I began my career as an architect in Canada working for a Yellowknife based firm. We designed and built a number of projects in the Northwest Territories and Nunavut. (And one project in Siberia.)

The landscapes in all these places were of course magnificent in their solitudes. However it is the “solitudes” and the remoteness that is the challenge to architectural design in the north, along with the extremes of climate.

My design challenge now when designing buildings in the north is how to create attractive and interesting buildings, that meet the functional and comfort needs of the client, seeking to reduce the carbon caused by the building, and all within the budget available. The added essential dimension is the cultural aspect. To meet all these dimensions we involve as many users of the future building as possible and the full engineering design team from the outset.

**Case Study**

One of my projects, from 1989, was a Health Centre for Grise Fiord (Inuktitut *Ajuittuq*, "place that never thaws"). Located on Ellesmere, it is Canada's northernmost civilian settlement. It is a Hamlet, which at that time, was home to no more than 130 people.

**What are the challenges?**

***Do not forget anything.***

There were very few materials to be found locally, so all materials needed to be delivered by barge. Logistically, it was too expensive to air transport that far north so you had better not forget organizing all the materials and items that were needed. At that time it took 3 days to visit the community for a 3 or 4 hour meeting.

***It is extremely cold.***

The temperature in Grise Fiord stays below 0 °C (32 °F) for ten months of the year. The record low was -62.2 °C (-80.0 °F). It has an average yearly temperature of -16.5 °C (2.3 °F). The form of building located in many places in the High Arctic is driven by the necessity not to allow the building to melt the permafrost. This has led to raising them above the ground to allow air to pass below. There are other methods but the least expensive and least energy intensive is the “lift it up” method. This means the buildings are accessed by ramps, which are not the most attractive elements on the front of a building.

***The result?***

The Grise Fiord Health Centre satisfies all the comfort, technical and functional needs. But is not especially attractive. It should have been better. The result is not really surprising as the project, designed in 1989, had very little local involvement in the design process.

Grise Fiord is an extreme situation, but there are many communities in the Canadian North that experience the challenges brought by remote location and climatic conditions. Exciting solutions to building in the North can meet these challenges if the people of their community, are teamed-up with designers bringing new approaches with low-carbon technology. That for me is what Design Latitudes is about.