

*SPECIAL FEATURE / CONTRIBUTION SPECIALE*

**Integrating an Academic Plan and a Campus Master Plan:  
The Case of the University of Northern British Columbia**

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**Abstract**

The University of Northern British Columbia was the first completely new university to be built in Canada in nearly thirty years. This article discusses the process by which the Academic Plan for the university and other considerations were given physical expression in the campus Master Plan. It begins with a detailing of the planning process used. This is followed by a discussion of the review that was conducted of previous university planning models. This review was intended to determine which were the most applicable and to determine if a distinctive model for a northern university could be devised. The article then analyses how the Academic Plan influenced the campus Master Plan in six key areas. It then reviews how non-academic client considerations, regional and community considerations, and site and climatic considerations were incorporated into the campus Master Plan. The article concludes by noting that the process resulted in the creation of a distinctive northern campus design that has proven to be both popular and successful.

## Résumé

L'université de la Colombie Britannique du Nord est la première université tout à fait nouvelle, construite au Canada depuis environ trente ans. Cet article a pour sujet la méthode par laquelle le plan académique et d'autres considérations ont inspiré le plan architectural au moyen de la stratégie d'ensemble du campus. L'article commence en détaillant le procès de planification utilisé, suivi d'une critique de conceptions universitaires d'autrefois. Cette critique avait pour but de déterminer les modèles les mieux adaptés aux circonstances et de découvrir s'il était possible de concevoir un modèle distinct pour le nord. L'article analyse en outre comment le plan académique a influencé la stratégie d'ensemble du campus en six domaines clés. Il donne ensuite un aperçu des considérations régionales, socioculturelles, physiques et climatiques qui étaient incorporées dans la stratégie d'ensemble du campus. L'article se termine en indiquant que le procédé cité a pour résultat une création nordique et distincte qui fonctionne bien pour ceux qui l'observent ou qui y travaillent.

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## Introduction

In June 1990 a bill passed through the legislature of the province of British Columbia creating the University of Northern British Columbia (UNBC) (British Columbia, 1990). At that time UNBC was the fourth publicly funded university in British Columbia and the first to be built in the northern part of the province. It was also the first completely new university to be created in Canada in nearly thirty years. The Queen officially opened the Prince George campus on August 17th 1994 and the first large block of students (1,400) was admitted in September 1994. The Prince George campus was built on a 500 acre site within a 2,000 acre reserve in the City of Prince George. All of the land was Crown Land granted to the university by the provincial government. The core campus consists of seven buildings capable of holding 2,500 students. The cost of the initial buildings and equipment was \$137.5 million, slightly less than one new Boeing 747; however, this figure does not fully reflect the total cost of the project as the land upon which the

campus was constructed was donated to the university by the provincial government and the roadworks needed to get to the site, which cost \$16 million, were cost shared by the university, the city, the provincial government and the federal government.

The reasons for creating the new university were essentially twofold. Firstly, all interested groups wanted it because it would increase access to university education in the province both generally and more particularly among northerners who had to overcome a significant financial barrier to access since no university was located in their region. This barrier is probably a good part of the reason that the number of high school graduates going on to university was only 8% in the north compared to 24% in the Vancouver area. Secondly, the university was intended to assist in the economic, social and cultural development of a relatively underdeveloped region (Davis & Hutton, 1989) roughly the size of France with a widely scattered population of 303,000.

UNBC is by no means alone in being a university located in what is often these days referred to as a circumpolar northern region. UNBC is, in fact, the latest addition to a group of universities known as the Circumpolar Universities which have their own cooperative organization (Weller, 1987). Most of them are located in regions with many similarities to northern British Columbia and most of them also have the same dual role of being both universities **in** their regions for access purposes and **for** their regions for development purposes. Most of them were established in the sixties, with some founded even earlier.

All universities should try to ensure that their missions and academic plans are realized in built form (Society for College and University Planning, 1991). This is especially true of the circumpolar ones as they usually embody a dual role and are placed in areas where academic, economic, cultural, climatic and environmental concerns are somewhat more problematic than elsewhere. This paper analyses how an attempt was made to do this in an era of severe economic retrenchment and great change in the provincial university system. It focuses on the process of integrating the academic plan and the physical master plan for the university by the investigation and use of past academic and previous institutional physical planning models. This process resulted in

the adaptation of past models and the development of a plan specifically suited to this newest Canadian university. Thus the paper does not deal with all of the challenges encountered in putting the plan into effect but only with the planning process itself.

The paper begins by detailing the planning process used. It then compares and contrasts a variety of previous university planning models to see which, or which parts, of them are most applicable to northern circumstances and what modifications or departures are advisable. The paper then indicates how the academic plan was incorporated into the Prince George campus master plan. This is followed by an analysis of how non-academic considerations were also incorporated into the plan and contributed to the development of a new model. Finally, the paper describes how the physical and climatic features of the location were factored into the planning process and contributed to the development of a circumpolar planning model.

### **The Planning Process**

Since the physical plan of the UNBC Prince George campus was intended to reflect the academic mission and intentions of the university it was clear that the first order of business was to write the Academic Plan. Such documents are normally the creation of a Senate after a lengthy and detailed internal and external consultation process; however, when the President's appointment was announced in October 1990 UNBC had no Senate, no senior academic administrators, and no faculty. In fact, most of the senior academic administrative positions were not filled for another eighteen months. Since there was strong pressure to get the university up and running as soon as possible the task of writing the Academic Plan fell to the President. The document was completed by April of 1991 and it was then approved by the Interim Governing Council (University of Northern British Columbia, 1991).

The Plan contained the results of considerable external consultation conducted by the Implementation Planning Group (IPG) that recommended to the government the creation of a university in northern British Columbia (Implementation Planning Group, 1989). In addition, several

special consultative committees in specific program areas were formed after the first governing body of the university, the Interim Governing Council (IGC), was created and their reports were ready in time to be used in the Plan's preparation. This was supplemented with consultations with a wide variety of professional groups and other interested parties. It was also helpful that two members of the IGC were senior academics in the province, one of whom had long been deeply involved in the planning of the provincial educational system in various capacities (Chapman & Hardwick, 1994). Attention was also paid to the creation of the circumpolar universities (Weller, 1987; Weller, 1988a and b; Weller & Rosehart, 1995) and the creation in the 1960's of new universities in Canada (Ross, 1991), the United Kingdom (Perkins, 1992), and the United States.

The main points of the Academic Plan were that UNBC should adopt a dual role of being a university both **in** and **for** the north, offer degree completion throughout a vast region so that students could study **closer to home** and establish partnerships with other post-secondary educational institutions to better enable it to do that. In addition, it was to conduct largely regionally relevant research, be interdisciplinary, be student centred, adopt the latest instructional technologies, introduce a co-operative education option in every degree program, and generally try to combine the theoretical and the practical. Moreover, it was to take a new integrative approach to First Nations programming rather than the normal more separate or **ghettoized** approach. Finally, it was to allow for steady growth over a decade to about 6,000 Full Time Equivalent (FTE) students.

Outside observers of UNBC have concentrated upon the fact that the Academic Plan called for UNBC to try to break down the barriers that have grown up between the disciplines and become interdisciplinary in approach. To this end the university did not establish departments but programs for each degree to be offered. In addition, faculty were appointed to Faculties not Programs. Moreover, some degree programs were placed in Faculties where they were not normally found. For example, Biology and Geography were located in a Faculty of Natural Resources and Environmental Studies that adopted an integrated land

use management approach throughout rather than in a Faculty of Science and a Faculty of Social Science; however, while important, interdisciplinarity was not as critical as the dual northern role.

While the Academic Plan was being written the process of selecting the Master Planners for the campus proceeded apace. The short list consisted of a variety of the most notable firms on the continent. After much deliberation the firm of Earl Flansburgh and Associates of Boston in association with Musson, Cattell and Mackey of Vancouver were selected. As soon as they were appointed in late March of 1991 they began work on familiarizing themselves with the designated site for the Prince George campus (which had only been selected just prior to their appointment), northern British Columbia, and the circumpolar northern universities. Two aspects of this process were particularly notable. Firstly, a trip was made to northern Scandinavia to see the universities in Oulu, Rovaniemi, Umea, Lulea and Tromso and to talk to some of the designers of those campuses (Musson, Cattell & Mackey, and Earl R. Flansburgh & Associates Inc., 1991c). Secondly, there were visits to various locations across the region with particular attention being given to native architectural styles (Musson, Cattell & Mackey, and Earl R. Flansburgh & Associates Inc., 1991b).

Since the time frame for the completion of the campus was very short (it had to be ready by the Fall of 1994), the Master Planners had to work very quickly. They began in late March of 1991 and submitted their Master Plan on August 9th, 1991 (Musson, Cattell & Mackey, and Earl R. Flansburgh & Associates Inc., 1991a). The key link between the master planning team and the university in terms of the discussion of the actual programmatic content of the Master Plan and its match with the Academic Plan eventually became one between the Vice-President of Earl Flansburgh and Associates and the President of UNBC. The oversight of the master planning process, the approval of the Master Plan, and the control of much of the actual construction process was carried out by the Campus Planning Committee of the Interim Governing Council (IGC).

The committee was much impressed with the Master Plan and approved it immediately. They then began the task of selecting the six

architectural teams that were each to be responsible for the construction of one of the six major buildings and the student residences called for in the Master Plan. It should be noted that a decision was made early on not to build one monolithic structure incorporating several functions, such as had occurred at Lethbridge and Concordia, but to have several buildings of modest scale that better suited the site and allowed for the possibility of regional construction firms bidding on them. The plans for the six buildings were rapidly produced and ground was broken on the site in April 1992 with the target completion date, despite possibly severe winters, being mid-1994.

Thus the basic shape of the university was put together in very short order and without some of the inputs from senior academic administrators and faculty that one might normally expect in the development of an academic plan at an already established institution. While some might think that this was inappropriate it meant that there was a clear internal coherence to the Plan and that it could be produced quickly. In addition it avoided the problems that Bond University in Australia experienced when it was established. Apparently at Bond university buildings were started before an Academic Plan was developed. The development of an Academic Plan was not started until after the Vice-Presidents, Deans, Chairs and senior faculty members were hired. It seems it was then not only very difficult to obtain agreement on a plan but that when it was eventually produced it was not very coherent and it was found that the buildings that were by then completed were not very well suited to the plan.

### **A Circumpolar University Planning Model**

In developing the Master Plan for the university there was an attempt to develop what became known as a circumpolar university planning model. This involved analysing previously developed university planning models in the light of the Academic Plan and in the light of the successes and failures of the plans applied at the other universities located in the circumpolar north. The planning models analysed included the old world English cloister model and the Sorbonne grid model. Later 18th

century North American models analysed included the edifice, the academic village and the town planning ones.

The cloister or monastic model, such as that typified by Oxford and initiated in 1379 with the founding of New College, had some relevance and appeal in that each college was a compact unit with a sense of community that would help advance the cause of interdisciplinarity. The universities based on this model, however, were a collection of colleges, or as those at Trent university tend to phrase it as a **cluster of communities**, that were each several small tight three or four sided quadrangles. The intent with UNBC was to create one unit with a sense of community rather than several.

The grid model, initiated in the 17th century and typified by the Sorbonne, tends to lead to a dispersed and departmentalized campus with a limited sense of community. Some of the northern Scandinavian applications of the grid, however, have been quite effective. The University of Lulea in northern Sweden is based upon what is called an open bloc grid and is perhaps the least successful of this type. The university of Tromso is also based upon an open grid but is more linear in form than Lulea and is more successful as a consequence. Closed grids seemed more appropriate to UNBC's situation. The closed grid approach used at the university of Oulu is such that most of the university is accessible by interior connections. The design was intended to enhance interdisciplinarity and most of the departmental spaces were originally intended to be interchangeable. The enclosed but linear grid system at the University of Lapland in Rovaniemi seemed the most applicable to UNBC's situation in that not only was it enclosed but it defined an interior path with services leading off from it. Moreover, the academic, social, and administrative functions were all visible from the enclosed path. Although it could accommodate expansion, the linear nature of the grid meant that the campus would not remain compact.

The North American institutional models investigated were the edifice, the American village, and the town planning models. The original edifice or megastructure buildings constructed by new world institutions included the first buildings at Harvard College in 1636, William and Mary in 1693, Yale College in 1701, and at Princeton in 1746. All four



of these colleges originally comprised a single institutional building. At both Harvard and Yale these buildings were the largest single structures built in the colonies at that time. They expressed a **collegiate way of living** as described by Cotton Mather, where centrality was paramount. The UNBC academic plan stressed centrality, interconnectivity and interdepartmentalization. Aspects of the edifice model encouraged these goals. The Henry Hall building at Concordia University in Montreal and the University of Lethbridge are later examples of the edifice approach. At these institutions virtually everything is in one very large blockish building. While this can achieve centrality, interconnectivity, and interdisciplinarity it doesn't reflect outreach, or growth. Moreover, such a model would not have been on an appropriate scale for the UNBC site and community.

Yet another model that was considered was the academic village as typified by Thomas Jefferson's University of Virginia (Wilson, 1994) and its companion from among the circumpolar universities, the University of Umea. This model can also provide good centrality and a clear sense of place if it is not too spread out but it is not really suited to the climate of northern British Columbia. The University of Umea's buildings were too spread out, leading to no clear sense of place and resulting in the need for long cold walks between buildings in the winter. As a consequence the university is now busy infilling the gaps between its buildings as it grows.

The Town Planning Model, a model of German origin and typified in North America by the University of British Columbia, is based on a grand axis and intended for institutions that are likely to be very large. The scale of such a model was not appropriate for UNBC and the model was also most unlikely to produce the desired sense of place or the desired framework upon which to build interdisciplinarity.

None of the above models seemed to be entirely suitable to the circumstances in which the University of Northern British Columbia found itself. Thus the search began for a new planning paradigm that would fit the situation. The Master Plan was influenced primarily by the Academic Plan but other non-academic client considerations, regional and community concerns, as well as climate and site concerns also had to be taken into account. Each of these influences will now be dealt with in turn.

## The Academic Plan and the Master Plan

The academic plan was influential or instrumental in the creation of the Master Plan in six key areas.

### 1. The Dual Role of the University

The dual northern role of the institution was reflected in the fact that the campus was divided into four quadrants. The quadrants were delineated by an interior road system. The **in** the north role, that of being a regular university with the normal instructional and research roles (but simply one located in the north) was reflected in the location of the core instructional and related research roles in just one of the four quadrants. The **for** the north role was reflected in the assignment of one of the other quadrants for a research park where appropriate private and public research facilities would be located. It was also reflected in the assignment of another quadrant for an industry **incubator** area where active practical efforts to promote new enterprises would take place that would be intended to help diversify the employment base of the regional economy much as had occurred in northern Scandinavia (Lakehead University, 1991; Varjo & Hultenen, 1977 ). The fourth quadrant was assigned to sports facilities and playing fields that, while part of the normal role of a university, were also intended to be a community and regional resource. The community and regional nature of the university was also reflected in the fact that areas were set aside for community and regional facilities. A proposed Fine and Performing Arts Centre was intended to serve largely the immediate community (Cornerstone Planning Group, 1992). A proposed Teknikens Hus (House of Technology) such as that located on the campus of the University of Lulea in northern Sweden (Israelsson, 1992) and a First Nations House were both intended to be celebrations of region-wide industry and society.

### 2. The Sense of Place

The Academic Plan called for the university to be an institution that would quickly acquire a good academic reputation. While this was largely a matter of appropriate staffing and policies the task could be

assisted in physical ways. One of the physical means employed at UNBC was to build a library of sufficient size to clearly indicate that the institution was truly a place of learning and research and to locate the library so that it became the focal point of the campus. The UNBC library is the largest building on the campus and is built to hold a reasonable research as well as instructional collection in addition to being connected by fibre optic cabling to major libraries elsewhere and to all buildings on the campus, including the student residences. In addition, the library is located such that its main entrance is right beside the first point of entry to the buildings when coming from the parking lots or from the bus drop-off point. In short, since a library is central and vital for learning it had to be, and was made a central and vital part of the campus.

### **3. Interdisciplinarity**

The desire expressed in the Academic Plan for interdisciplinarity was reflected physically in many ways. It was perhaps primarily reflected in the fact that generic buildings were to be designed rather than discipline or faculty specific buildings. Thus the plans called for an office building, a laboratory building, a classroom building, a conference centre, and a student services building. The desire for interdisciplinarity was also reflected in the creation of a centralized scientific instrument laboratory in the laboratory building for the use of all relevant programs. It was further reflected in the building of a library of sufficient size to remain a central library for the foreseeable future, thereby avoiding the creation of departmental or faculty libraries. Moreover, the designing of the campus such that it lay on several axes that pulled the people in each building to a central interlocking core **service** building was intended to enhance interdisciplinarity as well as a sense of community.

### **4. Interconnectivity and the Environment**

The desire expressed in the Academic Plan to create a student centred institution was reflected in the design efforts to not only integrate student related services but also, in so doing, to create a university with a sense of place. Indeed the intent was to create a **people place**. The main physical manifestation of this was the creation of a building that connected all of

the other buildings and which contained all of the high activity and student related functions. This was known as the Agora building. It was given that title because the original Greek meaning of the term implies a public area given over to a multiplicity of communal functions of both a formal and an informal nature.

The UNBC Agora building contains food services, lounge areas, the bookstore, a general store, some lecture halls, registrarial services and a variety of other services. Moreover, this building functions as the enclosed ground level connector between all other buildings in the winter and its roof, built to look like and act as a plaza, the exterior connector between all the other buildings. Yet another function of the building is to serve as the main physical services (water, electrical and other) connector between all the other buildings. This was accomplished by constructing at the rear of the building what became known as a **utilidor** to carry all these services. Thus they are easily accessible but out of site and out of the way of the high traffic areas of the same building.

The Agora building is itself divided into areas where similar types of services are concentrated. Thus all of the registrarial and other office type of student services are located in what was called a **student street**. The idea here was to be student centred by creating a **one-stop shopping** area for these types of services for the convenience of students. Similarly the food service areas and lounge areas are placed in close proximity to create a reasonably extensive social or relaxation area for students. In addition there was a deliberate attempt to create as many lounge areas or areas for informal student interaction in pleasant surroundings as was possible. This was based not only on the desire to create an amenable atmosphere but also based on the concept that learning was not something that occurred just in the classroom or the library but also as part of the general social interaction between students.

Another part of the effort to establish a **people place** was to create as many open or public places as possible when government funding did not explicitly fund many of these as part of programmed space, and when there were also general budgetary constraints on the project. This was accomplished in a variety of ways. One of these was to create a campus where buildings interconnected, thus minimizing corridor space

in all but one of the buildings, the Agora. Another device was to double up on the use of space as in the case of the roof of the Agora building which became a huge plaza area that provides enormous amounts of varied open, but integrated, public spaces for summer use. A further device was to enclose interior and external spaces that might not otherwise have been used in conventional campus plans. By making the Agora building a U-shaped curve the middle portion, although not roofed, is surrounded or enclosed by the front of the Agora building. This effect is enhanced by the roof of the Agora building being a plaza area and by having differently designed steps leading down from the plaza level to the ground level. The result was the creation something like an amphitheatre without actually building one. Finally, the use of atriums in several of the buildings mainly to enhance light values in winter has the additional effect of creating a sense of additional public space while also giving the buildings an air of spaciousness.

## **5. Outreach**

The Academic Plan called for the university to serve a vast region. Much of this service to the region would be supplied from college campuses that were already spread around the region rather than from the core campus. The core campus would serve as the focus for library services and the location of expensive pieces of equipment of which only one copy could be afforded but otherwise the intent was to get degree completion as **close to home** as possible by co-operating with the colleges. It is important that the Prince George campus be connected with all of the other centres around the region so it is wired with fibre optic cabling. As soon as other agencies install cabling that reaches all parts of the north it can be fully interactive with sites across the region. When fully linked across the region the limitations of distance can relatively easily be overcome and courses can originate from any one site and be sent to several others using high quality voice, video and data connections simultaneously (University of Northern British Columbia, 1992).

One of the objectives of the Academic Plan was that UNBC use the latest teaching technologies available to it. In part this was so that it could fulfill its regional mission as just mentioned; it was also so that the

full range of teaching technologies that are now available could also be used on the Prince George Campus. Thus each of the instructional rooms is linked by fibre optic cabling to a **rack room** in the library so that instructors can call up a variety of pre-programmed mixed media options for their classes. There is a fibre optic backbone running throughout the campus that reaches not only faculty and other offices but also students rooms in the residences and many other places.

## **6. Growth**

The Academic Plan anticipated that there would be steady growth in student numbers at UNBC. Thus the Master Plan had to be one that would allow for that growth while trying to maintain a sense of campus completeness at all times. It was decided that this could be best accomplished by constructing a central core building that would be complete and unchanging from the outset and then having the other buildings radiate out from the core on several axes, with each axis being devoted to a different type of function. Expansion would then take place on the appropriate axes radiating out from the core set of buildings. A ring road was placed close enough to the core buildings to enable them to be serviced from the outside in (thereby not intruding into the core) yet far enough out to allow for a fair amount of expansion on the several axes before the ring road would have to be crossed to find space for additional buildings.

The Academic Plan called for the university to take full advantage of the academic atmosphere and other benefits that can result from hosting largely academic conferences on the campus. Since no allowance for a conference centre had been made in the initial allocation of budget or space it was very early on decided to separate out some of the programmed instructional space and combine it with the small allowance for fitness space to produce a discrete Conference Centre capable of holding conferences of up to 350 people.

### **Non-Academic Client Considerations**

It was decided that the Prince George campus of UNBC should be as physically accessible as possible. Thus all of the buildings were

designed to be fully handicapped accessible and to exceed the British Columbia building code requirements in this regard. To enhance access the core campus was designed to be a pedestrian accessible space from which vehicular traffic would be excluded. This was accomplished by confining vehicles to a ring road that circled all of the buildings and locating the parking lots on the far side of the ring road. It was also accomplished by designing a compact core set of buildings where there would be short walking distances between areas. Another device used to make the campus truly accessible was to link all of the buildings by a ground level connector, the Agora building, so that once in the buildings a person could stay inside and reach all areas of the campus. This connector was deliberately curved not only to enclose space but also to deliberately shorten the distance between either end and to allow for an exterior short cut across the mid point of the curve. In short, the advantages of the grid system were enhanced by making the campus buildings radiate out on several axes from a curved or U-shaped central core building. The result is a more compact campus than the normal grid or linear grid systems achieved.

A great deal of attention was paid to the interconnections between buildings and services and to the limiting of the movement of people. Similar services were clustered, such as registrarial services into a student street, not just to meet the Academic Plan's objective of creating a sense of place but also to deliberately limit needless movement. When movement between functions had to take place it was decided that it should be possible to do it inside because of the weather in winter and that it should be possible to do it at ground level and not in tunnels. As previously stated, the Agora was used as the interior connector with an outer facing wall that was made virtually entirely of glass to maximize light. It also contained a variety of functions so that it would not be immediately obvious that it was a connector - that is its function as a corridor was disguised. The roof of the same building was made into an exterior connector but this function was also disguised by making it look like a plaza, an exercise aided by the fact that the campus site sloped such that someone newly arriving on the campus at the plaza level would not immediately be aware that they were in fact walking on the roof of a building.

The planners of the campus were well aware of the most unfortunate rise in violence on campuses across North America and wanted to design a campus that produced a safe and secure environment for all who used it. The desire to have a compact, well peopled, and easily accessible site was driven, in part, by this desire for security. Specialist advice on security concerns was obtained from the Royal Canadian Mounted Police (RCMP) and others at a very early stage to ensure that these concerns were factored into the design process from the very outset.

In addition to the desire for a sense of place that has already been discussed there was a desire to ensure that the campus had an air of permanence and solidity about it. This was achieved by building a campus of such compactness that it had a significant **mass** that gave the clear appearance of permanence. The sense of permanence was also enhanced by the use of materials such as stone and river rock that gave the structure a very solid appearance that was not at all like some of the campuses in northern Scandinavia, some of which almost looked as if they were comprised entirely of prefabricated sheet metal structures.

Another major concern was to design the campus so that it would be an economical one to both operate and maintain. Those involved with the planning of UNBC were aware that utilities master planning was relatively uncommon in a campus setting (Knipe, 1992). But in this case such planning was dictated not only by the harsh winter climate but also by the clear need for economy in a period of fiscal restraint. Here again the desire for a compact site was supported by this need for economy and durability. The compact site allowed for the construction of a central power plant and for the construction of very short and convenient service connectors between all sections of the campus. The rear of the Agora building where it was built into the slope of the land was used to create a **utilidor** for basic services that was both accessible and convenient for maintenance purposes but physically separate and out of sight of the people areas of the same building. The compact nature of the campus also allowed for the construction of a relatively short ring road from which delivery services would come into the campus from the outside with little or no intrusion into the people places on the campus. These design features were augmented by the use of energy efficient and



durable low maintenance materials as far as was possible within the confines of the budget.

Another of the concerns was that, as far as it was possible, the administrative operations of the university would be visible to all who used the campus. At many universities the administrative operations and such services as mail, printing, and security are seemingly hidden from view with the result that even many faculty and students are not aware of the range of functions that have to be performed to support them. This undoubtedly leads to the great divide, and often unproductive conflict, that can be observed on most campuses between the academic and the administrative sides of the operation. It was hoped that if the administrative operations were accorded reasonable priority for space and that that space was also used by students and faculty then everyone would realize the integrated nature of the operation. It would make it more obvious to those in administrative positions that they were in support roles and it would make it more obvious to those who were so supported that that support was vital to them.

### **The Region and the Community**

The University of Northern British Columbia is a university that will serve a very large and distinctive region – the northern two thirds of the province. This is a region that is relatively thinly populated by many diverse groups. This population had certain expectations of their university. In addition the planners of the core campus wanted to ensure that as far as possible the regional nature of the university was reflected in its main campus.

One of the very strong expectations of the regional population was that there had to be **appropriate** architecture on the main campus. Many people in northern British Columbia felt that they had continually been short changed in this regard in relation to public buildings in the South. This was mixed in with the feeling that it had to architecturally represent that UNBC was a university, not a college or university-college nor in any way a “sop” or pork-barrel handout. At the same time there was a suspicion that if the buildings were designed by large architectural firms

from the south they would not take account of the climate or try to develop a distinctive northern design. This architectural quality and regional relevance mix was achieved by having the six buildings each designed by different teams of architects with each team made up of a combination of notable northern and southern architects.

Another of the very strong regional expectations was that local materials would be used widely throughout the campus. For example, much pressure was brought to bear on the university by the lumber sector to make extensive use of wood. Two buildings, were built entirely of wood. Moreover, wood was featured prominently throughout the campus. Wood was not the only local material used. River rock facing on some of the buildings and slate inlays in many of the floors also enhanced the local relevance factor.

Another of the expectations placed upon the university was that its core campus reflect the ethnic mix of the region. The First Nations peoples were especially concerned that they be represented on the campus. This was achieved by creating a specially designed First Nations area within the central Agora building. It was also achieved by the use of First Nations symbols in the decoration of the campus.

Yet another of the very strong regional expectations was that the university would promote regional and local community enterprise in the short term, that is, in the construction of the campus. The fear was that local contractors and labour would not be used. The university consciously planned for several small but interconnected buildings so that regional firms could at least bid on the buildings. The longer term concerns related to the development effects of the university were addressed more in the Master Plan for the entire campus than in the first set of core buildings. Here, as was previously pointed out, the role of being a university for the north (which is what the longer term concerns really represented) was expressed in the designation of an industry incubator quadrant and a research park quadrant. This, of course, was complemented by the regionally relevant programming and research built into the Academic Plan.

One of the major concerns expressed by all kinds of groups and individuals in the local Prince George community and the wider northern

British Columbia region was that UNBC should establish clear and close links with the community and region. The connectedness with and openness to the local Prince George community was achieved in many ways. In the first instance a direct visual connection was achieved by placing the university on the edge of the escarpment upon which it was located. This made it clearly observable from all parts of the central city. The campus was also designed to be open to the community. For example, campus facilities such as the library, the conference centre, and the classrooms can all be used by the general population. This openness to the public is enhanced by the fact that the road system that divides the campus into four quadrants is made up of public roads that will in time be heavily used, thereby making transit through the university a regular and familiar occurrence. Moreover the campus is adjacent to a mixed recreational and instructional area. In short, the intent is to make the campus a little like a public park area. The local relatedness was also achieved by allowing for the construction of mixed university/civic facilities in a prime location on the campus. In fact, space was allocated for a Fine and Performing Arts Centre run by an independent non-profit corporation to be built alongside the first set of purely university buildings to make the point and set the pattern.

The connectedness with and openness to the region was achieved by planning for several buildings on the campus that would be a celebration of region-wide matters intended to attract not only people from all over the region but which would be tourist attractions for those from outside the region. Prime examples of these are the Teknikens Hus or Science Centre and a First Nations Centre and Museum. These facilities are intended to be celebrations of regional industry and enterprise in the one instance and of the regional diversity of First Nations peoples in the other. Another method to be used to indicate that the Prince George is simply the core of a network of regional activity is to name areas of the campus, roads and the like after places or things that evoke the regional identity. In addition the art and display work that will be placed throughout the campus will be used to represent and evoke the regionality of the university by being from and depicting all areas and peoples of the north.

## The Site and Climate

The nature of the climate and of the site placed certain imperatives on the design of the Prince George campus of UNBC. Fortunately many of these imperatives coincided quite nicely with the objectives for the university embedded in the Academic Plan and some of the objectives for the university as expressed by the local and regional community.

The Prince George site is characterized by cold, sometimes very cold, winters with substantial snow falls and hot dry summers. The cold winters meant that interior pedestrian connectors between all buildings were considered imperative. As has already been seen virtue was made out of necessity by making the connectors high activity, multiple function, pleasant areas to be in, almost to the point of losing the sense that one is in a connector. Other climate related actions were to avoid north facing slopes as building sites and concentrate on south facing ones that would speed snow melting in the Spring and, if sheltered, provide places of relative warmth in the winter.

The Prince George site is also characterized by very low sun angles, low light values and short days in the winter and yet long hot sunny days in the summer. Here again that led to the imperative to avoid north facing structures and to maximize the capturing of light in winter by having as many atriums and light catchers as possible while also trying to create open, brightly and lightly coloured and decorated interiors. In the summers the light values are high and the days warm so the obvious thing to do was to design the campus so that it made as much use of exterior space as possible to take advantage of that fact. This was done by using the roof of the Agora building as a plaza area and by having as many balconies and other open areas leading off buildings as was practicable.

The site of the Prince George Campus presented both constraints and considerable opportunities. The site is a previously untouched irregularly shaped parcel of land of some 2,000 acres extent if reserve lands are included. The topography of the site is dominated by its location on the edge of the Cranbrook Hill escarpment which runs from north-northwest to south-southeast at an average height that is several hundred feet above the core of the city. This elevation produces superb views not only over

the city but all the way to the foothills of the Rocky Mountains to the east. Clearly the location of the major buildings had to be on the edge of the escarpment not only to produce the connectivity to the city by line of sight but also to take advantage of the spectacular views. The site is irregularly sloped so while this made it difficult to find a large area of level land it did allow shifts of level that could be integrated into the site to achieve not only aesthetically pleasing results but also functional purposes. The vast majority of the site is covered by montane and sub-alpine forest typical of the region and this meant that it was important to keep the height of the buildings modest to blend in with the surroundings and yet substantial enough to obtain the views. The landscaping of the site was considered to be important element in the overall plan. As Dober has pointed out "more so than architecture, the landscape can broadcast clues that locate a campus ecologically" (Dober, 1992). The intent of the landscaping was to try and integrate the campus with its location, both in terms of the slope of the site and in terms of the surrounding trees and shrubs.

Site access presented something of a problem because of its location on an escarpment because it was a previously untouched area, and because it was evident that road access would not be for university purposes only but for the purpose of the city developing the back of the escarpment as a large new integral part of the community. The university was concerned that it not end up being at the end of a dead end road and, fortunately, this fitted in well with the city's desire to develop the escarpment by not only having an access road up to the top of it but another road that will eventually run the length of it. This conjunction of interests eventually led to the university, the city, the provincial government, and the federal government cost sharing two roads to the site, one from the south along the escarpment and one up the escarpment from the Bowl meeting at the campus and creating a loop.

## **Conclusions**

The combination of considerations taken into account in the design of UNBC might be said to have resulted in a design that is different from, but which contains elements of, the previous design models applied to

universities. The radial axial design from a central curved or U-shaped core or agora building was clearly based on the enclosed linear grid and the compact site was reminiscent of the academic village model. These two aspects, however, along with the widespread use of atriums and light catchers, as well as the incorporation of local materials, would achieve the sense of place, the sense of community, the basis for interdisciplinarity, and the allowance for growth that would suite the particular circumstances of not only northern British Columbia but also similar regions throughout the circumpolar north.

This paper has not dealt with all of the challenges that occurred in the construction process or in putting the Academic Plan into practice. There were certainly a great many challenges and problems in both processes that deserve separate and detailed treatment. This paper has only dealt with the integration of the Academic Plan into it's physical expression. That process resulted in the creation of a campus design that has been well received and is extremely popular with all those who visit the physical emanation of the plan, especially prospective students. Many a skeptical politician has come away from the site enthused about the place. Part of the effect is created because the campus is just what people wanted, namely real architecture. It is far and away the most dramatic piece of architecture in northern British Columbia and one of the most interesting in the province. Another part of the effect is created because a short tour makes it clear to all visitors that a great deal of thought has gone into the design of the campus to make it both a functional and an appealing place. As far as those who were involved in its initial design the reality actually exceeded expectations. They were especially pleased that it passed what was the key test and pleased the first students and the first group of faculty and staff who occupied and used the campus. That being said, a university is far more than a collection of buildings, so now the task is build a vibrant institution within this setting. 🍁

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