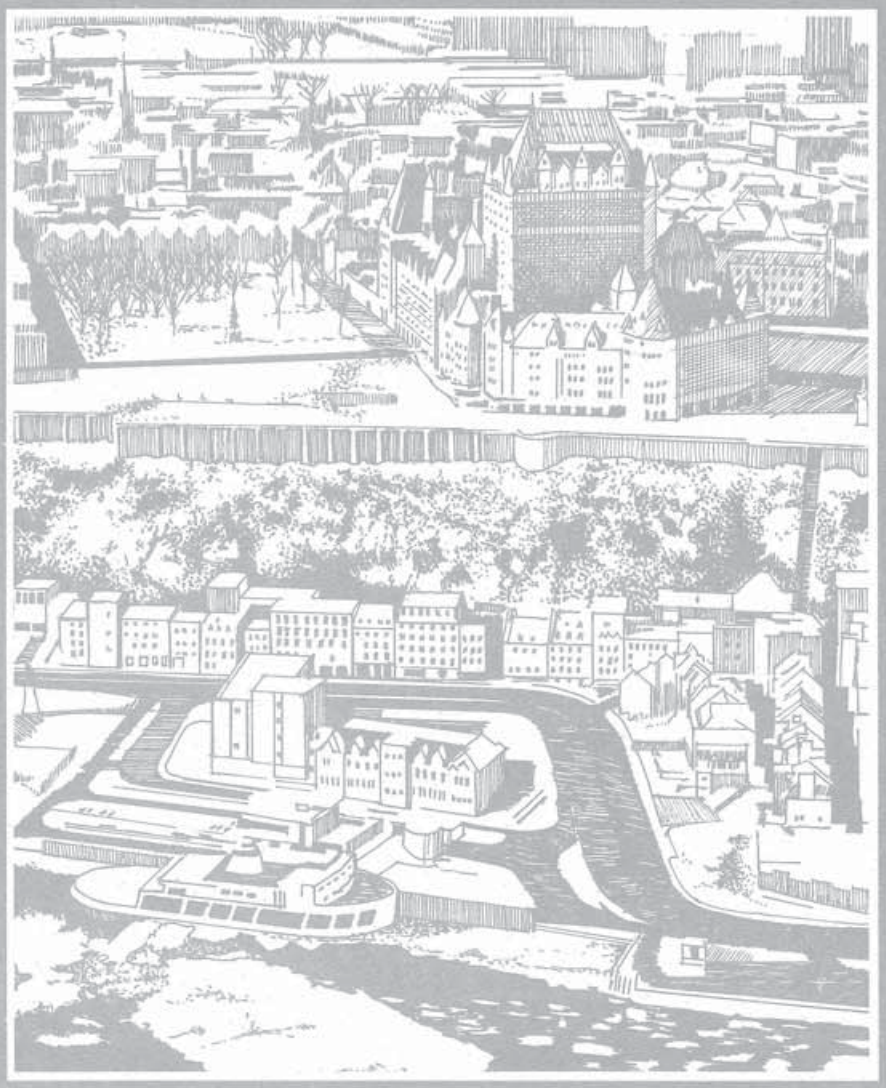
WINTER CITIES



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THEME ISSUE...

WINTER CITIES WATERFRONTS

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Winter Cities Association is dedicated to realizing the unique potentials of all northern communities. Through publishing, networking, organizing conferences, facilitating research and other means, the Association seeks to make available solutions and to promote awareness of opportunities associated with the winter season.

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From the President's Desk:

The season's first snowfall always reassures me of my unique place on this earth. By this time, most of you have also had your first white sample of the incoming winter season, nature's signal to start the special fun and business of our winter city living.

This Winter Cities issue reflects our "cool" experiment for what we hope is a more accessible and useful expanded format, one that will encourage you to share your thoughts or city's experiences.

This issue's theme was motivated by the absence of comparative literature on winter city waterfront design and management. All the cases presented illustrate different cities' attempts, sometimes tentatively, sometimes dramatically, to meet the realities and opportunities within the context of the full four-season waterfront. We very much appreciate the contributions of all the writers.

Forum '89, the Seniors in Winter conference in Ottawa, Canada, was very successful. The contributions of Roland Michener, Canada's jogging former Governor General, epitomized the wisdom and experience of the participants. The legacy of the conference is the promise of future coordinated efforts to further rationalize seniors in winter research and dissemination of useful information.

Lessons are everywhere. My recent visit to China has reinforced my belief that early anonymous northern China architectural and site planning has a number of practical and aesthetic northern design lessons for the winter world. Therefore, I am doubly pleased to greet the city of Daqing, Heilongjiang Province, into Winter City Association membership.

The Board of Directors of the Winter Cities Association are looking forward to the Tromsø '90 Conference, March 2-9, 1990. It has been our experience that these meetings spark a quantum increase in the development and understanding of the implications and solutions to Winter City living. We hope to see you there. Season's Greetings to all!

— Harold Hanen

From the Editor's Desk:
Remember the Tree Line

The tree line is a distinct and irregular line that circles the northern land masses of the earth at about 55°N latitude. North of the tree line no trees grow. Every high mountain also has a tree line, clear to be seen.

The message of the tree line for humanity, and especially for northerners, is that with diminished energy supply from the sun, life becomes more difficult. Life is more precarious the farther north you go. The number of species that can survive and thrive is less in Peace River than in Edmonton, in Luleå than in Stockholm, in North Dakota than in Kansas, less in Barrie than in Toronto. In other words and to stress the point, destruction of the natural environment is a more serious matter for the North.

It is only good sense, then, that northerners — in their own self-interest — become leaders in the growing worldwide clamor for an end to the insane and suicidal destruction of our natural environment now apparently reaching crisis proportions. We must be the strongest and most vocal environmentalists, must be the most aggressive in insisting that our fellow humans clean up their act — and clean up our environment — must lead the way by cleaning up our own environment.

"Space camera sees earth in filthy state," said a recent newspaper headline above an article reporting on photos taken by U.S. space shuttles as they circled the earth. The photos showed expanding deserts and dried-up lakes in northern and central Africa, a veil of smoke covering thousands of square kilometres over the Amazon valley, where to satisfy human greed one of the world's greatest natural treasures, the largest tropical forest, is being ravaged and destroyed.

The photos showed a sea of smog blotting out the Los Angeles region. In a closed garage, exhaust fumes poison a person in minutes. Stop for a minute and think about the poisons being spewed out by any typical "super" highway.

When all of the more than five billion humans on earth achieve the same standard of life — and wasteful destruction of the environment — as the "most fortunate" among us, when the automobiles are numbered in the billions, will we begin to pay attention to the message of the tree line?

The growing cloud of pollution overhanging the North Pole is yet a further signal of the need for urgent action, and another reminder that northerners are likely to suffer most if our natural environment is further eroded. Those who doubt the reality need to remember the tree line, which is something most northern regions have in common.

It is in this spirit that we are happy to report our efforts on two fronts: one, the theme of our Forum '91 in Sault Ste. Marie is "Winter Cities and Sustainable Development," and two, this issue of *Winter Cities News* inaugurates our use of recycled paper.

— Jack Royle

NEWS BRIEFS

New Directors at Winnipeg's Institute

Dr. Tom Carter, who has been acting as the director of Winnipeg's Institute of Urban Studies since March 1988, has been appointed director. His areas of expertise include social housing policy and evaluation of social housing needs, housing and care requirements of the elderly, the inner city, housing and planning in small urban centres, and general market demand for land and housing. He is also the Anglophone academic editor of *Plan Canada* (journal of the Canadian Institute of Planners).

Mr. Brijesh Mathur, MCIP, who has been a senior research associate at the institute since 1987, has been appointed assistant director. He is the editor in chief of *Plan Canada* and of the *Planners Newsletter* (newsletter of the Commonwealth Association of Planners).

Arctic Institute Has New Chairman

John H. Parker has been elected the new chairman of the board of the Arctic Institute of North America of the University of Calgary. He succeeds A.E. (Ernie) Pallister, who steps down after completing a three-year term as chairman of the board, during which time the Institute launched the Northern Information Homecoming Mission and raised over $1 million to fund the REPS (Research, Publication and Secondment) Program.

Northern Heritage

You won't find stately mansions or majestic cathedrals in the Northwest Territories, but you will find intriguing log cabins, well-loved community centres, picturesque churches and other buildings worthy of heritage designation. The Prince of Wales Northern Heritage Centre is taking the first steps in developing a program for the preservation of heritage buildings in the N.W.T. All communities in the N.W.T. have been asked to nominate buildings for an inventory of historic structures and to give reasons why they have historical significance.

"The N.W.T. is unique because we don't have extremely old buildings. Nothing was ever meant to survive," says Chuck Arnold, of the Heritage Centre. "But times have changed and we realized that there are many interesting buildings that should be preserved."

Buildings nominated for the inventory will be assessed by architects from Public Works and Highways, so that information on their structural condition can be included. Over the summer months, while nominations are being sought, the centre will be studying historical building preservation programs in other parts of the country for ideas that can be considered in the centre's own program.

Konbenshon Means "Bringing the Visitors"

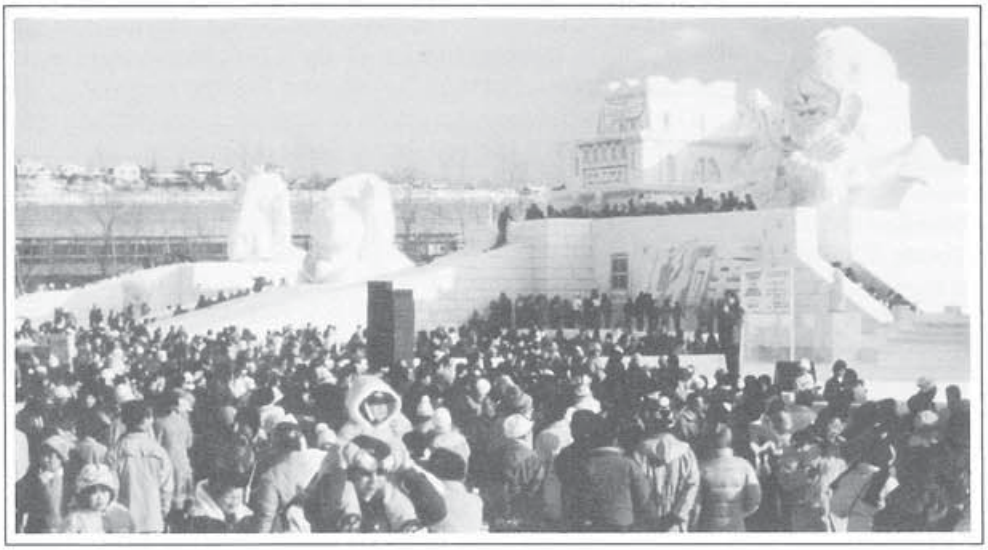
Sapporo's Snow Festival is attended by some 4,000,000 persons, of whom more than 1,500,000 are visitors to the city. But the city has a powerful organization in place to draw tourists and visitors of all kinds in all seasons. There being no Japanese word that is fully equivalent to the English word "convention," it was necessary to invent one. The word now used is *Konbenshon*; it covers meetings and events of all kinds likely to attract visitors, ranging from academic gatherings to world-scale sports meets, such as the Universiade Winter Games due to be hosted in 1991.

Shifting of emphasis to *Konbenshons* occurred in 1984, when a committee of civic officials met to draw up guidelines and devise strategies to lure visitors and attract meetings and events drawing attendees from far and wide. A convention bureau was established and a public relations campaign was conducted to educate the business community on the desirability of tourism. A campaign reached out to all citizens to enlist their enthusiastic support. This was conducted through the magazine *Koho Sapporo*, published by the city and circulated to all citizens.

The 1972 Winter Olympics had taught the city that citizens were willing to put themselves out to meet visitors and make them welcome. The new International Relations Department, based in

the handsome new International Communications Plaza, launched a plan to identify, coordinate and train volunteers to assist convention visitors from abroad.

Citizens' input into policies of the department are invited, taking the form of round-table discussions. These have been useful, not only because they bring forward ideas for new types of tourist attractions but because they also make the department officials more sensitive to public needs and moods.



Sapporo Plans for Tromsø '90

The City of Sapporo will be presenting an exhibition entitled "Sapporo Hokkaido Winter Technology and Products," in which top quality winter technology and products from Japan will be featured at the Winter Cities Showcase to be held in Tromsø, Norway, March 2-9, 1990. Twelve companies and six organizations will represent Sapporo and Hokkaido.

All the "Sapporo-Hokkaido Corner" participants are working in cooperation to create a total image, using winter climate as the theme. They will also be using unified name plates, signs and symbols. There will be no partitions between the exhibitions and the area will be divided into an exhibition zone and public zone.

The main purposes of the Sapporo Hokkaido participation are 1) to dispatch throughout the world current information generated in this region, and 2) to promote the internationalization of local companies within Japan by furthering business and technological exchange.

March 4 in Tromsø has been set aside as Sapporo Day. During this day there will be special Japanese cultural presentations, demonstrations and a convention promotional seminar, followed later by a "Sapporo Night" party.

All Japanese participants are enthusiastically looking forward to the opportunity that the Winter Showcase will provide for active exchanges of information. They think that not only will it be of great benefit in terms of opening up business opportunities on an international scale, but it will also be an invaluable opportunity for participants from all different countries to gain insight and understanding into the development and advancement of winter city opportunities that are taking place worldwide.

New Personnel at Forum '91

Although record high temperatures recently hit Sault Ste. Marie, Rob Cormier has started thinking about winter.

Mr. Cormier, a 32-year-old Goulais River resident, has recently assumed the position of Manager of the Winter Cities Conference Forum '91. He brings to his position a diverse background of living and working in the North. Past ventures include nine years as a bush pilot across the Arctic and Canada's North. For the last seven years he has been the president and manager of Asian exports for his family's fur-trading company.

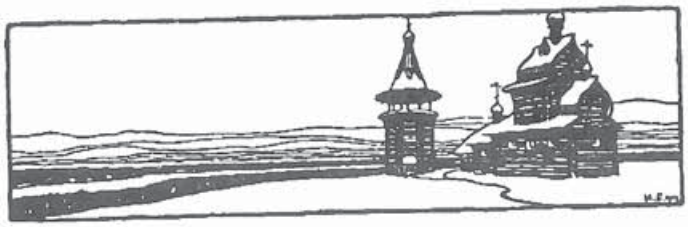
Rob Cormier and Karen Reimer.

Karen Reimer, Forum '91 Program Coordinator, has a degree in recreation with a business minor. She introduced herself to the community by dong some contract work for the City of Sault Ste. Marie's Community Services Department and continues to serve as a very active volunteer on many organizing committees.

The Winter Cities Conference, scheduled for January 21-25, 1991, will focus on "Sustainable Development — Is It Possible?" Some 500 winter city delegates, from diverse backgrounds, are expected to attend, as many challenging topics are addressed.

Minneapolis Bidding for Forum/ Showcase 1994

Jim Nestingen, Minneapolis architect and member of the Minnesota Winter Cities Affiliate, has taken the initiative in organizing a bid by his city to host the 1994 Winter Cities International Mayors' Conference and Forum/Showcase. With the support of the affiliate group, Mr. Nestingen has formed a committee that includes representatives of City Council, the Chamber of Commerce, the City Planning Department and other organizations. Dr. William C. Rogers, our Associate Editor and Founding Director of the Winter Cities Association, tells us that a meeting of Mr. Nestingen's committee recently decided to proceed with the application and representatives will be sent to Tromsø to support the application.



Siberian Exchange

A delegation of six Canadians visited the Soviet Far East last May. Representing the University of Manitoba were John O'Neil, Scientific Coordinator of the Canada-Siberia Collaborative Health Research Project, Michael Moffatt, Director of the J.A. Hildes Northern Medical Unit, and Kue Young, Chairman of the Northern Health Research Unit. Other members of the delegation included Gillian Lynch, Director-General of Indian and Inuit Health Services, Medical Services Branch of Health and Welfare Canada, Rosie Oolooyuk, a member of the Keewatin Regional Health Board, and Ian Gilchrist, Medical Director of the Department of Health, Government of the Northwest Territories.

The team was hosted by Yuri P. Nikitin, Director of the Institute of Internal Medicine and Deputy Chairman of the Siberian Branch of the U.S.S.R. Academy of Medical Sciences, Novosibirsk.

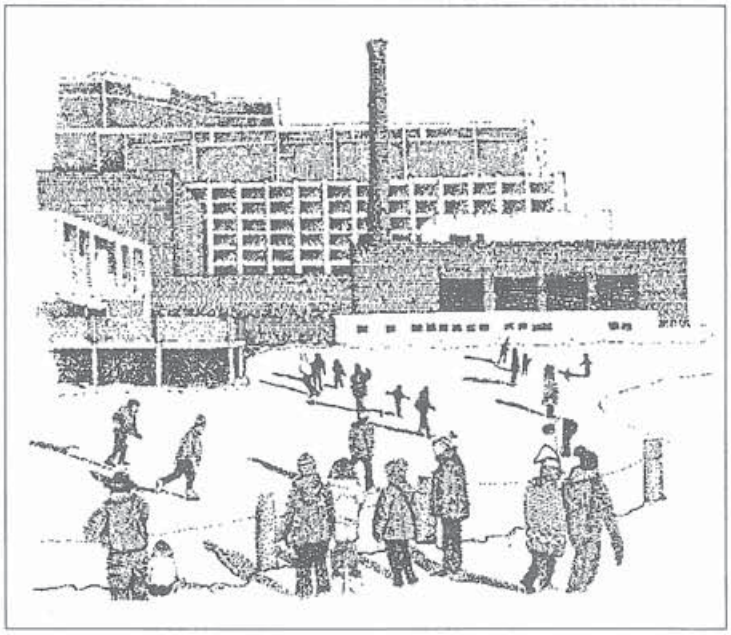
The Canadians flew from Niigata, on the northern coast of Japan, to Khabarovsk, on the Amur River near the Chinese border. During a week in the Soviet Union the team visited Magadan, Anadyr, Provideniia, and New Chaplino, the last three within the boundaries of the Chukotka Autonomous Okrug, homeland of the Chukchi and Eskimo peoples.

The Canadians visited medical institutes, research centres, polyclinics and various cultural points of interest.

Six Soviet scientists, headed by Academician Nikitin, will visit Winnipeg and the Keewatin Region of the N.W.T. in October 1989. The Northern Health Research Unit of the University of Manitoba and the Institute of Internal Medicine of the Siberian Branch of the U.S.S.R. Academy of Medical Sciences will jointly undertake a cardiovascular risk factor survey among the aboriginal populations of the Keewatin and Chukotka regions. Several rounds of discussions have already taken place about the research protocol.

"Snow and Wind Institute" Taking Shape

Under leadership of the Winter Cities Association, plans for creation in Canada of a "Snow and Wind Institute" are being developed. Provincial transportation departments and other government departments and agencies, as well as private sector groups, are being asked for input. The Institute will gather information on snow and wind research and methods from around the world and tap into resources at universities, research institutions and, as possible, development activities of private firms. Canadian students and visitors to the country will have in the Institute a central place to which to turn for information. Resource material assembled will be outlined in releases issued to members. The Institute will be located at Guelph, Ontario, and directed in its organizational phase by Frank Theakston, a well-known researcher in snow and wind.



The Gwich'in Language Project

Based in Fort McPherson, N.W.T., the Arctic Institute of North America of the University of Calgary project began year two on September 15, 1989. All trainees (Effie Blake, Margaret Peterson, Ruby Koe, Rosie Firth, Neil Colin and Emma Robert) are back at work with Institute sponsored research associate Joan Ryan. This coming year the project is focusing on curriculum development for the Chief Julius School and continued improvement in Gwich'in and English literacy.

Urban Waterfronts '88

Toronto, Canada, was featured at the opening session of Urban Waterfronts '88, the annual three-day conference in September, which took place in Washington, D.C. Organized by the Waterfront Center, the program had separate tracks with theme sessions on economic development, emerging policy issues and planning/design challenges.

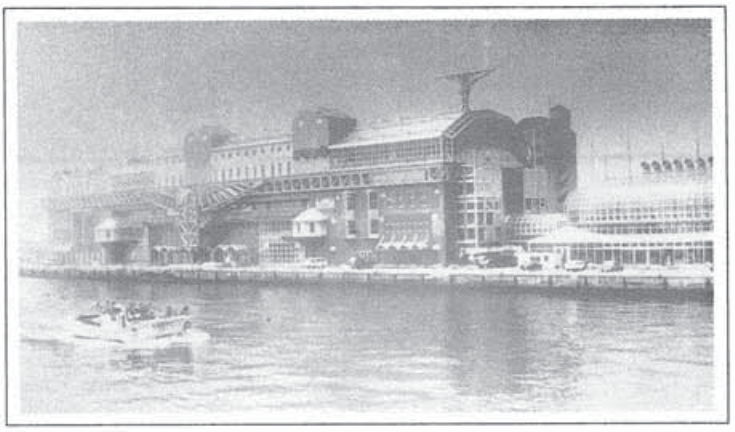
Panels of developers, planners and architects dealt with such issues as waterfront residences, boating access and new life for old canals. Renewal, gentrification and environmental concerns were included on the agenda.

Kushiro Fisherman's Wharf

The first full-service waterfront shopping and entertainment facility in Japan, Kushiro Fisherman's Wharf, opened on the old site of the Nishiki Market overlooking the Old Kushiro River. The travelers' terminal building, called "MOO" (Marine Our Oasis) and an all-weather garden called "EGG" (Ever Green Garden) are its main attractions.

With five aboveground stories and a total floor area of 16,200 square meters, MOO is accommodating more than 50 tenants who are now in the building. The center of the first floor is a terminal for high-speed deluxe sightseeing ships.

The wharf has made a successful start. About 1,300,000 people had already visited by the end of October, exceeding the original annual estimate of 1 million visitiors.



Kushiro Fisherman's Wharf — the first practical waterfront facility completed in Japan.

INDIGENOUS SURVIVAL INTERNATIONAL ASSEMBLY AT MOOSE FACTORY

By Robert Cormier

The fifth annual assembly of Indigenous Survival International (ISI) was held August 1-4 in Moose Factory, Ontario.

Indigenous Survival International is an organization of Aboriginal groups from Canada, Alaska and Greenland. The organization's mandate is to promote and lobby for the protection of Aboriginal harvesting rights and environmental protection on Aboriginal lands. The Canadian chair group consists of the Native Council of Canada (NCC), the Assembly of First Nations (AFN) and the Metis National Council (MNC). Observer status and information is shared with the Ontario Metis and Aboriginal Association (OMAA), the Inuit Taparisat of Canada (ITC) and the Inuit Circumpolar Conference (ICC). Future involvement by the Sami (Lapps) of northern Scandinavia and Aboriginal groups from Mongolia and the U.S.S.R. is now being sought.

The trapping issue requires an ongoing educational and public relations campaign. The organization is concerned they will lose more than income for their families, but will also see the erosion of their culture and increased social stress and will be forced to pursue economic activities that are not in harmony with the land.

George Erasmus, of the Assembly of First Nations, reported that ISI's lobbying in Europe was instrumental in delaying the European Economic Community's proposed law requiring that labels be attached to articles of clothing that may possibly have been caught using leg-hold traps. European politicians will be visiting Native trapping communities in Canada prior to implementing the labelling law.

Chief Clarence Alexander, of Fort Yukon, Alaska, reported that ISI Alaska has begun lobbying in conjunction with Yukon Natives to stop oil exploration that affects arctic wildlife areas. A review was given on the damage to wildlife as a result of the Exxon *Valdez* oil spill in Prince William Sound. Also discussed was the subject of the huge (up to 40 miles long) high seas drift nets in the North Pacific in relation to sea mammal catches and damage to the ocean floor. These nets catch everything in their path (including seals, dolphins, and non-commercial fish) and, if lost during frequent high seas, can drift forever, as most are not made of biodegradable materials.

ISI also called on the Northern Stores (Hudson Bay stores), the only store in most northern indigenous communities in Canada, to alter their product line to provide only "green-line" or ecologically sensitive products for sale in the region in recognition of the effect that such items as plastic and styrofoam plates, glass bottles and aluminum cans, and phosphate and chlorine detergents and bleaches have on the northern environment.

CHIPS, FLAKES & GUSTS . . .

. . . that fall on his Minneapolis desk from all the world's other cold places

By William C. Rogers, Associate Editor

WE FINALLY VISITED the Thunder Bay (Ontario) covered streets area called Victoriaville. We were impressed. Although we saw it in summer, the area was crowded with people. It resembles a mall of course, but the public areas are real streets and nice and wide. The shops are behind genuine store fronts from the old streets. A good yellow light comes in unobtrusively from the roof. Well over a hundred shops are in the area covering parts of at least three streets. Public life seems to be much more apparent than in malls. People are congregated "in the street" opposite a row of fast food places and there is a branch public library on a second level. Of course there are no cars. We'd like to know more about this experiment.

THE RATING GAME for U.S. cities continues apace. Something called "Savvy Woman" ranks Minneapolis-St. Paul as "Best for Raising Kids." Six other winter cities are in the top ten. Eight of the bottom ten are sun belt cities. The Minneapolis *Star Tribune* apologizes, with the second sentence of their story reading, "Straight out of the 'Why We Put Up With Winter' Department, etc. . . ."

Meanwhile Duluth/Superior registered the lowest murder rate in the nation. Among the reasons for this rating, climate got short shrift in the Duluth paper, with a mention of "even the cool climate" coming in last among reasons given.

At least International Falls isn't apologetic about its winter climate. In August, International Falls, Minnesota (5,000 pop.) won its battle with Fraser, Colorado (470) for the title "Icebox of the Nation." It cost $2,000, though, because Fraser had used the name on a 1958 sign. The Falls has a mean January temperature of slightly above zero (F).

WHEN HE WAS A BOY, Jan Horak had only cross country skis provided by his immigrant parents. The other boys up on the North Shore of Lake Superior had the conventional downhill skis and laughed at poor Jan. But Horak has the last laugh. He is now the owner of "Cobble Stone Lodge" in Tofte, Minnesota, and is finding that his winter guests are outnumbering the regular summer tourists, who had always been the mainstay of the area. The reason is, of course, the cross country ski! Herman Kahn said they would revolutionize the upper Midwest, and he was right.

JEANNE HANSON, my co-author of *The Winter City Book*, loves cold places where there aren't a lot of people. Her fond hope is to circle the Antarctic continent some day. She has written about her travels to Alaska and Montana. In August she had a full-page article about Iceland's remote Westman Islands in the Sunday *New York Times* travel section. She will revisit Iceland in the coming year.

GOOD NEWS FROM THE WINTER WEAR DEPARTMENT. The *New York Times* writes: "Winter coats are usually sober and black, in the same shape year after year," but that's about to change. "For the first time in recent memory, there is a wide range of colors, including orange, purple, red, and almost any strong shade." Hurrah! We've been complaining about this situation for a decade. Now if only we could get some color in men's winter coats too. That's probably too much to ask. We'll settle for men starting to wear hats again.

ALTHOUGH WE ARE MAKING SOME PROGRESS in color for winter clothes, we will have to continue to look at white houses on white snow. The *New York Times* reports that "white has been the No. 1 paint color since the 1950s." We can blame the international style for this situation. Still there are around 50 shades of white to choose from. "Atrium White" has just the slightest hint of pink and is designed to complement mauve and taupe, two pretty good winter colors.

SENIORS' LIVING ENVIRONMENTS IN WINTER

By Charlotte Matthews, Ph.D., Chairman, National Advisory Council on Aging/President, Le Conseil consultatif national sur le troisième age

Among the several themes central to social gerontology is the link between environment and aging. The word "environment" in this sense means what is seen and felt, a force with which an older adult is in continuous interaction. For instance, continued personal growth during later years may be dependent upon a satisfactory residential environment. Much of what was considered conventional wisdom in the area of built and living environments for seniors may no longer hold. Reversal of the demoralization associated with the winter months is necessary and possible.

The essential components of a suitable environment include suitable surroundings, independence and interdependence. For older adults who live in northern climates, the link between environment and well-being takes on special meaning: they want to eliminate restrictions based on climatic conditions.

Voluminous literature exists in the field of environment and aging.* In 1980, M. Powell Lawton noted that no understanding of behaviour and aging is complete that does not specify the environmental context impinging on the individual (see: M. Powell Lawton, *Environment and Aging*, Monterey: Brooks/Cole Publishing, 1980). Lawton articulated an ecological model of adaptation and aging, a model that enables practitioners and policy makers to view the many and varied environmental problems they encounter with elderly constituents as examples of two very general phenomena: "environmental press" and "individual competence." In Lawton's model, two levels of analysis are necessary in order to understand ecology and aging: i.e., analysis of the macroenvironment and analysis of the microenvironment. Lawton also stated that the task of the environmentalist is not to find the best solution for older people, but to make it possible for each older person to create or choose the type of environment that is most fulfilling.

Unfortunately, dissemination and utilization of policy-relevant research on both the built environment and the living environment lags behind emergent needs. Many players and many partnerships are needed to find the best solution for older people to create or to choose the type of environment that is most fulfilling, and one where functional capacity is maintained at the highest possible level.

The partners who play the most important part in developing suitable environments for an aging population are municipalities and the housing industry. Architects, urban planners and social workers are other key players to share the responsibility. As Manty and Pressman have pointed out, "Climate, in particular, must be given a mediating role in planning and design" (Jorma Manty and Norman Pressman, eds., *Cities Designed for Winter*, Helsinki: Building Book Ltd., 1988). Indeed, an informed perspective on the living and built environments is a challenge for all those who wish to improve the standard of living for present and future seniors. All partners should apply the research that demonstrates relationships between inappropriately designed living environments, human behaviour, functional ability and health costs, especially for vulnerable seniors.

Although literature on environment and aging provides an excellent focus, to analyze and to focus seniors' concerns appear to be more difficult with each passing year. A caveat about the image of "seniors" is always in order because even the general public is becoming more aware of the elderly population's diversity and the danger of artificially homgenizing older adults. Policy makers must not reinforce age stereotypes, but rather remember that the interests of seniors tend to be more varied than nonseniors and that conditions such as health determine behaviour much more than age.

It is widely recognized that expectations and aspirations change with every generation; we are the product of our

experiences. Older adults who will enter retirement in the 1990s will have had life experiences that are very different from present-day older adults. As education level and income rise, attitudes and interests change. Many of tomorrow's elderly will have been a part of the wellness-intellectual movement of the 1980s. And the elderly of tomorrow, with the aid of new technology, may have far greater coping abilities than we have assumed.

In addition to changing images perceived by the general public (including older adults themselves), both the market place and policy makers are confronted by the growing awareness that the older population is so heterogeneous that no groups, and no common approach, can honestly represent the interest of all seniors. In addition, concern is appearing about exploitation of the aging consumer and whether or not the array of programs, bureaucracies, providers, interest groups and industries exists merely to meet the needs of the servicing system (Kenneth M. Kaplan and Charles Longino, Jr., *The Gerontologist*, Vol. 29, No. 3, 1989, p. 415).

Obviously, if planning and building for so-called "seniors" is risky business, an alternative approach is to "build for people," as one of Canada's outstanding architects, Eberhard H. Zeidler, has reminded us (I. Allaby, *Canadian Geographic*, Vol. 105, No. 2, 1985, p. 8). The most ridiculous approach would be to try to southernize rural and urban sections of Canada.

Another challenge to maintaining standards of living and the quality of life is to couple the virtues of design and location with the realities of the market place, that is, achieve a balance between costs and human needs. Often, the desired balance has been submerged in pragmatics. Yet, modern society's concern for human dignity dictates that cost-effectiveness is just one of many criteria. For instance, during winter months, there should be great concern for independence, choice, self-worth, livability, safety and security. To preserve well-being during the winter months, seniors need a choice of community services; this choice is an insurance for those with anxiety about their future needs.

To be fair, many Faculties of Architecture and Urban Planning have taken steps to understand the needs of the growing number of seniors in our society. But more partnerships are sorely needed; contributions must come from a variety of disciplines, ranging from clinical psychology to architecture, physical education to social work and rehabilitation. Each discipline must think beyond the perspectives for which it has become renowned; each can present insights regarding the critical role of environment in the types of responses and behaviours of which most older persons are capable. The approach should take into account the potential avenues for seniors' personal control of what is seen and felt around them, even in winter months.

Although the era of rapid demographic change will not begin for another fifteen years, there is no doubt that new partners and new approaches to meeting winter conditions will be important, whatever the age and whatever the circumstances. It is time to test our ingenuity on winter conditions, to bring a bit of glamour to dull days; it is time to rally the multidisciplinary partners capable of bringing about new solutions based on the realities of environments and aging.

*Recent publications include: *The Social and Built Environment in an Older Society*, Washington, D.C.: Institute of Medicine, National Academy of Sciences Press, 1988; R. Ward, R. LaGory and S. Sherman, *The Environment for Aging: Interpersonal, Social and Spatial Contexts*, Tuscaloosa: University of Alabama Press, 1988.

Newest Winter Design Ideas Proposed for Tervola in Northern Finland

By Kimmo Kuismanen, Architect, Oulu, Finland

Tervola, a parish village of 4,300 inhabitants in the north of Finland, at 66°N latitude, is embarking on an environmental project. In the past, neither wind nor other climatic factors have been taken into consideration in village or traffic planning in Tervola. In winter the village-scape is very grim as the bitterly cold wind blows through the built-up environment. Our objective is to design a pleasant environment that reflects the cultural and physical characteristics of the region. One of the focal points of the project is to study how village planning and construction can be adapted to climatic conditions.

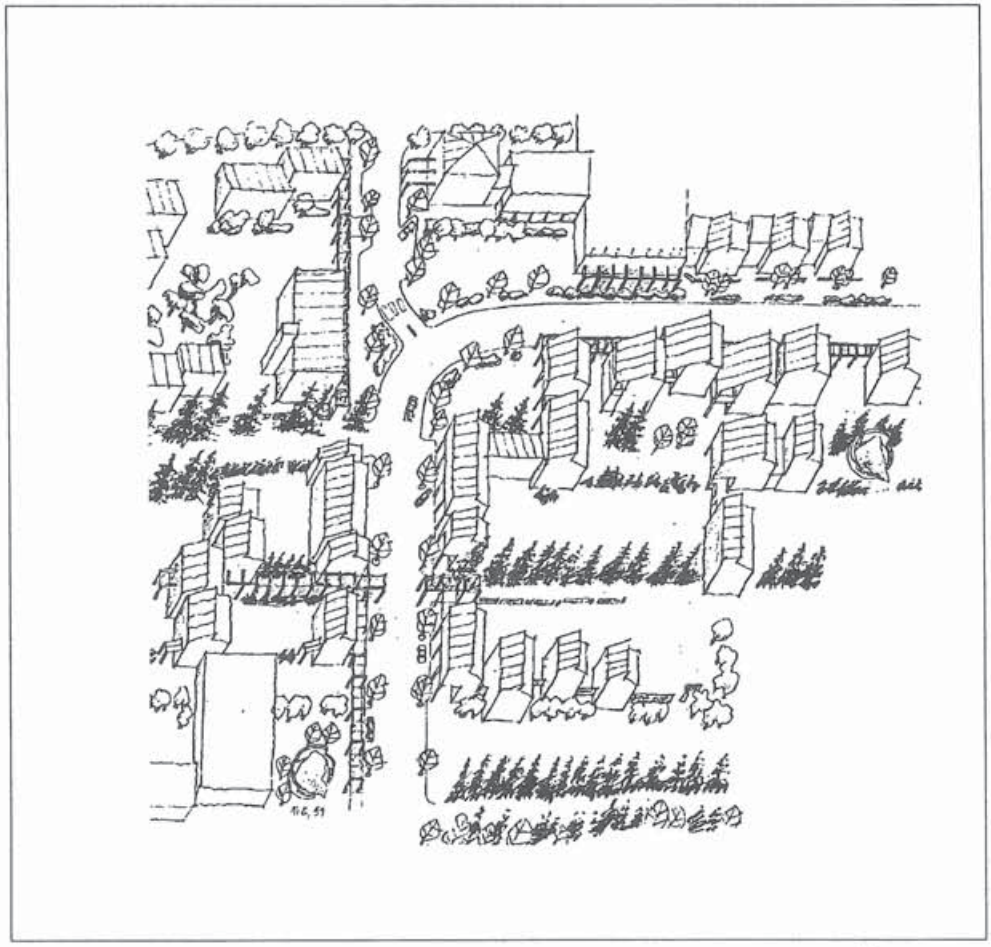
Our idea of a living community structure consists of different activities harmoniously interwoven and supporting each other. The adjacent location of workplaces, services and housing reduces unnecessary traffic in the community, too. Tele-informatics and new types of professions will make the distinction between work and leisure time less clear — this requires greater flexibility in both plans and buildings.

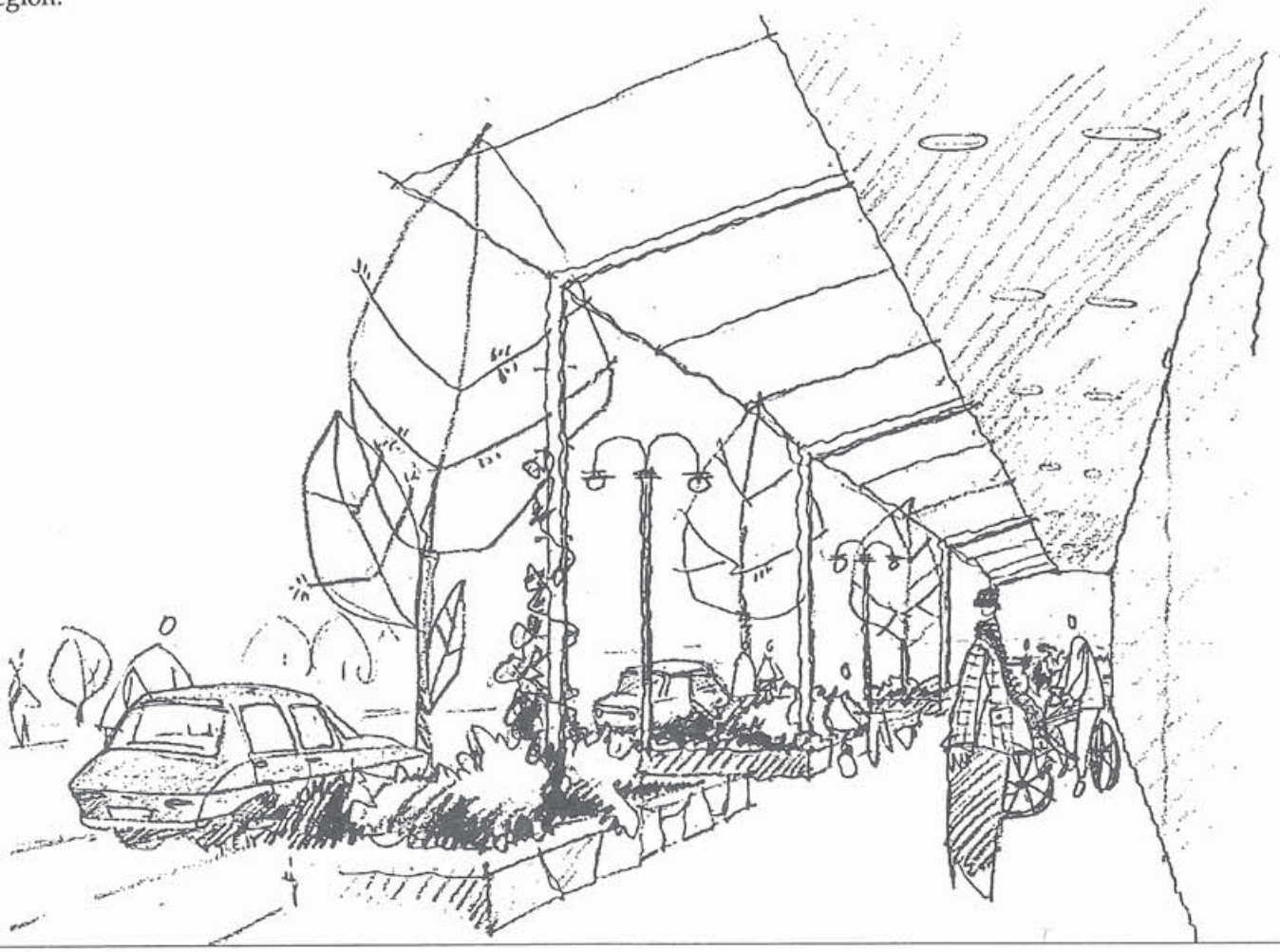
In the course of the work we decided that the centre of Tervola cannot be redeveloped by the methods of large-scale technology. Solutions must be found instead that improve the environment

and micro-climate by rational location and design of buildings and annexes, fences, screen planting, etc.

The outlines of the plan are formed by screened roads going from north to south. These roads make the structure of the village easy to recognize. At right angles to these roads and the river, there are zones of buildings and plants to attenuate the force of the wind. This plan offers fine views over the river, too. The main road of the village is a meeting place for both the young and old in Tervola, as well as a business centre. The method of building is small-scale: a pleasant microclimate will be achieved with two-story houses side by side. Arcades and canopies are designed to protect pedestrian traffic along the main road.

Financially, the Winter Tervola Project is not as expensive as one might expect. Most of the costs consist of things on which money should be spent anyway. It is also possible to get special financing to cover many of the extra costs. It is essential that designing an enjoyable environment is seen as a profitable investment for the municipality, one that will attract new inhabitants, enterprises and tourists to the region.





WINTER CITY WATERFRONTS

By Harold Hanen, Publisher of Winter Cities News *and President of the Winter Cities Association*

There was a time when waterways, with support facilities, served as the main line of communication, occupying a prominent place in the lives of northern waterfront cities. Northern urban settlements clung to the edges of oceans, lakes, rivers and canals for sustenance, protection and trade. Early waterfront developments tended to be small, sensually rich and based on a human-scale technology whose economics and activities were well integrated into the community core. Later, in the case of the faster-growing cities, many of the waterfront businesses switched their transportation links to trains and trucks, separating themselves from the urban centers by rail and road. They often contributed to polluting the adjacent waters and defacing the water's edge. Even more recently, in the larger cities, containerization and competition with other urban users for land accessibility forced the closure or relocation of many remaining waterfront industries.

The general legacy of neglect and decay of this period of industrial waterfront development spawned in the 1940s several then-considered "far out" redevelopment schemes. With the success of the first attempts, the use of cheap, usually publicly controlled, waterfront land was irresistible, and soon no "progressive" city was without its own waterfront renaissance scheme.

Most of the early larger northern city waterfront redevelopments were strongly influenced by successful commercial temperate-climate precedents, such as San Francisco's. While they reflected the conventional political objectives of improving summer's life quality and tourism, they did not respond to the unique benefits and restraints of being located in a winter city. Too often the result was commercially slick, contextually isolated and unbalanced in its summer-use emphasis.

Today there is a growing recognition, based on past experience and a more aware citizenry, of further potentials yet to be realized in winter city waterfront transformations. The major thrust is making them more all-season "public places."

The recognition of the need to address the unique design parameters of winter city waterfronts has been slow in coming. They are not often considered as part of a fully comprehensive waterfront upgrade program, such as the excellent example of the Meewasin Project in Saskatoon, Saskatchewan, and they do not incorporate a full understanding of the multi-season sensory impacts on diverse activities and users, such as is incorporated in the planning of the St. Albert, Canada, or Luleå, Sweden, concepts.

The best schemes reflect all-season integration with adjacent city centers and all-season continuities along their edges. In some cases the redevelopment's *raison d'être* is its strong identity with the area's past commercial viability. Schemes such as in Halifax, N.S., and Quebec City, P.Q., in Canada have skillfully incorporated restoration of historical buildings with authentic mixed-use development.

Given the rarity of opportunity for waterfront land reclamation and its significant impact on a city's character, it is crucial to get it right. For winter cities, this means developments that do not only meet the usual conventions of good planning, but which fully recognize the underlying principles and processes of designing for full four-season use. The social shortcomings of not doing so are not obvious or easily quantifiable — for example, the restriction of disabled and senior access in winter and children's play opportunities. However, the wastefulness of not achieving full economic value from such major capital expenditures, especially in times of economic restraint and growing global competitiveness, is blatantly obvious.

There is clearly a need and opportunity to improve the design and management of winter city waterfronts. This will require more extensive local climatological impact information, a better application of northern city design principles in landscaping, building placement and shaping, more flexibility of inside and outside transitions, mixed use, compact land development, full-season programming and protected pedestrian access continuities.

The following articles were motivated by the shortage of literature on winter city waterfront design and management.

We hope you both enjoy them and find them useful. Bon Voyage!

WINTER VILLAGE WATERFRONTS

Why must the texture of our larger urban waterfronts be so often unidimensional, so mercantile, so summer oriented, and so coldly ignored in winter? Why can we not see the potential of these fresh and frozen water resources in the same light as do the northern villagers?

By Mike Robinson, Executive Director, The Arctic Institute of North America

Cities are congregations of communities/villagers. Therefore, in attempting to achieve a human perspective it is of benefit to first examine the smaller unit, in this case the northern winter village.

Ice road. Sea lift. Komatik trail. Ski trail. Fish camp. Ferry crossing. Boat yard. River view. Break-up. Winter village waterfronts in the Canadian North are vital areas, well integrated into community life and reflective of seasonal changes in weather and activities. They are not planned waterfronts in an urban sense; rather they are functional areas with long histories of human use. Before the advent of float planes, skidoos and roads, northern rivers, lakes and oceans were the highways of commerce, leisure and communication. Canoes, kayaks or moose-skin boats passed daily from spring break-up to fall ice-up, and messages filtered from camp to camp on the moccasin telegraph. In winter the bark of dog teams heralded the change from waterway to ice trail, and toboggans, komatiks and sleighs arrived at the frozen waterfront with news from outside.

Today, even with the benefit of motorized transportation, these community waterfronts are still active year round. In spring they see the organization and launch of spring hunts; in summer they welcome the arrival of sea lifts in the High Arctic with their containerized loads of prefabricated houses, flats of Coke cans and boxes of fresh vegetables. In winter today's village waterfronts become ice road junctions, cross-country ski trails and aircraft landing strips. As the geographic and work focus of northern village life is so often the river, the lakeshore and ocean beach, people congregate there year round for work, to socialize, to come and go from their villages and to seek rest and recuperation. Seasonal variations in temperature do not restrict this age-old pattern of use; in fact they enhance it.

Why not promote similar attitudes at winter city waterfronts? Why must the texture of our larger urban waterfronts be so often unidimensional, so mercantile, so summer oriented, and so coldly ignored in winter? Why can we not see the potential of these fresh and frozen water resources in the same light as do the northern villagers?

Willow Lake from the air — a Northwest Territories hunting camp waterfront in summertime. Photo credit: K. McCullough.

Fort Norman waterfront — multiple-use waterfront activities in summer. Photo credit: K. McCullough.

OSLO — TOWN PLANNING TODAY

The plan will be an effort to preserve the old industrial buildings while at the same time making the open areas along the river more accessible as recreational areas.

Oslo is Norway's capital and its largest city. It has 450,000 inhabitants and covers an area of 450 km² (173 mi²). The Oslo region, including neighbouring municipalities in Akershus county, has 820,000 inhabitants. The city of Oslo is surrounded by wooded hills; in fact, two-thirds of the area within the municipal borders is forest. The building zone is only 156 km² (60 mi²).

If you take a walk through the centre of Oslo today, you will see a large amount of building activity. Cranes, scaffolds, ditches and construction workers dominate the image of the city.

Oslo towards the Year 2000

Early in the 1980s an architectural contest was held, with the theme "The City and the Fjord — Oslo towards the year 2000." The main conclusion drawn from this contest was that the city and the fjord should be more closely tied together by removing some of the barriers that exist at their meeting point. This is what is in the process of happening now. The docks are to be concentrated away from the city centre so that the most central areas can be used for new development. Also the main road through the city along the waterfront is being put in a tunnel, giving the area a much better connection to the fjord. The Oslo Town Planning Office has made a "Kommunedelplan" for the city's central waterfront, showing future development possibilities.

Oslo's main source of income has shifted gradually from industry to technological and service-oriented businesses. Many of the industries that developed along Akerselva because of its source of hydro power have now been abandoned, giving the area a very different character. The national government has granted money for a plan to be made of the area along Akerselva. The plan will be an effort to preserve the old industrial buildings while at the same time making the open areas along the river more accessible as recreational areas.

The Forest, the Fjord and the River

No other capital in the world has as vast recreational areas near the city as Oslo. The forests of "Oslomarka" cover 1.7 million dekar (420,000 acres) and stretch into 4 counties and 18 municipalities. This gives unlimited possibilities for hiking, biking, skiing, fishing, and picking berries and mushrooms — or just enjoying nature and peaceful beauty, undisturbed by car traffic. Numerous cottages and cafes in the forest welcome visitors from far and near.

The Fjord

The forest is not the only recreational area of great importance to Oslo's population. In the summertime the fjord is of even greater importance to people in the Oslo region. The beaches along the shoreline and on the islands are crowded during the warm summer days. Thousands of vessels, from speedboats and cabin cruisers to sailboats and kayaks, criss-cross the waters of the inner Oslo fjord.

The Akerselva River

The Akerselva River was essential to Oslo's economic development in the 19th century. After the industrial revolution, manufacturing industries grew up along the river, using the energy from the many waterfalls. The textile industry has now been closed down, and the factory buildings have either found other uses, such as offices and restaurants, or they have been demolished.

With less industry, the water in the river has become cleaner and fish such as salmon and trout can once again live in the Akerselva River. A chemical leakage killed a lot of fish in 1986, but new fish have been put into the water. There are idyllic paths and walkways along the river, and the national government has granted 8 million kroner for further improvements to the environment along the river.

There are also some large development areas in the eastern part of Oslo's centre. The Vaterland/Grønland area is already under construction, while there are plans for the development of Bjørvika on the waterfront side of the central train station. A general plan shows that it is possible to build 300,000 m² of new floor space there. These new developments will be made up of housing, office spaces and commercial areas, in addition to the main attractions that will place Bjørvika on the map.

From Manufacturing to Technology

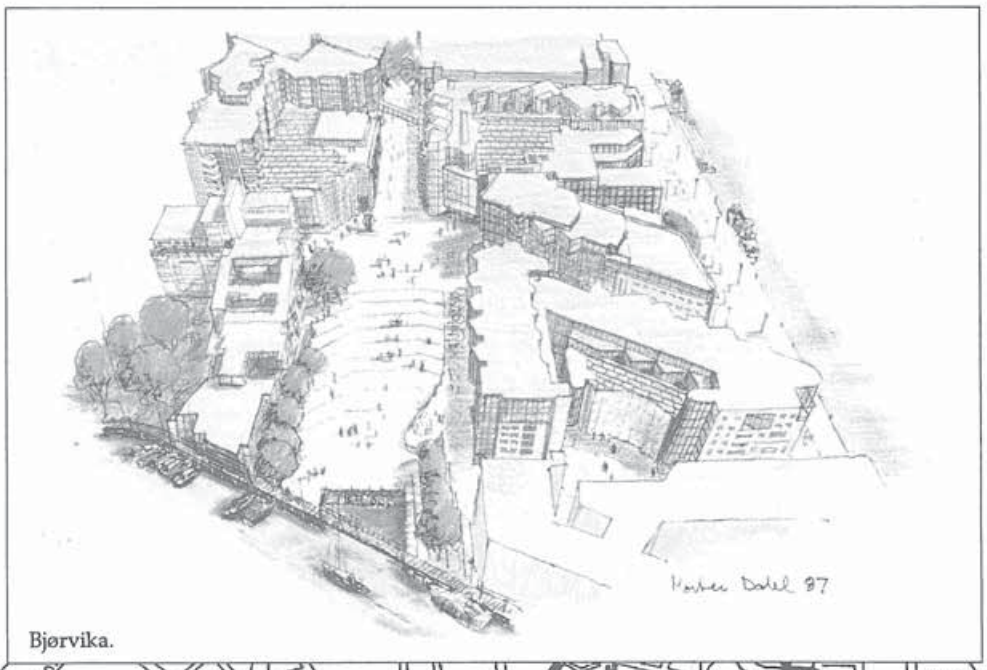
The changes at Aker Brygge are a typical example of the economic development in Oslo. The old, dismantled shipyard has been given new life with shops, entertainment and offices, combined with housing.

The urban development of Bjørvika and Aker Brygge is a result of a big architectural competition held in 1983, called "The City and the Fjord — Oslo A.D. 2000," for the future development of Oslo's harbour areas. The central harbour areas are to be transformed into other land uses and the waterfront is to be integrated into the city.

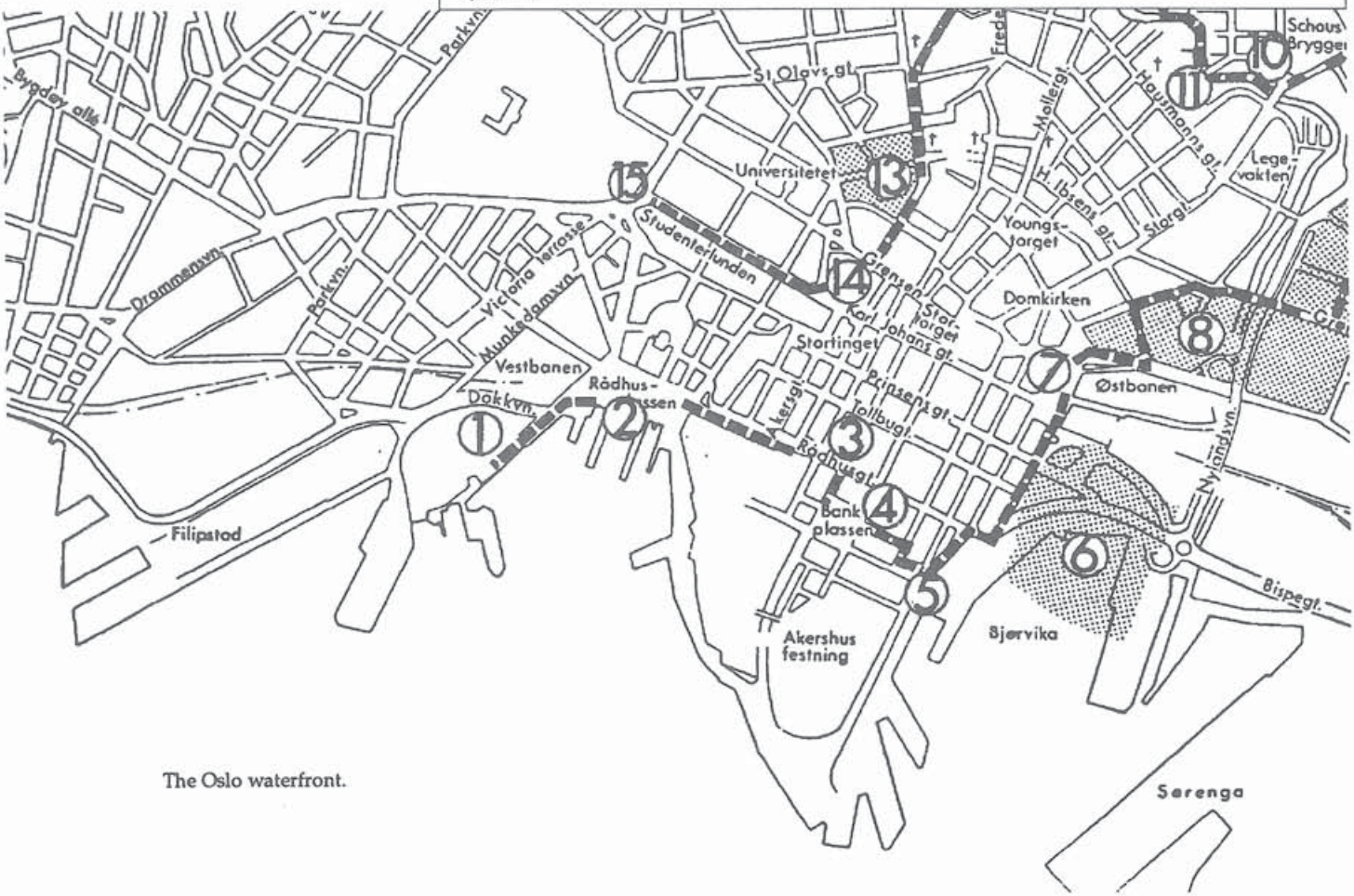
Aker Brygge is an old shipyard near the city hall which has now been converted into both commercial and office spaces. The first building phase started in 1984 and was finished in 1986. This phase included a ferry terminal for the Nesodden ferries. The next building phase will include about 200 housing units, as well as new stores, restaurants and cultural attractions. Parking spaces will be located under the old dry docks. The third and fourth building phases will include more housing and an indoor swimming hall.

Although City Hall Square is dominated by heavy traffic today, there are plans for it to be covered with a green park by 1990, when all the traffic has been placed underground in a tunnel. Excavation work for the tunnel has already begun 45 m under the City Hall.

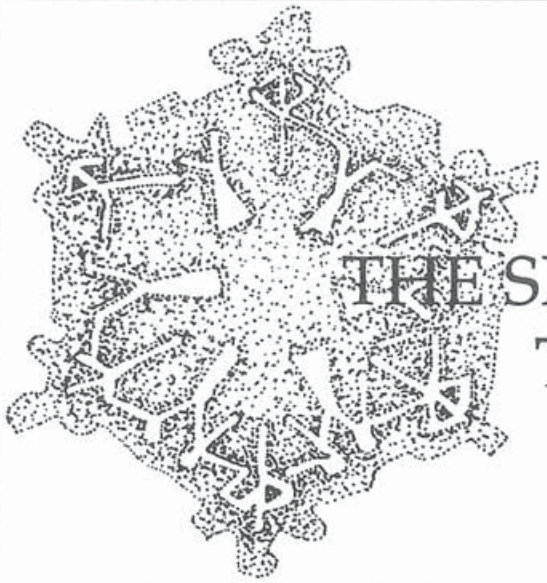
Bjørvika is a new part of town under planning in the city centre. It will have up to 300,000 m² and will be laid out in the same pattern as the original Christiania grid. This new development area will contain housing, offices, shops and public attractions.



Bjørvika.



The Oslo waterfront.



THE SEA FRONT — THE HEART OF TROMSØ

Tromsø wishes to make the sea front a full-time meeting point for activities at sea and on land.

By Chief Environment Officer Ragnhild Sandøy and Chief of Planning Gunvor Bjørnsen; drawings by Odd Klaudiussen

Tromsø is the capital of north Norway and the main coastal district of Norway. It has the longest coastline of Norway, 930 km along mainland and islands, and the country's largest fishery community, with the greatest number of registered fishermen and fishing vessels. Tromsø, a pulsating town at 70°N, for centuries has been considered the "Gateway to the Arctic," the natural point of departure for hunting and scientific expeditions to the Arctic. Today it is also a natural base for activities in the resourceful and strategically important Barents Sea, as well as the seat of the northernmost university in Norway and of the Norwegian College of Fishery Science.

History and Traditions

Tromsø was given its official city status in 1794. For centuries, the city had been a fishing port, a town and military point of support due to its strategic position on an island in the middle of the shipping lane, which in those days was Norway's highway No. 1.

Both activities and buildings faced the sea. The transport to and from the city was conducted by boat along the city centre. Further transport and distribution had to be carried out by horse or on foot.

Tromsø presents itself as a beautiful and exciting coastal city, where past traditions may be glimpsed through the building and street patterns. The harbour is where the Tromsø citizens go to buy fresh fish and shrimps all year around. The coastal express and smaller boats from the surrounding districts bring people and goods here. Tourists arriving by sea land here. When the Tromsø sound lies still and flat, its citizens are irresistibly drawn to the quayside to smell the salt sea, to see and to hear sea birds, tar and ropes, to relive their best and most exciting childhood experiences.

The city has grown considerably, particularly over the last 20 years. Shipping and fisheries have for a while been put in the shade by other, newer activities and other means of communications. The old patterns have been altered, and the harbour functions moved and changed. Over the last few years part of the old harbour area has been taken over by parking lots and thoroughfares for cars. This has had negative effects both on the business community and the general atmosphere of the area.

In the autumn of 1988 Tromsø initiated an environmental improvement scheme. Because of Tromsø's history and traditions of "facing the sea," it was natural to give top priority to the sea front with its Sea Front Promenade.

The Sea Front

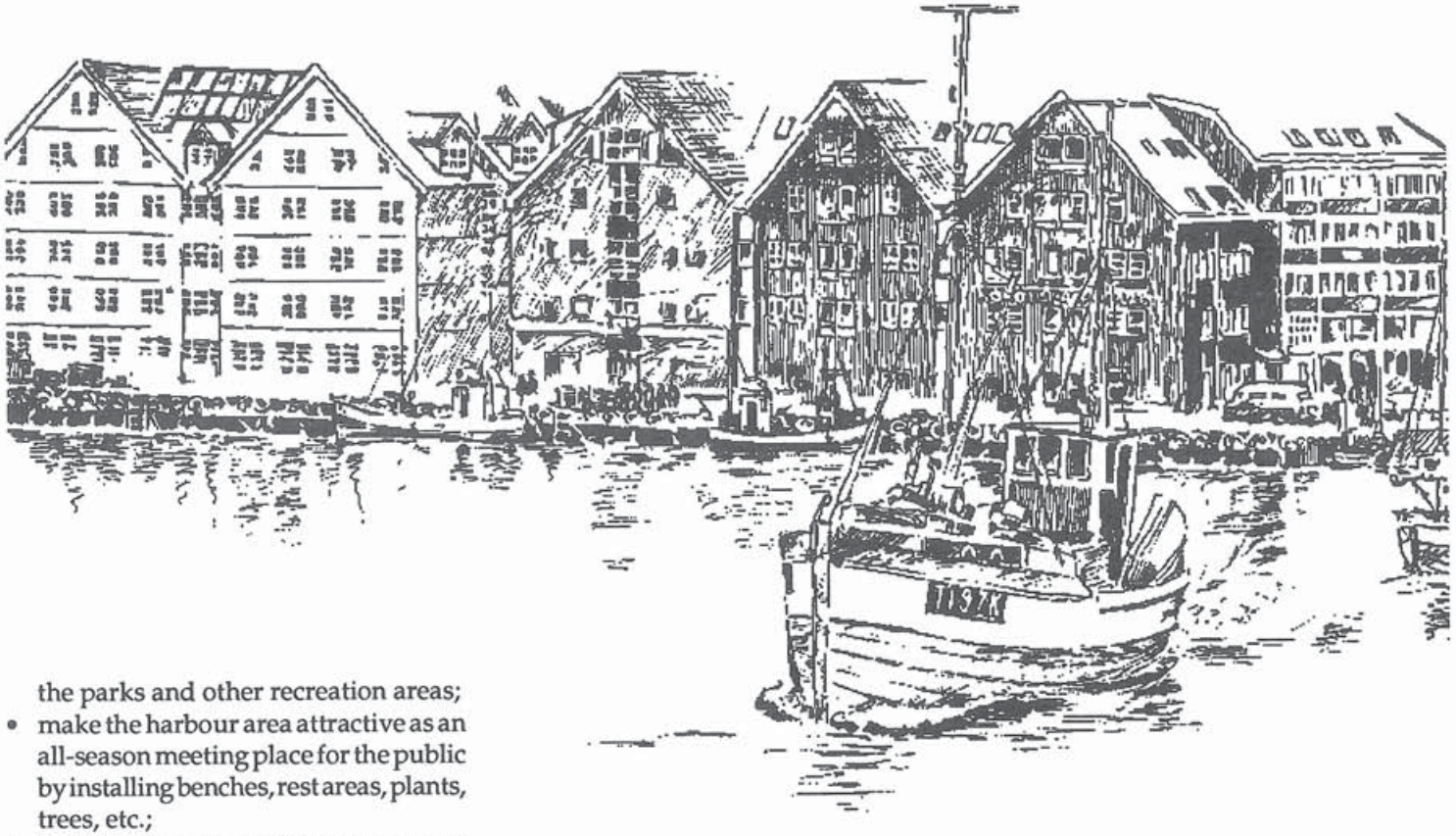
The quays in themselves are attractive. Along them you will find:

- Tromsø Skipsverft—a living drydock in the middle of the city.
- Skansen — remnants of an old fort from around 1350, today containing Tromsø City Museum, the old Custom House, the Polar Museum, the old city with museums and a living environment in old wooden houses.
- Bangsundbryggene — an old lumbershop in a renovated old timber wharf.
- Torghuken — with sale of fish direct from boats and the main town square nearby.
- Tromsøbryggene — new business buildings built in the traditional wharf style, on the site of the big city fire of 1969.
- Prostneset — the terminal for the coastal express, the hydrofoils, the local steamers and the district buses.
- Strandtorget — recently renovated, warm and sunny town square between low-rise buildings.
- Tromsø Fryseri and Macks Bryggeri — key industries of the town.

A fishing port, a port for veteran boats and a guest harbour for small vessels are in the planning stages.

The harbour area, then, is important both for economic reasons and for the atmosphere of the town and its citizens. Therefore the landowners, the business community and the municipality of Tromsø, led by the mayor, have gotten together to undertake the sea front project. Through a 2.3 km promenade from Tromsø Skipsverft at the north end with the South Jetty at the south, we wish to:

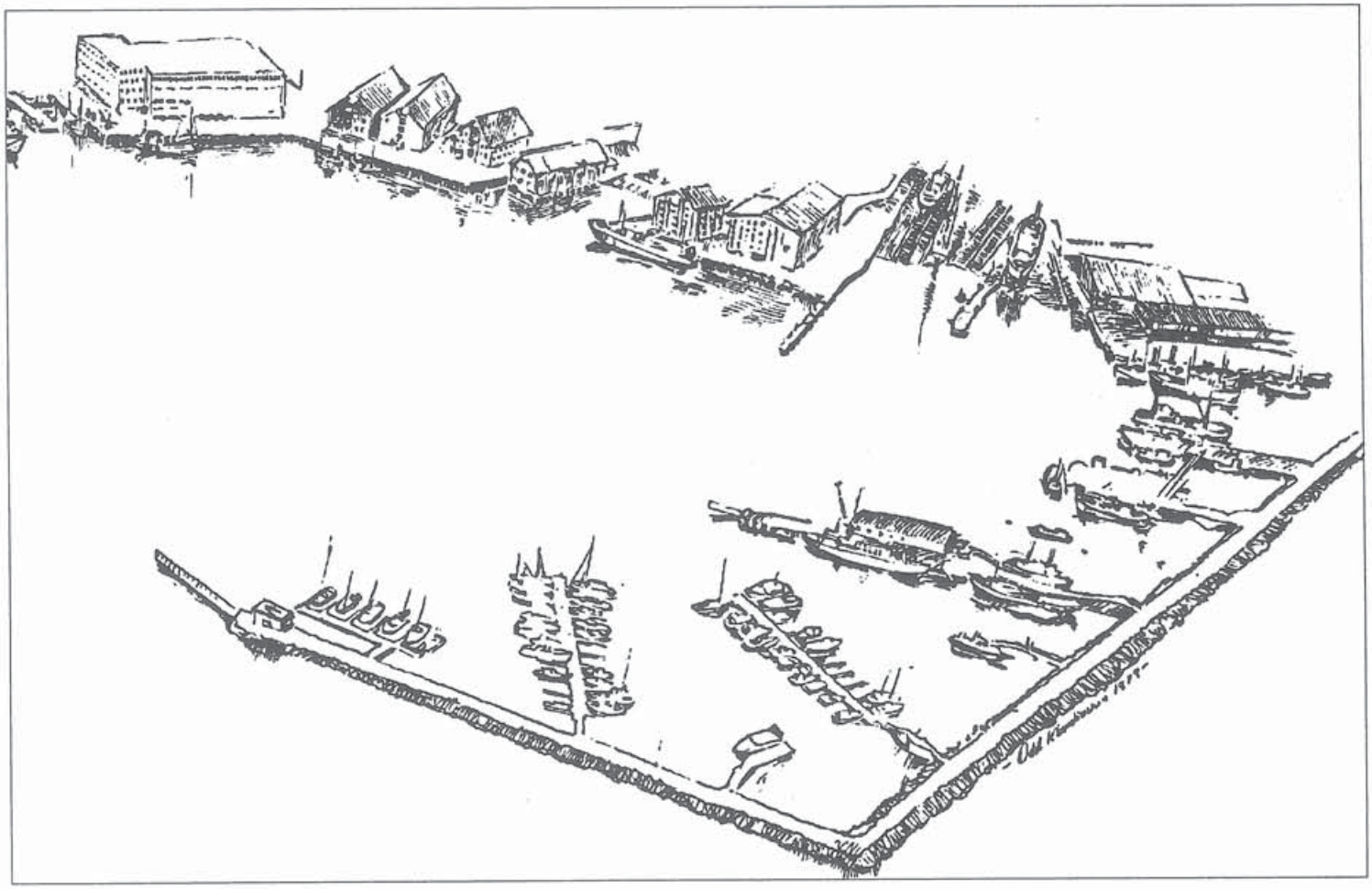
- improve the accessibility for pedestrians to the harbour area;
- open the city towards the sea by opening the view towards the harbour;
- link the seafront promenade to the rest of the town centre, particularly to

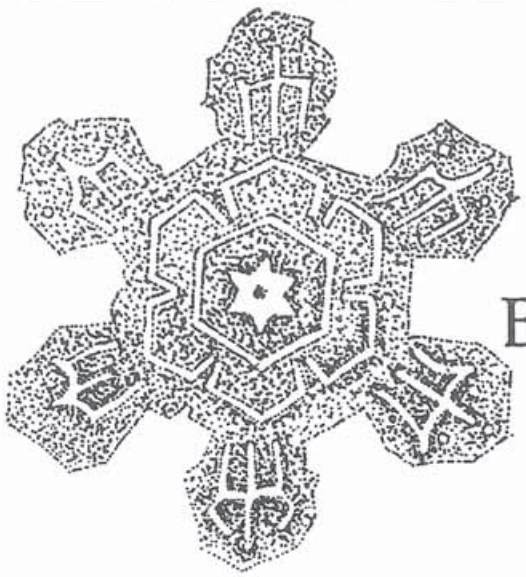


the parks and other recreation areas;

- make the harbour area attractive as an all-season meeting place for the public by installing benches, rest areas, plants, trees, etc.;
- and most important, facilitate business development in the area, thereby recreating an active and viable harbour environment.

Thus, Tromsø wishes to make the sea front the main attraction and resource of Tromsø city, developing the harbour area as a full-time meeting point for activities at sea and on land.





WINTER LIVING IDEAS BEING SHAPED IN LULEÅ

The North Harbour Winter Concept Plan will be the focus for the renewed social, cultural and recreational activity hub of the region.

By Norman Pressman, with Pelle Hultén

Luleå, Sweden (close to the polar circle on the Gulf of Bothnia), is constantly making headlines on the "winter cities" front. This town of approximately 55,000 inhabitants seems to understand the meaning of living with winter. Largely due to its insightful planning director/ chief architect Henning Gjørup and a number of dedicated, professional "winter city" enthusiasts, including Professor Pelle Hultén, of the local university, Per Persson, of the MAF Architectural firm, and Lars Johan Ekelöf, of the Norbottens Län County Administration, the town is a model of winter-adapted built form and urban systems. The central city area will soon be installing prototype bus shelters with three comfort-level zones — heated, semi-heated and unheated — to suite a range of weather conditions and user preferences (MAF designed).

Development Trends in Northern Sweden

The northern part of Sweden has evolved into a more self-sufficient region during the 1980s. Until the present, it has exhibited all the characteristics of an underdeveloped region: restrained economy, high unemployment, limited social and educational diversity, and a lack of cultural opportunity — except from the Native groups (Sami or Lapp people). With improved regional economic policies and a widespread cultural awakening, the remnants of former colonial times seem to have finally disappeared.

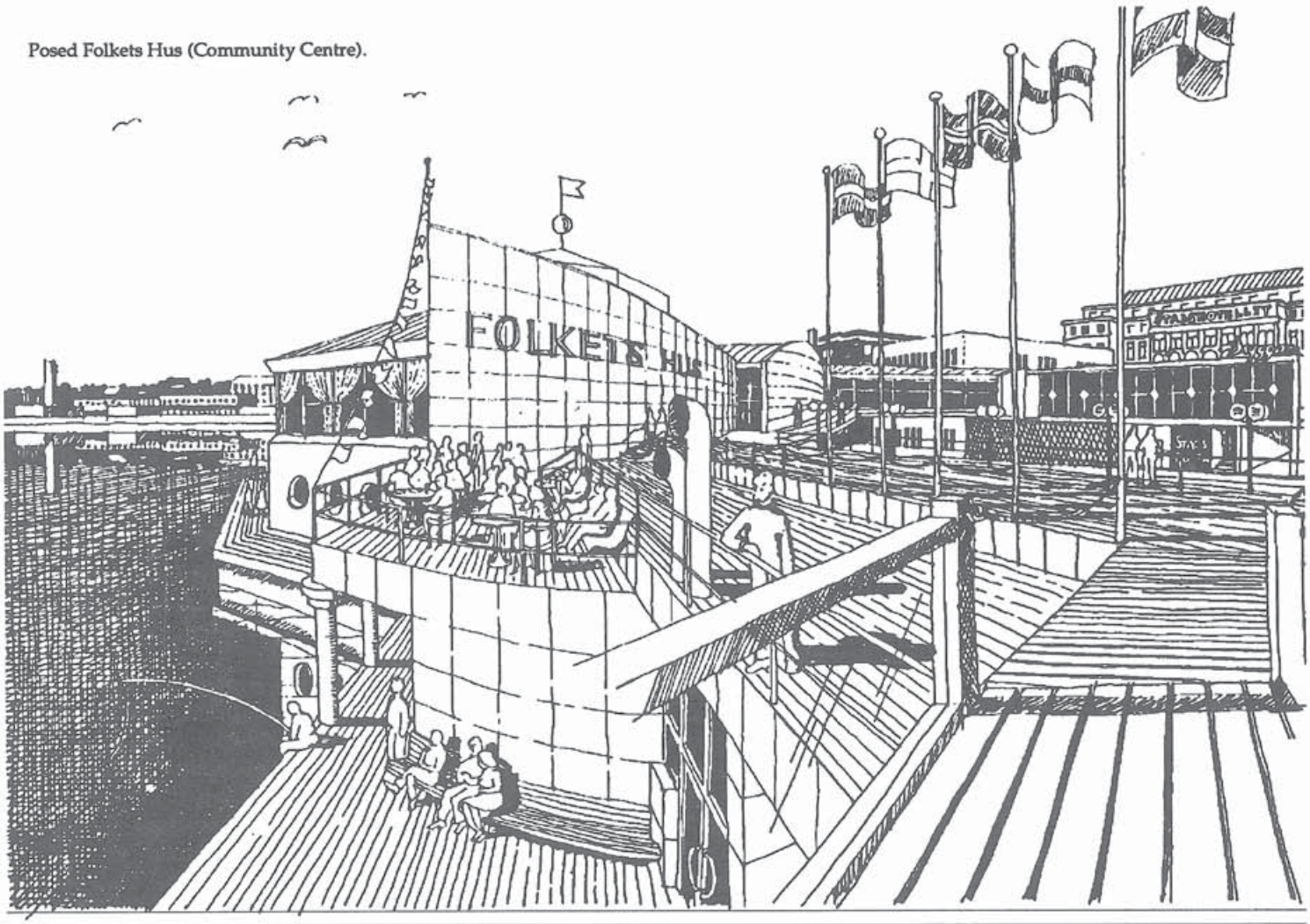
This new situation has led to a renewed interest in the roles of urban planning and the built environment with respect to further improving the quality of life and to making cities "up north" more attractive not only socially, but also aesthetically and architecturally. The northern life-style must be associated with quality, in general, and with positive regional characteristics, in particular. That is what will attract modern, well-educated people with high standards and expectations — the essential motor for both social and physical development.

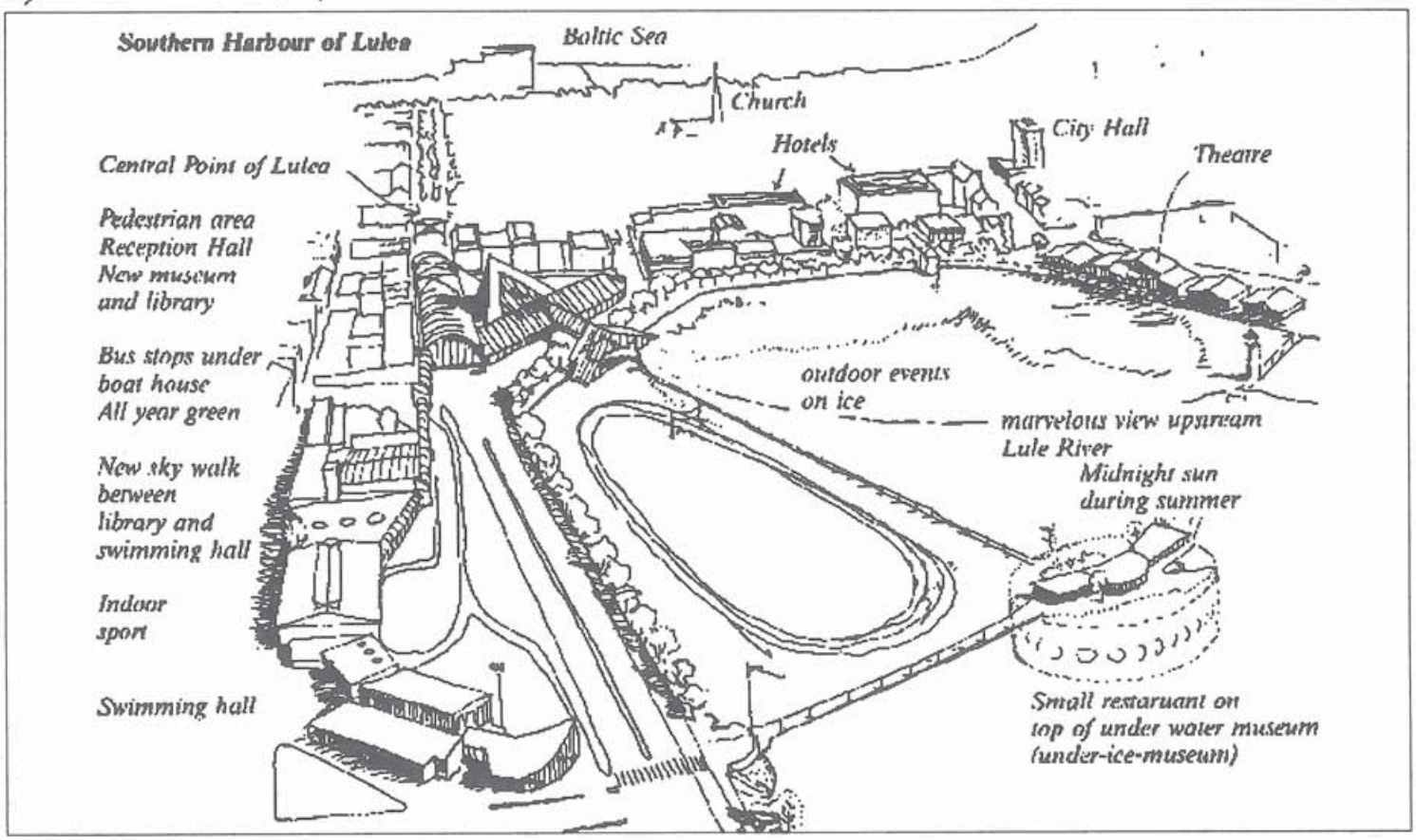
In 1992 the City of Luleå will celebrate its 500th anniversary. In 1994, the Swedish National Housing Exhibition will take place in Luleå, which has also applied for status as host city for the Winter Cities Forum in 1994. A large architectural competition for Luleå as a model "winter city" around 1991-92 could promote a vision for how medium- and small-size towns up north should develop. Some of these ideas could be implemented by 1994, and that would be the best foundation for hosting the Winter Cities Forum.

Luleå has a compact, pedestrianized city centre roughly six blocks in length (running east and west) and three blocks in width (running north and south). It is in the midst of organizing winter festival events, such as ice-sculpture competitions, dog-sled racing, etc. In addition, the city is explicitly "thinking winter" in terms of its local structure planning process; and it possesses an excellent system of public transportation providing access to the centre of town on a bus transitway that subtly merges into a pedestrian right-of-way with space marked out for cyclists on the central median, also used for Nordic kick-sleds ("spark"). Pedestrians use the heated sidewalks adjacent to the building facades on both sides of the street. Many lessons can be gleaned from Luleå, which now possesses a "winter city" soul and is always searching for fresh ideas to instill further pride in its inhabitants.

The town possesses two harbours: one in the south, which is shortly to undergo some new development, including a proposed hotel and associated meeting facilities. Although primarily the active industrial port for Luleå, it will assume some new functions over time. The north harbour, however, has been the recipient of many proposals — from Pelle Hultén in conjunction with the MAF Arkitektkontor under the direction of architect Per Persson (see insert: North Harbour Winter Concept Plan). It will be the focus for the renewed social, cultural and recreational activity hub of the region. With an already built group of theatres (echoing the older warehouse-building forms of the docklands), there are plans for cycle tracks (summer use), cross-country ski trails (winter use) and a multi-functional "culture house" (incorporating art galleries, cafes, studios, library and games rooms, and small auditorium and ancillary support spaces). Furthermore, where (in the plan) the small island containing an underwater museum has been proposed, there are now plans to situate an old icebreaker at the island location to be used as a potential art museum and for workshop space. This idea has attracted some leading politicians' attention.

Posed Folkets Hus (Community Centre).





RIVER CORRIDOR: Framework for Development in St. Albert, Alberta

At night, all principal nodes and bridges along the River Corridor would be laced with bands of white lights.

The following article is excerpted from a report sponsored by the City of St. Albert, the Alberta Association of Architects, and the Winter Cities Association. The report was drafted in 1988 by a team of Canadian and American specialists organized jointly by the Royal Architectural Institute of Canada and the American Institute of Architects through the AIS's Regional/Urban Design Assistance Teams (R/UDAT) Program.

The River Corridor is St. Albert's most important geographic amenity. It consists of Big Lake to the west of St. Albert and a stretch of the Sturgeon River, which flows eastward to its confluence with the North Saskatchewan River near Fort Saskatchewan. Although quite shallow (maximum depth of 1 metre), the River Corridor represents a significant recreational and cultural resource that should serve to substantially strengthen St. Albert's attractiveness both as a place to live and as a tourist destination.

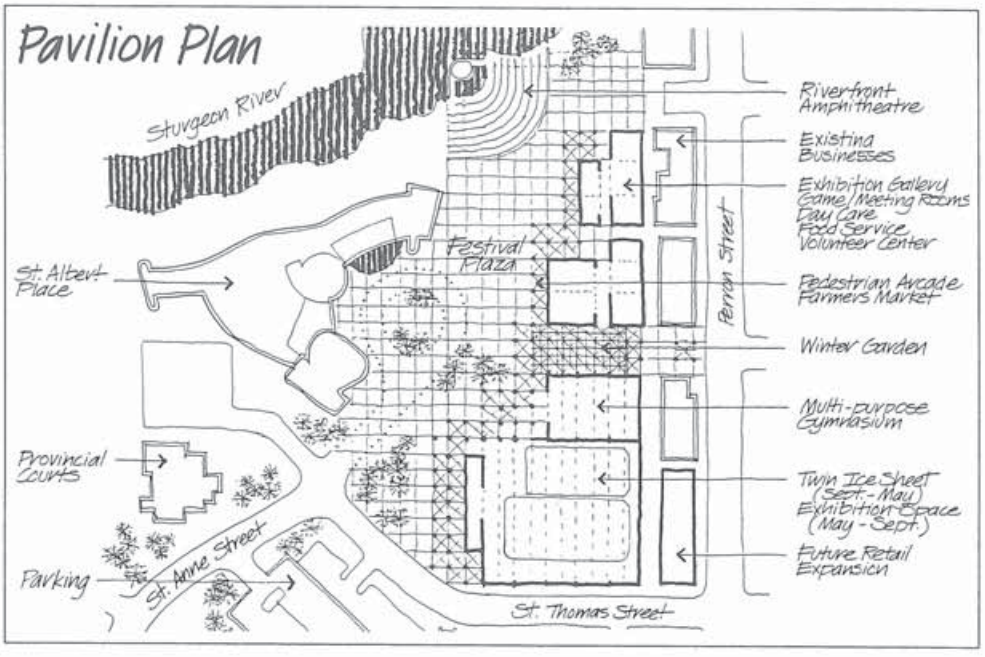
Unlike the Saskatchewan River, which is fast and deep, the River Corridor's slow movement and shallow depth creates the context for a unique ecology. Although its water quality is poor due to high levels of organic materials, a wide variety of shoreline flora has evolved, such as bullrush, cattail, sedge and sedge/meadow. This has resulted in an excellent environment for many species of migrating waterfowl, such as ducks, geese, swans, gulls, herons, hawks and owls. In addition, mink, weasel, muskrat, beaver and deer are present along Big Lake and parts of the corridor.

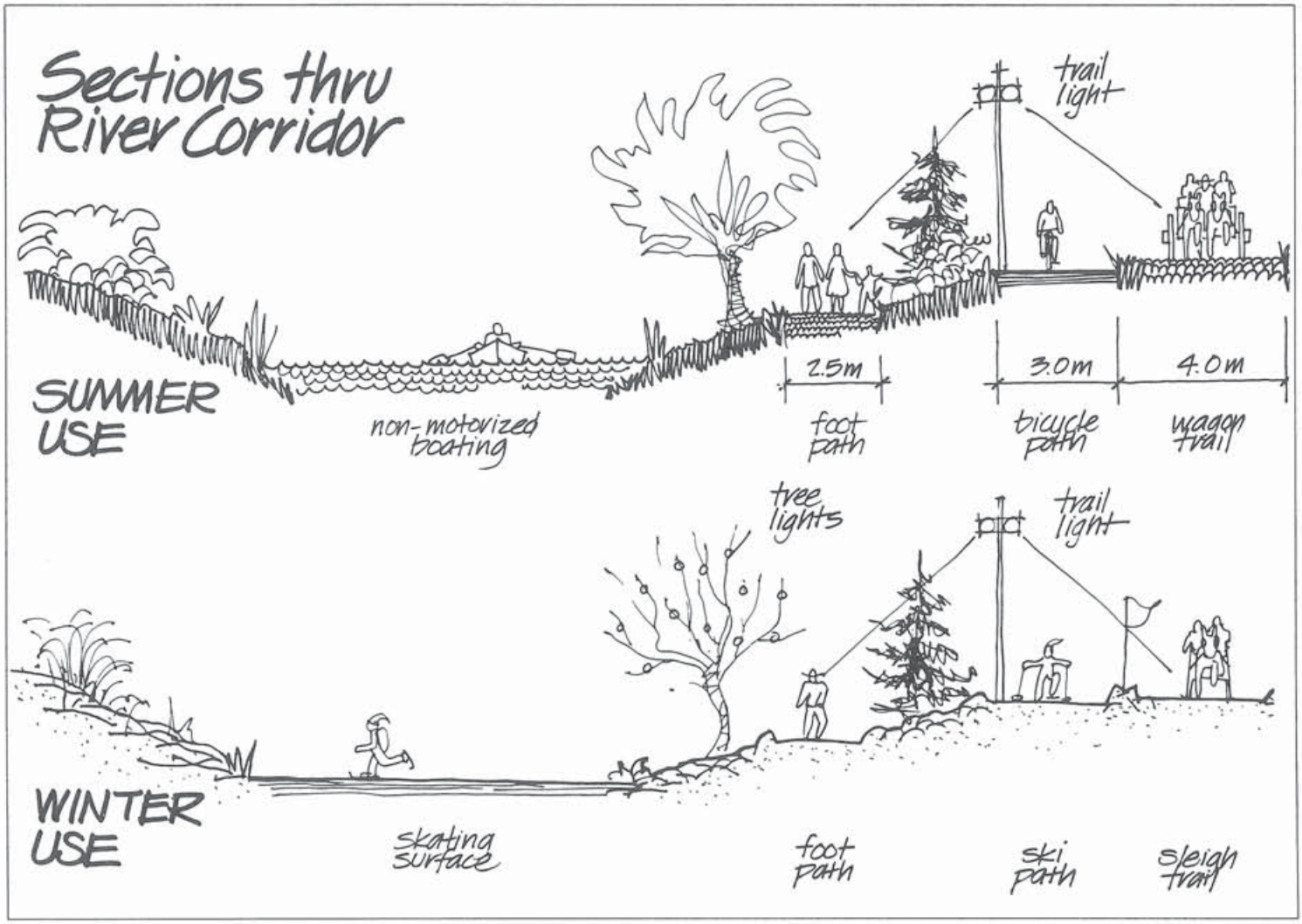
Aside from its environmental qualities, the River Corridor is an important east-west link through St. Albert. This has been acknowledged through efforts of the city in creating the beginnings of an extensive recreational infrastructure.

The River Corridor is presently used by St. Albertans in a variety of ways. Winter uses include: skating along a short stretch of the Corridor directly north of St. Albert Place; cross-country skiing along the river's banks; occasional horse-drawn sleigh rides; and snowmobiling.

There are precedents in other Winter Cities for the addition of several uses and the extension of current ones (for example, skating along Ottawa's Rideau Canal, ice festivals in Quebec City, etc.) that demonstrate the attraction frozen water corridors can create.

The R/UDAT team envisioned a winter in which skating takes place in a three-kilometre band stretching from St. Albert Place to a new Winter Pavilion at Big Lake. This pavilion, consisting of a warm-up area, food concessions and skate and showshoe rental concessions, would anchor the western edge of the corridor with a controlled snowmobile track, a large skating oval on the lake (centred by an ice sculpture court) and a series of cross-country skiing loops oriented toward the lake. A cross-country trail would continue along the north side of the corridor as far as the pedestrian bridge adjacent to St. Albert Place. On the south side, in addition to another ski trail, passive walkways would be supplemented with an active route for horse-drawn





sleigh rides and multi-passenger, enclosed snowmobiles on a fee basis.

Secondary ski and snowshoe trails from both the north and south would link St. Albert's residential communities with the River Corridor. Adjacent to the town centre, a controlled area would be reserved for children's skating. Small, removable pavilions would house food and drink concessions, skate and snowshoe rental concessions and change rooms. Music would be piped through a public address system from the centre to the train trestle to create a passive atmosphere for relaxing, non-competitive enjoyment. A shuttle bus would run from the centre to the West Edmonton Mall to ferry saturated consumers to St. Albert's winter oasis.

North of the corridor, tobogganning would continue on the slopes of Mission Hill. A route would be maintained for special candle-lit processions from St. Albert Place to the cathedral during Christmas celebrations.

An area would be reserved directly west of St. Albert Place for a court accommodating ice sculptures built by residents during periodic ice festival celebrations. Skating and skiing competitions would be a regular occurrence, as would be skate and ski-a-thons in aid of local charities and service organizations. Compatible exhibits along Christmas and winter themes would draw visitors into the museum and gallery of St. Albert Place.

East of the centre, a cross-country trail would continue to a new interpretative centre (warm-up, food concession, skate and snowshoe rental) adjacent to the existing skiing network in Lot 56. The eastern corridor would be linked to surrounding communities and to the St. Albert Centre Shopping Mall north of the river.

At night, all principal nodes and bridges along the River Corridor would be laced with bands of white lights that would serve both to highlight these elements and to continue a winter fantasy atmosphere well beyond sunset.

Winter/Summer, Fantasy and Fact

R/UDAT's conceptual framework for the River Corridor would likely not be realized all at once. Both the winter and summer schemes build from the existing recreational infrastructure that the city of St. Albert and service groups have already built.

This infrastructure can be enhanced through the careful, phased development of an innovative palette of uses. Such development would strengthen the unique identity of St. Albert as an outdoor recreational oasis in the metropolitan region in which local residents have a strong stake in their health, safety and happiness.

CONSERVING THE URBAN RIVER CORRIDOR: EXPERIENCE FROM SASKATOON

A visionary plan with a 100-year perspective was prepared.

By Brijesh Mathur
The following article is excerpted from a paper presented in Plan Canada, *September 1989.*

The growth of Saskatoon after the war proceeded without threat to the riverbanks. However, in the 1960s and 1970s, a number of proposed developments appeared to pose a threat to keeping the riverbanks in the newer areas in the public domain. As well, questions were raised about the ability of the river to sustain its many uses and to maintain its quality. The increased interest in the riverbank also raised concerns for the future of the heritage resources of the corridor (Meewasin Valley Authority, 1982).

The city, the rural municipality, the province, and the largest landowner of the riverbanks, the University of Saskatchewan (called the "participating parties") commissioned the recommended studies, and a visionary plan with a 100-year perspective was prepared by Raymond Moriyama and Associates of Toronto.

Planning for Conservation

The 100-year conceptual plan covered an 80-km stretch of the river corridor in the City of Saskatoon and the adjacent Rural Municipality of Corman Park. It recommended a comprehensive strategy based upon a major restructuring of recreational use by relocating recreational activities from the environmentally fragile areas south of the city to the hardier glacial soils north of Saskatoon. It proposed a corridor plan characterized by linked nodes of development. The plan was based on the overall conservation concept of achieving "health" and "fit" through a balanced used of the resources. The report recommended that a special-purpose authority be established to oversee the conservation and development of the river corridor using the conceptual plan as a guide.

The implementation of the proposed 100-year conceptual plan would require the exercising of superior jurisdiction over land, water and natural resources and the undertaking of developmental activities. Given the limitations of their respective mandates, it was not possible for the city or the province to accomplish this task.

Institutionalization and Implementation

On the basis of the recommendations of the report and the tasks inherent in the 100-year conceptual plan, the Province of Saskatchewan enacted legislation to establish the Meewasin Valley Authority (MVA) in 1979 and gave to it jurisdiction over an 80-km stretch of the river and extensive adjacent lands. MVA was given wide-ranging powers to plan the river corridor, regulate land and water, acquire land (through purchase, expropriation and right of first refusal), and to develop, maintain and police the area within its jurisdiction.

The far-reaching powers given to it produced a backlash of opposition. As a concession, the MVA Act was amended.

MVA now has jurisdiction over the river channel in Saskatoon and Corman Park, publicly owned lands adjacent to the river in Corman Park and Saskatoon and a small amount of private land in the city. For the present, at least, the bold restructuring of recreational activities to protect fragile areas seems to be impossible to implement. As a consequence, MVA has focused its activities on development and conservation projects on public lands within the city.

Experience with Stewardship

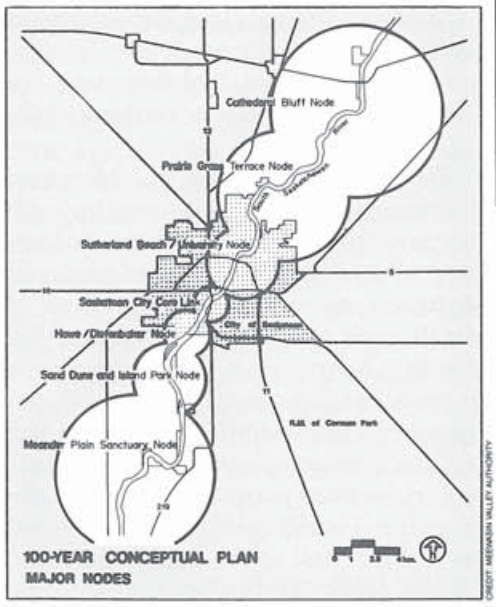
In spite of the constraints in exercising its intended mandate, MVA has shown remarkable resilience in carving a niche for itself in the management of the river corridor. Taking inspiration from the principles articulated in the 100-year conceptual plan, it has undertaken the restoration and revegetation of publicly owned areas that had been abused in the past, developed new riverbank parks, provided leadership in the development of the Wanuskewin Heritage Park, facilitated the preparation of plans for future waterfront development in the downtown, and carried out an impressive program of environmental education. This program involves both of Saskatoon's school divisions and all of its schools.

In all of its projects located on land belonging to its participating parties, MVA has worked closely with the parties, respected their priorities and played a supplementary and complementary rather than a competitive role. Although it has no specific powers of coordination,

it has served as a facilitator to bring together agencies and groups to resolve conflicts related to the use of the river corridor and has thus brought about coordination and accommodation among agencies and groups.

MVA has been able to supplement its statutory funding by about 20 percent each year from donations and grants obtained from other agencies. It was able to procure funds from private philanthropic organizations to construct an elaborate trail system that provides continuous access along both banks of the river, and it procured substantial funding from senior government and other agencies for the development of the Wanuskewin Park. Its initiative in preparing plans for waterfront development in the downtown area has fostered a project that will soon revitalize the southern part of the downtown through public and private sector investment in new development.

One of the most noteworthy achievements of MVA has been the development of a sophisticated system for structured and unstructured public involvement at various levels in its planning and decision making. As a result, it has been able to respond to public concerns associated with its plans and projects and has thus built a base of support in the commmunity.



The Role of Vision

It is interesting that despite early setbacks and the continued difficulty in exercising its regulatory mandate, MVA has been so successful. The reason for this success lies in the fact that Moriyama's 100-year conceptual plan has proved to be a constant source of inspiration and has been instrumental in keeping the Authority's activities focused upon the long-term potential of the river corridor despite the short-term problems of implementation. This underscores the importance of long-term holistic and visionary plans as the basis for conservation. Such plans have a high degree of adaptability to changing circumstances during the course of implementation. Moriyama had tailored his plan to accommodate change:

> We are pleased that we were asked to produce a 100-year conceptual master plan and not a 100-year master plan. If we have learned anything in the past 30 years, it is this: the inflexible master plan, based on transient man-made "facts" and technology, is an illusion that denies the fact of time and change. The word "conceptual" implies fundamental thinking about probabilities and possibilities. Such thinking provides a base or guideline while allowing for the dynamics of time — for later questioning, research, analysis, discussions, shifts in emphasis and modifications. In other words, the conceptual master plan offers a realistic, open base for creative future processes. It does not offer a fixed objective to be completed as conceived, without allowances for new awareness, new knowledge, inventions and social or technological change.

Conclusion

Several lessons may be drawn from MVA's experience. First, MVA might have failed as an effective regulator, but it has succeeded as a steward. It has built sympathetic public attitudes toward natural resources. In the long run, this is perhaps a more sustainable conservation strategy than is regulation alone. That positive attitudes toward conservation can lead to concerted public action toward conservation, including the enactment of appropriate legislation, was demonstrated by the Canadian Commission of Conservation, which in the early part of this century performed a significant role in conservation in Canada through public education, persuasion and advocacy. This, in turn, led to the enactment of appropriate legislation and the undertaking of initiatives to conserve resources.

Second, MVA has been able to perform several tasks that municipal governments find difficult — environmental education, public participation, fund-raising, mediation, coordination, and restoration of natural areas. Thus, it has been able to supplement and complement the municipal role. It has also demonstrated that special-purpose agencies can be responsive, responsible and accountable and that they need not usurp municipal powers to perform a conservation role.

Third, MVA's experience suggests that given the established provincial and municipal regulatory powers over land and water, it is unlikely that a special-purpose agency can exercise independent or superior jurisdiction in these matters even if it has the statutory powers to do so. This is so because special-purpose agencies are created by local or provincial governments and their operations are controlled by their creators through powers of appointment and funding. They cannot really police the activities of their creators. Thus, protection of urban river corridors through regulation, which is an important part of any conservation strategy, is best achieved through the exercise of powers by elected municipal and provincial governments.

Fourth, bold plans for conservation that involve more than one local government unit as well as other levels of government cannot be implemented unless there is a mechanism for implementation that has the support of all government units. There must also be a strong will to reinforce the work of special agencies through the exercise of local and provincial government powers to protect land, water, heritage, animal and plant life in the river corridor.

Finally, conservation efforts must be based upon holistic and visionary plans that can accommodate changes over a long period of time without losing their ability to inspire and direct activities toward a long-term vision.

SAULT STE. MARIE, ONTARIO, ADDING BOARDWALK, FOUR-SEASON PARKS TO RIVERFRONT ATTRACTIONS

By Jack Royle

Sault Ste. Marie's civic and community leaders decided ten or more years ago that their city needed a more solid economic base than the internationally fragile steel industry. One promising option was to make the city one of the most attractive tourist centres in the Great Lakes basin. Its location at the hub of the world's greatest system of freshwater lakes is a key advantage. But the medium-sized city (population approximately 80,000) had to generate the leadership, the programs and the financial resources to bring the miracle to pass.

Winter Cities Affiliate

It can now safely be said that Sault Ste. Marie is well launched on its drive to transform itself into a major tourist and recreation playground of the Great Lakes.

While local leadership takes most of the credit, some goes to the Winter Cities Association. The Association's message that we must find ways to "turn the year around" and make the season of snow and cold an asset rather than a liability was seized upon by the city's leadership group as a key element in its strategy.

Representatives of the city attended the two Winter Cities Conferences in Edmonton and subsequently formed a Winter Cities Association affiliate. The affiliate is organizing a major conference, "Winter Cities Forum '91" (see *Winter Cities News*, Aug./Sept. 1989, p. 28), which will put Sault Ste. Marie on the world map as an important leader in the international Winter Cities movement.

The Strategy for Waterfront Development

The city's location at the "hub of the Great Lakes" (Sault Ste. Marie slogan) gives it strategic advantage. The state of Michigan has a powerful tourism promotion program that brings some 1 million U.S. visitors annually to "Michigan Sault" and its spectacular lock system and close view of the lake freighters and salties. Many visitors cross the river to the Canadian side to take the highly scenic Agawa Canyon Train Tour, which departs from the Algoma Central Railway Station beside the Station Mall on the downtown waterfront. Thousands of additional American tourists could doubtlessly be lured across the river with aggressive promotion and interesting attractions.

As a Winter City, the city has excellent downhill skiing at Searchmount (with other resorts being planned) and a web of well-groomed cross country and snowmobile trails, which extend for miles into the countryside.

Consultants were retained in 1988 to bring forward a "Waterfront Development Strategy," which includes a wide variety of attractions. The report sees the river frontage as falling into four zones joined by a series of parks, promenades and roadways.

At the west end of the downtown is the "Gateway" area, where the International Bridge to the Michigan market terminates in Sault, Ontario. The Algoma Steel settling basin and scrap yard would be relocated and replaced with a major tourist information and reception facility, a major tourist attraction, an indoor waterslide, a Great Lakes Water Park, and additional sports fishing facilities. The major tourist attraction would allow the visitor to enjoy simulated local experiences — e.g., "the True North Experience" in an IMAX theatre, motion simulator and time tunnel. The visitor would then be informed as to how these experiences could be enjoyed in the real world in the area. As an indoor attraction — a four-seasons attraction – it would be available in inclement weather, both summer and winter.

Moving eastward along the waterfront, the next zone is the "retail district" centred on the Station Mall shopping plaza, the Algoma Central Railway Station and the Holiday Inn.

Plans for the next area, the "Norgoma Marine Park," were developed by landscape architects EDA Collaborative Limited, which proposes a new international entranceway to the city. Hundreds of small craft come to Michigan and the North Channel area. By providing a service facility, Sault Ste. Marie can change its role in the boating world and act as an anchor area to the North Channel cruise and a jumping-off spot to Lake Superior. Pedestrian ferries are proposed as a direct link to the Sault, Michigan, tourist market and to link the tourist attractions in the twin Saults.

The Norgoma Ship itself — the last passenger vessel built on the lakes — will act as a museum ship, and its use as an international hostel or a bread-and-breakfast facility is being considered.

Another key facility is a tent-pavillion that can cover a wide range of events at the scale of 400 people — e.g., it can be programmed as a farmers' market, a theatre, for bingo or for dancing. The site would accommodate a wide range of activities to encourage the visitor to extend his stay in Sault Ste. Marie. Concession buildings, handicraft bazaar, and an outdoor cafe would be provided. To extend the use of the site into the four seasons, the tent could shelter ice sculpture, and all service buildings would be heated. The site would also distribute visitors around the city, and transportation provisions would be included, such as a bicycle rental kiosk, a turn-off for the downtown bus loop, a loading area for the double-decker tour busses, and a service area for horse-drawn carriages.

One special four-season attraction is a large fountain and wading pool that could be turned into a skating rink in the winter, with the fountain becoming an ice sculpture centrepiece.

Further downstream is the architecturally handsome city hall, which adds distinctiveness to the Clergue Park Area, named for a city founder of exceptional energy and vision. The report sees the park as a focus for civic pride to express the urban character of Sault Ste. Marie. The existing library and art gallery form the focus of a proposed major formal sculpture and reading garden. The expanded park close to city hall would also be designed to accommodate large civic celebrations, open-air events, and concerts on the scale of 1,000 people. The location at the water's edge would also offer a prime viewing area for water activities such as the Annual Tug Boat Race. Visitors like to be where the action is, and by programming local events and activities along the waterfront and by relocating present activities downtown, the city will animate the waterfront.

John Bain, planning director, lists the riverfront projects being implemented this year. They will provide a dramatic first step towards the city's new image.

Public Projects

In the Gateway Area, the city has completed negotiations with Algoma Steel for the acquisition of the settling basins, and the city is actively searching for a new site for the scrap yard.

In the retail area, a portion of the waterfront walkway ($1.6 million) from the Fish Hatchery to the Holiday Inn, an eight-foot-wide boardwalk designed to be used by hikers and joggers in the summer and skiers in the winter is under construction.

At the Norgoma Marine Park, the detailed plan for the project has been approved and the marina basin and floating docks ($1.2 million) were completed this year, with boating services and facilities to be constructed next year.

At Clergue Park, relocation of the A.B. McLean Sand and Gravel operation has been completed.

Private Developments

In the retail area an $18 million expansion of the Station Mall has been completed. This large shopping centre on the waterfront already has a regional draw of tourists. Also a new Quality Inn has been constructed immediately north of the waterfront area.

North of the Norgoma Marine Park a $70 million Ontario Provincial Office complex is under construction.

In Clergue Park a new Lion's Club Senior Citizens apartment building has been completed, and adjacent to the park the oil tank farms have been demolished and will be replaced with luxury condominiums next year.

Summary

The residents of Sault Ste. Marie are keenly supportive of the new waterfront development strategy. As a true winter city, Sault Ste. Marie has taken a four-seasons approach in the planning of all tourist projects. Sault Ste. Marie has a largely untapped tourism market, and a prime target are some 40 million big city dwellers in Michigan, Wisconsin, Ohio and Ontario, many of whom come to the North for recreation. Revitalizing the riverfront is a key step toward tapping the tourist market. A city's downtown is its front door, and the riverfront improvements in the Sault will spruce up its front entrance and put out the welcome mat.

Waterfront Development Strategy (right).

Marine Park (bottom).

THE TORONTO HARBOURFRONT

The Concept Plan also realizes the potential to properly link the port area with the city, as well as to other waterfront locations and activities.

By John Jursa, Director, Public Affairs, Toronto Harbour Commission

Over the course of the past year, staff of the Toronto Harbour Commissioners (THC) has been engaged in reviewing the THC's future requirements for its landholdings and operations, with a view to ensuring that its assets are managed in the most effective and efficient manner possible, to the benefit of the people of the Toronto region. Substantial dialogue took place with a variety of industries and other area stakeholders, as well as interest group representatives. As a result, the Port Industrial Area Concept Plan has three primary goals in mind:

1. provide for current and future needs of port users;
2. strengthen public access to and enjoyment of the port area; and
3. foster economic development within the study area.

The first objective, providing for current and future needs of port and dock wall users, can best be accomplished by:

- allocating sufficient lands for current and future user demands, such as general cargo, bulk commodities, container, intermodal operations, and marine-related services;
- ensuring the necessary services and infrastructure are in place to support these user needs; and
- designing the port area and its facilities to be responsive to changing needs and technological requirements.

The second objective can best be accomplished by a number of physical improvements designed to strengthen the port area's existing connections to the city and adjacent waterfront locations and increase opportunities for passive and active recreational activities. These would include:

- maximizing the use of the port area's dock walls, the ship channel and rail investments, thereby freeing lands for other opportunities, including recreational uses;
- providing recreational opportunities through the creation of adequate and linked open space throughout the port area and between the eastern beaches and locations to the west and north;
- enlarging and improving Cherry Beach and the use of associated water lots for passive and active recreational purposes; and
- preserving and enhancing views.

The third objective, fostering economic development, can be accomplished by:

- maximizing the use of port and related lands and water lots;
- introducing compatible interim uses where lands have been ear-marked for long-term port-related requirements;
- creating a spectrum of employment resources, such as industrial and business parks, as well as port and recreational zones, in keeping with marketplace demands; and
- reinforcing investor confidence in the port industrial area by implementing a sound development plan in phases, over an appropriate period of time.

Some of the features of the concept plan are as follows:

A redefined and consolidated port area, located on both sides but primarily south of the ship channel, will be developed and phased in over time, offering the most efficient operations base possible. This is also deemed the most desirable location for translake ferry operations and related support and service areas.

The relocation of port area roads and rail alignments will be investigated further in an integrative manner with the appropriate port, government, and rail authorities. This will help to improve overall circulation and the port area's integration with the city. It will also improve upon the public perception of the area.

Development of an enlarged and improved Cherry Beach Waterfront Park, linking the Outer Harbour Marina and Tommy Thompson Park with the north shore, will increase the public's enjoyment of the water and water's edge and strengthen the port area's ties with the city and other waterfront amenities. Further study of the passive and active recreation opportunities along the north shore will be undertaken in consultation with the appropriate city and metro representatives with a view to meeting appropriate environmental and programming requirements for the open space in context with the entire outer harbour area.

Linking the Cherry Beach Waterfront Park with the Don Valley and the Central Bayfront will be accomplished by means of a system of open spaces and roadway realignments.

The creation of business parks south of the ship channel will be pursued, as well as improvements to Commissioners Street, with the cooperation of existing landowners and long-term tenants on a voluntary "Industrial Improvement Area" basis.

Port-related activities will continue to have access to the valuable dock wall resources in the ship channel.

Water-related opportunities will be created along the dock walls adjacent to the inner harbour, such as providing for water taxi or ferry tender services to improve water-related links between strategic points along the city's waterfront.

Retail strips along Cherry and Leslie streets will provide commercial amenities in support of the port and adjacent industrial areas.

Upgrading the THC works facility adjacent to the Keating Channel as a marine services centre for government and THC operations and integrating the public open space between the Don Valley and the East Bayfront Lands along Villiers Street will improve the area's public image and create an important physical and perceptual link between the port area and the city.

An implementation process, extending over 20 years, is recommended. It should be flexible in nature to take into account the time frames normally required to coordinate leases, gain approval from appropriate government bodies, make necessary adjustments and complete construction.

Over the years, the Toronto Harbour Commissioners have created opportunities for the public to enjoy and take pride in the city's waterfront. With proposals to consolidate port facilities, establish a network of water-oriented open spaces, create upgraded industrial parks, and improve overall circulation in the area, the Toronto Harbour Commission's Concept Plan offers the public in the region considerable opportunity to become acquainted with the recreational opportunities and scenic pleasures of this portion of the waterfront. In doing so, the Concept Plan also realizes the potential to properly link the port area with the city, as well as to other waterfront locations and activities. At the same time, the Concept Plan maintains the integrity and vitality of the port by making certain sufficient space and facilities are provided to meet today's and tomorrow's shipping and transportation needs.

Tropicanada: A Winter Heat Wave

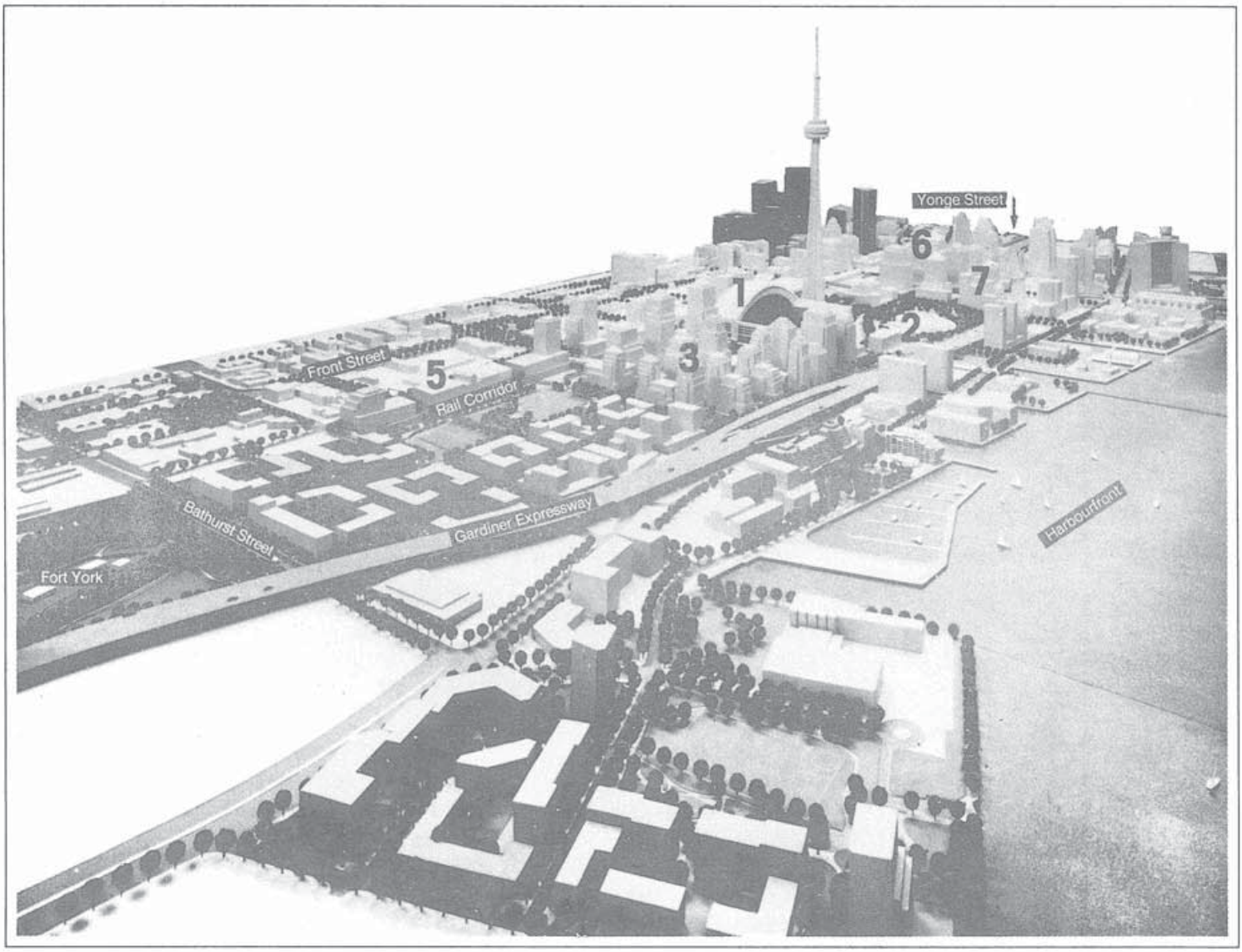
Harbourfront is a non-profit organization in Toronto, Canada, dedicated to providing recreational, cultural and educational activities for the public. It is located on 100 acres of waterfront land in a diverse and attractive neighbourhood of public facilities, shops and restaurants.

Since 1972 Harbourfront has provided a range of year-round programs for the public that are free or moderately priced. Harbourfront produces approximately 4,000 programs a year, and last year 3.5 million people visited the site.

Because of its waterfront location, Harbourfront has developed a reputation as a "summer place" where the public can relax by the water and partake of free concerts, boat rides and many other activities. However during the winter, Harbourfront's main outdoor focus has consisted of a large and popular outdoor skating rink, although a one-weekend winter festival had been held in late January for many years.

In an effort to raise its profile as a "winter destination," Harbourfront decided to expand and develop the winter festival theme to three weekends. Marketing and promotional efforts were increased and the range of activities offered was amplified considerably. Given visitor patterns, the main focus of the event was Sunday afternoons, but activities were also planned for Friday night and Saturdays. All of the events were free or moderately priced.

The winter festival concept has strong outdoor and indoor components that are equally balanced and were developed in response to the climate. If it is very cold outside, people need an inviting place to warm up, and if it is very warm outside,



some of the outdoor activities may not be possible or very interesting (such as ice sculpture).

The "cold" side of the winter festival kicks off with an ice canoe race. The origins of the sport date back to the 19th century, when dory-like boats and canoes provided the sole means of travel across the St. Lawrence River from Quebec City to dozens of smaller ports. Now Toronto is part of a national circuit, with teams from Alberta, Quebec and Ontario competing. Harbourfront has a very large outdoor skating rink, which serves as a natural focus for "cold" events: international barrel jumping competitions and a precision skating show are held. Dog sled rides with Siberian husky teams are provided for children, as are carousel rides and old-fashioned hay rides aboard a horse-drawn wagon, and the Toronto Firefighters Association holds a tug of war. Outside treats of maple syrup and taffy are served, and there is a rink-side fish hut with fried fish.

The indoor component has weekend themes. In celebration of the large multicultural population of the city, past themes have included: a Latin weekend, a Caribbean weekend, and African motifs. Music is an important part of the weekend: there are free concerts during the day and ticketed events in the evening. These have included salsa and meringue bands, reggae artists and African musicians. Food, crafts, demonstrations, story telling and a market area are held each weekend, corresponding to the culture being highlighted. For example, during the "Latino" weekend there were traditional Spanish and English puppet shows, a colourful market with South American crafts, Flamenco dancers, story telling and an eleven-piece salsa band.

Before the festival, an original amateur photography contest was held with the theme of vacation photos, using such categories as best sunset, worst shot, and most exotic shot. The winning photos were on display throughout the festival. Visitors always like vacation photos, and the contest attracts a new audience of photographers to the festival.

This year, "Tropicanada, A Winter Heat Wave" is being held January 20-21, 27-28 and February 3-4, 1990. Everyone is invited!

WINTER WATERFRONT PROVIDES ENJOYMENT FOR MANY MONTREALERS

The city is planning to extend its existing inland "green" network to form a "blue" network running along the riverfront, with cross-country skiing trails extending to all areas of the city.

Located on the island of Montreal, the city of Montreal has 51 km of shoreline, 34 percent of the island's total water frontage. City limits also include nine lesser islands along the St. Lawrence River and the rivière des Prairies, formerly called the Back River. These islands are Notre-Dame, Ste-Hélène, Haynes, Bonfoin, Gagné, Tongas, Rochon, de la Visitation and aux Chats. This brings total city water frontage to 72 km. Two larger islands in the St. Lawrence belong to the provincial government, Sainte-Thérèse and Boucherville. In addition, two canals cross part of the city — the Lachine Canal, no longer in use for shipping, and the waterworks canal.

More than half of this frontage has been built up or is in private hands. Urbanization and industrialization have closed public access to more than 15 km along the Port of Montreal. However the city and the Montreal Urban Community, a regional government encompassing all Island of Montreal municipalities, have set up regional and municipal parks along the shoreline, and a large number of streets (163) run down to the banks, though these do not normally have access ramps down to the river.

Despite these obstacles, Montreal shores are the scene of a surprising number of outdoor activities all year long.

Taming Snow and Ice

During winter, walkways and cycling paths are transformed into snowshoe and cross-country ski trails. Of the city's more than 100 km of ski trails, barely 13 km run along the river shores. These trails are mainly located in the Ile de la Visitation Regional Park, on the north shore of the island. A bridge links the park to the city proper.

However, it is on Ste-Hélène's Island and Ile Notre-Dame that most Montrealers can gain access to the St. Lawrence and practice their favourite winter sports, including tobogganing, winter camping, sleigh rides, ice fishing, skating and skiing along 15.5 km of trails.

Growing interest in a wide range of outdoor activities has led the municipal administration to give a top priority to developing and consolidating vacant spaces, including riverside properties, in order to improve the quality of life in the city and the environment.

The city wants to extend use of these facilities past the summer season, well into winter.

Waterfronts: Winter Parklands

The city is planning to extend its existing inland "green" network to form a "blue" network running along the riverfront, with cross-country skiing trails extending to all areas of the city.

This linear park concept will include conservation and protection of the natural environment, decorations, cultural animation and outdoor recreation. It could eventually become a tourist attraction.

Montreal's Old Port is certainly one of the most important riverside locations open to the St. Lawrence, as it is near the downtown area, across the river from Ste-Hélène's Island and Ile Notre-Dame. This location, with its vast open areas, will become a favourite meeting place. It could accommodate an ice palace, international snow sculpting competitions and a wide range of winter games. It also offers one of the best views of the river, the islands and the downtown area, with snow-covered Mount Royal in the background.

MONTRÉAL ET LA RECRÉATION HIVERNALE EN MILIEU RIVERAIN

Laurent. Son territoire possède 34% de toutes les rives de l'île, soit une longueur de 51km par rapport à 148km. Neuf îles, réparties sur le Saint-Laurent et la rivière des Prairies, sont à l'intérieur même des limites de la ville: Notre-Dame, Sainte-Hélène, Haynes, Bonfoin, Gagné, Tongas, Rochon, de la Visitation, aux Chats. Elles font porter la longueur totale des rives à près de 72km.

Dans le fleuve deux autres îles très importantes, propriété du gouvernement québécois, sont également accessibles à partir de Montréal: Sainte-Thérèse et Boucherville. Enfin, deux canaux traversent, sur une partie de leur parcours, la ville de Montréal: les canaux de Lachine (12km) et de l'Aqueduc (8km). Le canal Lachine, fermé à la navigation depuis vingt ans, et actuellement parc fédéral, permettait à la navigation commerciale d'éviter les rapides de Lachine avant la construction de la voie maritime du Saint-Laurent. Le canal de l'Aqueduc, pour sa part, sert à l'approvisionnement en eau potable de la Ville.

De cet espace linéaire aux dimensions impressionnantes, plus de 50% est artificiel ou privé. L'industrialisation et l'urbanisation ont fermé les accès aux milieux riverain et aquatique, les réservant aux installations industrielles et portuaires (15km) le long du fleuve ou encore au seul usage des propriétaires riverains. Cependant, plusieurs parcs municipaux ou de la Communauté urbaine de Montréal offrent des accès aménagés aux divers plans d'eau, auxquels s'ajoutent un nombre important (163) de rues se terminant sur une rive mais sans accès aménagés.

En dépit de ces obstacles et de l'utilisation incomplète, pour le moment, des itinéraires riverains potentiels, les rives de Montréal servent tout de même à plusieurs activités de plein air saisonnières gérées par la Ville de Montréal, comprenant l'hiver, saison marquante de la vie des montréalais.

Glace et Neige Apprivoisées

Lors de la saison hivernale, succèdent aux promenades pédestres et cyclistes, le long de certains secteurs riverains, le ski de randonnée et la raquette. Sur les 100 km de pistes de ski entretenues en milieu urbain, seulement 13 km se trouvent en rive. Il s'agit du circuit du parc régional de l'Ile de la Visitation (Communauté Urbaine de Montréal) sur la rivière des Prairies. Une passerelle relie le circuit de la rive terrestre à celui de l'île. Par contre, les îles Sainte-Hélène et Notre- Dame (îles de Terre des Hommes, site de l'Exposition Universelle de 1967) constituent le principal accès au fleuve pour la pratique d'activités récréatives et possèdent des parcours totalisant 15,5 km.

La longueur des trajets augmente à plus de 50 km si l'on tient compte de tous les sentiers utilisés de façon spontanée par les sportifs et des circuits urbains à proximité des rives: pistes des canaux Lachine et de l'Aqueduc, du Vieux-Port, de la promenade Bellerive et du parc régional de Rivière-des-Prairies.

D'autres activités permettent l'utilisation de la glace. En effet, l'île Notre-Dame abrite la plus grande patinoire extérieure de la ville: le bassin olympique d'aviron long de 2 km. L'île contient aussi des canaux (1,4 km) transformés également en patinoire. De même, une partie des festivités de la Fête des Neiges, activité culturelle et récréative majeure durant les deux dernières semaines de janvier, se déroule sur cette île et est l'occasion de courses en canot à travers les glaces du fleuve Saint-Laurent vers le port de Montréal.

Le long des rives et, surtout sur l'île Notre-Dame, glace et neige accomodent aussi: le camping d'hiver, les promenades en traîneau et la pâche sous la glace.

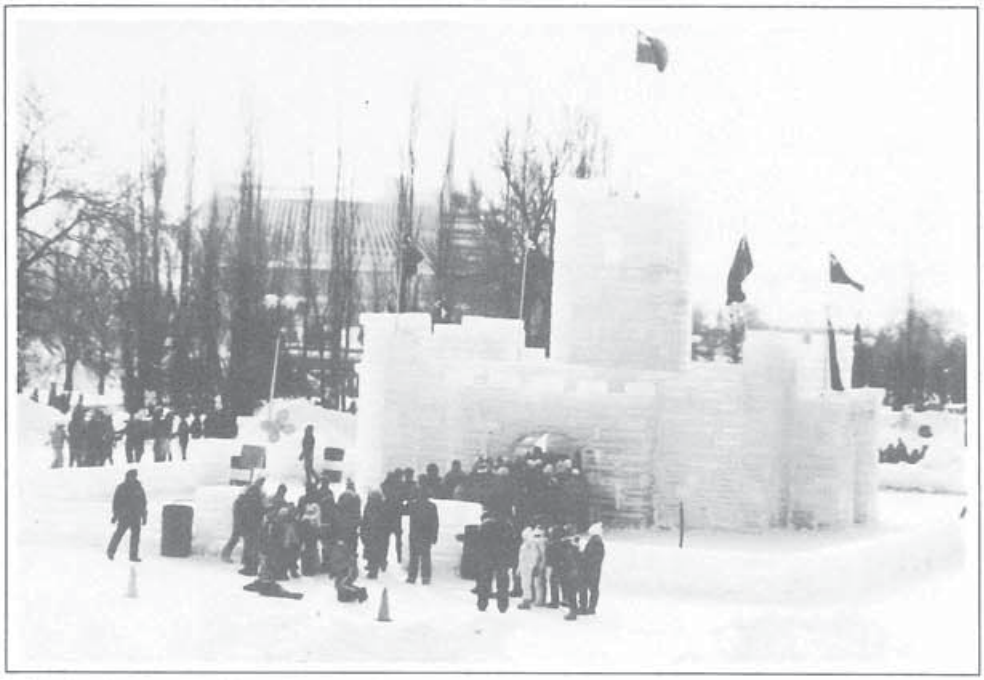
Or, l'intéret grandissant pour une gamme de plus en plus diversifiée d'activités de plein air et pour une qualité environnementale plus grande a porté l'administration montréalaise à manifester un haut niveau de priorité pour le développement, la consolidation et la mise en valeur de ses espaces libres qui comprennent, entre autres, les milieux riverain et aquatique. Cette préoccupation respecte l'idée que ces sites améliorent le cadre de vie des citoyens et la qualité de l'environnement en général. Ils constituent ainsi une richesse propice à des exploitations récréatives locales et touristiques et par le fait même possédant des valeurs économique et sociale positives.

La Ville de Montréal veut donc dépasser l'usage actuel plutot estival des itinéraires riverains ou des parcs en rives en les aménageant de façon adéquate, les rendant ainsi utilisables et intéressants durant la saison hivernale.

Les Rives: Parc Urbain Hivernal

Pour y parvenir, la Ville désire mettre en place un circuit ou itinéraire riverain, le Réseau bleu, qui se greffera au grand Réseau intermédiaire métropolitain, le Réseau vert, permettant la randonnée pédestre ou cycliste pendant l'été et le ski de randonnée pendant l'hiver sur tout le

Patinoire sur le bassin olympique d'aviron à l'île Notre-Dame. / Skating rink on the Olympic rowing pond on Ile Notre-Dame.



Palais de glace sur l'île Notre-Dame. / Ice palace on Ile Notre-Dame.

Le vieux-port de Montréal, porte d'accès à l'eau du circuit riverain hivernal. / The old port of Montreal, gateway to the winter waterfront parklands.

territoire de la Ville et, ultimement, de la CUM et des Municipalités régionales de comtés environnantes.

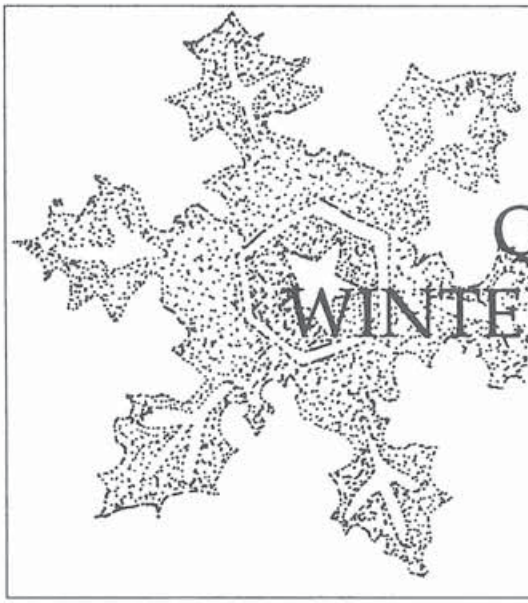
Les objectifs spécifiques encadrant les interventions de la Ville sur les rives visent à:

1. Préserver et mettre en valeur le patrimoine riverain résiduel;
2. Rouvrir des accès publics en nombre suffisant par récupération d'espaces publics ou privés;
3. Réinsérer les milieux riverain et aquatique dans le vécu des montréalais;
4. Optimiser l'utilisation des équipements et aménagements en misant sur une gamme diversifiée d'activités de plein air réparties tout au long des quatre saisons.

Ce concept de corridor ou de parc linéaire riverain alliera, durant la saison hivernale: conservation et mise en valeur du milieu naturel, ornementation, animation culturelle, loisir de plein air et attraits touristiques. Les activités développées utiliseront des équipements récréatifs multisaisonniers.

La ceinture riveraine permettrait, par des aménagements mettant en valeur les caractéristiques des différents sites, la randonnée à ski, le patin ou les promenades en traîneau et toute la gamme des activités hivernales. Des haltes avec équipements à desserte locale ou régionale se retrouveraient dans les parcs déjà existants ou en voie d'être acquis situés à proximité des rives. Le Vieux-Port de Montréal est certainement l'un des plus importants sites qui ouvrira une fenêtre et des accès à l'eau puisqu'il est attenant au centre-ville, au Vieux-Montréal, aux îles Sainte-Hélène et Notre-Dame, en plein coeur des quartiers les plus densément peuplés de Montréal.

Cet itinéraire avec ses élargissements deviendra un véritable lieu de rassemblement ou de déplacement. Il pourra accueillir des palais de glace, des concours internationaux de sculpture sur neige, toute une gamme de compétitions sportives, des installations pour la pêche sous la glace, des patinoires, etc. De même, il sera également possible d'admirer simplement la beauté spectaculaire du paysage hivernal s'offrant à la vue des promeneurs: embruns glacés s'élevant des rapides de Lachine, mouvements des bancs de glace, points de vue panoramiques de la Ville et de ses rives enneigées.



QUEBEC CITY COPES WITH WINTER WATERFRONT CLIMATE

In Quebec City today, urbanists and architects are distancing themselves from California models and are reverting to common sense and the ability to adapt to winter, as did the builders of old.

Quebec City is on the same latitude as La Rochelle, France, yet its climate is similar to Murmansk in Lapland due to local conditions resulting from sizable planetary currents in the atmosphere.

Using the approach of the renowned French geographer Pierre Deffontaines (*Man and Winter in Canada*, Librairie Gallimard), we will look at how human beings over here manage to adapt to the severity of the climate. After a brief review of weather data, we will focus on the major impact they have on the city's architecture and town planning.

The Facts

Quebec City has an annual winter snowfall of some 320 cm, representing 2,200,000 metric tons of snow, which must be handled in line with modern standards of efficient snow removal while protecting the environment. For a river city on the banks of one of the world's most majestic rivers, the St. Lawrence, the temptation to dump unwanted snow into it is great indeed, but it must be resisted. Today, a reorganized infrastructure of collecting and disposing of unwanted snow has led to the elimination of 30,000 of the 40,000 truckloads formerly dumped into the river. By 1995, there will be no more unwanted snow dumped in the river. The solution is to set up suitably arranged land dumps resembling vast craters wherein snow can be unloaded, with landscaping on the outside slope. Moreover, the melting snow is decanted and filtered before being tossed back into the environment.

The Architecture

Quebec City has been struggling with this problem for a very long time. The situation is different nowadays, because snow is removed regularly, and even when it is snowing, abrasive agents are poured on the streets and sidewalks to keep them open to motorists and pedestrians.

Out of this struggle, however, came an architecture adapted to our climate: sharp, sloping roofs, thick walls, double windows and doors, unbuilt spaces between buildings and roads — all construction details that fashioned the urban landscape of Old Quebec.

Town Planning

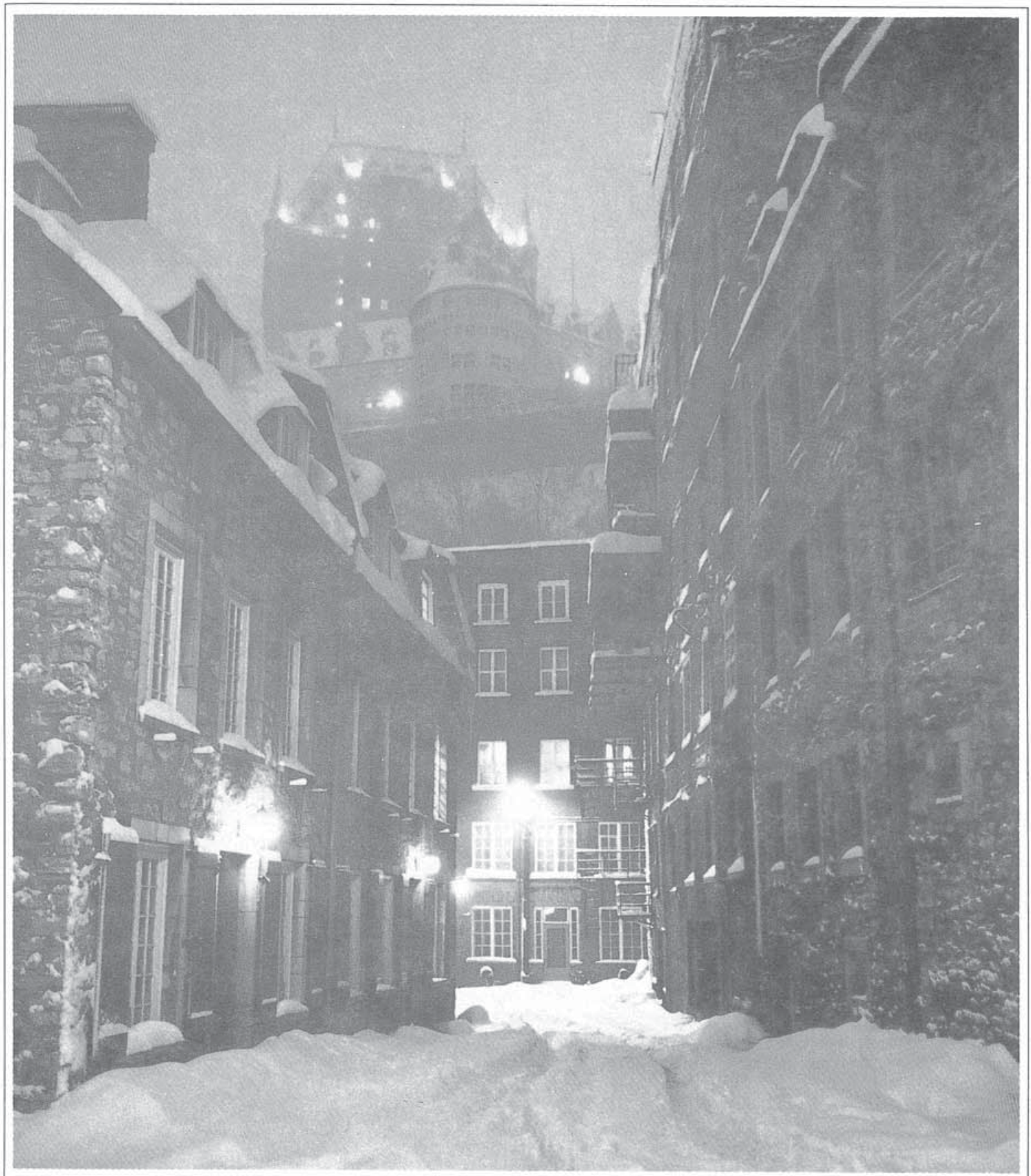
Now classified as a world heritage site, Old Quebec is an interesting example of how urban design can domesticate the climate. Indeed, this type of city, with its narrow, winding streets, has the distinct advantage of remaining within a human scale while still allowing for a high degree of land occupancy and a wide range of use, thus reducing to a minimum the moving about required by the various city functions. Moreover, by opting for the attached-building approach, the wisdom of yesterday's builders spawned an urban environment that shielded both pedestrians and residents from the harsh weather conditions inherent in an urban settlement located on the riverbanks.

Transportation costs and the cost of maintaining a road network in a city faced with some 30 freeze/thaw cycles every winter are much too prohibitive to allow for the building of non-essential streets and infrastructures. The lessons of the past together with the technological evolution must shape our options and orientations.

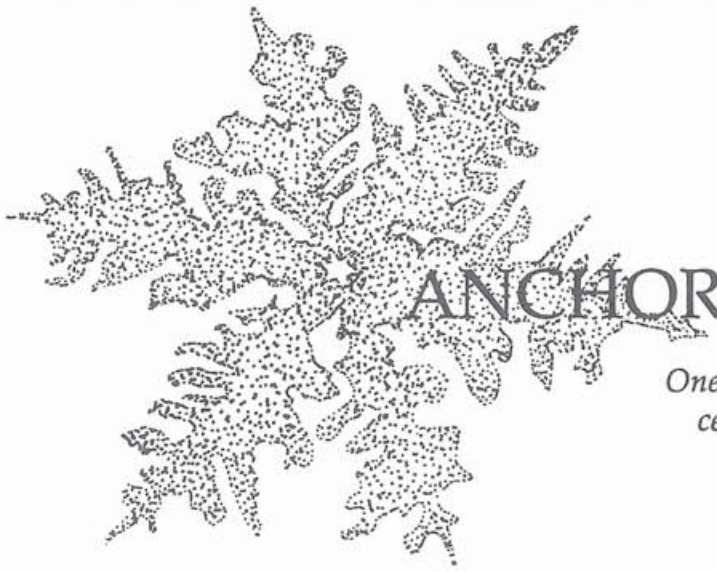
Conclusion

Urbanists, engineers and landscapers working for northern cities should therefore be constantly on the lookout for inexpensive and original ways to cope with snow. Building plans, the laying out of streets and public squares, as well as street positioning should be predicated on design criteria peculiar to northern climes. Such criteria should center on ways to create micro-climates conducive to winter, minimize the cost of snow removal and moving about by making the most of energy consumption, maximizing the effect of sunlit hours and protecting pedestrians from snow and ice falling from roofs.

A good urban design should be tailored to each of the cities by integrating its cultural, topographic and climatic characteristics, as opposed to merely settling for ready-made solutions. In Quebec City today, urbanists and architects are distancing themselves from California models and are reverting to common sense and the ability to adapt to winter, as did the builders of old.



Cul-de-sac street in Old Quebec's Lowertown. An example of the attached building approach well adapted to the harsh climate of a northern city on the banks of the St. Lawrence.



ANCHORAGE WATERFRONT

One of the reasons the Knowles Coastal Trail is so successful is that it was designed for both summer (e.g., biking) and winter (e.g., skiing) recreation.

By Bryce Klug, Architect with ECI/Hyer Architects, Anchorage, and President, Anchorage Winter Cities Affiliate

Despite its maritime name and heritage, Anchorage, Alaska, has only recently begun to develop its waterfront for other than marine industrial purposes.

For the 75 years that Anchorage has been the service center for the Cook Inlet area, its residents have been cut off from the waterfront. In the early years the Alaska Railroad tracks were an official and an informal boundary; people were warned to stay on the inside of the tracks. Stories still told today related tragic and grisly deaths resulting from people getting stuck in the mud and being caught by the tide.

The environment contributed to the separation of the people of Anchorage from the waterfront. In addition to the glacial silt that made Cook Inlet beaches a slippery goo to the best-prepared hiker, winter ice, phenomenal tides, strong currents and water temperatures barely above 32°F discouraged all but the most determined from getting to Anchorage's waterfront.

The trend started to change in the early 1970s, when the City of Anchorage installed a boat ramp at Ship Creek. Even though it provided access to the water only at high tide, it spurred growth in recreational and commercial boating in Anchorage that has continued to this day.

The Municipality of Anchorage completed a major waterfront improvement in 1987 that has become the city's most heavily used park — the Tony Knowles Coastal Trail. The eleven-mile-long park starts at downtown Anchorage and heads southwest along the coast of Cook Inlet, past Westchester Lagoon and Earthquake Park, and ending at Kincaid Park. At Westchester Lagoon the Coastal Trail ties in with a trail system connecting many city neighborhoods. The Knowles Coastal Trail is an eight-foot-wide paved path with two-foot shoulders. The trail is used in the summer by walkers, runners and bikers. In the winter the coastal trail and most of the city's other trails are groomed for skiing.

Last summer Mayor Tom Fink opened Ship Creek Point, the public waterfront project that has radically expanded coastal options in Anchorage.

Just as the Tony Knowles Coastal Trail has permitted pedestrian access to the waterfront, Ship Creek Point is giving boaters a way to get in and out of the water at virtually all stages of the tide. Its 50-foot-wide and 325-foot-long boat ramp insure that boaters won't have to wait for a high tide to launch or retrieve a vessel. The large parking area offers ample space for visitors to park and wander around the point. Beluga whales and a variety of waterfowl and shore birds are visible from the project. And the best views of Anchorage, the port and Cook Inlet are there at a glance.

The key feature of the large ramp is that it promotes safety by permitting easy access to and exit from the water. Too many boating accidents in Cook Inlet have been caused by boaters hurrying to get across the inlet at high tide, either into one of the nearby rivers and streams or back to the ramp. By having a wide and accessible ramp, Ship Creek Point reduces the necessity of boating at unsafe tide levels or at unsafe speeds.

While most of the waterfront access from Ship Creek Point will be for those afoot or just out for a drive, the Ship Creek Point project is designed for boating uses, and they are increasing rapidly. Its long-term proposed uses are far more expansive.

The Ship Creek Concept Plan, written in 1987, envisions the 61.4-acre property developed into waterfront commercial, boating and marine industrial zones, which will be developed over the next 20 years, as the demand grows. Adjacent to downtown, the site is a logical expansion area for the central business district, as well as a focus for marine-related tourism activities.

An even broader look at Anchorage's waterfront is being taken by the community's Waterfront Development Task Force. This group of Alaska railroad, port, municipal and private concerns has gone beyond the Ship Creek area and has proposed the gradual redevelopment of Anchorage's entire downtown waterfront. Property involved in the task force vision includes the Port of Anchorage, leased tidelands owned by the Alaska Railroad and portions of the Alaska Railroad classification yard and shop area when the ARR moves out of its present, congested terminal.

This would allow for the redevelopment of a sizable tract of land adjacent to downtown Anchorage into a more recreational and commercial area, which

would make the river- and waterfronts more accessible for the people of Anchorage. The following uses and activities for the riverfront site have been suggested:

- additional sites for Fur Rendezvous Winter Festival events,
- area for sled dog trails, ski trails and speed-skating oval,
- observation decks for watching winter sports,
- site for ice sculpture garden,
- aquarium,
- music, native culture, art and film festivals.

Traditional port activities may be relocated to a new marine center on Fire Island, a 4,200-acre island three miles from Anchorage. This step would make the downtown waterfront available for these redevelopment efforts now under consideration.

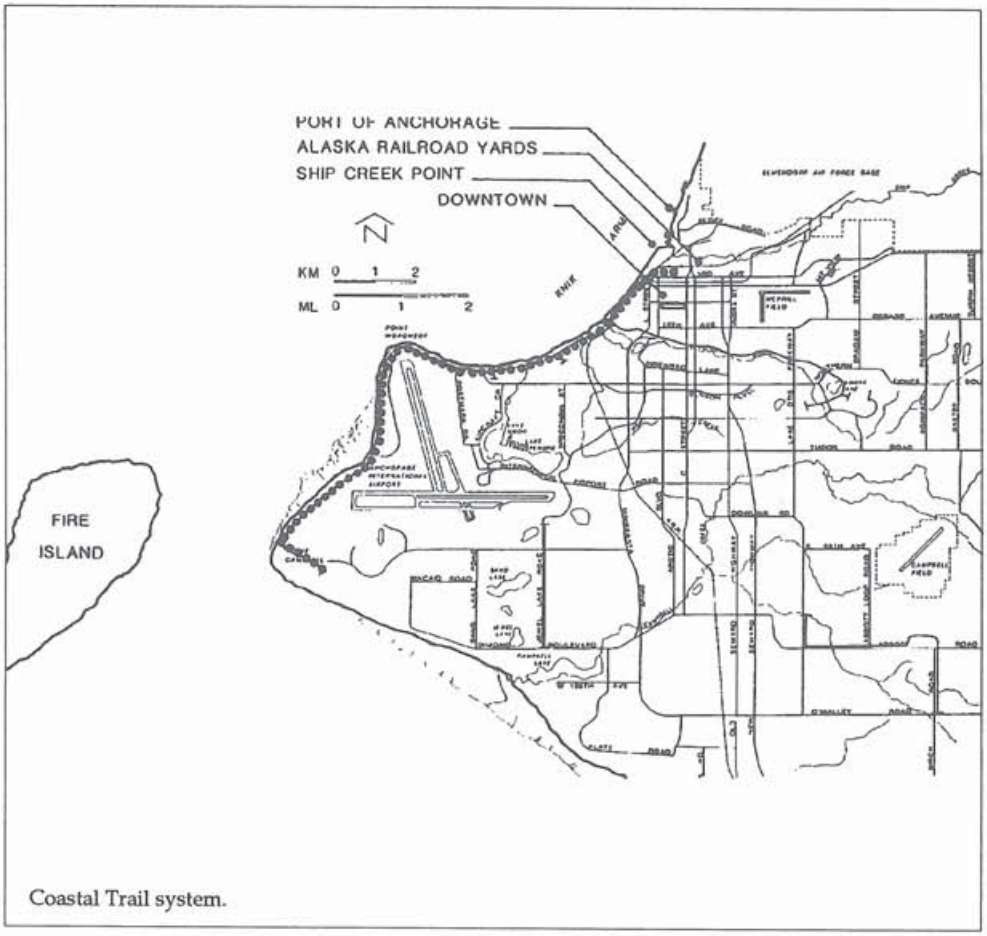
As a lifelong Anchorage resident, I am excited by the interest and efforts being focused by our community on the redevelopment of the port/Ship Creek area and the opportunity to make it a model of winter city planning and design.

One of the reasons the Knowles Coastal Trail is so successful is that it was designed for both summer (e.g., biking) and winter (e.g., skiing) recreation. This same emphasis on an all-seasons design should occur in the Ship Creek area.

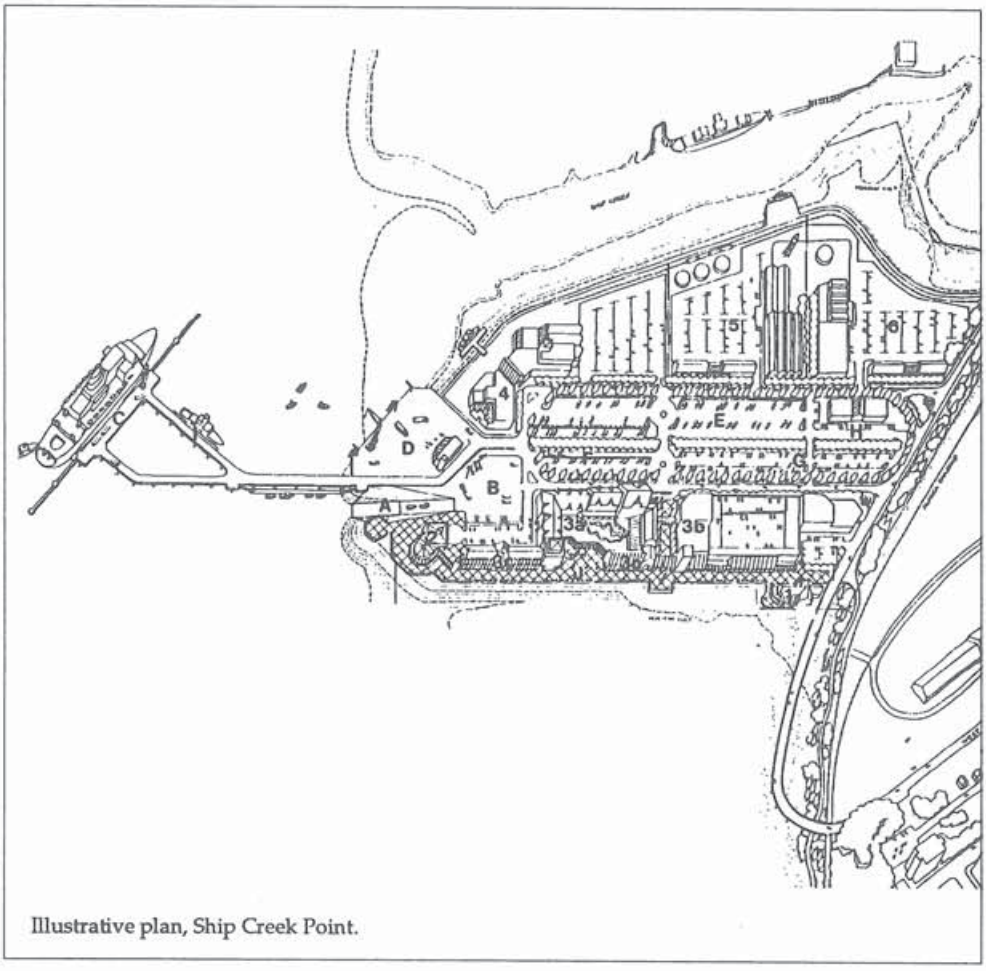
If planned properly, Ship Creek Point could be developed so building shadows will not fall across public spaces. Plaza spaces will be designed to be flooded in winter for ice skating. The buildings will have levels of exterior lighting to ensure that in winter the point will be an inviting and well-lit promontory.

I was extremely pleased when I attended a brain-storming session addressing the development potential of the creek area and the majority of the ideas were focused on winter time attractions that could occur in the area. The dozens of winter facilities suggested included sites for winter festival exchanges, new winter festivals and winter recreation facilities such as ski jumping, curling and ice skating.

Many of our community leaders are recognizing the potential we have for improving the quality of life in our community by redeveloping the port/Ship Creek area into a four-season, people-oriented area. I hope this vision can be expanded to include capitalizing on the potential we have as a winter city.



Coastal Trail system.



Illustrative plan, Ship Creek Point.

SPOKANE'S WINTER RIVERFRONT

In winter the waterfront is alive with activity. It is the location of the city's convention and trade centers, opera house and town hall.

By Michael S. Owen, School of Architecture, Washington State University

Spokane, Washington, a city of 250,000, lies on the eastern border of the state, over 300 miles east of Seattle. Because of Seattle's reputation for rain and Washington's nickname, the Evergreen State, most people don't realize that fully two-thirds of Washington's geography is characterized by desert and rolling farm land. Spokane touts itself as the capital of this "Inland Empire" and shares far more in common with its neighbor Calgary to the north than its sister city, Seattle, to the west. Spokane, in fact, is the largest city between Seattle and Minneapolis and experiences all the problems and opportunities of a major winter city.

The City of Spokane was officially represented at the 1988 Winter City Forum/Expo in Edmonton by its City Manager, Director of Planning and Director of International Development. Spokane has long been aware of its need to promote its "livability," especially when it became evident in the late 1960s that the vitality of the central city was beginning to deteriorate as a consequence of suburbanization and sprawl.

To raise public consciousness and reestablish a positive image for the downtown, the city sponsored a World's Fair in 1974 located on the Spokane River, the city's waterfront. At the same time the city committed to reestablishing its retail prominence by creating a skywalk system of second-level pedestrian bridges in the central business district adjacent to the waterfront.

Spokane's waterfront ice palace.

By these bold planning and development efforts instituted 15 years ago, Spokane has succeeded in blending town and country with the waterfront as its focus and symbol. The former World's Fair site has become the city's playground and cultural center, aptly named Riverfront Park. The Spokane River is a spectacular feature. It cascades over jagged basalt rock formations bursting with breathtaking sights and sounds. In the winter, its edges freeze into majestic icicle canyons, which reflect the luminance of the sun in the day and the bright lights of the city at night. Lovely bridges cross the river, providing the driver and pedestrian unique views of the river and pine-forested park below framed by the backdrop of the city's elegant turn-of-the-century and contemporary multistory buildings.

In winter the waterfront is alive with activity. It is the location of the city's convention and trade centers, opera house and town hall. Within Riverfront Park is the central recreational pavilion, which operates as an amusement center in the summer and, to the delight of the city's children, as a public skating rink in winter. In the height of the season, the park hosts Winter Fest, a mini-expo displaying and demonstrating winter recreation equipment, vehicles and clothes and featuring sleigh rides, skating and ice carving for the young and young-at-heart.

Soon Riverfront Park will be linked along the Spokane River to farther reaches of the city by a new Centennial Trail. The trail has been designed to accommodate bicyclers in the summer and cross-country skiers in the winter. Sometime in the 21st century, it is hoped that the trail will connect the 20 miles from Riverfront Park to Coeur d'Alene Lake, the site of the annual "Ice Breaker" sailboat race. The hardy people of Spokane have embraced the challenges of winter living. Through innovative and farsighted planning they have created new opportunities for enjoyment of the city and its waterfront resources in all seasons.

SAPPORO'S RIVERFRONT PROGRAMS Are Typically *Vigorous, Farsighted*

By Jack Royle

Sapporo, Japan, boom winter city that has flourished in the valley of the Toyohiro River and its tributaries, has tackled the job of cleaning up and caring for its rivers with characteristic energy and sensitivity. As in most of its other undertakings, the city has determined to "stimulate positive interaction with its environment."

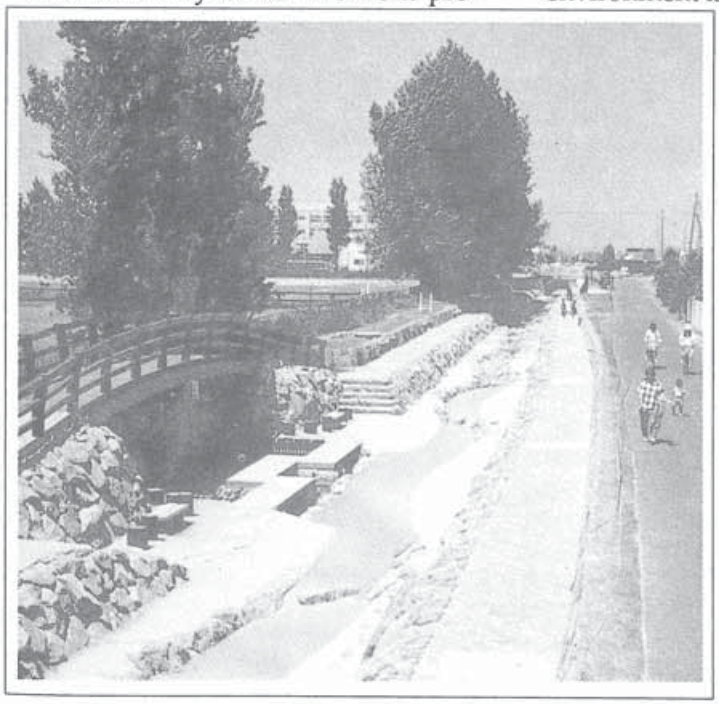
From a small frontier community early in this century, Sapporo began to grow rapidly after World War II, adding 25,000 to 40,000 inhabitants per year. With a population of 1,500,000, it is an autonomous city, the fifth largest in Japan.

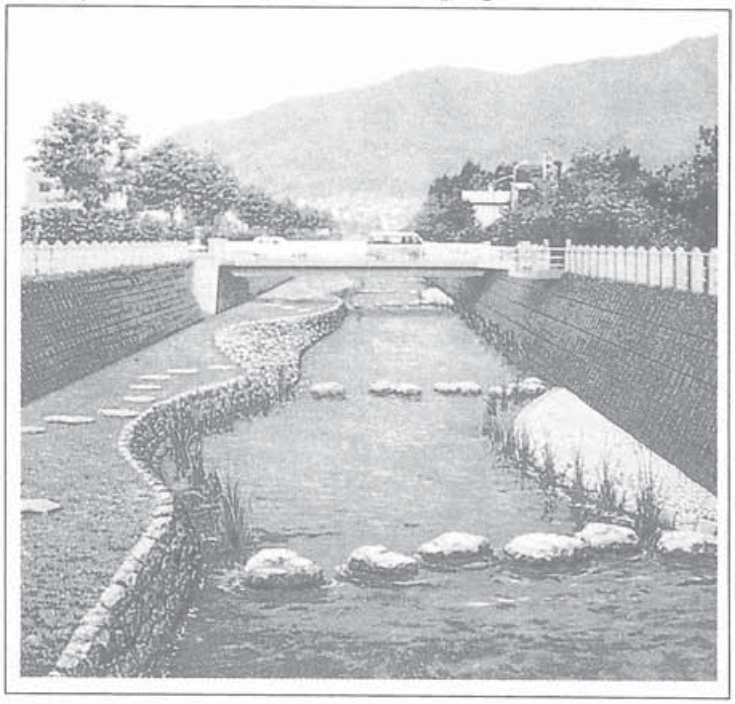
The sensitivity of its riverfront programs is in character with all city policies as spelled out in its third five-year plan due to be completed this year. Most goals in the series of five-year plans have been reached or exceeded before their deadline. Funds have been earmarked for each objective, so the plans are no pipe dreams or wish lists but are realistic goals.

Guidelines for the third five-year plan state:

1. A city where harmony exists with a rich natural environment;
2. A city where an atmosphere of vigor, richness and openness abounds;
3. A city where a safe and comfortable environment is provided;
4. A city where people can grow in warm-heartedness and create a highly cultured life;
5. A city where anybody can live at any time in peace and security;
6. A city where a comfortable winter life can be created;
7. A city where citizens bring themselves in heart-to-heart touch with each other.

Seasonal flows in the Toyohiro River system typically range from low in August-September to high in the spring runoff. The major thrust has been to clean up the water and make the rivers attractive for summertime recreational use. Until now no emphasis has been given to developing their use for winter





recreation, the focus being on basic upgrading.

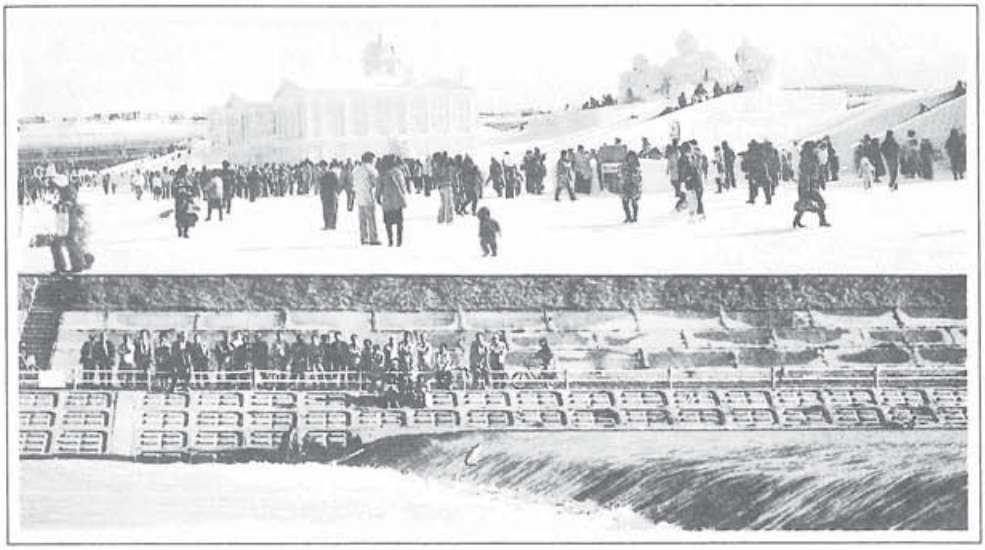
Step one was to develop the river system as a source of potable water. In 1972 the large, modern Hoheikyo dam was constructed in the Toyohiro's upper reaches to provide flood control, electric power and 139.5 mgd water supply. The system was made self-supporting financially, a plan that was continued as a second dam and network of distribution and treatment facilities were added. The fully modern system today provides ample clean water for the city's growth in the immediate term.

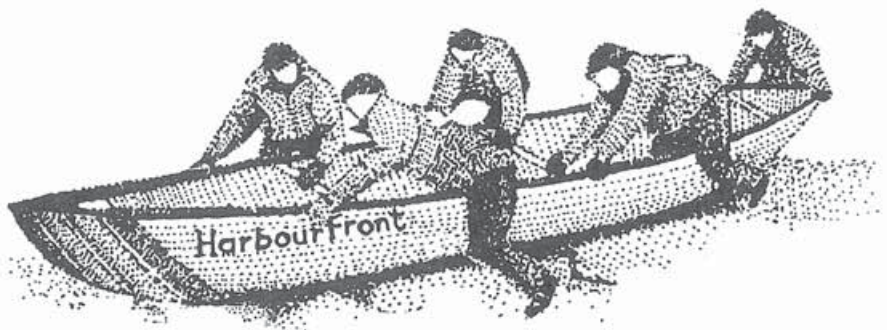
Sewage treatment became an early priority and there are now nine treatment plants, as well as a plant for sludge incineration, which produces heat for various civic purposes including the heating of sidewalks in the downtown area, and another plant for producing compost from sewage. Part of the costs of sewerage works are recovered by special levies on large industrial contributors of sewage. The plan to develop compost from sewage has attracted worldwide attention. Some 91 percent of residents are served by the sewerage system.

Three measures have been taken to improve the flow of the rivers, which will make them more scenic and also serve to reduce excessive spring flooding. Vacuum-pumping boats have dredged the Ishikari tributary to improve water quality and "conserve the living environment." Shore protection walls have been built to allow recreational use of river lowlands and also to restrict the river to its main channels. Special sandbanks have been dredged up in the upper reaches to restrict spring flooding. So far some 30.5 percent of the river bank within the city limits has been reinforced and debris barriers have been constructed to confine large flotsam to the tributaries and upper reaches.

For many years the Toyohiro was a "salmon" stream, with large numbers of salmon returning from the ocean to breed. The pollution resulting from the incomplete sewage system of early days killed off the salmon, and from 1956 to 1978 there were few salmon to be seen. Then, with improved sewage processing, an organization was formed to study the problem and find ways to "bring back the salmon." The Sapporo Salmon Association studied the river and the breeding habits of the salmon and developed programs to lure the fish back to their old haunts. A connection was made with the Save the Salmon Society of Canada and student exchanges between Sapporo and British Columbia were organized. In 1981 some 1,500 salmon returned to the river, and the number has increased annually since then.

Citizens flock to their "riverside park," many with fishing poles. Winter and summer they enjoy the moods and visual treats offered by the rivers. They regard them as a precious and essential heritage to be preserved in pristine beauty and purity, whatever the cost.





WINTER CITY INNOVATIONS

"Japan House" at Bo-i-Nord Exhibit

To refine and strengthen the friendship and business relationship between Tromsø and Sapporo, a delegation of Norwegian house-building experts led by Tromsø's Mayor Erland Rian journeyed some months ago to Sapporo. In five days of sessions and study tours, the newest ideas in Scandinavian house-building design technology were reviewed in presentations and discussions.

The same ideas will be incorporated in the Arctic Housing Exposition 1990, "Bo-i-Nord," a prime feature of Winter Cities Tromsø '90.

Most of the discussions focussed on the problems of building and living conditions of the northern countries, with their more demanding periods of darkness, heavy accumulations of snow and extreme temperatures.

The Tromsø housing exposition will include about 200 homes. There will be two separate periods of exhibiting — the period in March when events of Winter Cities '90 are in progress, and again in August. It is planned that 10-20 homes will be completed and ready to be shown during the March period and 30-40 in the August period. The remainder of the homes will be sold and moved into as they are finished.

One unusual feature will be the construction of a "Japan" house, with all the features of the newest homes being constructed in Sapporo. The design is by a leading architect of Tromsø, John Kristofferskon. The builder will be Multinor A.S.

The home, as described by architect Karstein Sandvik, has features not familiar in North American homes, including a "Tatami" room sized to hold six "tatami" mats on the main floor adjacent to the living room. The front of the house is to be graced with an attractive Japanese garden. Upstairs is yet another unusual feature — an "activity" room off the bedrooms, which are reduced in size to make this room larger.

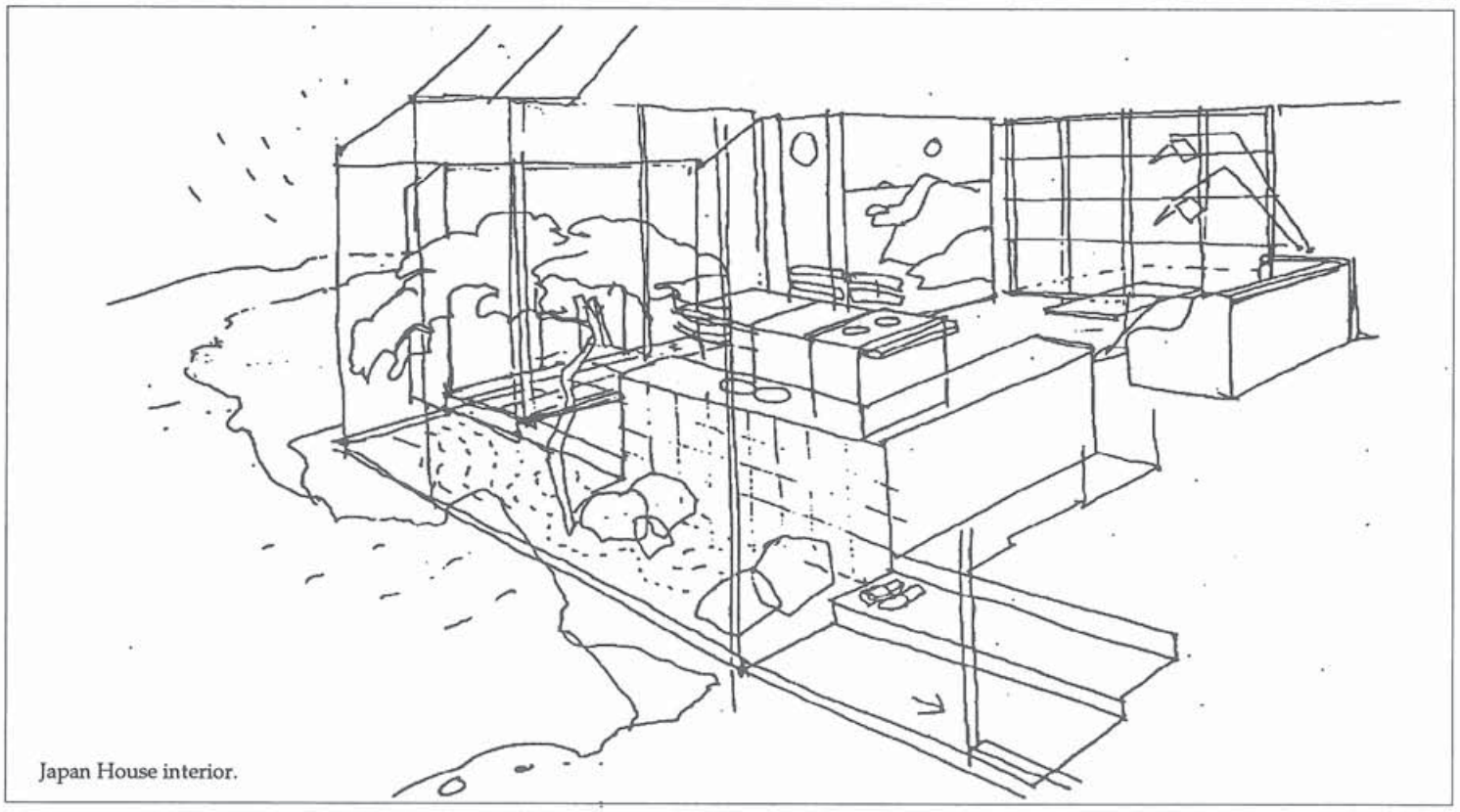
Why would the Arctic Housing Exposition committee choose to build a "Japan" house as part of the Tromsø project? "We believe," states the literature, "that both Japan and Norway can offer valuable contributions to each other's style and habits where housing is concerned which may help develop our cultures. We would like to show Japan that Norwegian civil engineering technology provides many opportunities/possibilities and that it can easily be adapted to Japanese architecture."

Tore M. Kiosterud, Senior Adviser of the Royal Ministry of Local Government and Labor, described the function of the Norwegian State Housing Bank, "which provides favorable loans to new house-building projects in order to stimulate construction of acceptable but not luxurious dwellings." Housing so financed must meet social as well as structural and financial criteria.

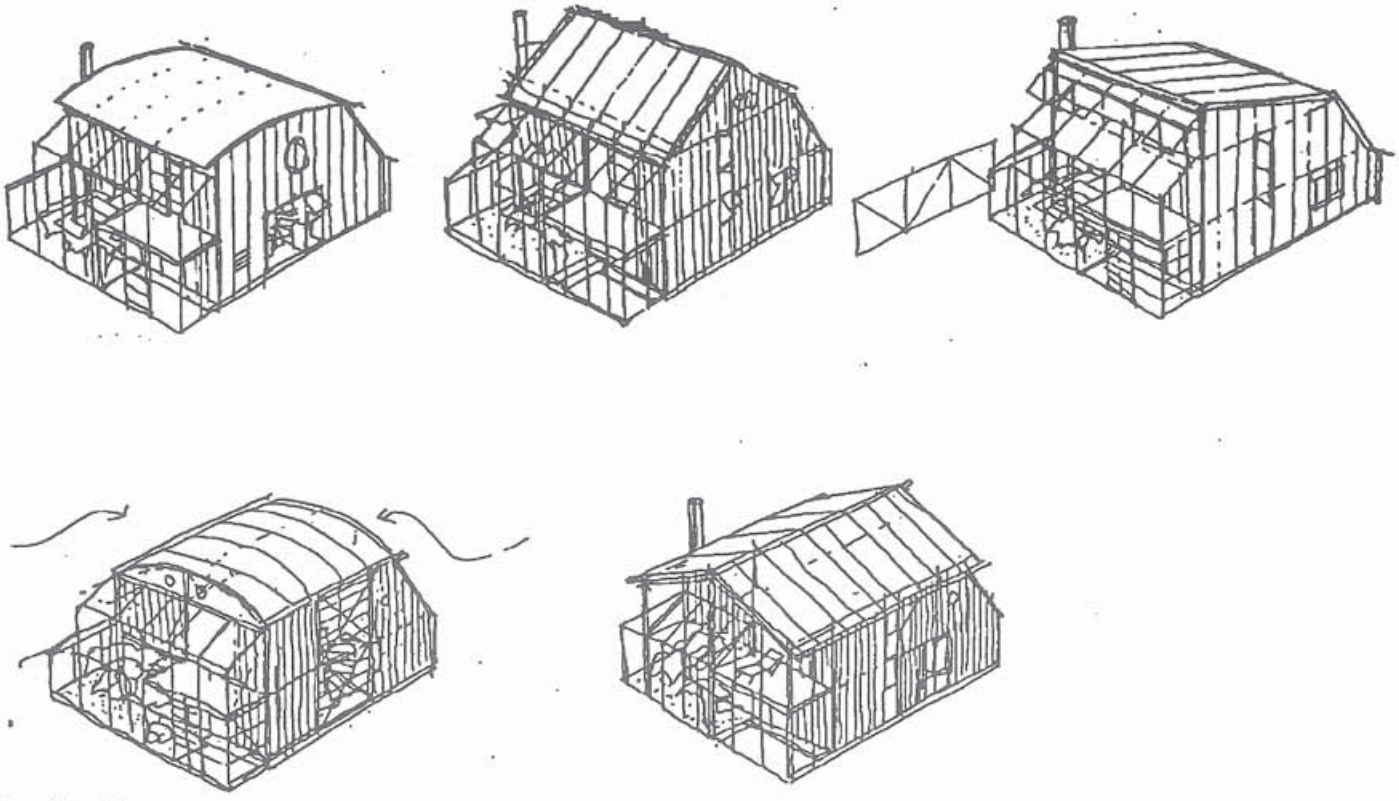
Inge M. Willumsen, Director, Association of Norwegian Housing Exhibitions, described an experimental housing project at Hammerfest, Norway's most northern town with some 7,500 inhabitants. The town experiences eight months of winter and constant heavy winds and drifting snow. In ten years much has been learned on the site, and Anne Britte Borve, noted Norwegian architect, has published a number of papers documenting the results obtained.

Other projects were described, including one of eight houses at Baerum (two rows of four houses each) "with a common play and access area under roof glazing between the rows."

Prof. Oyvind Aschehoug, of Sintef, Norwegian Institute of Technology, Trondheim, described many of the technologies, proven through years of research. Schemes for dealing with the rain screen principle and for organizing the wind, vapor and air barriers required in walls of houses were described in detail, as were methods for construction of basements with provision of drainage and entry for the services where frost penetration is extreme.



Japan House interior.



Form alternatives.

New Pavement Management System Proving Helpful

Which streets to resurface; which to patch; which paving method is preferred; what disasters will be left for next year and the year after if we skimp this year? These are problems annually faced by streets engineers.

And each year the questions become tougher as street networks universally expand, pavements grow older and inflation tightens budgets.

A new technology, pavement management, has emerged in the last dozen years and is proving to be an extremely useful tool for highways and urban streets departments. It consists of spot checking streets and highways with special scientific equipment and analyzing the data using special computer programs. A company at Cambridge, Ontario, Pavement Management Systems Limited (PMS), has been a pioneer in the development and has emerged as the world leader in use of the technology.

PMS is now in the midst of a major contract awarded by the Strategic Highway Research Program of the U.S. (SHRP), which has a Canadian-associated group designated C-SHRP. The contract requires compiling and analyzing data on the condition of streets and highways in the northwest quadrant of North America, taking in 15 U.S. states and 6 provinces. The value of the contract is Cdn$5.3 million. The Canadian company was chosen over several U.S. competitors.

The contract comes within a "Long-Term Pavement Performance Program," which is part of a U.S.$150 million SHRP study, financed by the U.S. Congress, to determine how rapidly streets and highways are deteriorating and what might be done about it.

PMS now has offices in Denver and Los Angeles as well as Vancouver, Edmonton and Regina. Since its launching in 1978, the company has built a client list of more than 150 cities, towns, provinces, states and other agencies and private firms. With more than 75 on staff, the total focus of the company has been on "the specific business of pavement evaluation, design and management." Services provided include:

- Pavement performance modelling
- Network pavement condition evaluation
- Priority programs of maintenance and rehabilitation
- Pre-engineering geometric analysis
- Overlay design
- Pavement and recycling design
- Pavement mix design
- Road needs studies
- Spring load reduction and heavy load analysis
- Street acceptance
- Maintenance management systems
- Bridge deck analysis and inspection
- Airport pavement inventory and design
- Customized software development

PMS developed a special road-testing unit, called "RT 1,000," which continuously measures roughness and surface distress, recording on tape for direct computer input. A special machine known as a "Dynaflect" is a non-destructive testing device that measures the structural adequacy of pavements. A cyclic load is applied through two force wheels, while five geophone sensors measure the "deflection bowl." The size and shape of this bowl indicate the strength of the surface and base layers, and it can be used to calculate the moduli of the layers. Dynaflect data can be correlated with Benkelman Beam deflections and, together with traffic data, used to design overlays.

All data are processed through a network of microcomputers that feed into a multi-user host computer. "PMS is at the forefront of pavement management software development with custom installed packages for network level analysis, priority programming of maintenance and rehabilitation, financial planning, inventory data bases and overlay design...."

The company grew out of work done at Guelph University by Dr. Matt Karan, its president. Using the Civil Engineering Department computer, Dr. Karan began to monitor conditions of roads in local municipalities. He was able to help in establishing priorities for work to be done each year and to plan for the future. The word spread and soon Dr. Karan found he had a viable business on his hands. Dr. Ralph Haas, his superior at the university, joined him as chairman of the board. Karl Link was chosen as marketing manager.

Robert R. Brock, street superintendent of Costa Mesa, California, in published articles describing that city's experience with the PMS technology, wrote: "Many of our roadways have been showing signs of failure, and funding levels were not keeping up with either inflation or the rate of street deterioration. With approximately 525 lane miles within our 15+ square miles, there is ever-increasing pressure to stay on top of street maintenance activities. At the same time we were experiencing difficulties in keeping accurate street condition records, which would, in turn, assist us in a well-planned maintenance program."

In addition, Brock wrote: "Our staff has had difficulty in justifying increased budget levels for street maintenance, primarily due to our inability to be specific about current needs." He recommended that other cities take on a pavement management system as soon as possible.

PMS studies provide a scientific basis to show where dollars should be spent this year for greatest cost efficiency. They also permit sound planning and provide insights into recommended methods of dealing with deteriorating pavements. Dollars spent wisely this year can save much larger expenditures in the future.

For further information, contact Pavement Management Services Ltd., 37 Dickson St., Cambridge, Ontario N1R 7A6; phone, (519) 622-3005.

New Centre for Northern Studies, Lakehead University

The Centre for Northern Studies at Lakehead University in Thunder Bay, Ontario, is found in Northwestern Ontario. Northwestern Ontario, with an area of over 600,000 square kilometres, is larger than Western Europe's largest nation, France. In the southern part of the region, near Lake Superior and the U.S. border, forestry, mining and tourism are the three main economic activities. In the northern part of the region, toward the sea coastline of Hudson Bay, the traditional lifestyle of hunting, fishing and trapping predominates among a largely native population. The Centre is interested in all aspects of the sustainable economic, social and cultural development of this region. The Centre's primary geographical area of interest is Northwestern Ontario, but it is also concerned with similar areas in the northern parts of the provinces and in the other nations of the circumpolar North. This focus upon the provincial, or mid-North, is what makes the Centre unique. The Northwestern Ontario region is very similar to those of northern Finland, Sweden, Norway, Alaska, northern U.S.S.R., Greenland and Iceland. To facilitate comparative and cooperative research initiatives, the Centre and Lakehead University have established formal and informal links with universities in these regions.

The Centre was established in 1987. It is a multidisciplinary institution with a mandate to assist Lakehead University in achieving the goal of being a university in and for the North. The Centre promotes, conducts and publishes research; organizes conferences, workshops and seminars; and is developing undergraduate and graduate programming in northern studies.

Research on northern development has been a priority at Lakehead University since its inception in 1965. The university's role has recently been expanded by a series of exchange programs established to promote a global or a circumpolar perspective. Circumpolar universities have been so defined as a result of international research on issues, development approach, and mandate. These research efforts have contributed to the establishment of the Centre for Northern Studies at Lakehead University.

Three broad streams of research within the unique provincial north mandate have been established as: northern economic development, northern environmental studies and northern service delivery. The Centre has a number of research projects under way, ranging from an analysis of the problems of recruiting nurses in Northwestern Ontario to the preparation of a regional socio-economic atlas; from the studies of the effectiveness of Ontario guidelines for protecting the nest sites of Bald Eagles to the effects of hydropower operation on streamflow regimens in Northwestern Ontario. The Centre also supports a number of graduate students conducting research of significance.

The Centre for Northern Studies will promote relevant conferences, workshops, and seminars. "The Role of Circumpolar Universities in Northern Development" was the topic selected for the Centre's first international conference, held in November 1989. This conference will provide a forum to examine the challenges unique to the development of the North and ways in which universities and governments can together respond to them. The conference is expected to attract leaders from the academic community, senior policy makers from all levels of government and other interested individuals.

Multidisciplinary undergraduate and graduate programs in northern studies are being developed to better prepare men and women for success in the environment of the North. The promotion of an interdisciplinary perspective will prepare individuals for roles as northern policy makers, administrators and scientists, as well as leaders of northern-related industries and social groups.

As a publisher, the Centre will produce books and monographs. It has recently established a Research Report series and an Occasional Paper series, which will also provide a forum for conference proceedings. An academic journal is under development that will promote the dissemination of northern studies within the primary literature. The Centre's newsletter will inform regional groups, the university community and others of the current activities in northern studies.

The Resource Centre and data base have been established in the Chancellor Patterson Library. It has a rapidly expanding northern studies collection and a computerized northern studies data base that reflect the priorities of the Centre. The Resource Centre and data base provide a wide range of services to the university and the regional community and are available to everyone.

The Centre for Northern Studies has a director, a secretary, six faculty members, a northern and regional studies librarian and a library technician. The six faculty members will have joint appointments in the following areas: history, sociology, industrial chemistry, forestry/biology, geography and economics. The director reports monthly to the Presidential Advisory Committee on Northern Studies, which consists of eight members from various disciplines within the university community.

Gone With the Wind?

By John G. Jung

Stand at the intersection of Bloor and Yonge streets on a windy day. You immediately feel that something is wrong. What appeared to be a pleasant breeze only a block away has turned into a blustering force strong enough to steal away your hat or bend your parcel. This is a similar scene at other intersections in Toronto, such as King and Bay streets and Queen and Bay streets. Spectacular gusts can cause extreme discomfort and even injury. Where low-rise buildings once stood amid gentle breezes, high-rise towers can now funnel the same breezes into gale force winds that torment pedestrians.

As high-rise buildings appeared on the city's landscape, a now familiar phenomenon began to occur. When wind hits the face of a tall building, some of the wind is forced over the roof and some of it is pushed downward, forming a vortex at the base of the building, where it then escapes through an opening or around a corner. Usually, the taller the building, the greater the wind effect at its base. As more tall buildings are introduced, these wind effects increase.

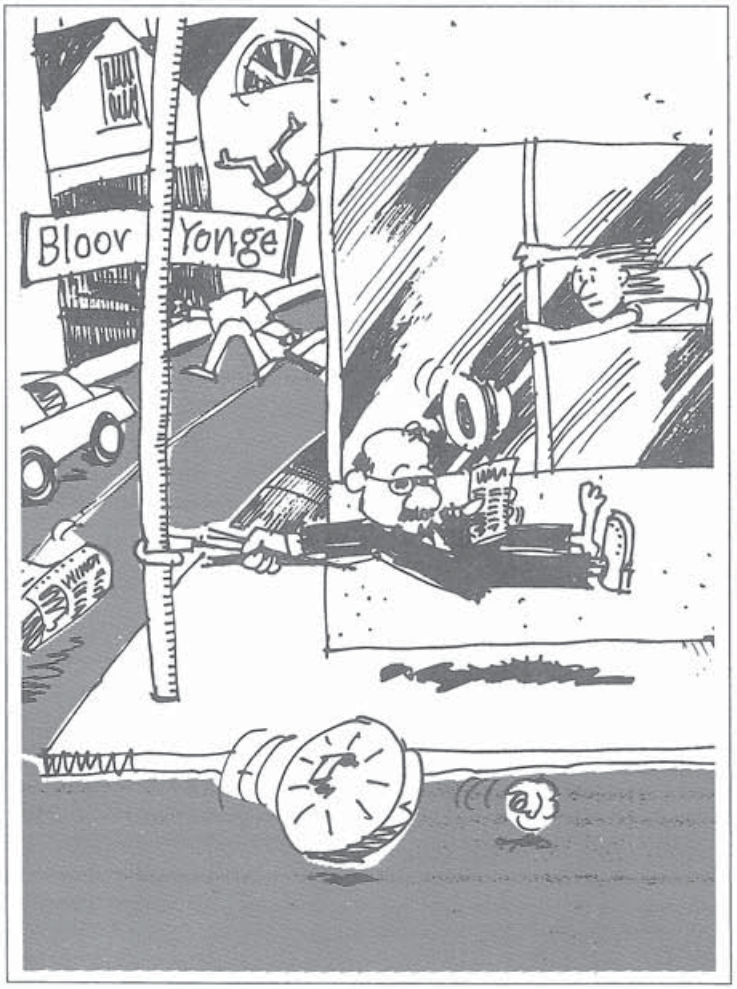
Narrow streets and passageways between tall buildings often create what is known as a "venturi" effect, causing winds to accelerate through the opening at ground level. This aerodynamic phenomenon can be intensified if buildings are sited without considering the prevailing wind direction. In Toronto, prevailing winds are mainly from the west and northwest.

Interests in Winds Increasing

The problem of extreme winds in and around tall buildings has attracted increasing public attention. For years, research focussed on wind loads and stress on the buildings themselves. The cause-and-effect relationship between poor site planning and building design and severe pedestrian-level winds has only been considered in the past decade.

In 1974, the City of Toronto Planning Board produced design guidelines in a report entitled *On Building Downtown*, addressing microclimate conditions at street level. As part of the normal development review process since then, architects of major projects are encouraged to assess the impact of their designs on the microclimate in and around their proposed buildings. Unfortunately, this review usually takes place after the building design is already fixed and often deals only with the building's immediate surroundings.

Changing the mass of a proposed building is the single most effective way of affecting wind microclimate. However, in practice this is seldom considered a priority. Reducing the wind impact at grade is usually done by the addition of remedial measures, such as a canopy or the placement of coniferous trees around the project to help break the flow of wind. This is akin to placing a bandage over a severe laceration and hoping it won't get any worse. As more tall buildings are built, the cumulative effect is often, pardon the expression, "staggering."



Comprehensive Study Undertaken

In May 1984, the City of Toronto Executive Committee approved a $30,000 budget for a comprehensive pedestrian-level wind study of the Bloor Street area from Avenue Road to Church Street, including the blocks north and south of Bloor.

The study's aim is to achieve wind levels on Bloor Street considered comfortable for pedestrians through identifying and investigating problem areas. The primary objective is to clearly define acceptable wind velocities and recommend methods of achieving these levels.

This study will be extremely useful for shaping future development. A number of potential high-rise developments in the Bloor Street area could either worsen these wind conditions, or,

if designed properly, could improve pedestrian-level winds. Also, the Bloor Street area has recently become Canada's largest Business Improvement Area (BIA). The substantial streetscape improvements that may be introduced under the BIA's auspices could also help reduce area winds. Planning guidelines can be developed, using the study results, to remedy existing problems and prevent new ones.

Testing the Wind

In October 1984, the study consultants, Morrison Hershfield Limited, of Guelph, Ontario, reported on the first stage of the study, entitled "Problem Identification." This report contains a quantitative assessment of the existing pedestrian-level winds on Bloor Street, defines what amount of wind is considered comfortable for pedestrians, and identifies where winds on Bloor Street are too strong.

The tests were conducted in Morrison Hershfield's Boundary Layer Wind Tunnel, a 27-m-long glass-walled lab that can simulate wind speeds of up to 100 kph. Using 1:500 scale models of all buildings in the Bloor Street area, with 92 strategically placed wind speed sensors, an initial series of wind simulation data was collected for the nine predominant wind directions in the Toronto area. A computer analysis then combined the test results with Toronto-area meteorological data, which provided expected wind conditions throughout the study area.

A scale model of the Bloor Street study area was placed into an open channel water flume. As water flowed over the model, purple dye was introduced to track the characteristics of winds around the buildings. This experiment was videotaped by city planning staff for future study.

Where Bloor Street intersects with Avenue Road, Bay Street, and Yonge Street, and Church Street north of Bloor were pinpointed as having the worst wind conditions in the study area. Winds from the northwest quadrant are deflected down to grade by tall buildings in these areas and accelerated along the street between the buildings.

Wind Study Findings

Tall or exposed buildings intensify local pedestrian-level winds. Designers can benefit greatly from being able to anticipate areas with unacceptable wind conditions, enabling them to introduce design solutions to eliminate or reduce wind effects on pedestrians. With this in mind, alternative building masses for potential development sites and a number of remedial measures for existing problem areas along Bloor Street were explored. The study's overall conclusion is that retrofitting to correct detrimental wind effects is not the most desirable route to follow, if redesigning the building to correct wind problems is still possible.

Using scale models of building masses for existing and proposed sites along Bloor and adjacent streets, the study group identified a number of design modifications for tall buildings that help avoid or mitigate local wind problems.

Large slab-form buildings, oriented in the direction of the prevailing winds, were investigated for the University Theatre, Holt Renfrew and Toronto Transit Commission (TTC) sites. This building form caused severe "downwash" on pedestrian areas at the base of the tower on the windward side. However, wind conditions were improved downwind or immediately behind the slab, since it blocked most of the oncoming northwesterly winds. Potential developments at the University Theatre site and on top of Holt Renfrew will improve pedestrian-level wind conditions in the lee of buildings on Bloor Street, as well as in some areas of St. Thomas and Balmuto streets. If a tower were built on the TTC site, with its north face at a 45° angle to Bloor Street and set on a podium, the downwash effect could be reduced considerably.

Remedial Solutions Ineffective

Substantial horizontal projections incorporated into tall buildings, such as the podium for the TTC site, can help break downward-directed winds. In comparison, remedial solutions can often be ineffective — like a too-small canopy or a podium inappropriately located, or not covering an appreciable area around the building. In some cases, these "solutions" can intensify wind conditions.

Other building forms, life circular or polygonal towers, tend to reduce the downwash effect, but do not block prevailing winds. Adjacent towers appear to severely worsen pedestrian-level winds.

Ground-level openings and pedestrian pathways and service alleyways between buildings, especially those facing the prevailing wind, will experience intensified wind conditions. Remedial elements such as canopies, trees and wind screens can help to reduce the impact of these winds at the pedestrian level. However, they pale in comparison to solutions resulting from design modifications to the building's height, bulk, layout and positioning of the entranceways.

The study also indicated that planting deciduous trees along Bloor and adjacent streets might improve summer wind conditions, but not winter conditions, when pedestrians most need protection. Tree planting in a median along Bloor Street would not improve wind conditions at all. Adding canopies to buildings is ineffective, for the most part. Windscreens at major intersections and at entrances to laneways also appear to have minimal benefits, especially given their cost and impact on the streetscape.

Study's Conclusion

The Bloor Street Pedestrian-Level Wind Study concludes that the development of proper building massing is crucial to improving the wind conditions at sidewalk-level in the study area. Remedial measures such as tree planting, medians, canopies and wind gates have little impact on improving existing intolerable wind conditions. For any given wind problem, a range of solutions can be found, depending on cost and desired effectiveness. Many other factors enter into the design decision-making process, such as streetscape and shadowing considerations. But in the final analysis, the best solution is one that anticipates and avoids a problem rather than one that deals with it after the fact.

John G. Jung is a Senior Planner in the Central Core and Waterfront Division of Toronto's Planning and Development Department. He conceived and coordinated the Bloor Street Wind Study after a harrowing walk down Bloor Street when he witnessed shoppers being blown clear across Bloor Street from Creeds to Holt Renfrew.

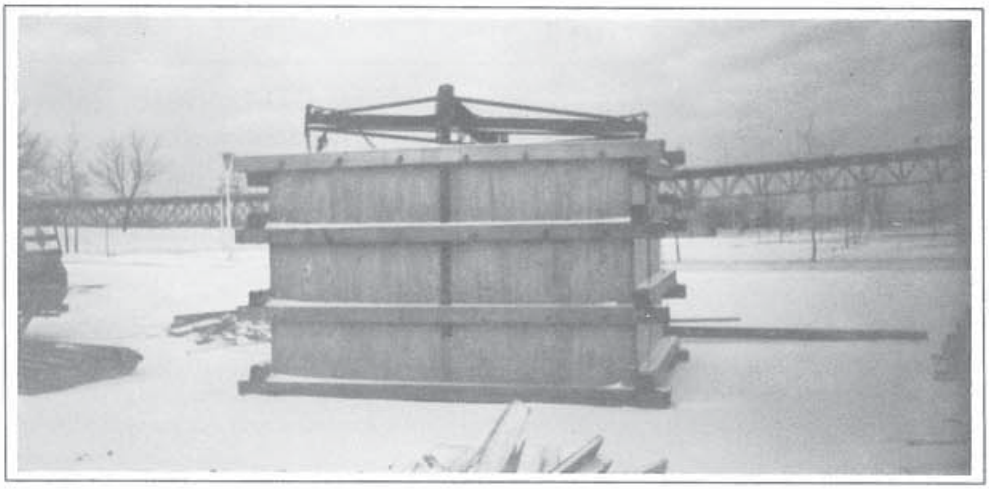
Small New Brunswick City Invents "Snow Fun" Scheme

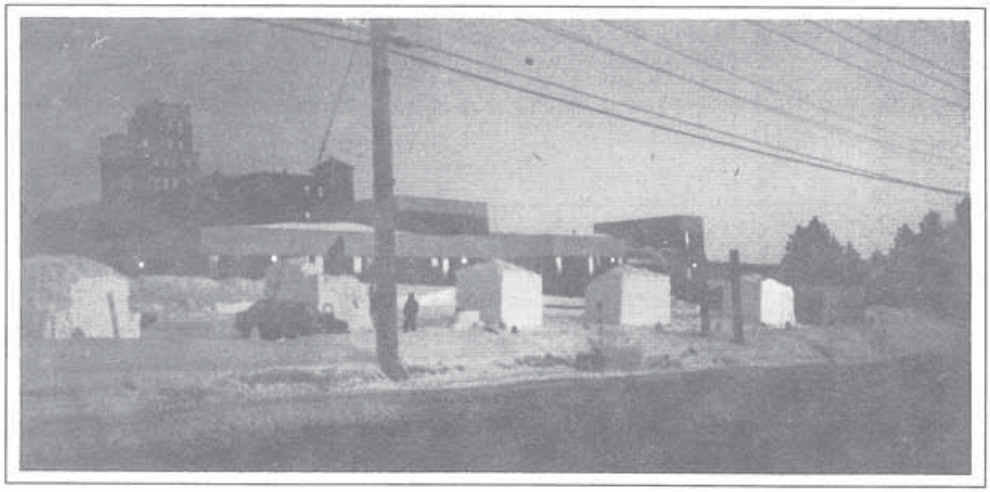
Edmundston, New Brunswick, has come up with an idea for getting more fun out of snow, and other cities have been quick to pick up on it.

The scheme costs very little and adds a new dimension to winter enjoyment of school playgrounds and city parks. City works crews make a wooden form approximately 8 feet by 8 feet square and 6 or 7 feet in height. This is filled with fresh snow by a snow blower, which causes the snow to pack firmly. The wooden shell is then removed to be reassembled nearby in order to make another "giant snow cube." Having a large block of fresh snow to work with, snow sculptors of all ages can make amazing reproductions, which remain to be seen and admired until the next melt or blizzard. Half a dozen snow blocks can be placed in each park or schoolyard so the budding sculptors can be kept busy.

The idea was evolved by public works crews of Edmundston and encouraged by the mayor, J. Pius Bard. Neighboring cities, including Moncton, picked up the idea and will be expanding on it this coming winter. Costs are minimal, since the wooden forms can be used several times. The large wooden shells need to have smooth interiors so that when they are removed the snow blocks are undamaged. They also need to be reinforced to allow the snow to be packed in without bulging.

For information write to Mayor J. Pius Bard, 7 chemin Canada, Edmundston NB, E3V 1T7; telephone: (506) 739-2115; or fax: (506) 739-7105. Or for information on Moncton's experience contact Arthur H. Buck, Director, Community Services, Downtown Civic Centre, 100 Westmorland St., Moncton, NB E1C 5B2, telephone: (506) 853-3515.





RESEARCH BRIEFS

Sweden Probes the Pole

The largest Swedish research expedition ever mounted to the South Pole departed in November aboard the 30,000-ton bulk carrier *Stena Arctica*, one of the world's most strongly reinforced ice-going vessels. The expedition, which will return to Sweden in April, will conduct research in glaciology, geology, oceanography and marine biology within the framework of the Swedish Antarctic Research Program.

The first goal of the 50-strong expedition was Queen Maud's Land, where a Swedish research station is located at Heimefrontfjella, 500 km inland. There a glaciological group will study the accumulation of, and changes in, the inland ice and snow mass that is of importance to world climatic conditions. The geological history of the region and its separation from South America and Africa will also be studied.

A new and larger research station will simultaneously be built 120 km inland at Vestfjella, where new habitation systems for frigid climates will be tested.

After a change of research staff in southern Argentina, the *Stena Arctica* will proceed to the warmer coastal waters and island regions of the Antarctic Peninsula, where geologists and geographers will be put ashore at various sites, while marine biologists from aboard the ship will study seals and other animal life, as well as the potential impact of pollution.

In September Sweden became a member of the 22-nation group that, under the Antarctic Treaty, jointly supervises the activities in Antarctica.

The boat in which the Swedish expedition will sail.

Arctic Institute Focus on Sustainable Development

Due to problems of reliance on the boom-and-bust non-renewable resource industry (oil and gas, mineral development), Canada's North is looking to alternatives to develop the economy. Small business development is one such avenue. The Arctic Institute of North America's Sustainable Economic Development Project (joint venture with the Faculty of Management) is a four-year project focussing on development of sustainable small businesses in the North. Sponsors are the Donner Canadian Foundation, Esso Resources Canada, the Yukon Government, and the Department of Indian and Northern Affairs.

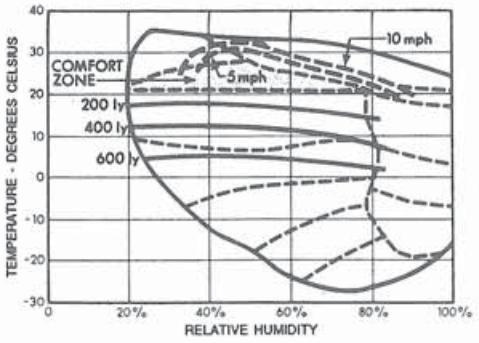
Wanda Wuttunee, LLB, M.B.A., and Ted Staffen, Yukon entrepreneur, have joined the Arctic Institute as sponsored research associates to carry out the Sustainable Economic Development Project. During the first two years they will prepare a handbook that describes the process of conceptualizing, planning and implementing a sustainable small business. Twenty case studies of northern businesses in the sectors of agriculture, forestry, fisheries, wildlife, trade, tourism, and personal and miscellaneous services will serve as the basis for this Komatik Series monograph. The businesses profiled will demonstrate the principles of unified development, paying as much attention to the cultural and environmental context in which they operate as to profit generation and local employment and training.

In the last two years, the researchers will assist 3–5 entrepreneurs in conceptualization, business planning and start-up or shutdown. In addition, they plan to deliver a series of small business workshops in northern communities, focussing on the handbook themes.

Windbreaking On Toronto Lakeshore

Excerpted from an article by Bruce F. Findlay, Canadian Climate Centre, Atmospheric Environment Service, Environment Canada

The seasonal variability of Toronto's climate invite a broad variety of outdoor recreational activities, but day-to-day weather changes can restrain the enjoyment of many people, particularly during winter. Ways to entice more heat from the sun, promote less dampness, and escape from strong winds are laudable objectives for planners of Toronto's Lakeshore outdoor public spaces and walkways. In this paper, the theoretical effect on human comfort of lowering wind speeds to 10 km/hr or less over the cold season is examined. This is done by removing the wind chill effective cooling from a bio-climatic classification applied to the Toronto waterfront region. The latter project was undertaken by R. Smith, working with the Central Waterfront Planning Committee in 1975. Use was made of Olgyay's (1963) classification to describe each month of the year.



The basic comfort zone for temperature and humidity, after Olgyay.

Olgyay defined a comfort zone within discrete boundaries of air temperature (T) and relative humidity (H), corresponding to approximately 20-28°C, 20-80%. He recognized that pleasant climates could occur or be artificially induced outside this zone when there is additional sunshine, wind differences or protection from dampness. Wind is chilling in winter, causing a personal sensation that the temperature is lower.

Application of Olgyay's Classification

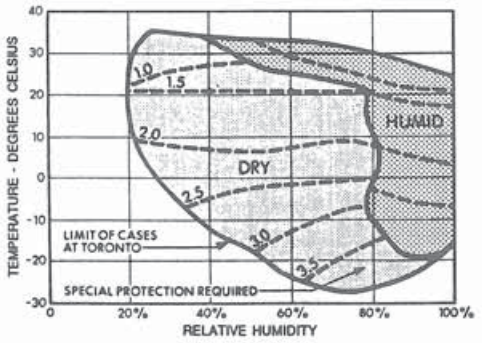
Based on intensive investigation, R. Smith determined the clothing required to overcome the range of possible Toronto waterfront winter conditions, estimated in clo units. One clo unit corresponds to the comfort need of a seated person at 21°C, 50%H, an air movement of 0.1 m/s and a metabolic rate of 20.9 KJ/M²/h (Auliciems *et al.*, 1973). The difference between the "ideal" warm, dry and the mild, damp/pleasant, dry categories is 0.5 clo. During the spring and fall shoulders and on warm days in winter most persons would hedge against weather deterioration by wearing at least one additional clo unit of clothing. This suggests that the mild, damp/pleasant, dry category (1.5-2.0 clo) can be considered satisfactory for comfort outside of the summer season.

Otherwise stated, a mild level of coolness and high humidity is tolerable during winter, because more clothing is customarily worn than in summer.

Removal of the Wind Chill Effect

Wind chill, also known as convective cooling, refers to the freezing of exposed flesh. Other forms of cooling to the body are evaporative cooling (when perspiration vaporizes), radiative cooling and conductive cooling. Wind chill is a rapid process and is generally studied climatologically using short-duration values — i.e., a few minutes to a few hours. Averages for wind and temperature contingencies over a day and longer are usually less meaningful.

Wind chill is an empirically derived expression based on experiments relating the freezing of water in a plastic cylinder to the freezing of exposed flesh. While meteorologists prefer to use energy units for eolian cooling (watts/m²), the public relates better to "equivalent" temperatures. These are not real temperatures, but serve as proxy units for the sensation of feeling much colder when out in the wind. As the cooling effect of light winds is minimal and controversial, the 1-10 km/h class is not included here.



Clothing units and limits for temperature and humidity.

Wind speed frequency tables and standard wind chill tables can be used to adjust an outdoor comfort classification applied at Toronto. The purpose is to estimate the number of beneficial hours that could result from the sheltering of recreational or other public space from the cold season wind. Between October and April over 140 hours a month would result. These are averages and variability occurs from year to year. Radiative, evaporative and conductive cooling are not considered here, but clothing usually controls these as well as high humidity during winter. Also not considered is the ground surface moisture factor, which can present an unpleasant environment in undrained sites. But the possibilities of enhancing warmth through deflection or trapping of solar radiation might help offset this and can be studied in a similar way as the present work. The socio-economic benefits of extending the season for parkland recreation ought to be examined in light of these practical microclimatic modifications.

BOOK REVIEWS

Coping with the Cash

By Mike Robinson, Mark Dickerson, Jack Van Camp, Wanda Wuttunee, Mike Pretes and Lloyd Binder. Available through the Arctic Institute of North America, University of Calgary, 2500 University Drive N.W., Calgary, Alberta T2N 1N4.

This new book prepared for the Special Committee on the Northern Economy provides an historic review of investment strategies utilized by Native claims' beneficiaries in Alaska and Canada and argues for the creation of developmental trust funds by the Dene and Metis of the N.W.T.

Sustainable Development and the Entrepreneur: An Annotated Bibliography of Small Business Development in Circumpolar and Developing Regions

Compiled by Michael Pretes. Whitehorse: Department of Economic Development, Government of the Yukon. 52 pages, over 250 citations. Available through the Arctic Institute of North America, University of Calgary, 2500 University Drive N.W., Calgary, Alberta T2N 1N4, for $5.00 a copy.

This annotated bibliography lists references to works on small business development and entrepreneurship, focussing on both circumpolar and developing regions. Sources were drawn from major library collections in Canada, the U.S. and the U.K.

Gathering Strength

By Frances Abele. Calgary: The Arctic Institute of North America, 1989. 257 pages. Available for $20 (plus $3 for postage and handling) from the Arctic Institute of North America, The University of Calgary, 2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4.

"Frances Abele's work reflects a logical, sensible, sensitive approach to native employment in the North. It reflects the needs at the grassroots level and is also a statement of direct community input. A fine piece of work." So said Ethel Blondin, MP, in speaking of the first in the new paperback series published by the Arctic Institute—the Komatik series of research monographs.

Author Frances Abele is an associate professor of Public Administration at Carleton University, Ottawa.

The Polar Passion, The Quest for the North Pole

By Farley Mowat. Toronto: McClelland & Stewart.

In first-hand narratives and crisp commentary, the author of *Never Cry Wolf* weaves an inspiring tale of hardship, folly, obsession and glory set against the imposing backdrop of the Arctic. It is a chronicle filled with super-human struggle and unbelievable hardship that guarantees the reader will be enthralled. In the introduction to the book, Mowat reveals the unsung heroes of the quest for the Pole:

> To the Indian, who invented pemmican and snowshoes;
> To the Eskimo, who gave us the art of sled travel;
> To this twin family of wild folk who have no flag;
> Goes the first credit . . . to these, the pathfinders,
> I inscribe my first page. In the ultimate success
> There is glory enough to go to the graves of the dead —
> And to the heads of the living.
>
> — From Dr. Frederick Cook's dedication

Words from the Land: Encounters with Natural History Writing

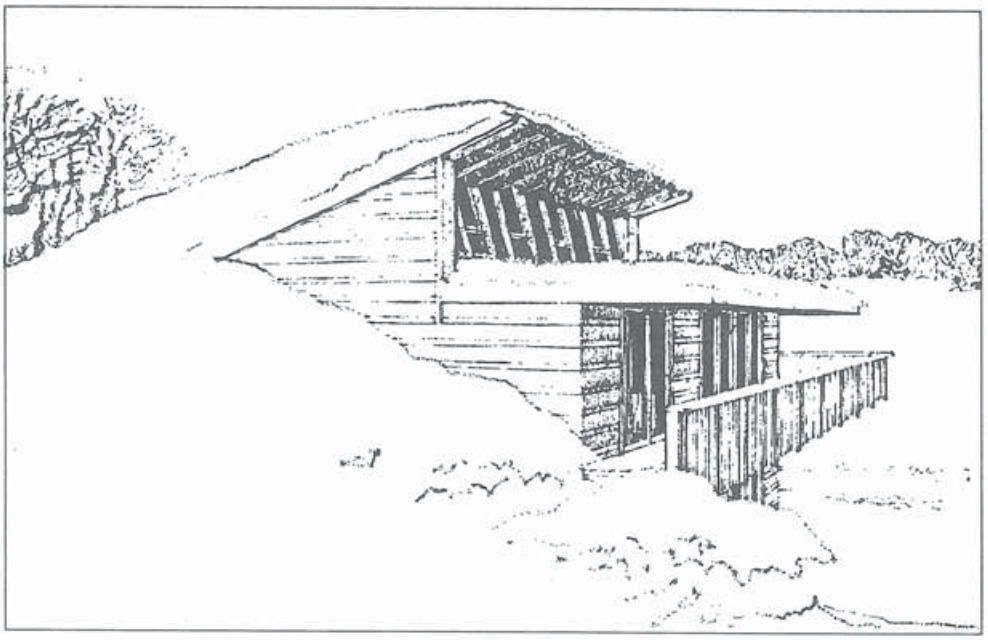
Edited by Stephen Trimble. Published by Gibbs M. Smith/Peregrine Smith.

As if they were going back to an earlier harmony, the nature writers of today are as eloquent as the landscape painters of the 18th and 19th centuries. The following is from "The Smooth Skull of Winter," by Gretel Ehrlich, one of many essays in *Words From the Land*....

> Winter looks like a fictional place, an elaborate simplicity, a Nabokovian invention of rarefied detail. Winds howl all night and day, pushing litters of storm fronts from the Beartooth to the Big Horn Mountains. When it lets up, the mountains disappear. The hayfield that runs east from my house ends in a curl of clouds that have fallen like sails luffing from sky to ground. Snow returns across

the field to me, and the cows, dusted with white, look like snowcapped continents drifting.

The poet Seamus Heaney said that landscape is sacramental, to be read as text. Earth is instinct: perfect, irrational, semiotic. If I read winter right, it is a scroll — the white growing wider and wider like the sweep of an arm — and from it we gain a peripheral vision, a capacity for what Nabokov calls "those asides of spirit, those footnotes in the volume of life by which we know life and find it to be good."



Earth Sheltered Housing: Code, Zoning, and Financing Issues

Prepared by the Underground Space Center, University of Minnesota. Published by Van Nostrand Reinhold Company.

Although energy savings and increased aesthetic appreciation have greatly spurred interest in earth sheltered homes, a lack of accurate information available to financial, legal and regulatory agencies has caused them to impose unnecessary restraints on earth sheltered construction. This updated version of a U.S. Department of Housing and Urban Development study reveals the extent of earth sheltered housing restraints and how government action can ease them and encourage such structures. Based on interviews with people in each phase of earth sheltered housing construction and on an extensive survey of legal requirements and financing practices, it assesses the validity of reported impediments and recommends ways to remove needless barriers.

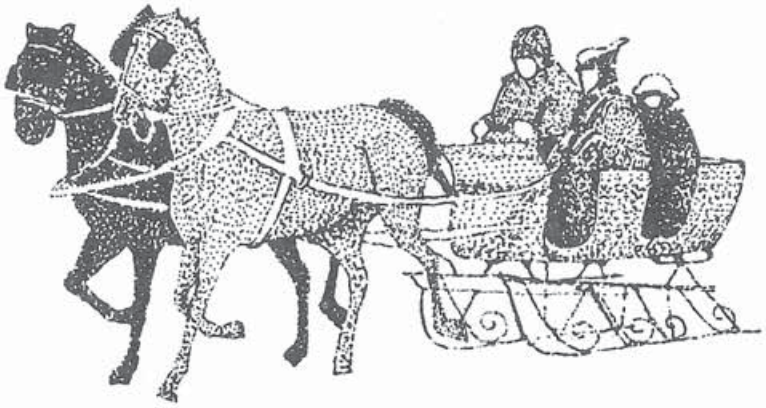
Homeowners, legislators and other government officials, code and zoning officials and banking and financing professionals, as well as architects and contractors, will value this comprehensive study of the code, zoning and financing issues of earth sheltered housing.

Sapporo Eco-Color — The Beautiful Colors of the Four Seasons Awaken the Livable Winter City

Edited by Naokatsu Kumagai. Published by Suda Printing Co., Ltd., Projects Planning Department, Nijuyonkin 2-6, Piski-ku, Sapporo 063, Japan.

This book addresses the evocative yet elusive concept of winter city color appropriateness. This beautifully illustrated book is based on the premise that "the beautiful colors of the four seasons awaken the livable winter city." Under the direction of Professor Naokatsu Kumagai, plant colors were collected, photographs taken, and a rationale for selection of colors appropriate to the city of Sapporo's ecological patterns was established. The book is divided into sections: (1) photographs of Sapporo during the different seasons; (2) color samples based on observations of each object seen in its place; (3) discussions of Sapporo's Eco color by a group of local experts.

Unlike most publications relating to Winter Cities published in Japan, this book is written in English.



BULLETIN BOARD

Winter Films: In November in Banff, Alberta, 120 km west of Calgary, there was a festival of mountain films. Also in November the Festival International du Film Neige et Glace was held in Autron, France, as part of a worldwide circuit of film festivals dealing with mountains — sports, environment, culture, mountaineering and history. The WCN has contacted this body and will be preparing a list of films for a future issue. If you are familiar with other films or video documentaries in any language or format that would be relevant to the mandate of the Winter Cities Association and of interest to its members, please send us a note so they can be included in our compilation. Please include title, subject, format, language, length, and source.

J.W. Wilson is writing a self-help book for seniors on housing for older people and would appreciate receiving information on areas considered climatically attractive to senior citizens. He may be contacted at 550 Eastcot Road, West Vancouver, British Columbia V7S 1E4.

Arctic Light 1990 — a 100-day journey through Canada's Far North: The goal of this Canadian expedition is to make the first complete ski traverse of Ellesmere Island. Organizers are seeking not only your financial support but a fourth member for the team. In return for a $100 donation, supporters of Arctic Light 1990 will receive a mounted and framed print, to be selected from all the photographs taken during the expedition. For further information contact John Dunn, Arctic Light Photography Ltd., 4707 Vegas Road N.W., Calgary, Alberta T3A 1W2, or phone (403) 286-6439.

MUSK-OX, a Journal on the North, Special Issue 37, containing the proceedings of the Second National Student Conference on Northern Studies, is now available at a cost of $12.00. Write MUSK-OX, Department of Geological Sciences, University of Saskatchewan, Saskatoon, Saskatchewan S7N 0W0. Subscriptions are available.

International Competition for Architecture Students, Montreal, Canada — May 1990
UNESCO award: Living memory and expectation — A house for today.
Students are asked to submit an individual or collective housing project for an urban or rural context that meets expectations of physical and spiritual well-being. The project's vision of material comfort and esthetic appeal in the future may be taken into consideration. Registration fee is $25.00; registration deadline December 31, 1989. Further information may be obtained from UIA XVII, International Student Competition, c/o Société La Clé, 640, Saint-Paul Street West, Suite 102, Montreal, Quebec H3C 1L9; (514) 876-1055.

Tromsø Conference Savings: All Canadian WCA members, institutions and cities planning to go to the Tromsø '90 Conference March 2–9, 1990, and interested in possible reduced fares and other benefits, please contact Myrna Grimmon at the Winter Cities Association office, (403) 229-0696 or fax (403) 245-9701.

The Anchorage Winter Cities Association is developing an educational program to raise the level of awareness about the unique characteristics of winter cities. This multi-media presentation will be shown before local citizen boards, commissions and business associations. We are soliciting any information, studies, plans, slides, etc., that would enable us to make a greater impact. We would greatly appreciate any assistance you can provide. With your help, we can indeed make our winter cities more livable. Contact Allen Kemplen at (907) 786-8212 (work) or (907) 274-9772 (home), or write c/o ECI/Hyer Architects, 101 West Benson, Suite 306, Anchorage, Alaska 99503.

UPCOMING EVENTS

High Arctic Oasis
Devon Island, Northwest Territories, Canada — Course 15205

The Arctic Institute of North America and the University of Calgary are offering a travel-study expedition to a rare and remote destination in the Canadian High Arctic — the Institute's research station at Truelove Lowland on Devon Island. This program will appeal to all those who are eager to add an educational component to their adventure travel and who are interested in learning about some of the most isolated communities, historical sites, and spectacular wilderness areas in northern Canada. For further information and registration form, please contact: The Arctic Institute of North America, The University of Calgary, 2500 University Drive N.W., Calgary, Alberta T2N 1N4.

Glaciers, Grizzlies and Man — Course 15206

The Arctic Institute of North America and the University of Calgary are offering a travel-study expedition to Kluane National Park, one of Canada's newest national parks, located in the southwestern Yukon. This 12-day expedition will combine education and a unique outdoor experience as you hike in the front ranges and raft on the Alsek River. For further information, please contact: The Arctic Institute of North America, The University of Calgary, 2500 University Drive N.W., Calgary, Alberta T2N 1N4.

International Conference on the Role of the Polar Regions in Global Change, June 11-15, 1990, University of Alaska, Fairbanks, Alaska

This conference deals specifically with the important role that the polar regions play in global change. The state of knowledge on the role of the polar regions in global change will be defined and summarized and the gaps identified. A call for papers has been issued. For further information, contact: The International Conference on the Role of the Polar Regions in Global Change, c/o Geophysical Institute, University of Alaska Fairbanks, Fairbanks, Alaska 99775-0800, U.S.A.

The Seventh Inuit Studies Conference will be held in Fairbanks, Alaska, August 19-23, 1990. Enquiries regarding the conference program and proposed workshops should be addressed to: Dr. Lydia Black, Department of Anthropology, University of Alaska, Fairbanks, Alaska 99775; phone, (907) 474-6760/474-7288; fax, (907) 474-7720.

International Urban Infratech Exhibition, Tokyo, Japan, November 13-19, 1989. Innovative concepts for providing and improving urban infrastructure and new technologies for urban living will be displayed. For more information contact: E.J. Krause & Associates, Inc., Three Bethesda Metro Center, Suite 510, Bethesda, Maryland 20814; phone, (301) 986-7800; fax, (301) 986-4538.

Winter Cities Tromsø '90, Tromsø, Norway. The conference objective is to create a winter meeting place for buyers and sellers of winter products, ideas and services. This event will be integrated with Winter Forum '90, which brings together leading public and private sector personnel. Contact Winter Cities Tromsø '90, c/o Tromsø Arrangements AS, P.O. Box 771, N-9001 Tromsø, Norway.

The Nights of the Round Table, co-sponsored by the Calgary Winter City Committee and the Calgary Winter City Association Affiliate, February 20-25.

Six evenings of public discussion of the quality of winter life. Specific themes for discussion will be presented on five of the evenings: winter art, winter health, winter business, winter design and winter recreation. The sixth round table will bring respresentatives of the previous five to joint consideration of all the themes.

Winter Cities Tromsø '90: Warm Winter Cities — Quality of Life and Economic Development, March 2-9, 1990, Tromsø, Norway. Contact: Winter Cities Tromsø, c/o Tromsø Arrangement AS, PO Box 771, N-9001 Tromsø, Norway.