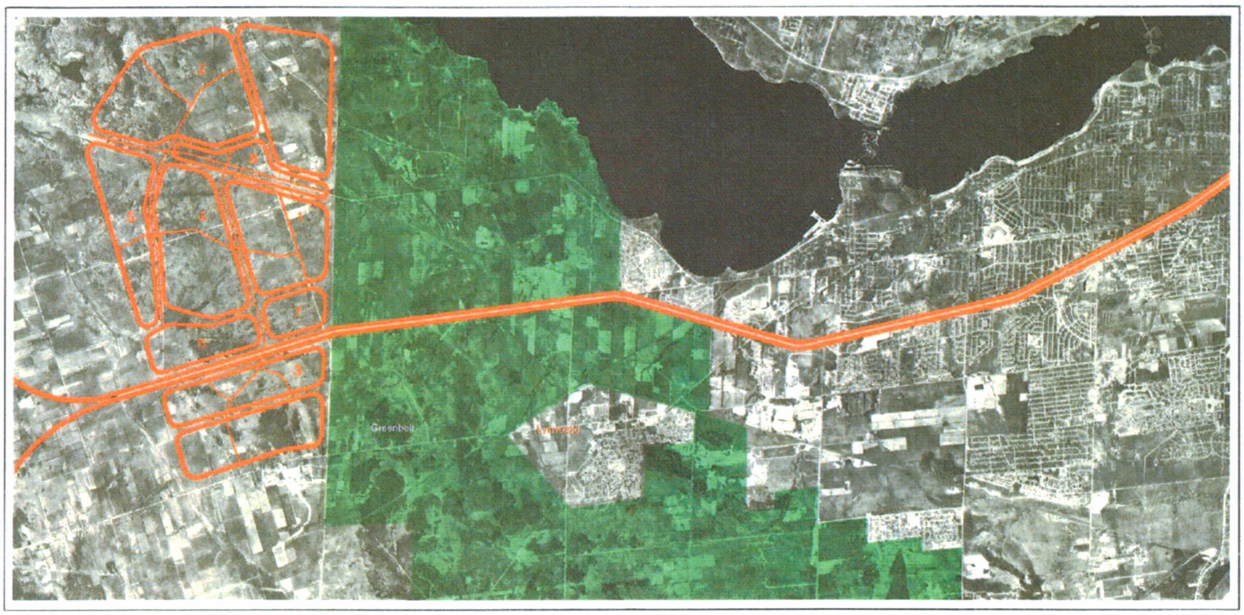
Heritage Ottawa Lecture
Ottawa Public Library
November 17, 2010
Brief talking notes by Bill Teron

THE ORIGINAL CONCEPTS FOR KANATA

I wish to thank Heritage Ottawa for inviting me to present the original concepts of creating the new town of Kanata. I am grateful for this opportunity. You have caused me to dig very deeply into my memory.

First a map - Ottawa and Kanata.



1 Community No.One
2 Community No.Two
3 Community No.Three
4 Country Club
5 Country Estates
6 High Density Area
7 Town Centre
8 Technology Park

A dual picture of Kanata today, where people live and work.
Beaverbrook as the diverse community model and Kanata as the Silicon Valley of the North.

As you can well imagine, designing a total new town for 60,000 people and 60,000 jobs was a very large, complex task. What I propose to review today is the following:

- The background problems in Ottawa at the time
- Jacques Gréber and Ottawa's plans for the future
- My early life experience in community building
- My prior design experience in Ottawa
- The initial research work for building a new community
- The moment of revelation
- An extensive world tour
- Developing the philosophical concepts
- The macro town planning phase
- Designing the Spirit of Kanata
- The unique planning concepts of Beaverbrook.
- The strategies to create Silicon Valley of the North

Today my problem is how to compress all of those years of history and planning into less than one hour.

The background problems in Ottawa in 1957
World War II had been over for only 12 years.
There was a concern about jobs and housing for veterans.
There were vast derelict slum areas in downtown Ottawa.
Suburbia - sprawling suburbs of endless rows of identical small houses with very few amenities.

Prime Minister McKenzie King acted decisively.
Jacques Gréber, an outstanding French futurist and planner, was selected to prepare recommendations and a master plan for Ottawa.

Jacques Gréber's plans for the future of Ottawa were to:

- create and decentralize government employment centres;
- create a greenbelt to manage the suburban growth;
- build self-contained satellite communities where people can live and work;
- expropriate the slum area along the waterfront;
- create a waterfront to belong to all the people;
- enhance the quality of life and the value of property for everyone.

First, my early life experience, including community building.
I was born on a homestead farm in a small rural community in Manitoba where my grandparents were the early pioneers who came to Canada to improve their personal lives. They were given virgin open land, which required them to build a fresh new community.

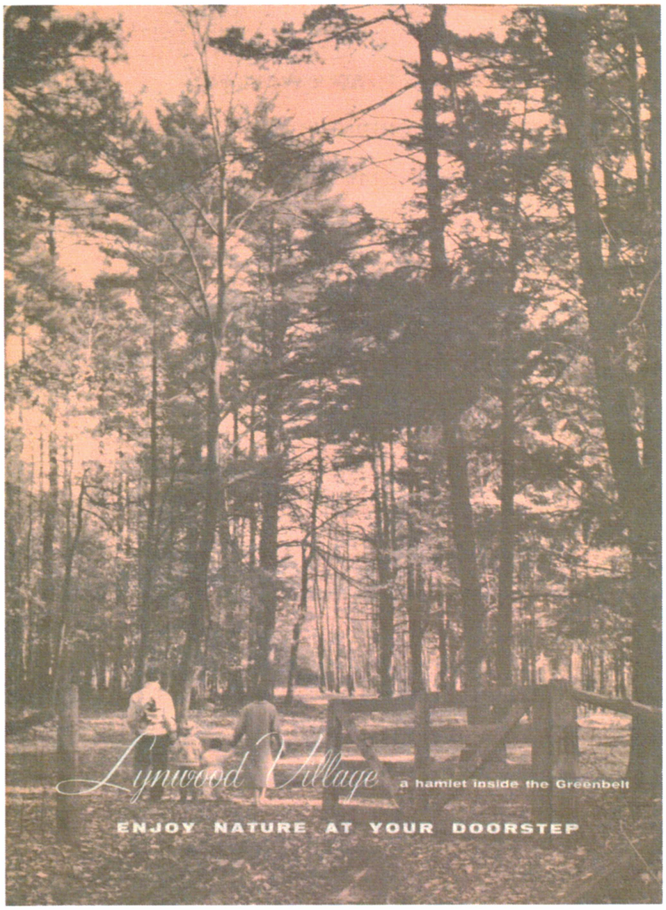
My maternal grandfather was the master builder and leader of volunteers, who not only built their own homes and farm buildings, but built a school, a church, grinding mill, creamery, stores, blacksmith shops, etc. As a child, I lived in that family environment of talks about building buildings and a community. As children of farmers, tradesmen, owners of shops and industry, we all attended one four-room school where we shared our dreams and aspirations.

My parents moved to Winnipeg, when I was 10 years old. The north end of Winnipeg was a festering melting pot where, as a tradesman's child, I again experienced a diversified community. My father was employed as a cabinet maker with his aesthetic eye to matching wood veneers. By 16, I knew how buildings and communities were built and the role of aesthetics and quality.

I came to Ottawa in 1951 as a draftsman with the Government but very soon became the sole draftsman/designer for Johannsen's, a very reputable residential housing design/build firm, working with clients for high-end, custom housing projects and retail store interiors. I spent four years working with fantastic demanding clients who wanted new ideas.

Four years later, I began my own design/build career, designing and building large custom homes and retail interiors.

A year later, I was asked to design/build Lynwood Village, the first community within the Greenbelt. This was an opportunity to demonstrate that design was possible for moderate priced homes. In 1960, a Lynwood home won the first Canadian Housing Design Council award in Ottawa.



I soon realized that Lynwood Village was not large enough to include the amenities that Jacques Gréber envisioned in his recommendation for creating self-contained communities.

Qualicum was our next project, which was at the inside edge of the Greenbelt. It provided the perfect laboratory for engaging the public to discuss the ideas of building a total community beyond the Greenbelt. A "what if" laboratory, where each of the visitors were seeking their next home and their next community.

I asked these motivated home buyers what were their aspirations in housing and community if they had the ultimate choice - a bigger house, more rooms, more appliances? The most frequent answers were - "none of the above". They wanted a community that would provide a better balance in their own lives and to help their children find their sense of purpose and their potential.

Imagine thinking in terms of urban planning that was focused on building the potential in people instead of focusing on bricks and mortar.

What an awesome situation, until I read Bertrand Russell's phrase:

"that the philosophy of life is a boring subject until you ask the question. But, once you ask the question, it becomes a burning desire to find the answer."

Bertrand Russell's phrase changed my life.

From 1957 to 1960, my research work focused on seeking precedence for building people-oriented communities. Canada was building bedroom suburbs. With small land holdings, developers left very little room for amenities. There were no examples of a pre-planned, total community. The examples of planned towns in Canada were resource one-industry towns. That also pointed out that Ottawa was primarily a one-industry town, which lacked diversity of employment opportunities, and many residents were despondent about their children's future.

In 1960, I undertook an extensive around the world trip to examine new towns. I attended the World Design Conference in Tokyo, with presentations by some of the greatest architects, planners and pioneer futurists in the world, such as Buckminster Fuller, Kenzo Tange, Louis Kahn, Paul Rudolf, Barbara Ward, Margaret Mead and Constantinos A. Doxiadis. Their messages and projects were inspiring.

The best planning literature there was: **Ikistics, the Science of Human Settlements,** and articles from the Delos planning symposiums.

I then visited Hong Kong's new development projects and their pre-schooler Hope Program, which taught the "I can" hope philosophy. Similar to our "to find one's self" philosophy.

The next stop was New Delhi and Delhi, and the new City of Chandigarh by Le Corbusier.

Then East Kilbride, West Kilbride and Cumbernauld, three new garden cities in Scotland, designed to move many industries out of Glasgow due to smog from coal burning industries to new towns based on Ebenezer Howard's garden city concepts. The city refused building permits for expansion of existing industries or new industries to achieve their objective.

During later trips, I visited the new communities of **Tapiola in Finland** and **Farsta in Sweden.** New communities designed in social democratic countries where the land was owned by the state, who acted as planners but not necessarily builders. I then visited both **Reston and Columbia**, the two US examples of new town planning.

After Bertrand Russell's wake up call, the 1960 World Design Conference and the many visits, I had a better idea of how to think in terms of planning that was focused on building the potential of people. To think of people rather than of bricks and mortar - the "**to build people**" concept. The buildings and amenities in the community act as the theatre of their life.

I had very dedicated leaders as designers, planners, and consultants: Cecil Wight was the former head of planning and works of the City of Ottawa during the period of Jacques Gréber's work and later with the OMB, and Matt Kilpatrick, an Ontario urban planner with Scottish garden city experience.

We focused our thoughts on **building a community based on human purpose, human potential, human consequences.**

We soon realized that we could not provide every type of specific activity or specific purpose in life in any one community. The questions and answers lay at a higher level of human purpose.

That lay with the dynamic range of human personalities in our society and the dynamic range of human activities in their own community, so that each person could subconsciously choose the range of personal and work related activities that best suited their personality and interests.

We finally adopted the following mission statement:

"To offer the widest possible range of human experiences, so that through encouragement and example, one may find a purposeful life".

We reviewed the choice of dynamic range that people currently had within the core of the city and the much narrower dynamic range provided by housing subdivisions in the suburbs.

Since we were part of the total City of Ottawa, we needed an acceptable dynamic range of personal and work related activities between both the core and the suburbs to provide people more options and better options.

Our task was to design and build a better suburban model so that the suburban model would be more acceptable to more people.

Our first policy was to adopt Gréber's concept of building communities where people could work where they live. To do so, we had to provide a better quality of life, provide greater balance, and provide a wider variety of job opportunities.

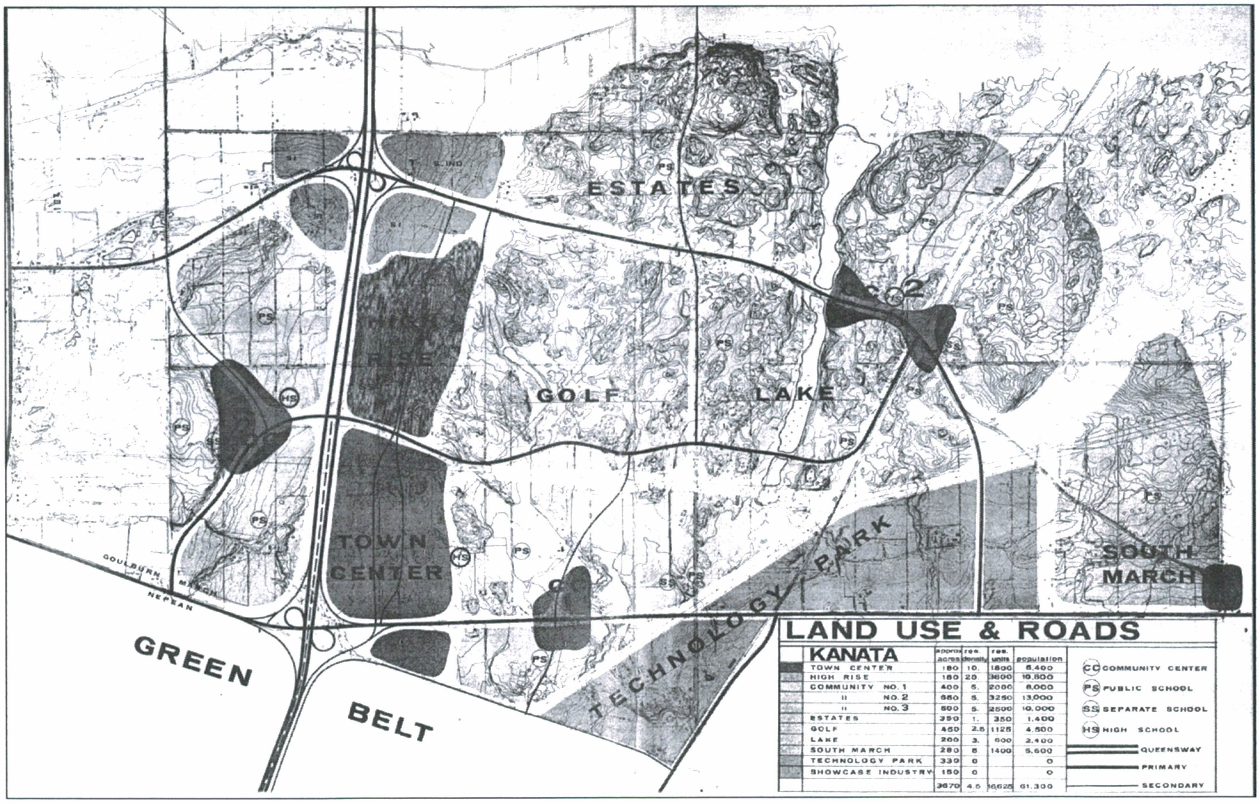
In garden cities and the great cities of the world, we observed that **nature humanizes people,** and **nature humanizes cities.** That wonderful inner feeling that human beings have when they are with nature. Nature provides the freedom to dream, to think and to run freely.

We decided that nature and the garden city concept provided us the best opportunities to provide a wide spectrum of jobs, housing, education, shopping, community activities and recreation. **Nature was to be the Spirit of Kanata in every way possible.**

Our objective was to lead by example, to offer a garden city community up front and not just promises, to design Beaverbrook and Technology Park, and to create a diverse living and working environment.

Master plan

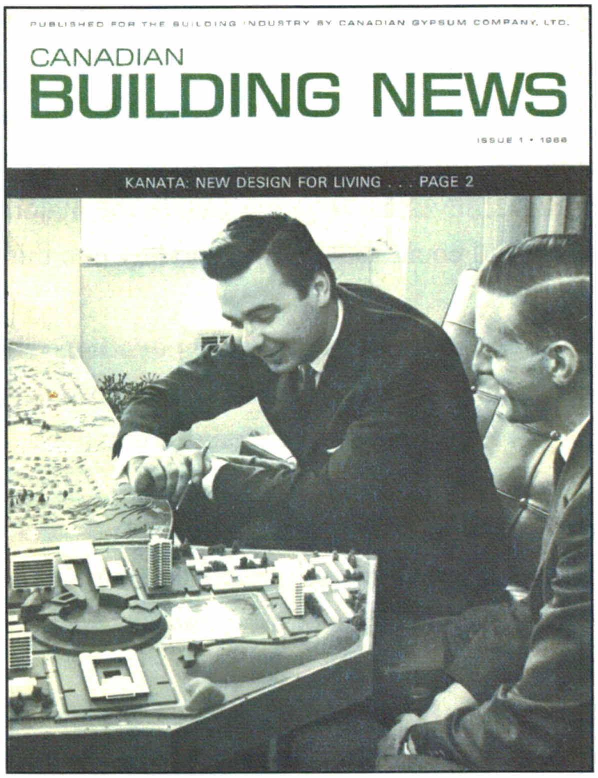
We were then in a position to do our master plan. We were ready to set aside the major sectors of land which the town plan needed to create a self-contained garden city within a city state.



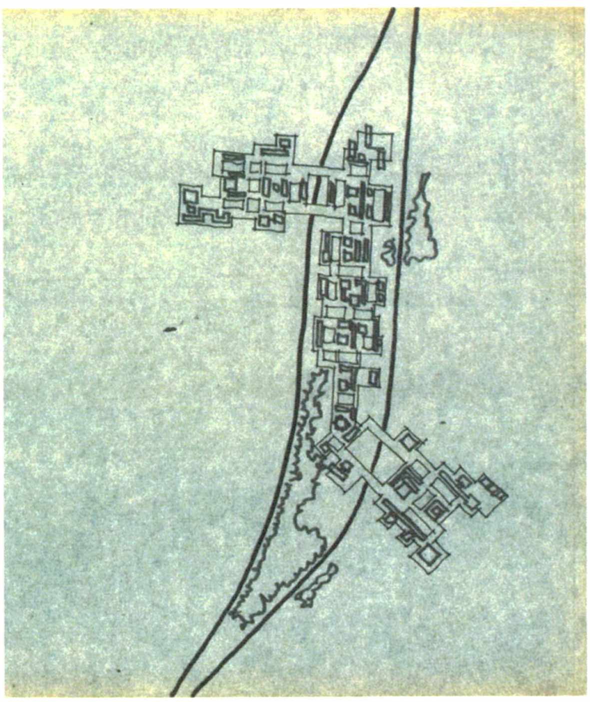
We allocated the major sectors of the town such as numerous diverse housing districts, each with their own educational, recreational, and community facilities, 400 acres for technology park, 400 acres for a town centre with high density housing and commercial, financial and professional services, and major open spaces for recreation, such as golf and the lake, together with land for the Queensway, the bypass arterial and parkways between communities.

We then went on to address the Town Centre planning.

The CBC did a major program on Beaverbrook and Kanata. This aroused the interest of four great architects and planners:
Irving Grossman, Arthur Erickson, Dimitri Dimikopoulos and Norbert Schoenauer.



They met with me and addressed the problem that the proposed Queensway would split our new town. The new design result was to have a pedestrian Ponte Vecchio type community bridge over the Queensway, with vertical separation of cars and people as was the case in our original town centre planning. This was turned down by City planners with the usual "we were ahead of our time" and a cynicism about our motives.



Land ownership and financial planning
To undertake this bold new approach, we knew that we would have to hold major areas of land off the market for many years. Since our current investors did not have the patience for this long-term plan, I ended taking over the entire land development ownership. I knew that, in time, I would have to invite institutional investors to participate in the major infrastructure that would have to be installed, providing that I could find investors to buy into this long-term idealism.

We did find such an institutional investor, Power Corporation, when Maurice Strong and Paul Martin were in charge. They were very public-minded people who applauded our long-term idealism and purpose. They both went on to become strong public leaders.

After they left, more conventional business leaders took over and implemented traditional development methods, with strong emphasis on immediate short-term benefits to shareholders. In land development terms, this meant thinking of how many lots per acre for immediate sale.

As in our case, and in both Reston and Columbia in the US, there was a pattern of idealism by the founders and the return to normal development patterns when others took over.

The community of Beaverbrook
Our biggest challenge was designing Beaverbrook and Technology Park to create the diverse living and working environment that we envisioned.

Beaverbrook, as the first community of Kanata, was designed as the theatre of life for 1,500 families, or about 4,000 people.

I will first describe the elements which we would incorporate in Beaverbrook to improve the quality of life and to create a better balance within resident's personal community.

We designed the neighbourhoods and community to be **multi-generational with social-economic diversity** to provide basic stability and continuity in peoples' lives, to live and work in a neighbourhood where they could remain all their lives, if they so wished.

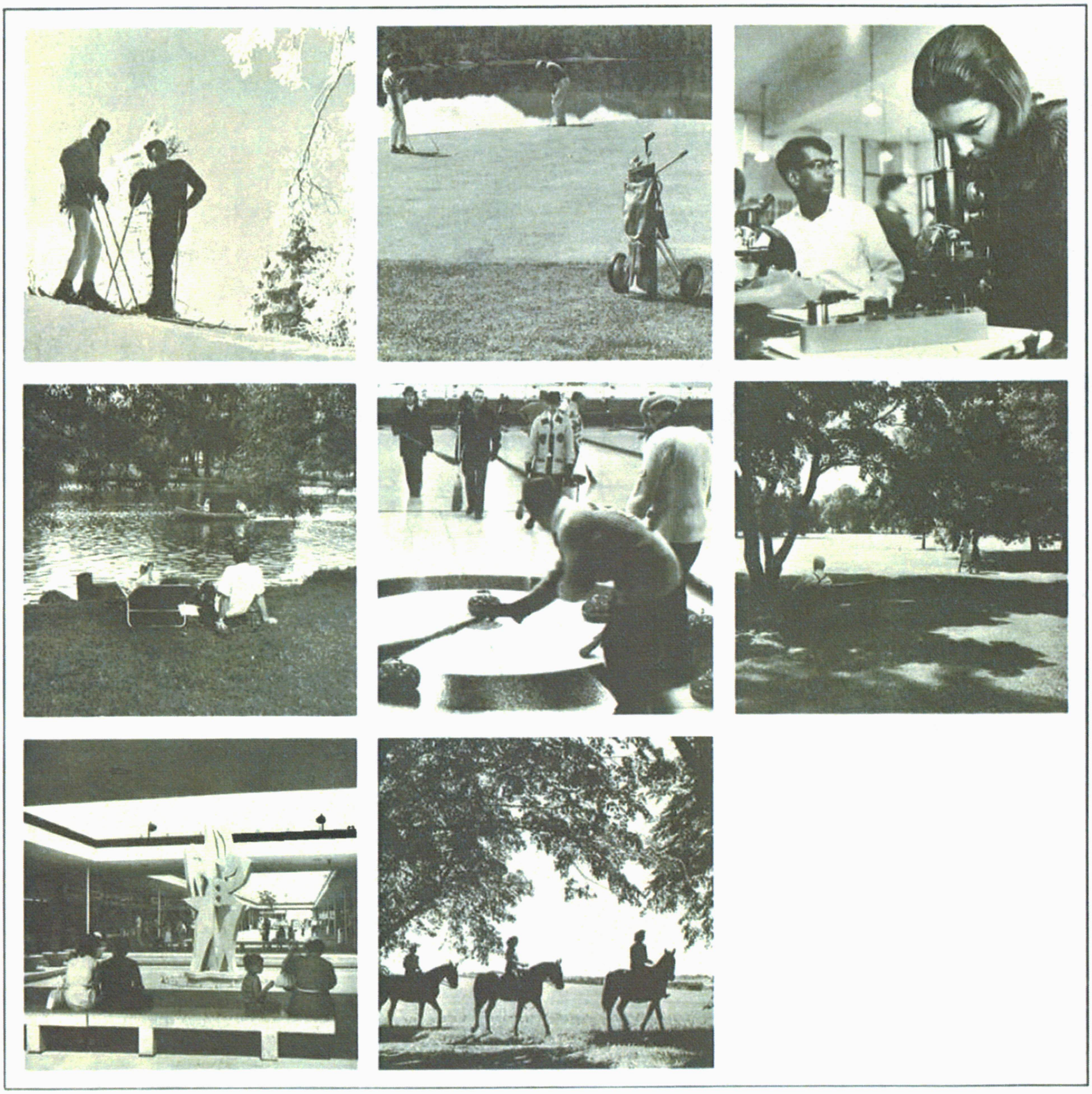
We followed the need and support concept, identifying needs and when they could be supported, following the evolution from child to youth, to young adults, adults and then seniors. The multiple-housing density in Beaverbrook allowed us to provide the increased level of open parkland.

Following our mission to focus on building the potential in people, we recognized that the period between the ages of 3 to 4 and 17 were the most impressionable years of life.

It became clear that early child life exposure was critical and that diversity had to be present at that early age. To achieve that objective, we had to provide

"the widest range of diversity possible within the mobility of a tricycle".

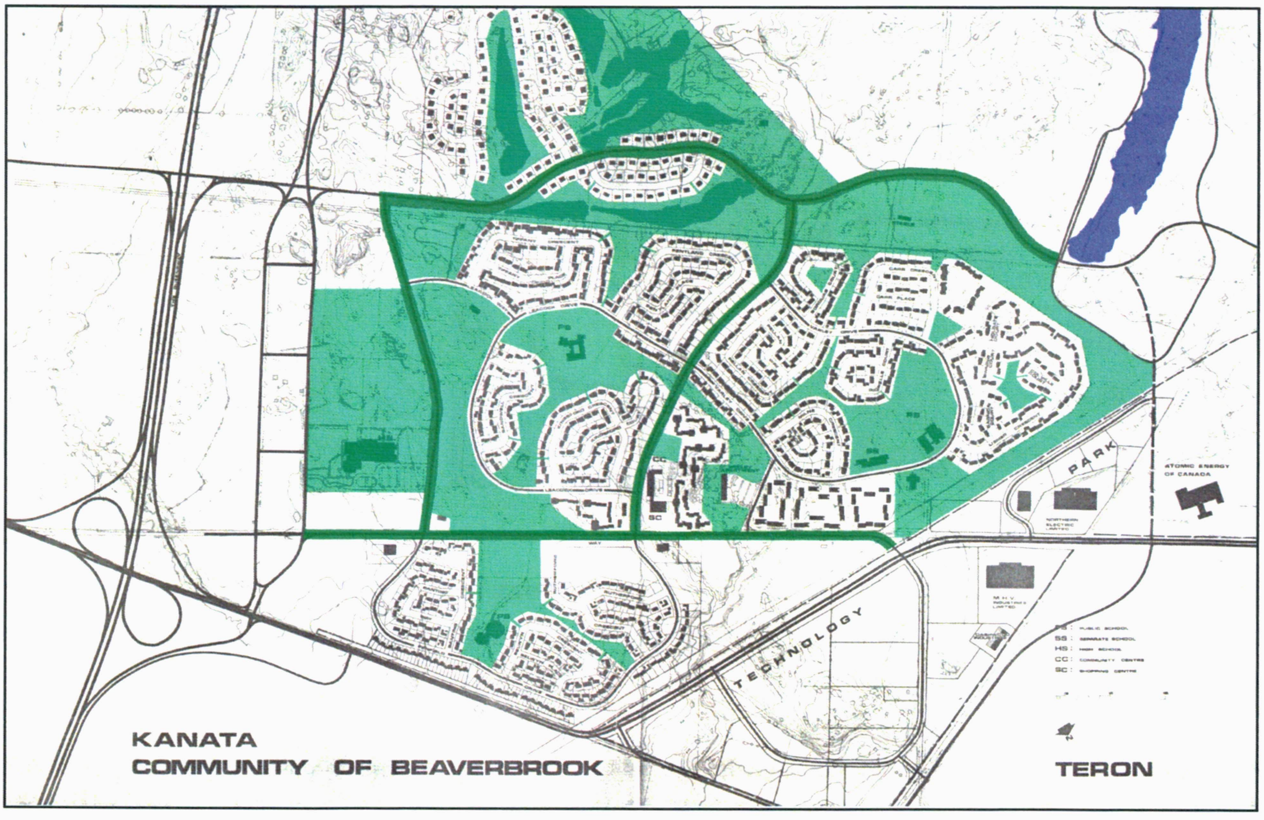
That statement is the one most mentioned by planning schools as the "**Kanata Concept**".



By the end of high school, our youth are asked to choose their path in life, by their choice of university or job, and their chosen vocation, which most often defines both their sense of purpose and their human potential.

Each community would need to have both an elementary school within each neighbourhood, and a high school within the community, together with a wide variety of jobs and a wide range of recreational and community centre activities, and shopping and professional office space.

In Beaverbrook, we have four elementary schools (three public and one separate), a high school, a community centre including shopping, a wide variety of major recreational activities and open space, access to a wide variety of jobs and the town centre, all within pedestrian access.



Within Beaverbrook, we created "**institutions for association**" to achieve inclusion and engagement and to build a sense of community and a sense of belonging. We combined a shopping centre with a community centre for recreational and cultural activities, a swimming pool, tennis, teen club, meeting rooms, etc. Our new residents filled out forms to indicate their activities and history as community activity leaders.

We did not put out community mail boxes. We created a post office where people would meet each other. A common complaint in a household was "**what took you so long?**"

We created an **"Automatic Homes Association"**, following the British "**Building Scheme**", a legal concept to bind homeowners to each other following a set of self-created common standards. We provided lands to the community association where they could build common facilities that governments did not provide such as community meeting and activity rooms, a teen club, senior's club, music lessons, French lessons, tennis, horses and riding, golf clubs, family clubs, lawn bowling, curling, etc.

We enticed the **Junior Board of Trade** to have their national office in Beaverbrook to further enhance job creation. Their office building became an incubator for new high-tech firms in Kanata. Terry Matthews and Michael Cowpland began Mitel Corporation in that incubator building. Mitel then became a high profile, high-tech leader in Kanata.

Our design criteria for housing within each neighbourhood was to have multi-generational and social-economic diversity of housing types, so that people could change their housing needs and still remain within their community.

To design better housing, we studied the individual needs of each member of the family. We observed that virtually all the popular priced housing that was being provided at the time had three or four bedrooms, with a kitchen, dining room and living room. Absent was an individual space for the husband and father, and a communal space for children and family. We wanted to provide a den/study and a family room within a more affordable price.

There also was the continued desire to have a unique sense of place. Individual design was a very important aspiration, however, it had to be provided within affordability.

Canadian housing, as a total expression, did not have a unique image in the world except for the sameness of all houses. The world examples where housing design had a unique world image were those with a unifying roof expression and indigenous local materials as exteriors. The best roof examples were Spanish tile and hand-split cedar shakes. All roofs in Beaverbrook had hand-split cedar shakes and exteriors had to be natural materials and colours.

We had to become far more efficient if these amenities were to become common place for more people and to include the public community facilities and amenities we had in mind.
To do so, we developed a modular form of construction that could produce an infinite variety of custom housing. Complex items in a house were pre-fabricated at much lower cost.

We then computerized our entire building process. We were the only contractor in Ottawa at that early time using IBM systems to control costs and scheduling. This allowed us to build each house in 51 days to precise cost control.

With the collective benefit of these more efficient building methods, we were able to offer larger, more custom housing with extensive mature landscaping, together with all of the community amenities and be competitive with housing subdivisions inside the Greenbelt.

We offered enormous pioneer discounts for our larger executive houses to attract the leaders and the diversity that we needed to create this exciting garden city new town.

What residents experienced was a very diverse community, where they and their children met a extremely wide range of residents, in the classroom, in their homes, with neighbours and friends, in the community centre, at the pool, at the post office, in the open parks, in the 3,000 acres for walking and hiking, on the golf-course, and of course with 60,000 people in the workplace.

We noticed that Kanata, which represents only 6% of the population of Ottawa, appears very often in the media, with mention of the multiple activities in the community and the achievements and awards to its residents. Many editorials have mentioned Kanata for its liveability and efficiency of residents living where they work.

In 1979, Kanata won the only award every given by the Canadian Housing Design Council for the design and development of a new town in Canada.

The investment we made in housing, community amenities and large open parks proved to be a prudent investment. The long-term appreciation in the price of housing in Beaverbrook has been almost double that which is obtained in most housing-only subdivisions.

THE ROLE OF NATURE

Since Nature was to be the spirit of Kanata and Beaverbrook, we used nature in virtually every aspect of planning in Beaverbrook.

We used nature to shape the full range of dynamic levels,
from solitude to a wide variety of social intensities.
We used nature as the prime architecture of Beaverbrook.
Nature was to be more dominant than houses.

We used the Zen philosophy of nature, of naturalness, peacefulness and endlessness, with well treed streetscapes and soft natural curbs.

We combined parks and schools to create large natural spaciousness and to provide large areas for active sports next to schools.

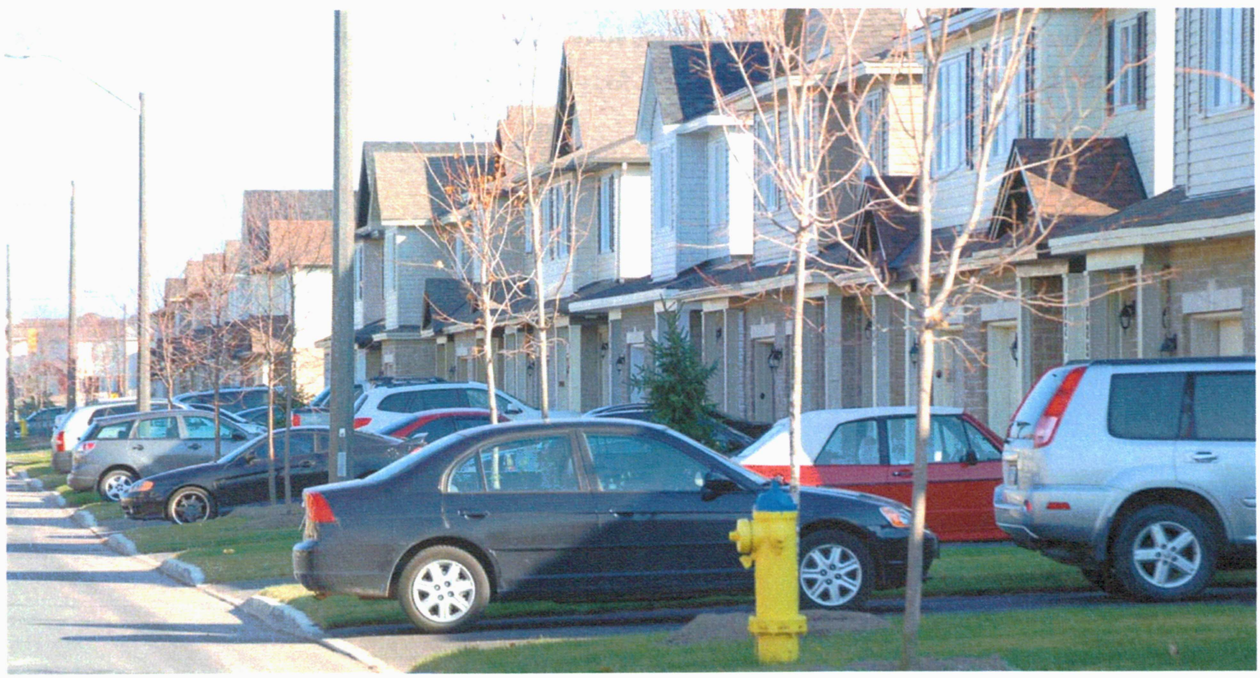
We used nature to define small clusters of homes, to enhance the sense of community, and to provide the buffer between different uses.

We provided parkways and donated the land between neighbourhoods to prevent traffic going through neighbourhoods, and an entrance parkway to create a sense of arrival.

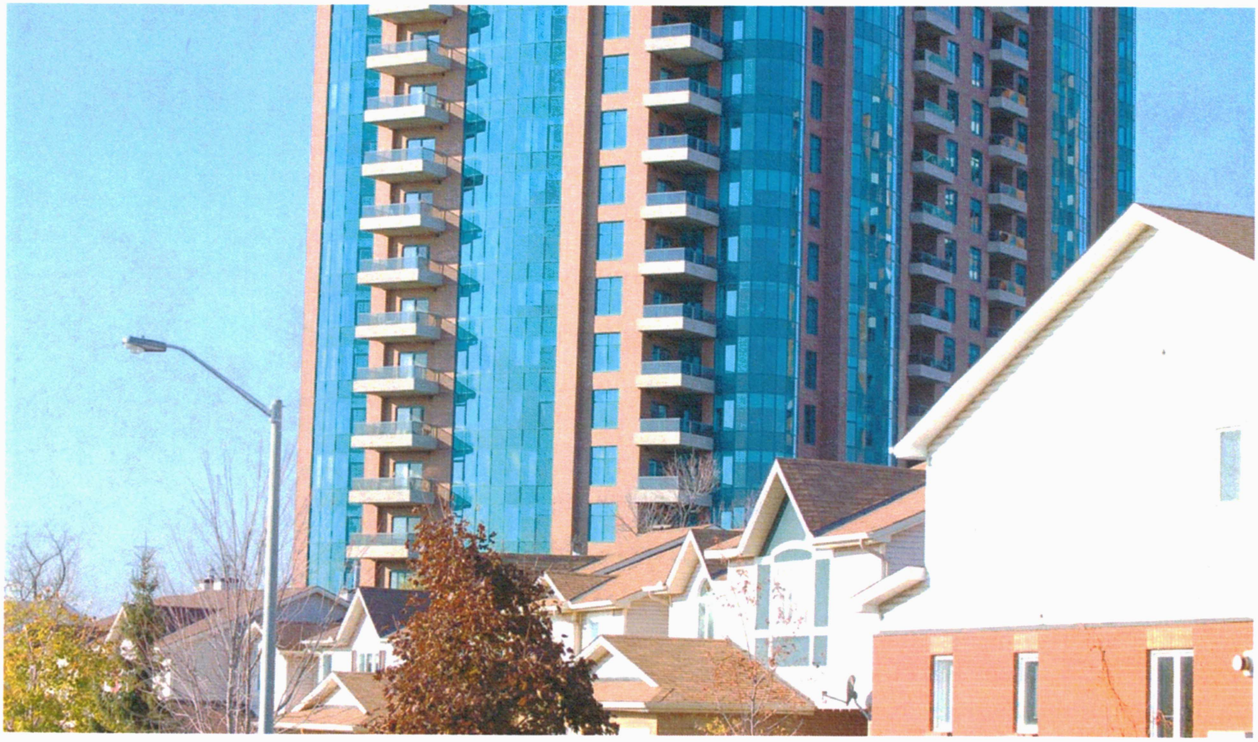
We buried hydro wires to save nature in hedge rows.

We used nature to buffer urban irritants such as noise and traffic.

We managed cars not to destroy nature, as was so prevalent in many housing subdivisions and is shown below.



We managed the height of buildings to protect our sunshine to prevent the "elephant in the backyard" that we see so often in Ottawa and in most cities in Canada.



As probably our greatest use of nature, we allowed the entire 3,000 acres of land to be used by residents and visitors for many years, for walking, cycling, skiing, nature trails. The most often mentioned feature was that children learned their love of nature while living in Beaverbrook. As often mentioned, the original Kanata provided for 40% permanent open space, instead of the legal planning requirement of 5%.

Today, we still utilize nature in our continuing design work in the **Kanata Rockeries** - using nature to provide passive solar, passive earth protection, roof gardens for water harvesting and as a heat sink to absorb the hot sun during the summer and to continue the Spirit of Kanata for generations.

Silicon Valley of the North

The other large and important challenge was to create a large diverse range of job opportunities.

At the time, this was a government city with limited commercial, professional and other job opportunities.

Many of the respondents in our research mentioned the narrow range of opportunities in Ottawa. Not every member of a family wished to have a government job.

We spent a large amount of time researching all the possibilities. We realized that industrial commissioners had worked very hard without sufficient success to provide the diversity of jobs they desired. We approached this problem with a very basic question: what type of new industries would benefit from being in a national capital city?

We adopted the policy that land for jobs was not to be a profit centre, but the incubator for building people and the future residents of our new town.

We knew that Ottawa had a knowledge-based population, based on educational background and scientific institutions in Ottawa and regulatory bodies over patents and copyright. We identified 64 scientific-type institutions in Ottawa with significant numbers of scientific staff and expertise. We had a large pool of relevant labour and executives.

In our research, we identified that the high tech industry liked the cluster concept with its supply chain of goods and professional and financial consulting services. Ottawa had access to its own market as well as Toronto and Montreal, and good access to the world.

Beginning in our first year, we advertised these virtues in the Financial Post.

80 The Financial Post May 29, 1965 — Report on Ottawa

Research Site? Technology Park !

The Nation's Capital, with the highest percentage per capita of scientific and technical skills available in Canada, and with ready proximity to the major industrial centres of Toronto and Montreal, is uniquely endowed to provide the environment for corporate research and development through which a company's or an industry's efforts in this field may be maximized. Industry has never faced a more favourable climate in which to undertake the research and development efforts that will contribute to their own future growth. The growing interdependence of Government, the institutions of higher learning and industry in the fields of science and technology receive practical recognition through the concentration of these facilities in an area where all three elements co-exist. In Canada, only a single area emerges with a comparable potentiality and that is in the National Capital Region where the scientific resources of this country are concentrated in greater measure than any other location. It is in this area that the fundamental and applied research efforts of the National Research Council and of the many other Government research facilities are undertaken.

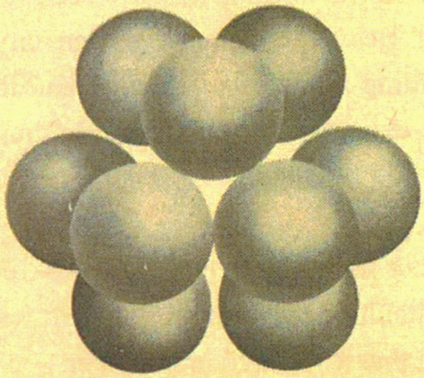
List of some of the Research activity areas in the National Capital:

National Aeronautical Est.
Low Speed Aerodynamics
Building Research
Applied Chemistry
Mechanical Engineering
Applied Physics Lab.
Radio and Electrical Eng.
Forest Research
RCAF Air Material Command
RCAF Material Lab.
National Science Library
Technical Information
Biosciences Lab.
Pure Chemistry Lab.
Pure Physics Lab.
Canadian Patents
Surveys and Mapping
Marine Sciences Branch
Regional Geology Div.
Fuels and Stratigraphy Div.
Economic Geology Div.
Petrological Sciences Div.
Geophysics Div.
Dominion Observatories
Seismology Div.
Positional Astronomy
Stellar Physics Div.
Geophysical Lab.
Geomagnetic Div.
Gravity Div.
Fisheries Research Board
Department of Public Works
Development Engineering
Harbours and Rivers Eng.
Property and Building
High Speed Aerodynamics Lab.
Flight Research Lab.
Analytical Chemistry Research
Engineering Research Service
Animal Research Inst.
Entomology Research Inst.
Food Research Inst.
Genetics and Plant Breeding
Microbiology Research Inst.
Plant Research Inst.
Food and Drug Directorate
Health Services Directorate
Laboratory of Hygiene
Medical Services Directorate
Mental Health Div.
Nutrition Div.
Occupational Health Div.
Public Health Engineering
Dominion Bureau of Statistics
Central Research and Dev.
Electronic Research and Dev.
Physical Metallurgy Div.
Mineral Sciences Div.
Fuels and Mining Practice Div.
Mineral Processing Div.
Extraction Metallurgy Div.
Explosives Research Lab.
Advanced Devices Centre
Defence Research Chemical
Defence Research Telecomm.

Recognizing the enormous scientific resources that the National Capital Region possesses, Technology Park has been placed adjacent to large Governmental and Corporate Research complexes, eg.: Defense Research Board, Mines and Technical Research Center, Northern Electric, Computing Devices of Canada, etc. Atomic Energy of Canada is the first large organization to become resident of Technology Park. Technology Park has been created as part of a 3,000 acre Greenbelt Satellite providing an environment directly related with recreational, cultural, educational and housing facilities.

Particulars on the scientific resources relating to an individual company's direct interest, as well as any details on Technology Park, may be obtained by writing to:

The Managing Director,
Technology Park,
251 Laurier Avenue West,
Ottawa 4, Ontario.



We decided to dedicate our industrial area as a cluster type, high tech area with land cost incentives to cluster potential industries, with attractive land quality, exposure and location, with large land area, which could provide no cost parking to industries in the suburbs due to the fact that the suburbs were not served with frequent public transportation.

We had also determined from interviews that one of the most important pre-requisites to choosing where to locate was the liveability of the area. The choice is made by industry leaders of where they wanted to live, for themselves and for all of their employees. They seek the place that is the best one to raise their families, to enjoy a more balanced lifestyle.

We had decided to build housing of the Qualicum size and quality, together with large pioneer discounts to attract the leaders to settle here and to become the leaders in our new community to build all aspects of our new community.

We invited potential candidates to come to Kanata and to see for themselves Ottawa's amenities and liveability, the existence of Beaverbrook as a garden city community, our philosophic people-building approach to building a better community, and the existence of our program to help build family potential, with extensive potential for community participation for all family members.

It was in the 50's, when we did not have high tech, that we were asking these questions. There was a glimmer of hope in the digital high tech sector. While it was a important sector, like many others, there was no real evidence that it was a looming giant.

Terry Matthews, the great entrepreneur and visionary, understood the message of liveability, and provided a golf course environment for high tech industries and used nature extensively in his buildings. Some may say he and we were just lucky to have created the Silicon Valley of the North.

And as they say, the rest is history.

At this point I wish to acknowledge the contributions made by both **John Mlacak as Reeve of March Township and Marianne Wilkinson as first Mayor of Kanata** who continued to further and implement the original concepts of Kanata, including implementing the 40% open space rule in Kanata.

William Teron is C.E.O. of Teron International, providing self-help building technology to developing countries and also building special projects in Ottawa. Mr. Teron is the founding designer and developer of Kanata. For seven years he served as Chair and President of Canada Mortgage and Housing Corporation and the Secretary (Deputy Minister) of the Ministry of State for Urban Affairs.

Mr. Teron is an Honorary Fellow of the Royal Architectural Institute of Canada, an Honorary Member of the Ontario Association of Architects, and an Officer of the Order of Canada.

He has served on numerous community service boards. As examples, he was founding Trustee of the National Arts Centre and Pearson College, a Governor of Carleton University and the National Gallery of Canada Foundation, and numerous commercial enterprises.