

Architecture Canada

January/Janvier 1968

Number 1 Volume 45

Journal RAIC/La Revue de l'IRAC

This 1968 Preview issue contains seventy four projects covering the work of forty nine Canadian architectural firms. All projects are planned to start this year or shortly thereafter.

Our impression, on examination of the work, was that the standard of design was extraordinarily high. With Ron Thom, FRAIC, Toronto partner of the firm of Thompson Berwick and Pratt, we speculated on the reasons for this.

We present some of these speculations on Page 25, the projects themselves are illustrated on the next thirty seven pages.



ADA 67 | 68

Architectural Directory Annual

The Royal Architectural Institute
of Canada
L'Institut Royal d'Architecture
du Canada

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A handy reference source and buyers' guide of building products available (BCI) and a cross-reference list of their manufacturers, up-to-date lists of Registered Architects by provinces, Architectural Practices by provinces, Consulting Engineers, Specification Writing Firms, Interior Designers, Landscape Architects, Quantity Surveyors and Contractors and Professional, Business, Manufacturing and Trade Organizations. This year we have added sectional tabs and

telephone numbers for your convenience. Order your copy of Architectural Directory Annual (ADA) today. Available from RAIC Publications Board, 160 Eglinton Avenue East, Suite 307, Toronto 12, 416-487-5591. Cost to non-members RAIC is \$20 per copy, 2 at \$18 each, 3 at \$15 each.

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The simplicity and versatility of electric heating



Fonthill Municipal Building, Fonthill, Ontario • Architects — Fraser & Macie, Welland.
Consulting Engineers — Howard C. L. Joe & Associates, St. Catharines.

In that simplicity is the essence of good design, electric heating has contributed considerably to both the functional and aesthetic qualities of the new Fonthill Municipal Building.

The multi-purpose nature of the building . . . offices, council chamber, library, police headquarters . . . put electric heating's claims of simplicity and versatility to the test. Success took the form of a warm welcome at the two much-used entrances, made possible by strategically-positioned, wall insert, fan-forced heating units. It took the form of neat, unobtrusive baseboard units that quietly convect a gentle, even, wall-to-wall warmth wherever there are people at work. Success showed up with the compact unit-ventilators in the library where the books require an extra special environment control.

Versatility was emphasized by the comfort and economy of precise zone control. The council chamber, used but twice a week, is heated but twice a week. The police headquarters is kept comfortably warm all night long, while other parts of the building are "turned down."

All this, from a clean, maintenance-free nerve centre tucked neatly under a staircase. Yet this is only part of electric heating's success story. It has a lot more to offer your clients. Ask your Hydro.





John Miller

John Miller Retires as OAA Secretary

John D. Miller, Secretary of the Ontario Association of Architects for 23 years, retired on December 31. Mr Miller has served the architectural profession for nearly 40 years. Succeeding him, is Harold M. Little who who has been Assistant Secretary for the past three years.

Tough Jury

The Jury of the Third Annual Awards program of the Greater Vancouver Chapter of the Architectural Institute of British Columbia did not present a top Award of Merit this year because "no submission met the criteria of being a major contribution to architecture of international stature".

The jury report said that design skills often appeared blunted by demands for quick economic return.

"The long term result of the headlong pursuit of a fast buck in the construction of dwelling places for people can only be economic waste, lack of genuine liveability and unabashed ugliness. Careful consideration in the development of precious ground space should take precedence over the cosmetic



Harold Little

application of expensive materials and arbitrary shapes".

Architects Rhone & Iredale were awarded honorable mention for the Vancouver office of Weldwood of Canada Ltd, and Erickson-Massey for two West Vancouver homes.

Members of the jury were John Wade, FRAIC, Victoria; Gerald Williams, Seattle architect and lecturer at the University of Washington; and Jack Shakespeare, Vancouver lawyer and member of the Town Planning Commission.

York University Competition for Religious Centre/Chapel

A competition for the selection of a design and an architect for a Religious Centre/Chapel to be constructed on York Campus in Toronto has been announced. All members of the Ontario Association of Architects domiciled in Ontario are eligible. Assessors of the competition, their partners, associates or employees are not eligible; however, this does not preclude entries from qualified members of the Faculty of Architecture, Urban and Regional Planning and Landscape Architecture at the University of Toronto. The Board of Assessors is John C. Parkin (F),

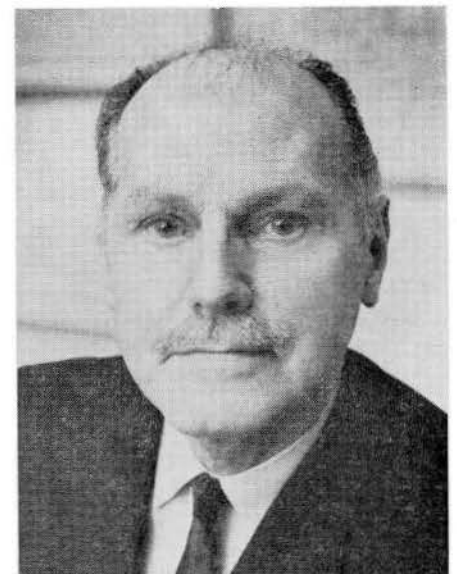
(Chairman), Gordon S. Adamson (F), Dr Thomas Howarth (F), Leonard E. Shore (F), Toronto; John S. Proctor, Governor, York University, Murray G. Ross, President, York University, John T. Saywell, Dean, Faculty of Arts and Science, York University. Additional information may be obtained from the professional adviser, John V. Chapman, MRAIC, Department of Campus Planning, York University, 4700 Keele Street, Downsview, Ontario. Registration deadline is February 1st; questions close February 22; deadline for postmark on entries, March 22. Awards will be announced April 12.

Trade Exhibition '68

The Interior Designers' Institute of Manitoba will hold their Fifth Annual Trade Exhibition at the International Inn in Winnipeg, April 2, 3, 4, 1968

AIBC Executive Director

Murray Polson, FRAIC, has succeeded Warnett Kennedy as AIBC Executive Director. Mr Polson, a former partner in the Vancouver firm of Polson and Siddall, is author of a handbook on everyday architectural practice.



Murray Polson (F)

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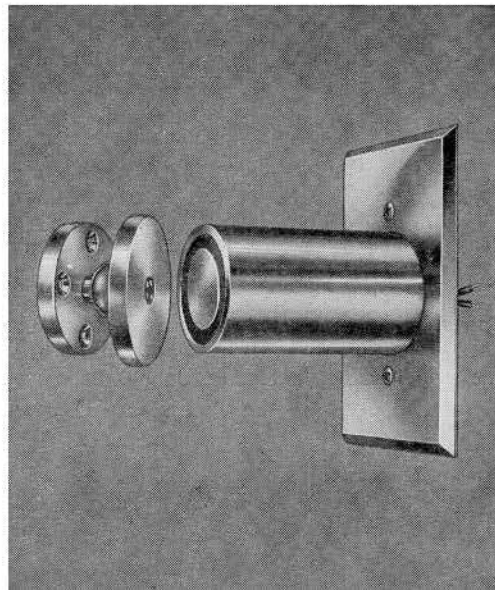
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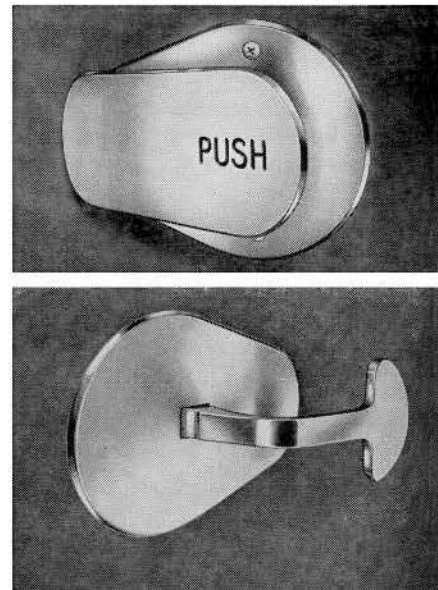
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NDC Scholarships and Grants Program

The National Design Council and the federal Department of Industry are offering scholarships and grants to encourage advanced training; research and to support the promotion of industrial design in Canada. Industrial design in this case includes any activity directed at determining the materials, mechanisms, shapes, colors, surface finishes and decorations of objects which are to be reproduced in quantity by industrial processes. Further information is obtainable from the Registrar, Design Canada Scholarships and Grants Program, Department of Industry, Ottawa 4.

CIQS Convention

The Canadian Institute of Quantity Surveyors 1968 National Convention will be held May 10, 11, 12 at the Skyline Hotel, Ottawa. Contact W. G. Abrams, Chairman, Ottawa Chapter CIQS, 4 Dayton Crescent, Ottawa 6, for further information.

College of Fellows Scholarships 1968

Two \$3,500 scholarships are to be awarded by the RAIC College of Fellows in 1968. The candidates must have graduated from a Canadian school of architecture within the last five years, possess Canadian citizenship or landed immigrant status with at least three years residence in Canada. Application

forms and full information may be obtained from the schools of architecture, the secretaries of provincial associations or from RAIC Headquarters, 151 Slater Street, Ottawa 4. Applications must be received by the RAIC Executive Secretary not later than March 1st.

CHDC Centennial Awards Book

A 128-page soft cover book has been published illustrating and describing bilingually the 33 single house and multiple housing developments which won the Canadian Housing Design Council's Centennial Awards for Residential Design in a competition which drew 338 entries. The presentations will please the winners, although they might be happier if their names appeared with their projects rather than in an index at the end. The book may be obtained free from R. W. Harvey, Secretary-Treasurer, Canadian Housing Design Council, CMHC, Ottawa 7.

British Council Course

The British Council will conduct a Specialist Course for University administrators and architects on problems and patterns of British university development in July, 1968. The course visits York, Durham, Edinburgh, Glasgow and Lancaster Universities between 7 and 20 July: there are 25 vacancies and the fee is £75. Write British Council, 80 Elgin Street, Ottawa 4.

Toronto Chapter visits Artists' Studios

Fifty members of the Toronto Chapter of the OAA on November 15 visited studios of three artists and craftsmen working in the architectural field in a tour organized by Anita Aarons, Allied Arts Editor of Architecture Canada.

Artists visited were Gerald Tooke (stained glass) 3 Mutual Street; Paul Juhacz (hand-woven rugs) 1494 Dupont Street; and Merton Chambers (ceramics and architectural murals) 641 Queen Street East. This was the third tour of its kind. An excursion into the Ontario countryside to see three sculptors' studios is now being planned for the spring. The Allied Arts Department of Architecture Canada will be pleased to advise chapters on how we planned this fruitful liaison between Toronto's artists and architects.

NACE/Queen's Corrosion Short Course

A five day short course on corrosion, sponsored by the National Association of Corrosion Engineers in co-operation with the faculty of the Metallurgical Engineering Department of Queen's University is being held June 16-22 at Queen's University. For further information contact J. A. Green, Cominco, Sheridan Park, Ontario.

ARCHITECT/CAMPUS PLANNER

Rapidly expanding university requires additional professional staff for its Campus Planning Office to help design, co-ordinate and work with consulting architectural and engineering firms. This is a permanent position with full staff benefits which can be most rewarding for the right man. Please submit a résumé stating age, education, experience and salary expected to the

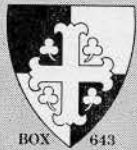
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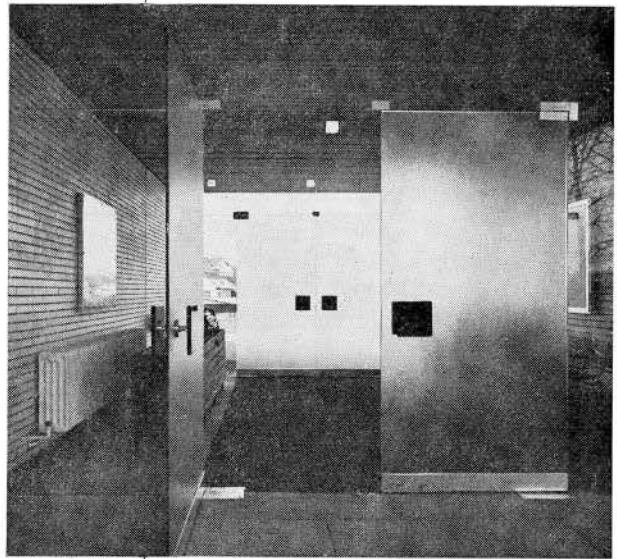


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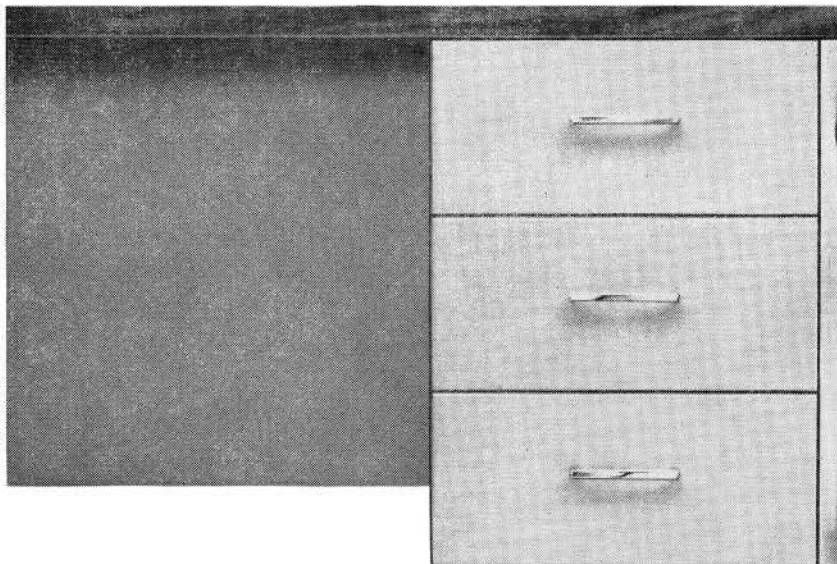


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Competition for Single-Detached Houses

Through the co-operation of Canadian architects, Central Mortgage and Housing Corporation has carried out a continuing program to improve the design and construction of single-detached housing. Selected designs meeting a variety of family housing needs are published in free-issue books and working drawings are offered to the public at minimum cost. This arrangement has been particularly beneficial in recent years in smaller communities and other areas lacking the architectural services available to prospective home owners and builders in large urban centers.

Over the years, designs have been obtained by competitions and by invitations to architects. The basis for participation in this competition has been approved by the RAIC.

1 CMHC will hold two annual competitions for single-detached housing which are open to registered Canadian architects.

2 Designs will be received from January 1st of any calendar year with closing dates of June 1st and December 1st. Entries are to be addressed to The Professional Adviser, Housing Designs, CMHC, Ottawa.

3 Houses should range in size from approximately 800 sq. ft to 2000 sq. ft exclusive of a garage and may be of any type. Because of the variety and size which may be submitted each entry will be judged on its merit rather than in competition with others.

4 Sketch designs shall be submitted at $\frac{1}{8}$ " scale on $8\frac{1}{2}$ x 11" sheets. The plans, including garage or carport and basement layout, and all elevations should be shown on sketches. Two sets of prints should be submitted.

5 The name and address of the architect is to be printed at the bottom of the first of the $8\frac{1}{2}$ " x 11" sketch sheets so it can be folded under and concealed. It is not necessary to put this information on other than the first sheet of each design submitted.

6 Any number of designs may be submitted. Designs not accepted will be returned after judging.

7 On acceptance of a design, instructions and special drawing sheets will be issued to the architect for the preparation of working drawings.

8 The jury is appointed by CMHC.

9 Questions should be addressed to the Professional Adviser.

10 Designs must conform with Residential Standards required for houses financed under the National Housing Act.

11 Selected designs will be awarded \$1,000.00. This will be paid as follows: \$150.00 at the time of the acceptance of sketch design and the balance on the completion of working drawings.

12 In addition the Corporation will pay a royalty fee of \$3.00 for each set (four copies) of working drawings sold. Royalty payments are made at the end of each calendar quarter.

13 The architect's name remains on all published forms of the design and he retains copyright of the design.

14 The decisions of the Professional Adviser and the Assessors shall be accepted by the Corporation and the architects.

15 The Corporation reserves the right to publish and distribute the selected designs or withdraw any designs from publication and distribution.

Concours de modèles de maisons unifamiliales

Grâce à la collaboration des architectes de tout le Canada, la Société centrale d'hypothèques et de logement a pu maintenir un programme d'amélioration des plans et de la construction de maisons unifamiliales. Après avoir fait un choix de modèles qui répondent autant que possible à une grande variété de besoins des familles de différents milieux, la Société les rassemble pour les publier dans un catalogue qu'elle distribue gratuitement; elle offre aussi les épures de ces modèles à un prix minimal.

Au cours des années, on a recueilli des modèles de maisons à la suite de concours auxquels on a invité les architectes à s'inscrire. L'Institut Royal d'Architecture du Canada a approuvé la participation à ce concours.

1 CMHC organisera deux fois l'an un concours à l'intention des architectes canadiens compétents afin de recueillir de nouveaux modèles de maisons unifamiliales.

2 La Société pourra recevoir des modèles de maisons à partir du premier janvier de toute année civile et les dates limites respectives de ces deux concours seront le premier juin et le premier décembre. Les modèles soumis doivent être adressés au Conseiller professionnel, Modèles de maisons, CMHC.

3 Les maisons en question peuvent avoir une aire de parquet de 800 pieds carrés à 2000 pieds carrés (garage non compris) et elles peuvent être de n'importe quel genre.

A cause de la variété de conception et des dimensions des modèles qui peuvent être soumis, chacun sera jugé selon ses propres mérites plutôt que par comparaison avec les autres.

4 Les esquisses doivent être tracées à une échelle de $\frac{1}{8}$ de pouce sur des feuilles de $8\frac{1}{2}$ " sur 11". Les esquisses doivent indiquer le plan de la maison, y compris le garage ou l'abri d'auto, et la façon dont le sous-sol est disposé ainsi que toutes les élévations. Il faudrait adresser deux copies de ces esquisses.

5 L'architecte doit inscrire son nom et son adresse au bas de la première des deux feuilles de $8\frac{1}{2}$ " sur 11" de façon qu'il soit possible de replier cette partie de la feuille et de cacher le nom et l'adresse. Il n'est pas nécessaire d'inscrire ce renseignement sur les autres feuilles des plans présentés.

6 Il n'y a pas de limite quant au nombre des modèles qui peuvent être présentés. Ceux qui ne seront pas acceptés seront retournés à leur auteur le plus tôt possible après avoir été examinés par le jury.

7 Dès qu'un modèle sera accepté, on adressera à l'architecte des instructions et des feuilles spéciales à dessin pour la préparation des épures.

8 Le jury est nommé par le CMHC.

9 Il faudrait adresser au Conseiller professionnel toutes les questions.

10 Les modèles présentés doivent être conformes aux normes résidentielles prescrites pour les maisons financées en vertu de la Loi nationale sur l'habitation.

11 Chaque modèle choisi vaudra \$1,000 à son auteur. Cette somme sera payée comme suit: \$150 au moment de l'acceptation et le reste une fois que les épures seront terminées.

12 De plus, la Société paiera un droit d'auteur de \$3 pour chaque jeu (quatre copies) des épures qui seront vendues.

13 Le nom de l'architecte reste imprimé sur toutes les copies du plan et l'architecte garde son droit d'auteur.

14 La Société et les architectes devront accepter les décisions du Conseiller professionnel et des évaluateurs.

15 La Société se réserve le droit de publier et de distribuer les modèles choisis ou d'arrêter la publication et la distribution de tout modèle.



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metal—decorative

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Alumicor Limited.....8sf/ALa
Construction Specialties, Ltd.....5om/CS
Hunter Douglas Limited.....8cw/HD
Porcelain & Metal Products Limited.....8cw/PM

metal—insulated

see also surfacing and paneling:—metal—specific type

Hunter Douglas Limited.....8cw/HD
Porcelain & Metal Products Limited.....8cw/PM

plastic or plastic-faced

Atlas Asbestos Company.....7ra/AA; 8cw/AA
Graham Products Limited.....7rs/GPL
K-Lux Products Division,
KSH Plastics, Inc.....8gg/KSH
Rohm & Haas Company
of Canada, Ltd.....8gg/RO
Sanpan Inc.....8cw/SAN


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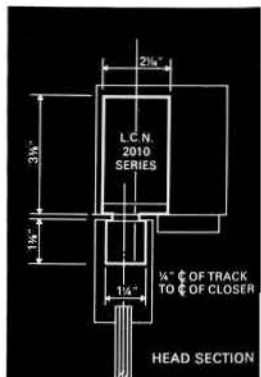


modern door control

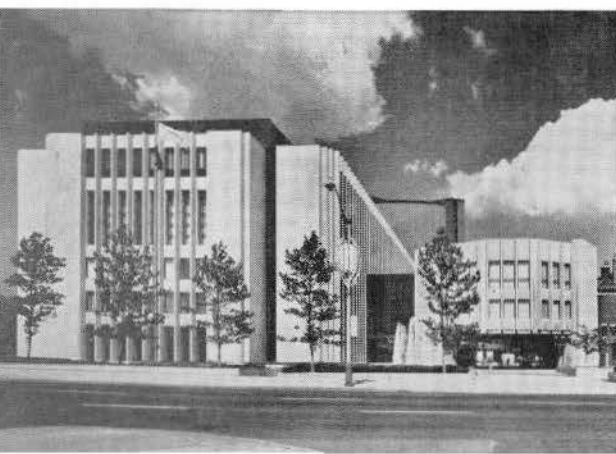
construction details, LCN Series
2010- closers concealed in head section

- 1 Efficient control of door using full rack and pinion construction
- 2 Mechanism entirely concealed; arm disappears into door stop on closing
- 3 Adjustable hydraulic back-check prevents violent throwing open of the door
- 4 General closing and latching speeds are separately adjustable
- 5 The spring is adjustable
- 6 All adjustments are easily made without removing any part

complete catalogue on request or locate us in Sweet's  10h LCN



HEAD SECTION



Throughout the Metropolitan Toronto Court House designed by Marani, Rounthwaite & Dick, architects, standard LCN door closers provide trouble-free door control. Pictured above is the Law Library (now containing 14,000 volumes and with a capacity for 18,000) available to judges and all members of the County of York Law Association.

LCN door closers are manufactured in Canada by LCN Closers of Canada, Ltd., 1083 Rangeview Road, Port Credit, Ontario.

LCN door closers



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STEELCASE

Showrooms
Montreal at Place Bonaventure,
Toronto: Woodbine Ave. at Steeles

A vintage glass bottle with a pump dispenser and a snifter glass on a tray with lemons. The bottle has a pump handle and a spout. The snifter glass is partially filled with a dark liquid. The tray is reflective and shows the reflection of the glassware and lemons. The background is a warm, golden color.

Take sand,
add soda, lime
and float it

To make glass you mix sand, soda and lime. Pilkington has added ingenuity and inventiveness to produce remarkable new Float glass. A revolutionary development, it is typical of the many advances in glass technology and engineering which have come from Pilkington.

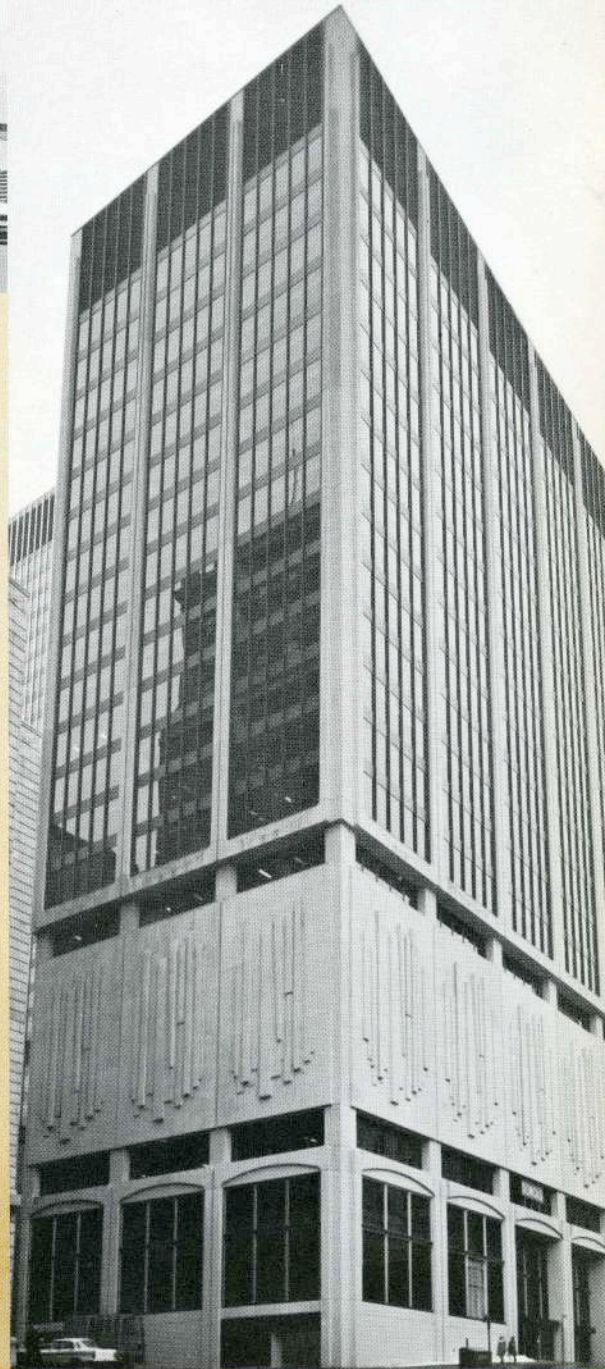
Pilkington offers a curtain



PACIFIC PALISADES OFFICE BUILDING—VANCOUVER. The curtain wall on this new building was a Pilkington project with all materials supplied and installed. The finish of the architectural metal is Permanodic. Other products include ¼" and ⅜" Colorclad, grey sheet glass and ¼" Float glass. *Architects:* B. Marr & Associates. *Contractors:* Zajac Construction.

wall 'total service'

The curtain wall has become one of the most prevalent forms of architectural expression in Canada. In this area, Pilkington enjoys a unique reputation. The company offers a 'Total Service' for architects. Highly experienced Pilkington technicians work with architects from the inception to the completion of a building. They assist in design and assume complete responsibility for the provision and installation of all materials on curtain wall projects. For further details, please contact your nearest Pilkington Contract Office.



IMPERIAL LIFE—TORONTO. A custom curtain wall, it has a light bronze Permanodic finish with bronze insulating glass units. This is an excellent example of integral colour finish on aluminum. The ground floor has ⅜" plate glass in custom store fronts. *Owner/Contractor:* Yolles and Rotenberg Ltd. *Architects:* Webb, Zerafa, Menkes.



MAISON DE COMMERCE—MONTREAL. This building features metal spandrel panels and a custom curtain wall glazed with grey plate glass. Pilkington successfully met a very rigid construction schedule. *Architects:* Greenspoon, Freedlander, Plachta & Kryton. *Contractor:* Louis Donolo.



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Here are further items from our cross Canada survey.

It is interesting to note how completely the "mural" addition as such is being replaced with real attempts to integrate the artist's "thinking" to make the architectural decor more exciting, in addition to pure functional activity.

In passing, it is only fair to say that this kind of work is virtually impossible to photograph honestly. Trick shots of isolated texture or large-scale elements do give something of the visual excitement but to recreate an environmental setting is virtually impossible from the point of view of scale, color, harmony and general kinetic experience. It is usual to find the environment much more exciting than record has it.

What is missing in our survey is evidence of the architect or architects who can create consciously, "neutral" space and really place important and choice pieces of art. Sculpture, painting, tapestry or a precious bijoux, creating its own atmosphere in a neutral area, cries out for the sympathetic architect to come forth and try his hand at "enshrinement". Is he unknown to us, "somewhere in Canada?"

Anita Aarons

1

Detail of mural by Jordi Bonet at Centennial Library, Edmonton, Architects Rensaa and Minsos, Edmonton. (Artist's address, 16396 Gouin ouest, Ste Geneviève, PQ.)

Détail d'un mural par Jordi Bonet à la Bibliothèque Centennale, Edmonton

2

Mural by Krystyna Sadowska at Calgary House, Office Building, Calgary, Architects, Webb Zerafa Menkes. (Artist's address, 561 Spadina Road, Toronto 10.)

Mural par Krystyna Sadowska, Calgary House, Immeuble de bureaux, Calgary

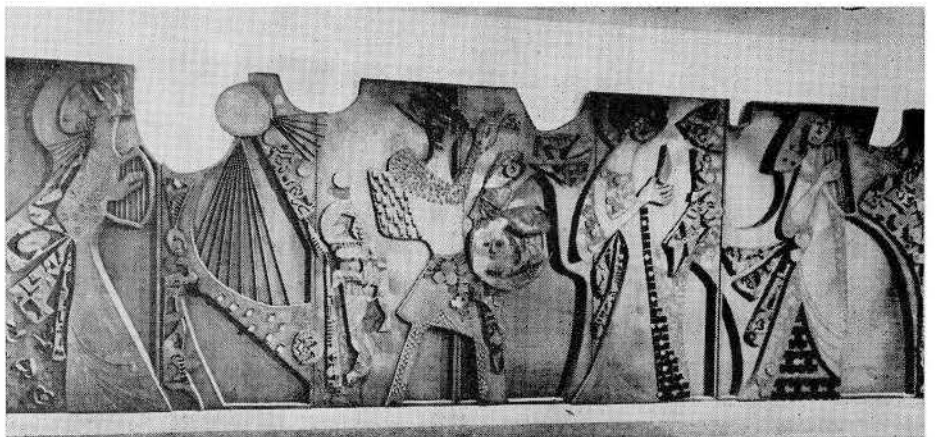
3

Sculptured relief at Administration Building, McGill University, Montreal, artist Louvin, Architects, Ross Fish Duschenes and Barrett. (Artist's address, 467 Victoria Ave, Westmount PQ.)

Relief sculpté, Administration Building, McGill University, Montréal, artiste Louvin



1



2



3

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4
Gilded copper fountain at Edmonton Centennial Library by Robert Oldrich, Architects Rensaa and Minsos. (Artist's address, 120 - 12th Ave SW, Calgary, Alta.)
Fontaine en cuivre doré, à la Bibliothèque Centennale à Edmonton par Robert Oldrich

5
Detail
Détail

6
Cast bronze tabernacle and candle holders at St Mary's Church, Regina by John Nugent, Architects McCudden and Goldie. (Artist's address, Miller Ave, Lumsden, Sask.)
Tabernacle en bronze et chandelier à l'Eglise St Mary, Regina par John Nugent

7
Stained glass window, Chapelle, Residence des Pères Ste Croix, Moncton, N.B. Artist Claude Roussel, Architect René Leblanc. (Artist's address, 129 Amiraut St, Ste Anselme, N.B.)

Vitrail à la chapelle de la Résidence des Pères Ste Croix, Moncton, N.B. Artiste Claude Roussel Architecte René Leblanc

8
Paint over plastic mural by Professor Norman Yates, The University of Alberta, Edmonton, at the Edmonton Centennial Library. Architects Rensaa and Minsos.

Mural en plastique peint par le Professeur Norman Yates de l'Université de l'Alberta.

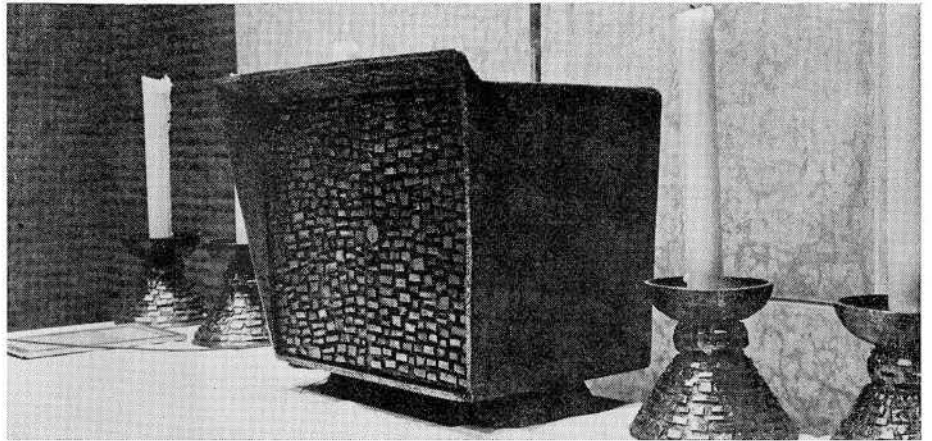
Edmonton à la Bibliothèque Centennale d'Edmonton

9
Glass mosaic by Jack Wilkinson and fish sculpture by John Ritchel at Kootenay Trout Hatchery, Kootenay, B.C. Architects, R. P. H. Gillett, Department of Public Works. (Artist Wilkinson's address is Department of Public Works, Victoria and artist Ritchel's address is 1740 Lands End, Victoria, B.C.)
Mosaïque en verre de Jack Wilkinson et sculpture d'un poisson par John Ritchel.

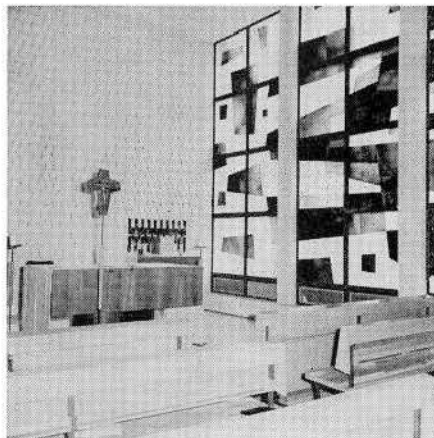
10
Close up of educational fish sculpture designed and executed by John Ritchel. Gros plan d'une sculpture de poisson, création de John Ritchel.



4



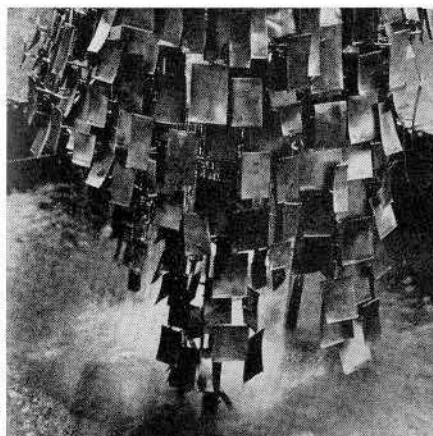
6



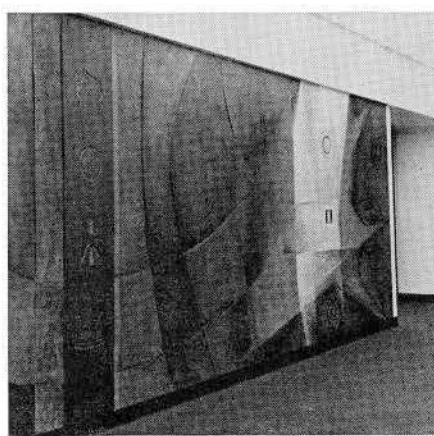
7



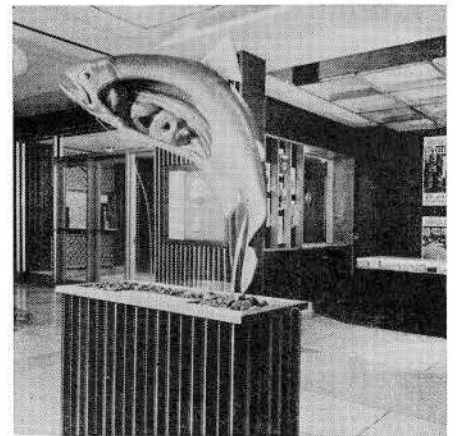
9



5



8



10

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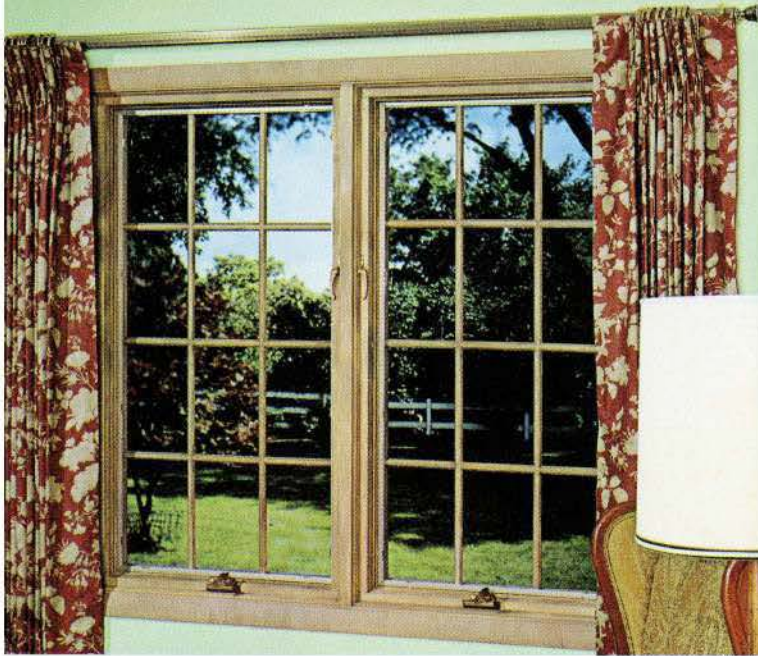
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PELLA MAKES QUALITY WOOD WINDOWS, WOOD FOLDING DOORS & PARTITIONS AND WOOD SLIDING GLASS DOORS

The response to requests for submission of projects for *Architecture Canada's* second January Preview issue was overwhelming. We received 127 projects from 58 firms. Even though we increased considerably the normal number of pages in the features section, we could find space for only 74. All projects, we are told by the architects concerned, are planned to start in 1968, or shortly thereafter.

We asked R. J. Thom, FRAIC, partner with Thompson, Berwick and Pratt, Toronto, to comment on the vast array of projects we had pinned up for examination in our editorial offices. The following is a summary of the discussion that ensued.

The overriding impression was that the work is of an extraordinarily high standard, not just of a few outstanding projects, but of the general level exhibited by all designs. It was extraordinary because, as Ron Thom pointed out, "no one expects 74 good plays to be written in any one year".

We speculated on the reasons for this. It would seem that the infusion of young talent, trained in the last decade or two, was making its mark both independently and, most importantly, in large, well established firms where there is the opportunity to work on sizeable projects. Inevitably, we concluded that Expo, too, had its influence: confidence gained by Canadian architects who had appeared on the world stage, alongside accepted stars, has had a marked effect.

We also felt that something special had been infused into world architecture of the sixties in general and Canadian architecture in particular. Perhaps for the first time we are emerging from the renaissance view of architecture of Inigo Jones' set designing, of not seeing the design only as the making of handsome artifacts. We speculated that, contrary to popular myth, this was because the current generation of architects now know a lot more of what the engineer knows, and is more reluctant to abuse the engineer. Architects now insist on programming the problem and, because of being involved at the inception of any project, there is a greater awareness of the context. The consequence seems to be a greater ability to deal with complexity and, not surprisingly, to see complexity exhibiting itself in digestible form. Space is dealt with more uncompromisingly — parts of buildings are manipulated to suit program needs. The solutions to the programs express themselves.

A continuing concern is the kind of commissions architects in general deal with. They still seem to be of the special, one-off kind. The activity of building in mass, especially in housing, industry, commerce and urban planning, is only indirectly touched by the architect — as style giver, rather than innovator. And this in spite of the fact that the schools of architecture attempt to deal with these problems. Might the reason be that the schools are dealing with such problems on a wrong basis? Do they formulate their problems in order to arrive at architecturally acceptable solutions?

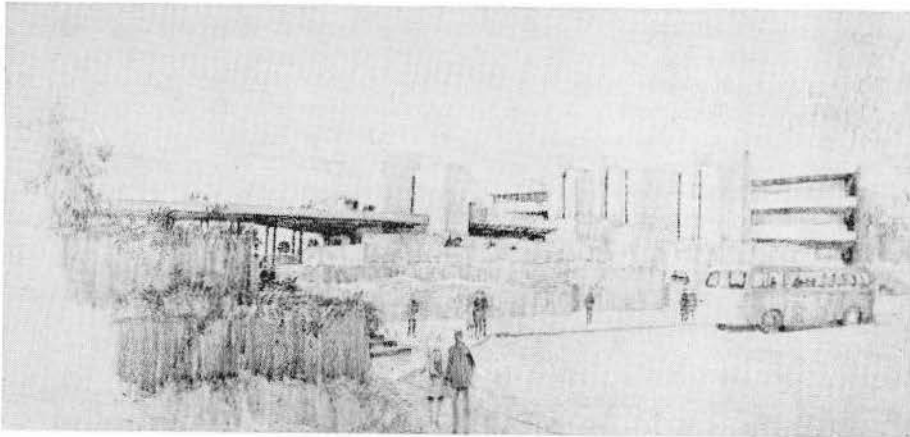
Besides these nagging doubts, the potential standard of performance exhibited in the designs that follow can only give cause for optimism. We thank the contributors for their generous response, and wish them success on the realization of their designs.
A. J. D.

Educational

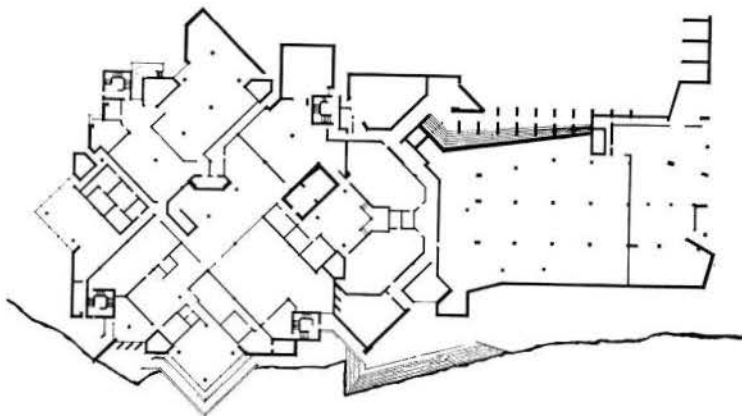
Library, Trent University
Peterborough, Ontario

R. J. Thom, Architect

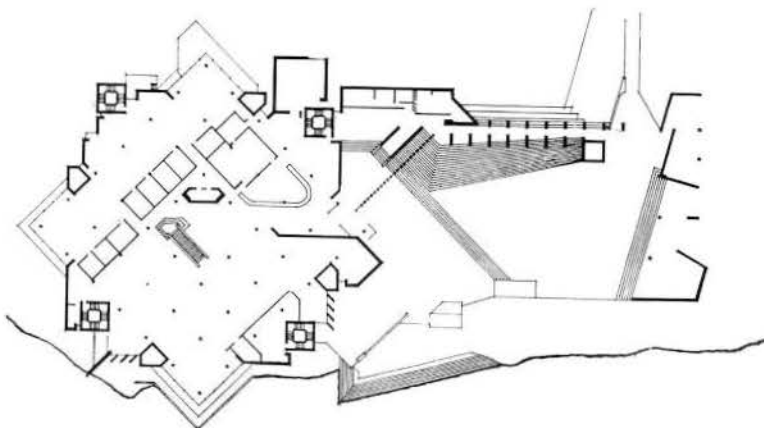
1a
*View of the university court and library
from the vehicular space*
*Vue de la circulation automobile sur la cour
de l'Université et la Bibliothèque*



1a



1b



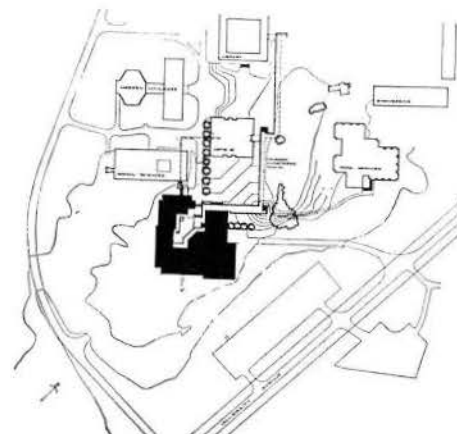
1c

1b
First floor plan
Plan du premier étage
1c
Second floor plan
Plan du second étage

Arts III
University of Waterloo

Webb, Zerafa, Menkes, Architects

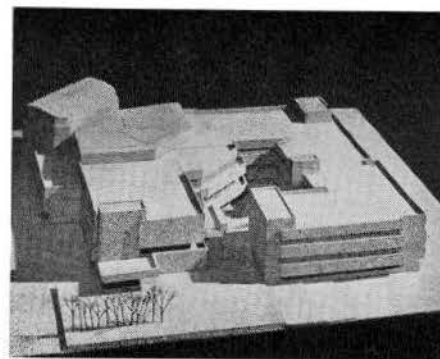
2a
South campus
Campus sud
2b
History floor
Étage du cours d'histoire
2c
Model
Modèle



2a



2b

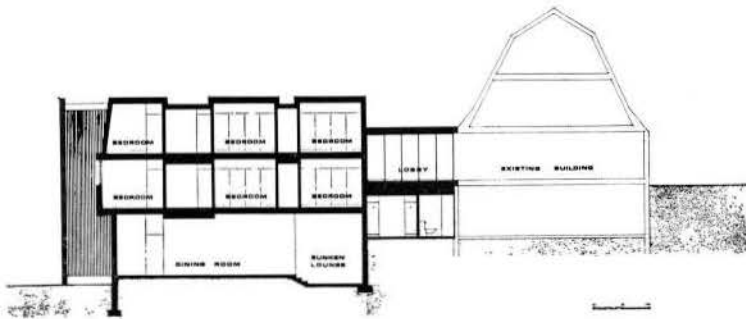


2c

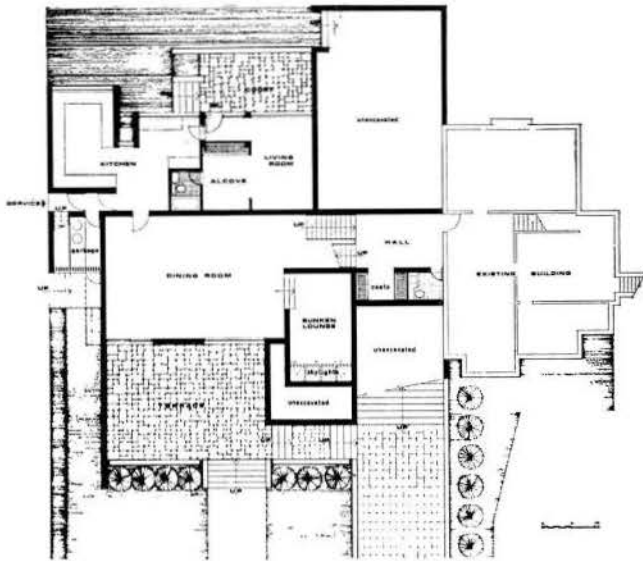
Fraternity Residence
Rensselaer University, Troy, N.Y.

Rosen, Caruso, Vecsei, Architects

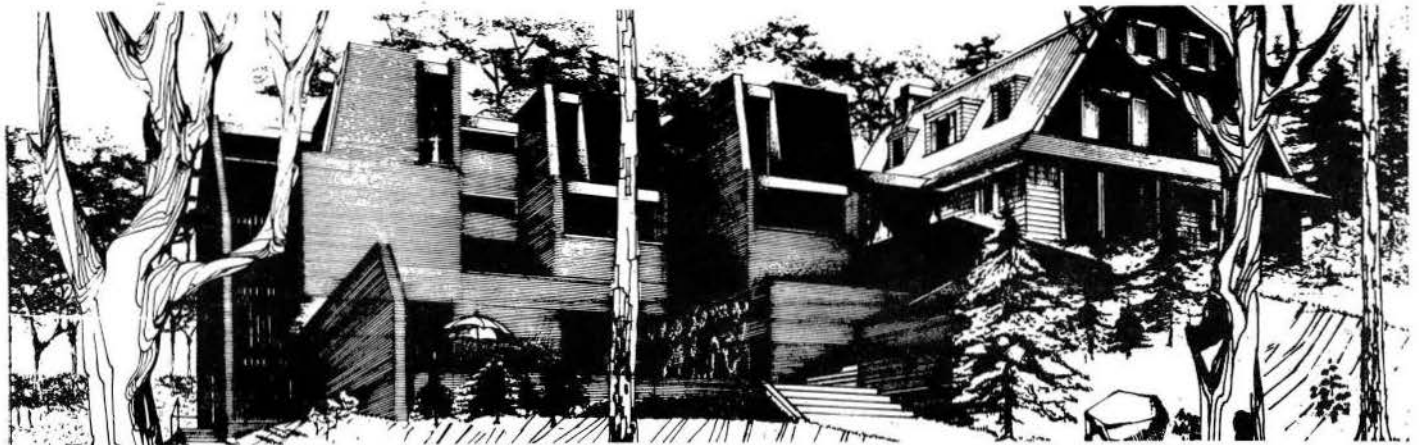
- 3a
Section
Coupe
- 3b
Ground floor plan
Plan du rez-de-chaussée
- 3c
Perspective



3a



3b

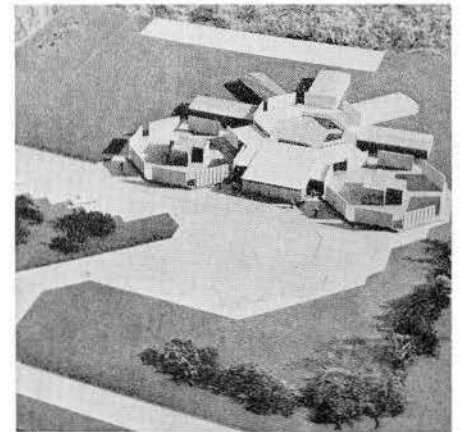


3c

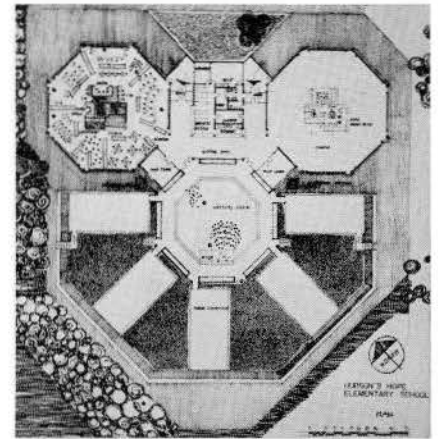
Hudson's Hope Elementary School
School District 83, B.C.

Rhone & Iredale, Architects

- 4a
Model
Modèle
- 4b
Plan



4a



4b

Pineway Boulevard Public School
Borough of North York, Ontario

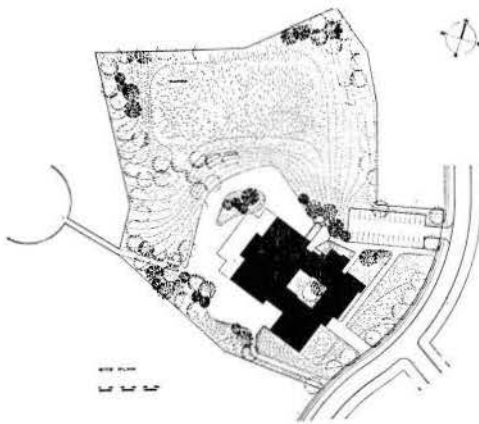
**Banz, Brook, Carruthers, Grierson,
Shaw, Architects**

- 5a
Perspective
- 5b
Site plan
- 5c
Plan d'emplacement
- 5d
Plan
- 5d
Sectional perspective
- 5d
Coupe perspective

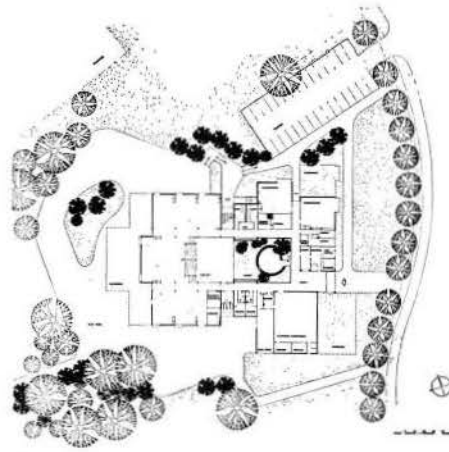


PINEWAY BLVD. PUBLIC SCHOOL,
BOROUGH OF NORTH YORK

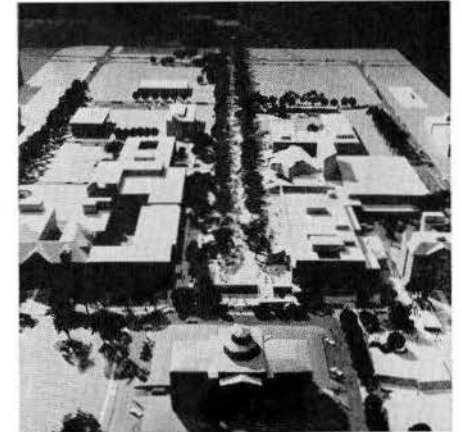
5a



5b



5c



6a

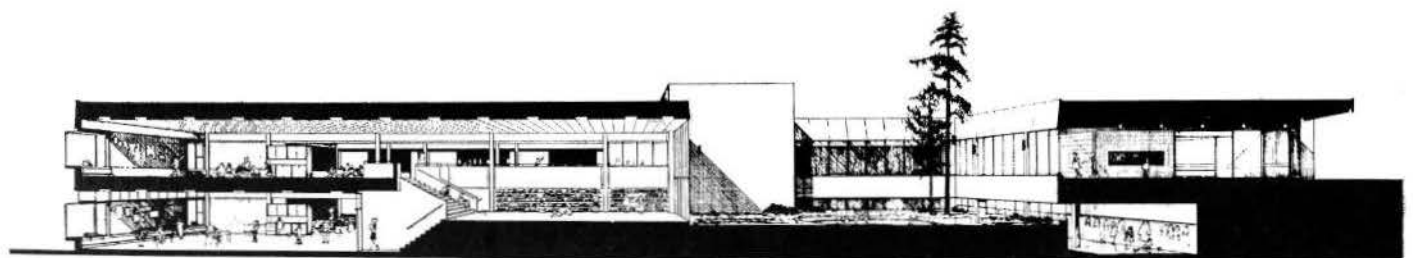


6b

University Centre
University of Manitoba

**Waisman, Ross, Blankstein, Coop,
Gillmor, Hanna, C. R. Nelson Jr.,
R. Sellors, C. DeForest, Associated
Architects**

- 6a
Model
- 6a
Modèle
- 6b
Bookstore
- 6b
Librairie

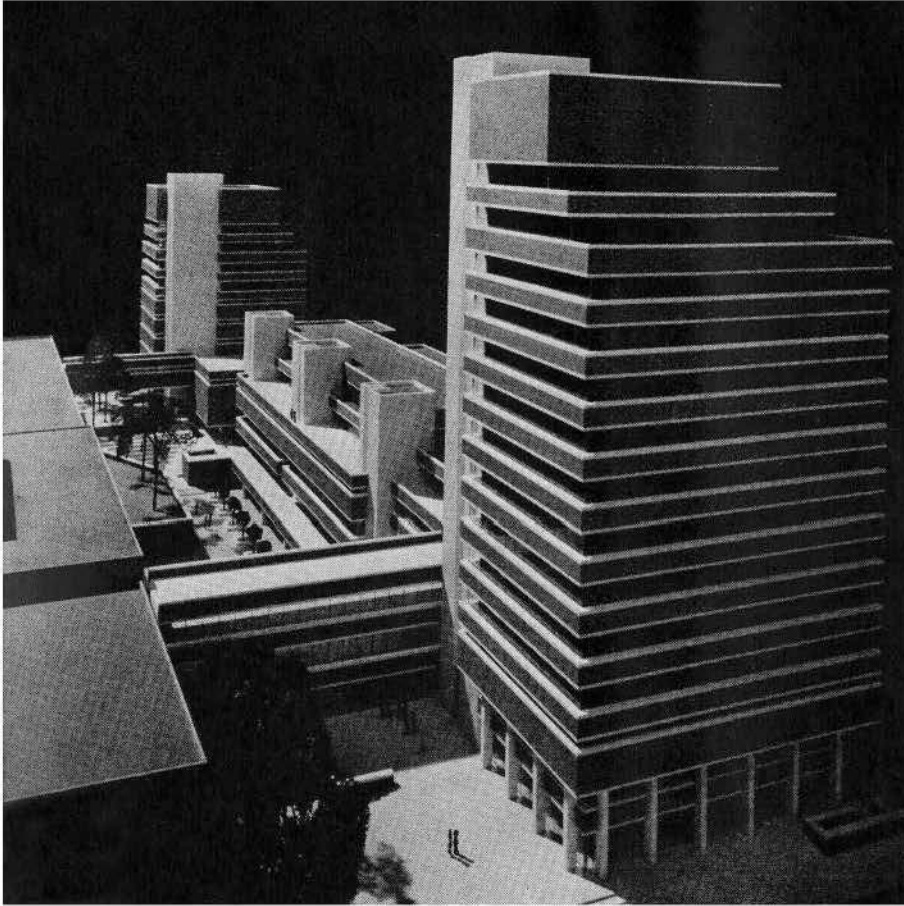


5d

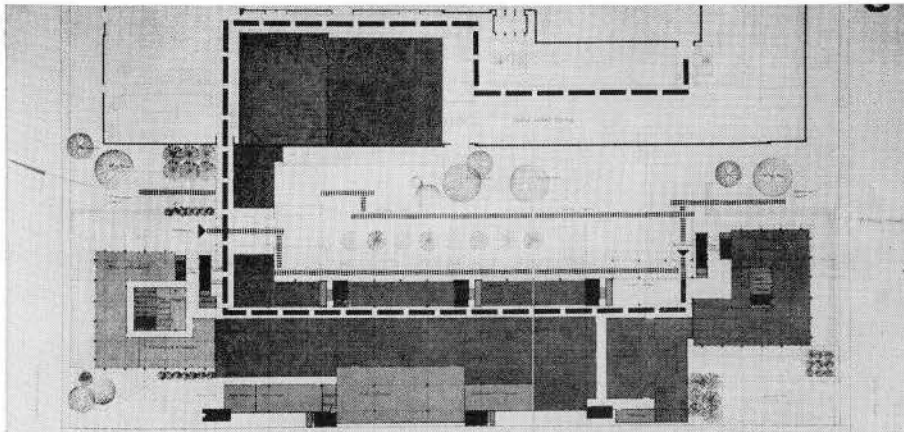
**Ryerson Polytechnical Institute
Expansion Phase I, Toronto, Ontario**

Webb, Zerafa, Menkes, Architects

- 7a
Model
Modèle
- 7b
Ground floor plan
Plan du rez-de-chaussée



7a



7b

**Credit Valley School of Nursing
Cooksville, Ontario**

**Dunlop, Wardell, Matsui, Aitken
Architects**

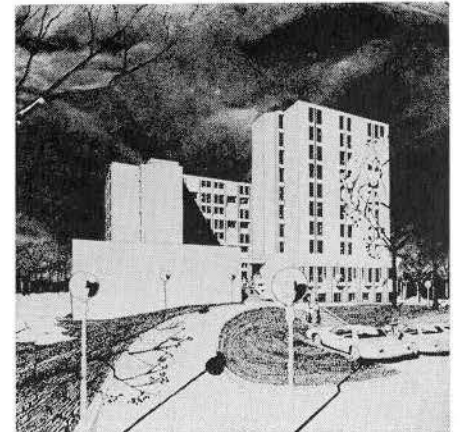
- 8a
Ground floor plan
Plan du rez-de-chaussée
- 8b
Corridor floor plan
Plan du corridor
- 8c
Perspective



8a



8b



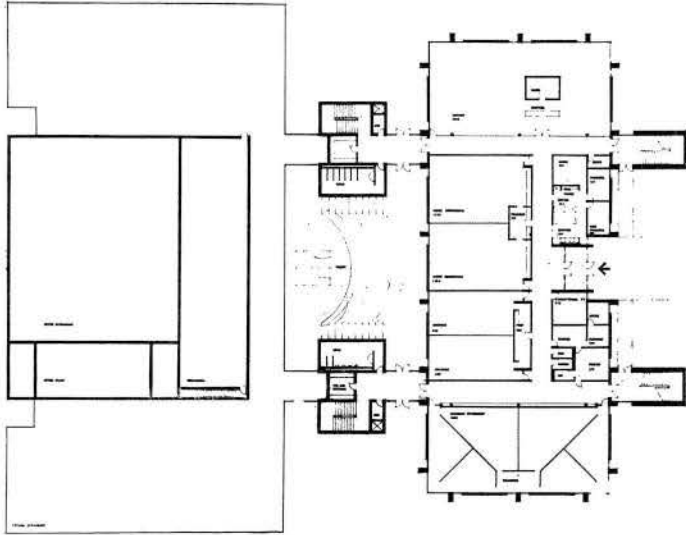
8c

Kane Senior Elementary School
Borough of York, Toronto, Ontario

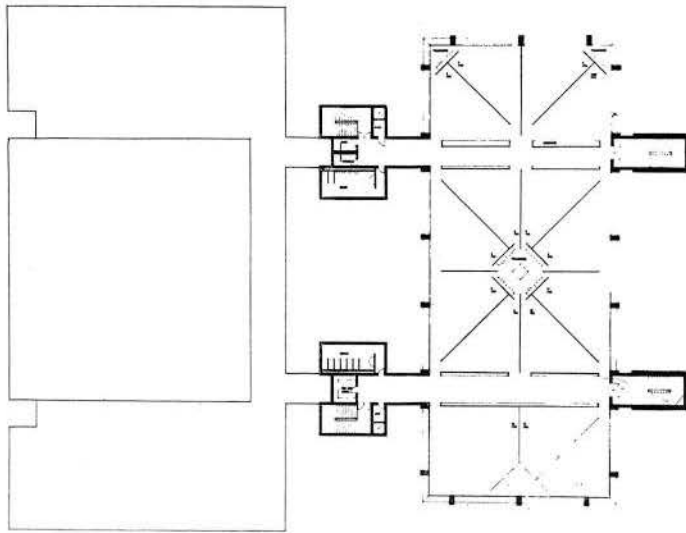
John B. Parkin Associates, Architects
and Engineers

9a
Second floor plan
Plan du deuxième étage

9b
Third floor plan
Plan du troisième étage



9a

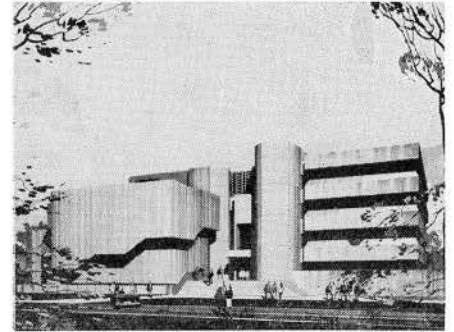


9b

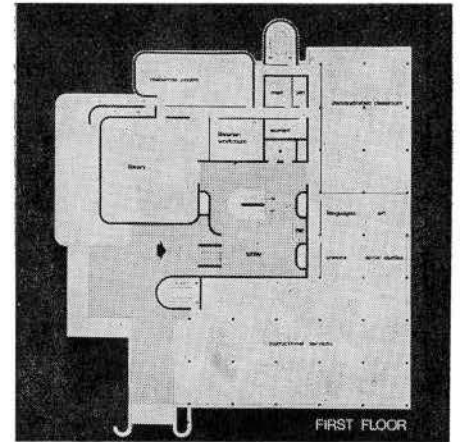
Administration Building, The Board of
Education for the Borough of
Etobicoke, Ontario

Shore & Moffat and Partners, Architects
Engineers and Site Planners

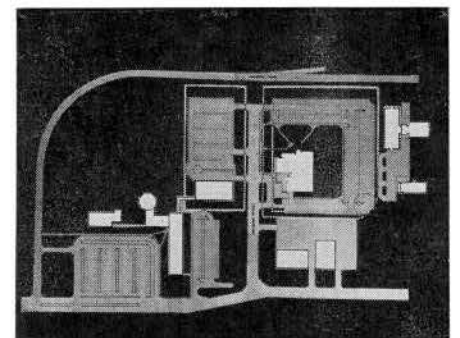
10a
Perspective
10b
First floor plan
Plan du premier étage
10c
Site plan
Plan d'emplacement



10a



10b



10c

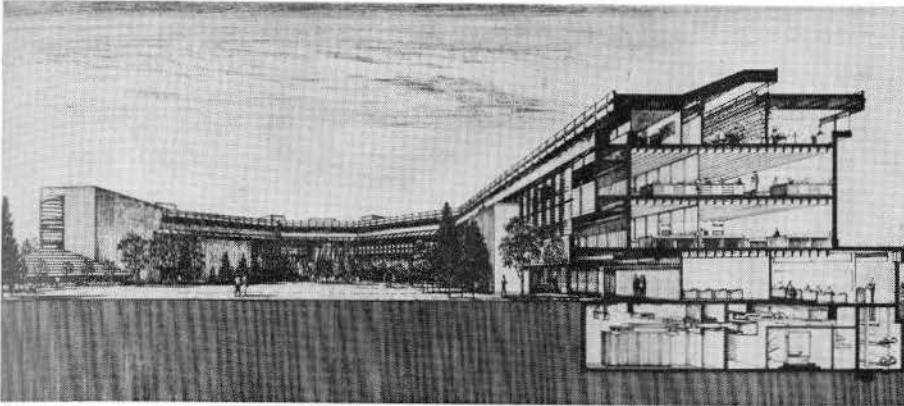
Lakehead University, Centennial Building, Port Arthur, Ontario

Fairfield & DuBois, Architects

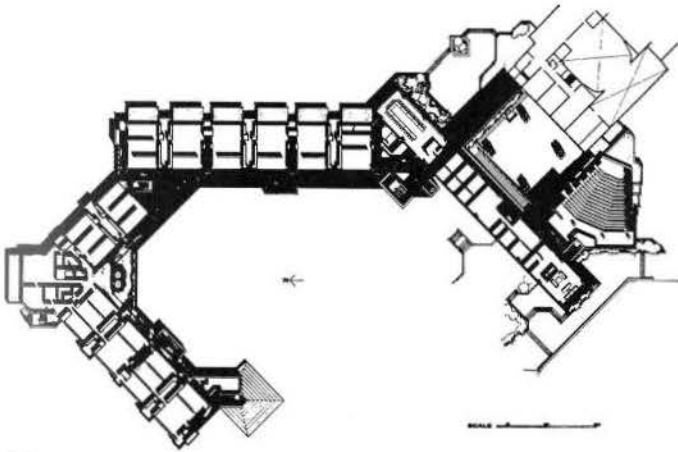
11a
Cut section through Science Wing
Coupe sur l'aile des Sciences

11b
Second floor plan
Plan du second étage

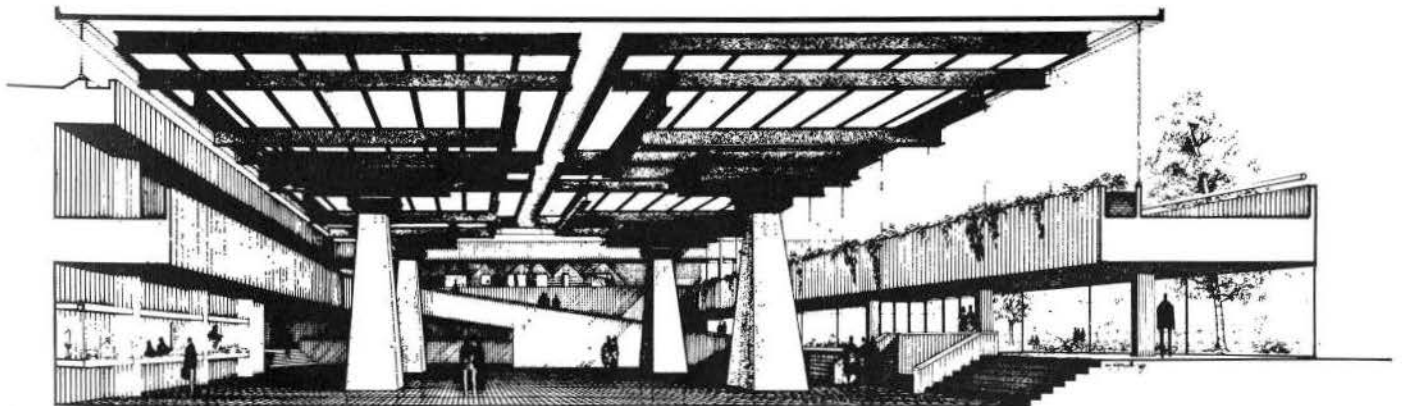
11c
Cutaway perspective of the Agora
Coupe perspective de l'Agora



11a



11b



11c

**Lutheran Theological Seminary
Saskatoon Campus, Saskatoon, Sask.**

**J. Holliday-Scott, M. Desmond Paine,
Architects**

12a, b
Model
Modèle



12a



12b

Central Library, York University
Toronto, Ontario

Gordon S. Adamson & Associates
John B. Parkin Associates
Shore & Moffat and Partners
Architects and Engineers

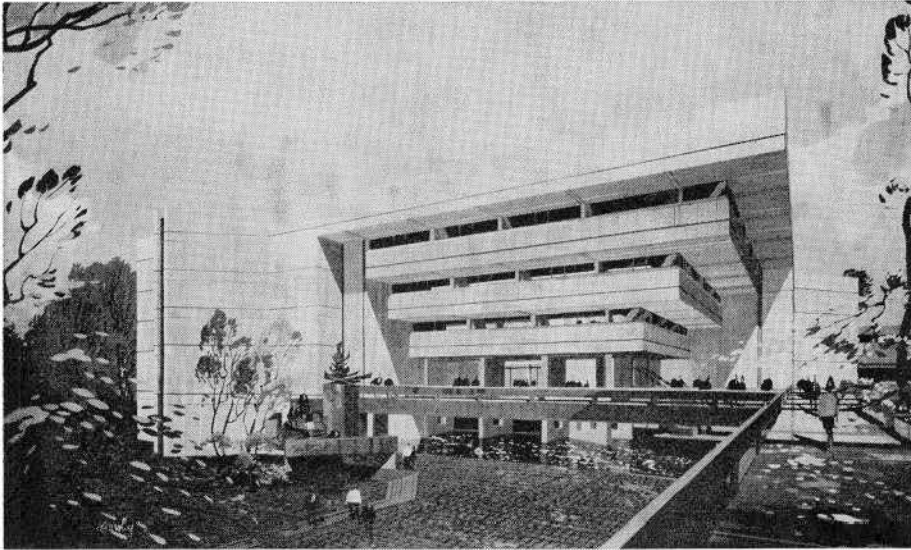
13a
Perspective
13b
Model
Modèle

13c
Wall sections
Murs profilés
13d
Section
Coupe

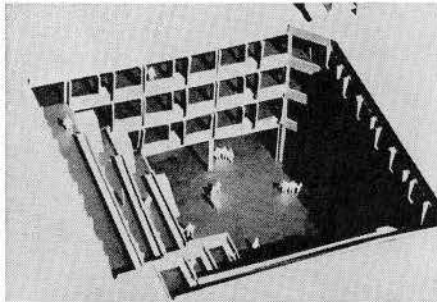
Tecumseh Senior Public School
Scarborough, Ontario

Fairfield and DuBois, Architects

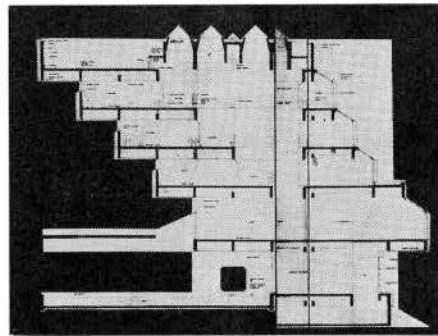
14a
Perspective
14b
Site plan
Plan d'emplacement
14c
First floor plan
Plan du premier étage



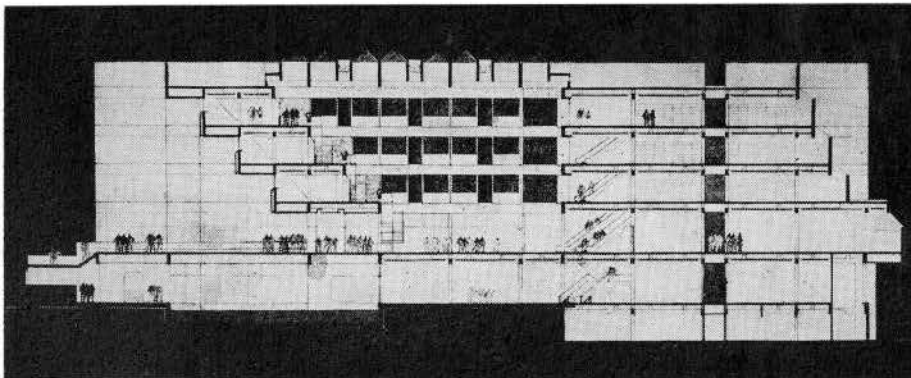
13a



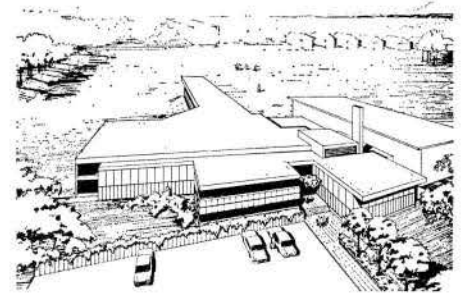
13b



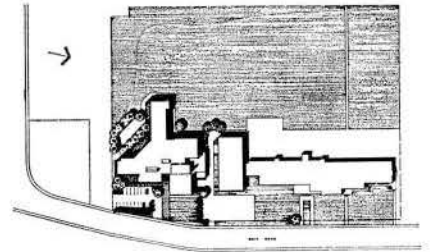
13c



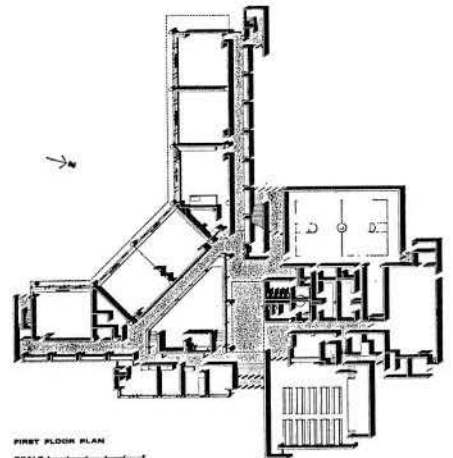
13d



14a



14b

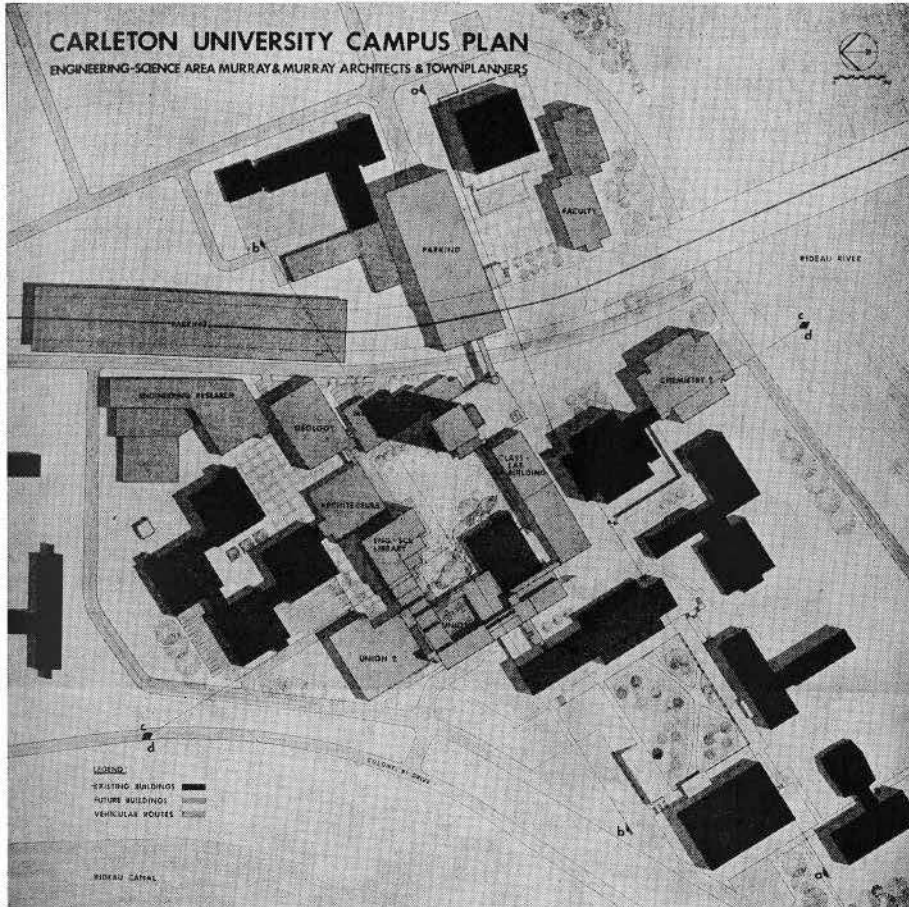


14c

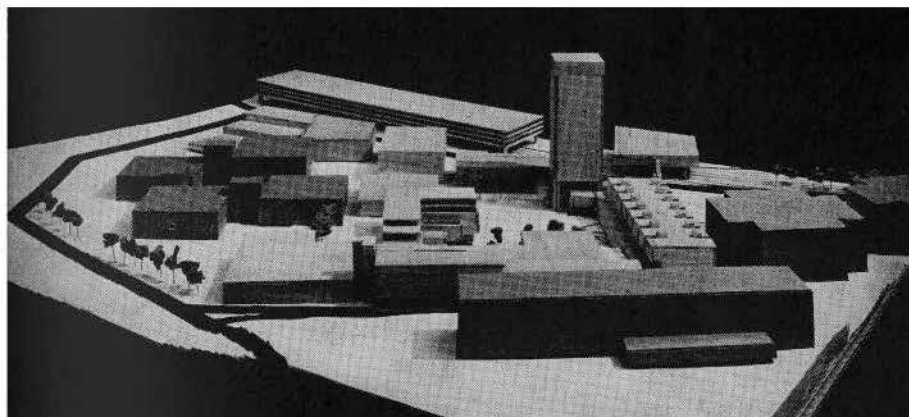
**Campus Plan for Engineering
Science Precinct, Carleton University
Ottawa, Ontario**

**Murray and Murray, Architects and
Townplanners**

15a
Campus plan
Plan du campus
15b
Model
Maquette



15a

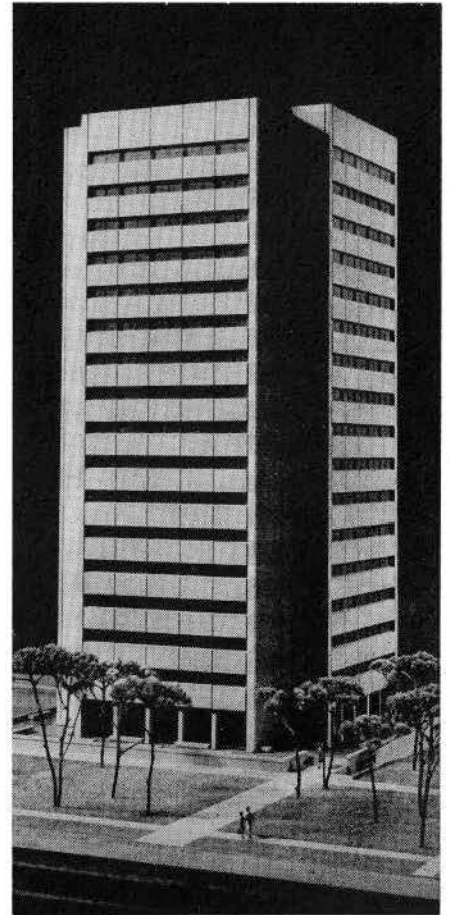


15b

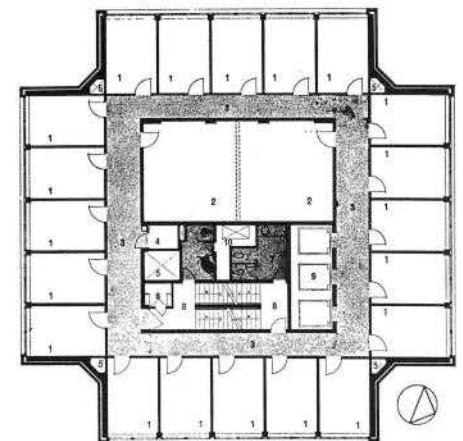
**Edifice à Bureaux de l'Université Laval
Québec**

Jacques Bissonnette, Architecte

16a
Maquette
Model
16b
Plan d'étage typique
Typical floor plan



16a

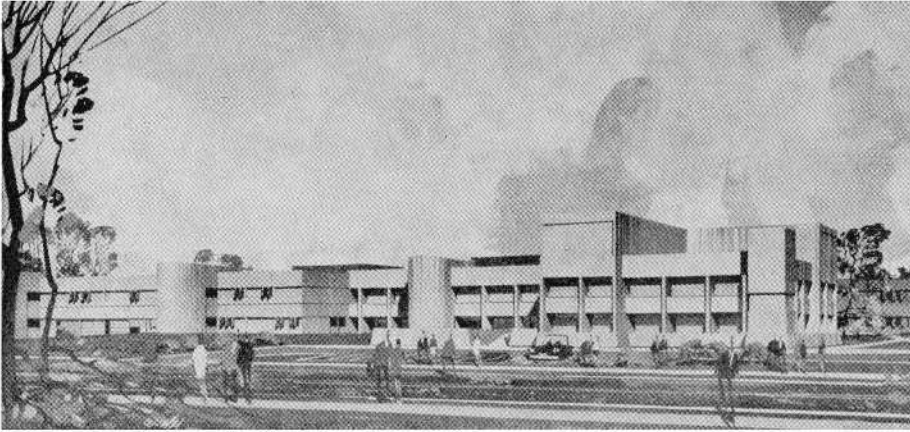


16b

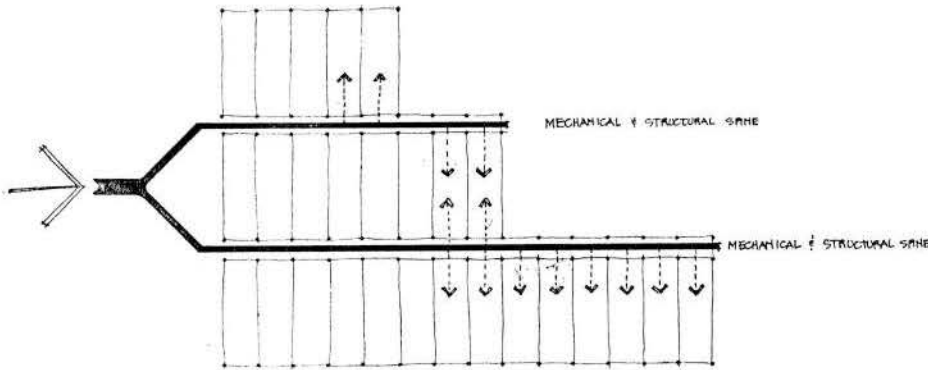
Stephen Leacock Educational Complex
 Collegiate, Senior, Junior
 Scarborough, Ontario

Abram and Ingleson, Architects

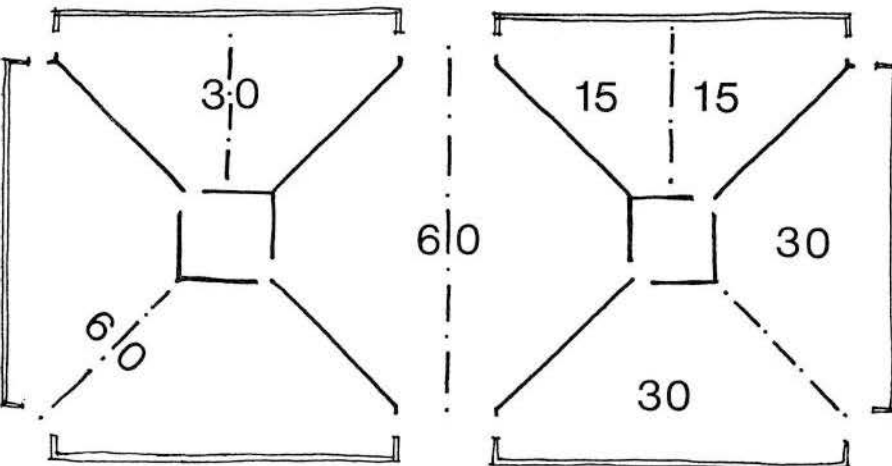
- 17a
Perspective
- 17b
System of Growth
Système d'accroissement
- 17c
Typical Unit (Collegiate Classroom)
Unité typique (Classe de Lycée)



17a



17b

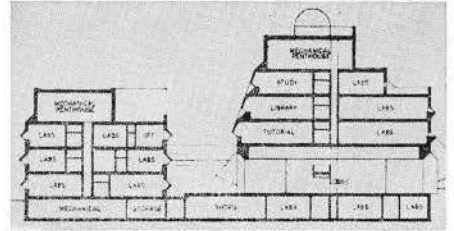


17c

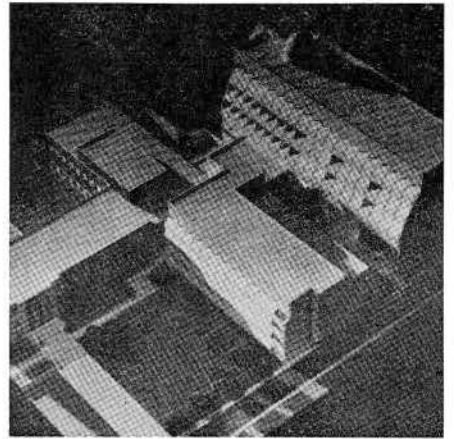
Physical Sciences Building, Phase 1
 University of Guelph, Ontario

Craig, Zeidler & Strong, Architects

- 18a
Section through Physics and Chemistry Building
Coupe sur le bâtiment de Physique et Chimie
- 18b
Model from above
Modèle d'en haut
- 18c
Model of Physics Building from the north
Maquette de l'édifice de physique vue du nord



18a



18b

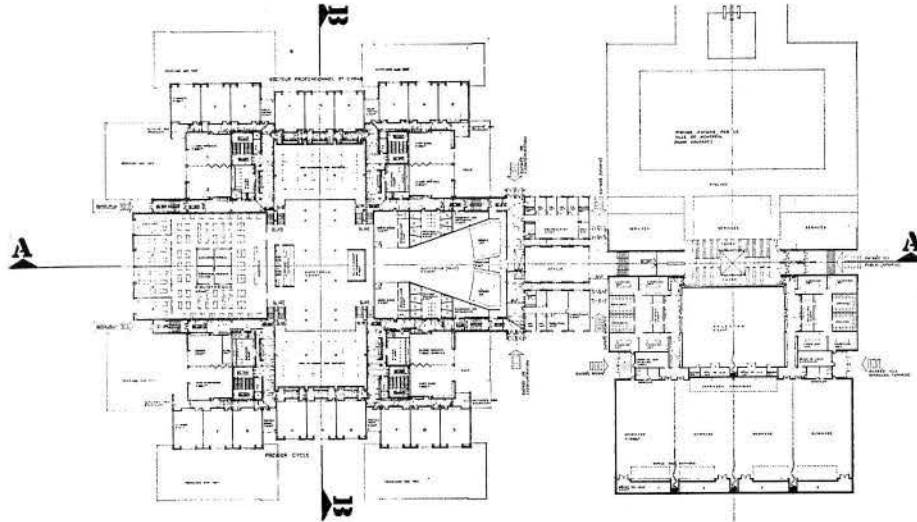


18c

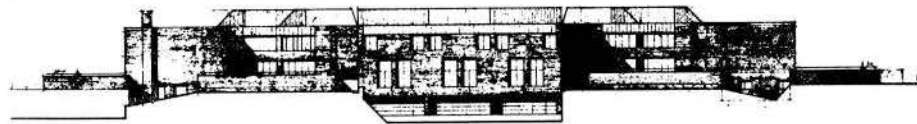
Ecole Secondaire Polyvalente
Edouard Monpetit, Montréal

Longpré Marchand Goudreau Dobush
Stewart Bourke, Architectes

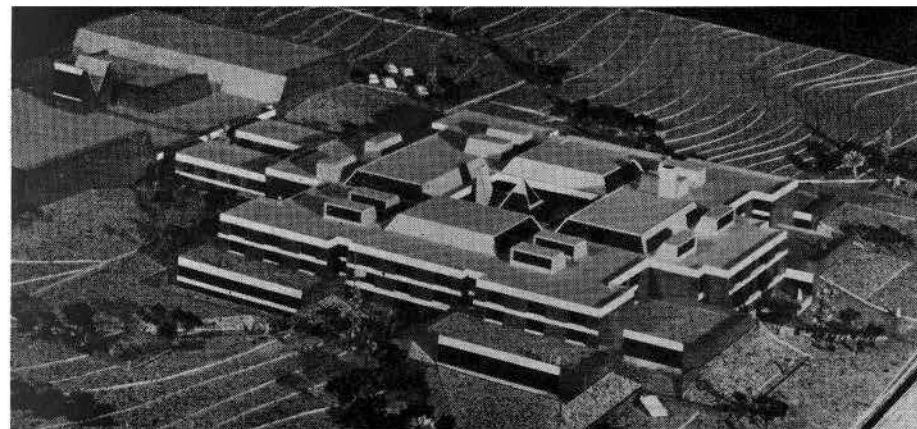
19a
Plan du premier étage
First floor plan
19b
Elévation nord-est
Nord east elevation
19c
Modèle
Model



19a



19b

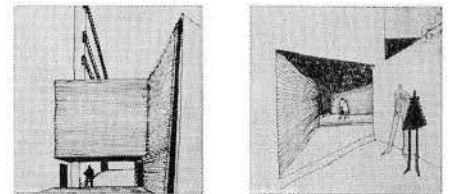
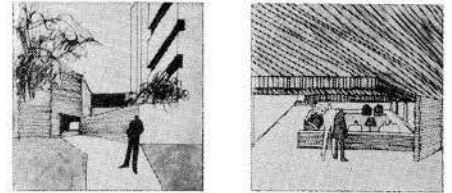


19c

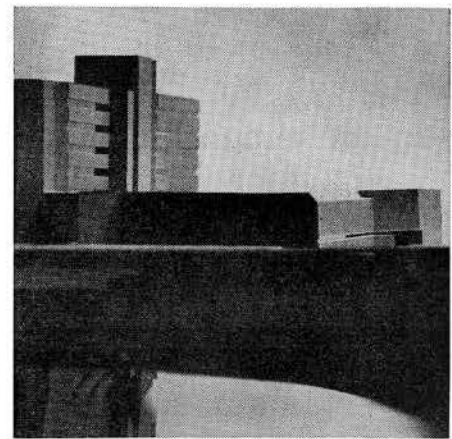
Osler School of Nursing, Weston
Ontario

Craig, Zeidler & Strong, Architects

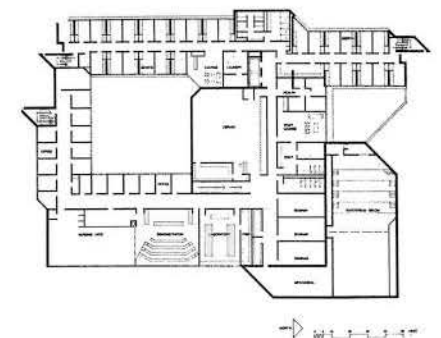
20a
Sequential sketches through building
Esquisses successives de l'édifice
20b
Modèle
Modèle
20c
Plan
Plan



20a



20b

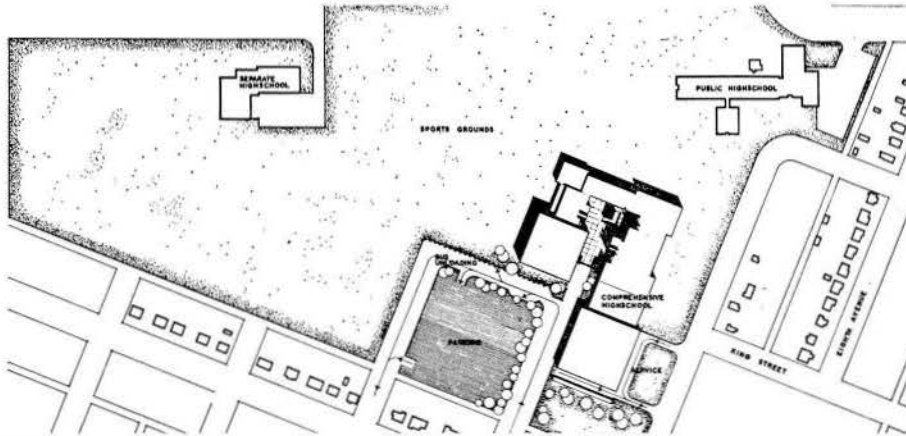


20c

Melville Comprehensive High School
Melville, Saskatchewan

Kerr Cullingworth Riches Associates
Architects

- 21a
Site plan
Plan d'emplacement
- 21b
East elevation
Élévation est
- 21c
Ground floor plan
Plan du rez-de-chaussée

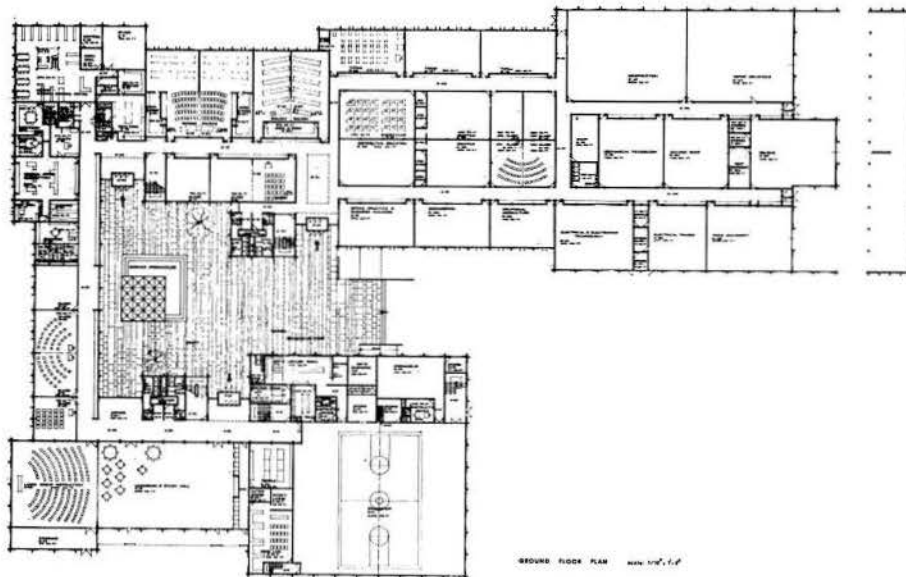


21a



EAST ELEVATION

21b



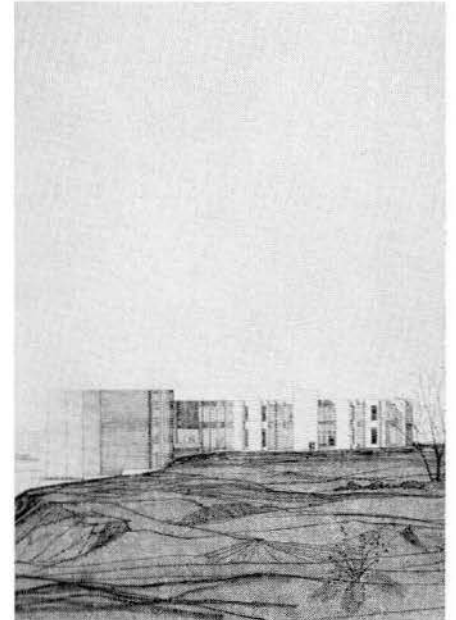
GROUND FLOOR PLAN 1/8" = 1'-0"

21c

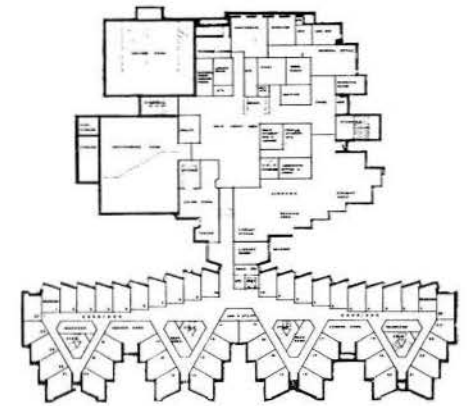
Sudbury Regional School of Nursing
Sudbury, Ontario

Townend Stefura & Baleshta
Architects

- 22a
Perspective
- 22b
Second floor plan
Plan du deuxième étage



22a

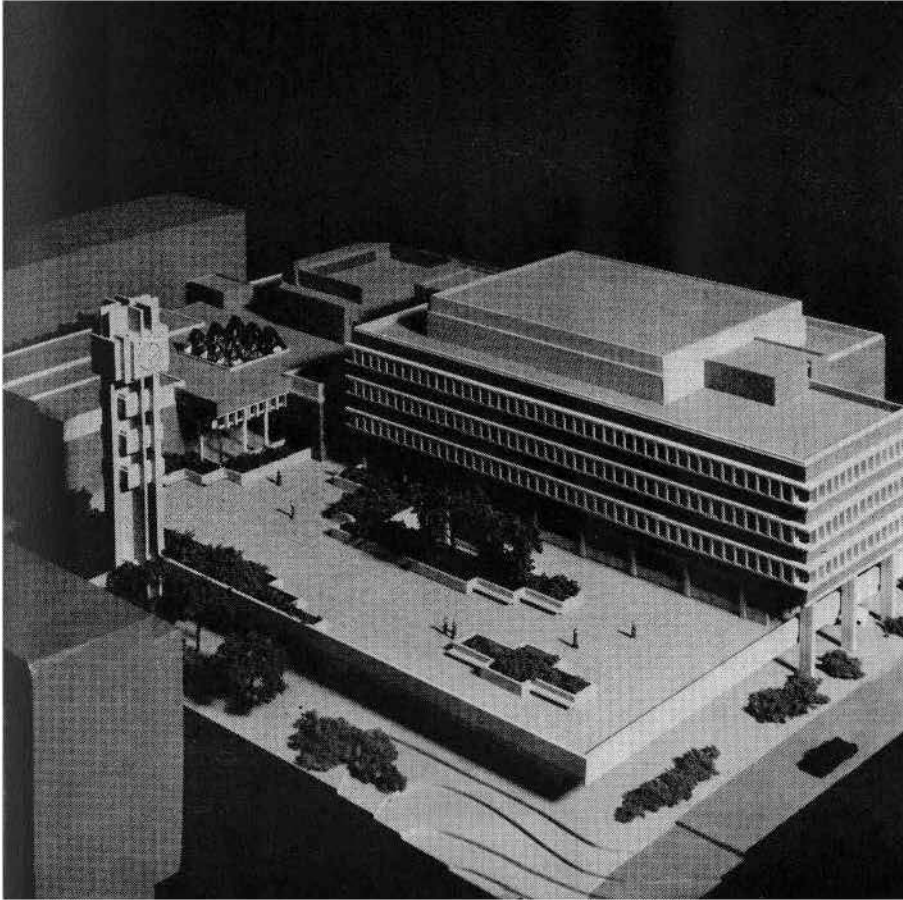


22b

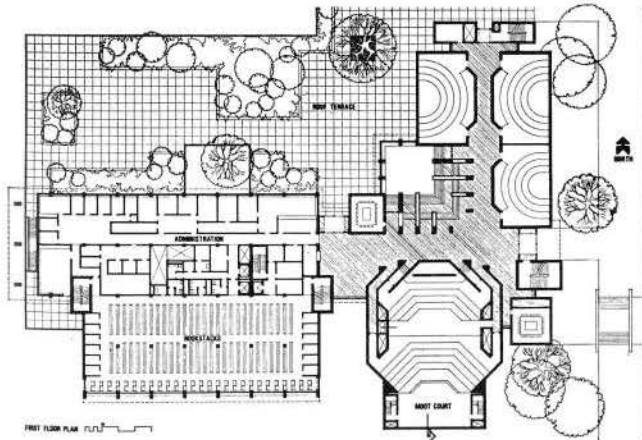
Osgoode Hall Law School
York University, Toronto, Ontario

Marani, Rounthwaite & Dick
Architects

23a
Model
Modèle
23b
First floor plan
Plan du premier étage



23a

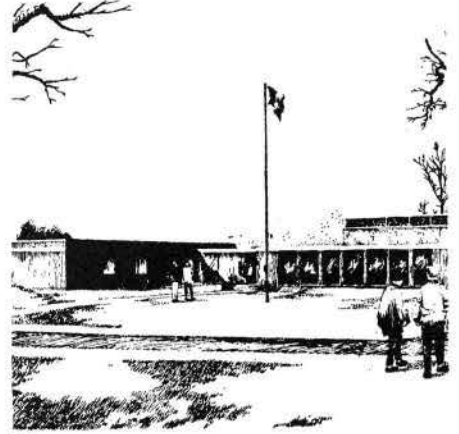


23b

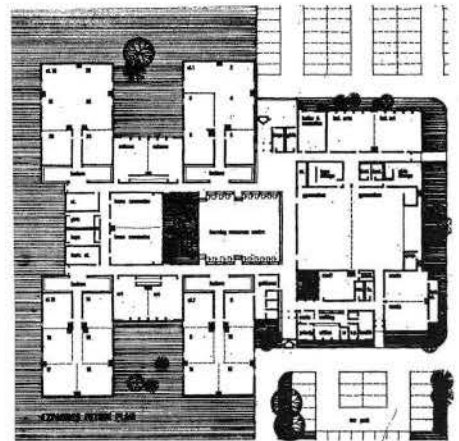
Glenhaven Senior Public School
Toronto, Ontario

Robbie Vaughn & Williams, Architects

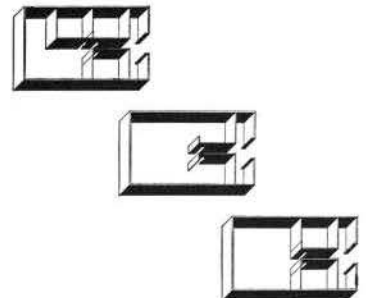
24a
Perspective
24b
Expanded future plan
Projet d'expansion
24c
Flexibility of walls
Flexibilité des murs



24a



24b



24c

**Brock University, Thistle Project
Lecture Hall Complex
St Catharines, Ontario**

**Gordon S. Adamson & Associates
John B. Parkin Associates, Shore &
Moffat and Partners, Architects and
Engineers**

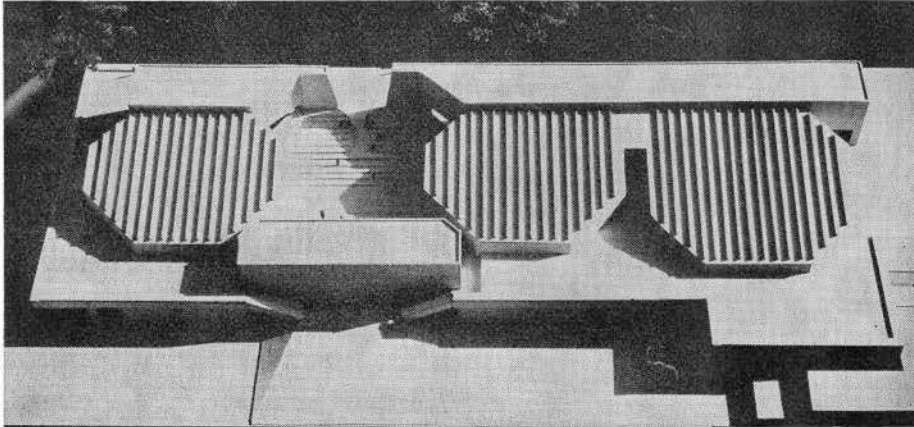
- 25a
*Model, Lecture Hall Complex
Maquette, Complexe de la salle de lecture*
- 25b
*Section, Lecture Hall Complex
Coupe, Complexe de la salle de lecture*

- 25c
*Main floor plan, Thistle Project
Plan du rez-de-chaussée, projet chardon*
- 25d
*Elevation, Lecture Hall Complex
Élévation, Complexe de la salle de lecture*

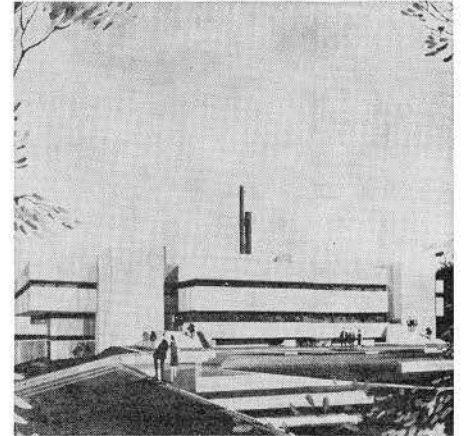
**Keelgate Junior High School
Downsview, Ontario**

**Shore & Moffat and Partners,
Architects, Engineers and
Site Planners**

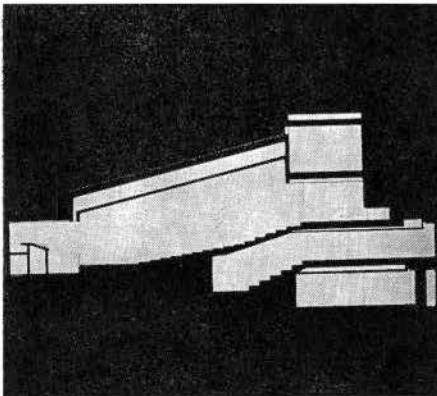
- 26a
Perspective
- 26b
*Second floor plan
Plan du deuxième étage*
- 26c
*Section
Coupe*



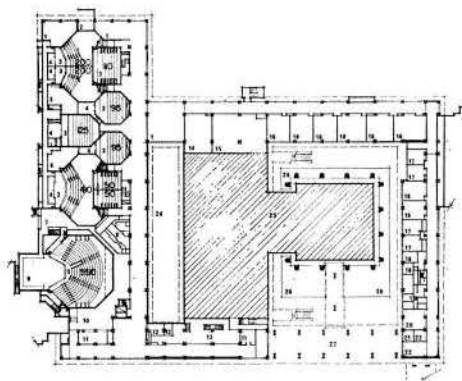
25a



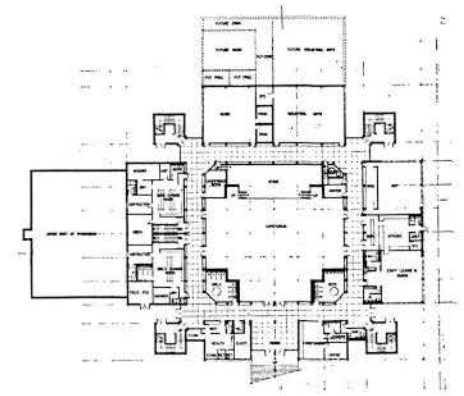
26a



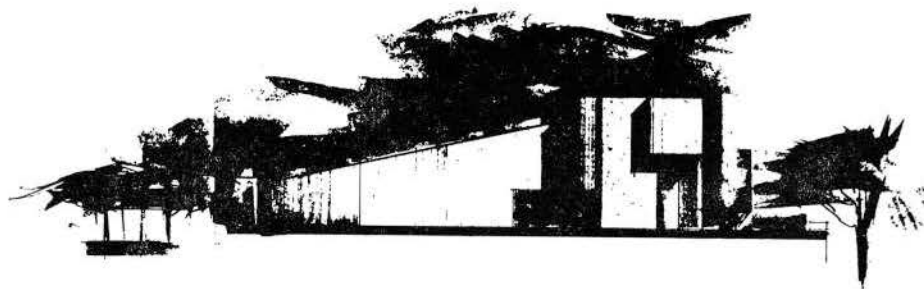
25b



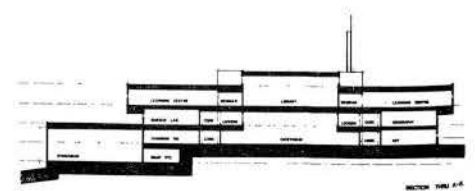
25c



26b



25d

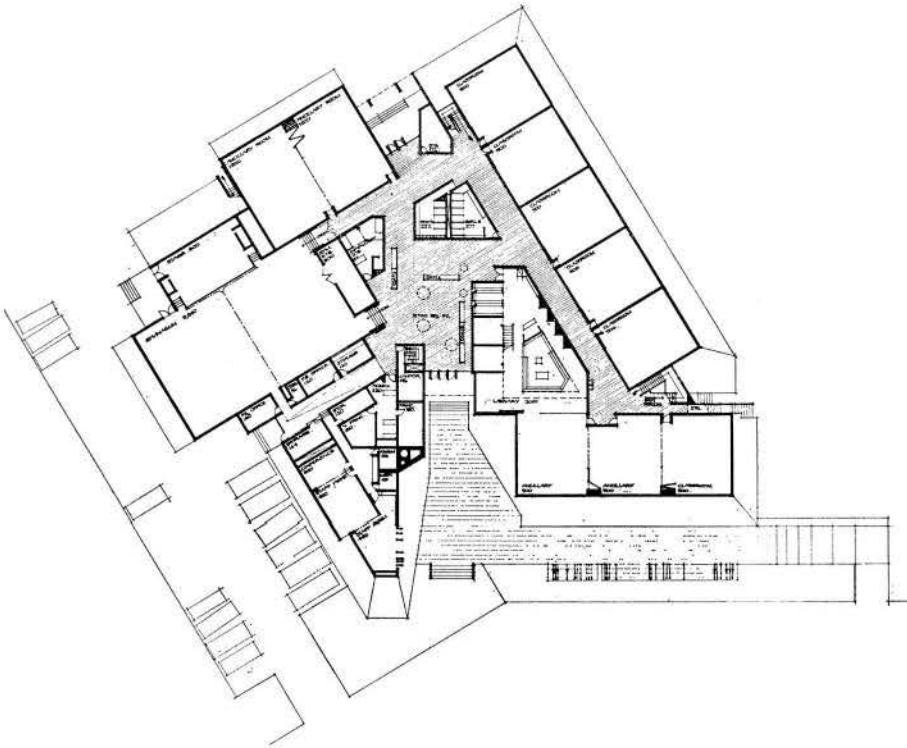


26c

**Mayland Heights Elementary School
Calgary, Alberta**

Gordon L. Atkins, Architect

27a
Plan
27b
South elevation
Élévation sud



27a

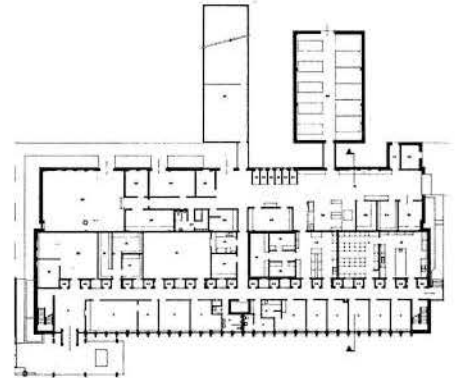
**Agricultural Research Lab for the
Canada Department of Agriculture
Regina, Saskatchewan**

**Department of Public Works of Canada
The D. H. Stock Partnership, Architects**

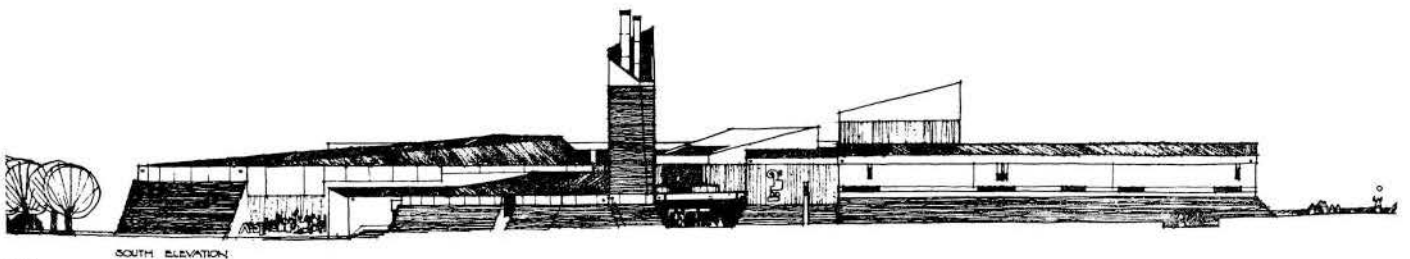
28a
Perspective
28b
First floor plan
Plan du premier étage



28a



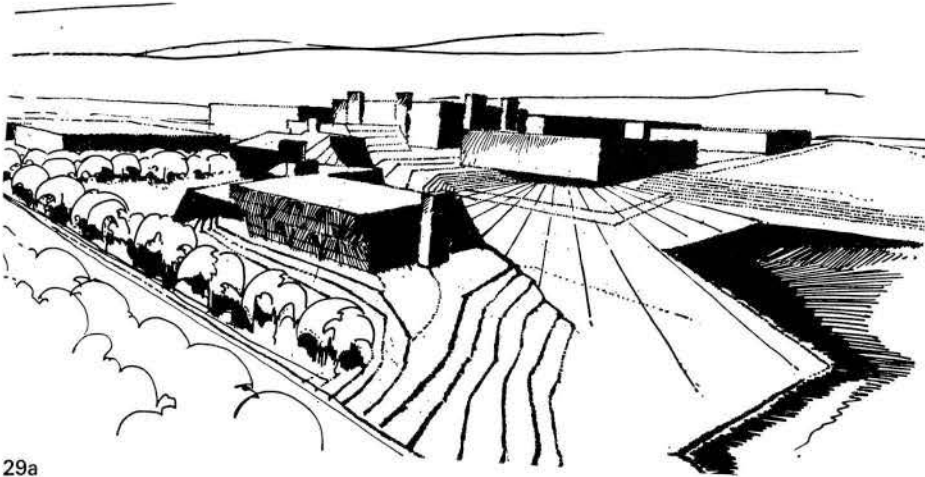
28b



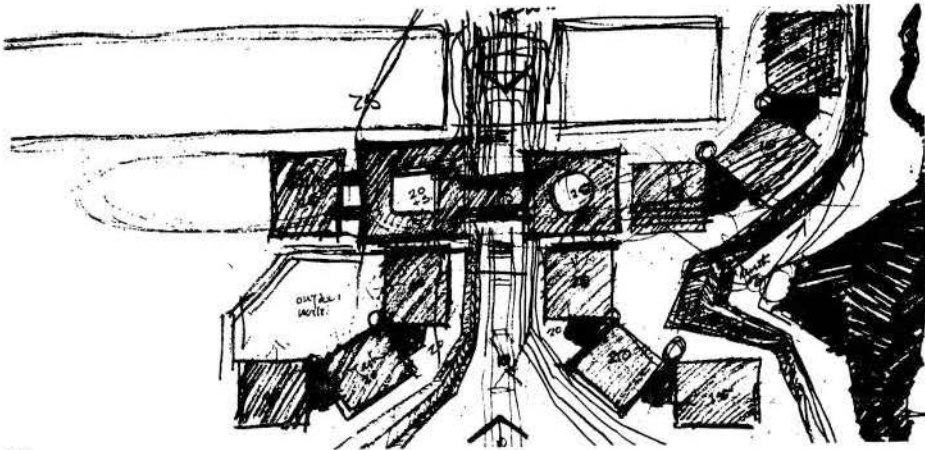
27b

Allward and Gouinlock, Architects

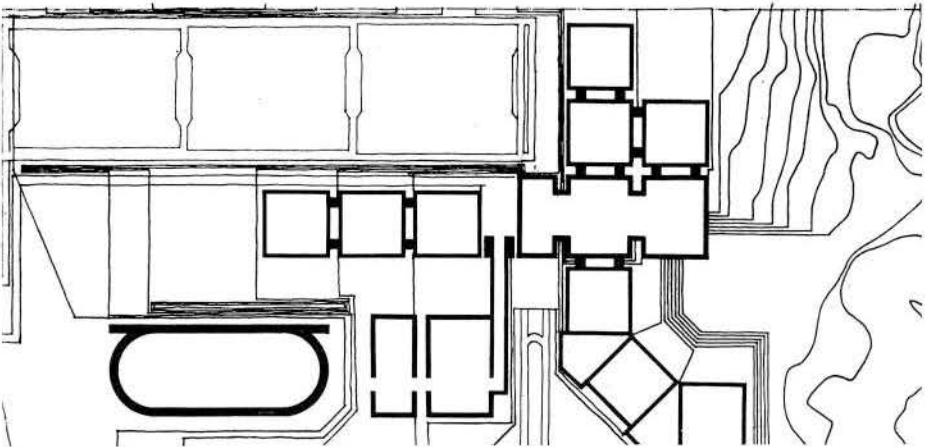
- 29a
Perspective sketch
Dessin en perspective
- 29b
Sketch
Esquisse
- 29c
Plan



29a



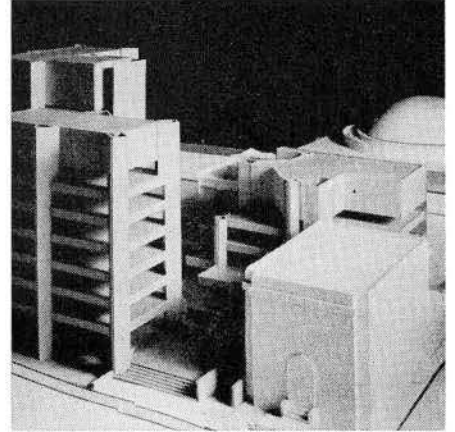
29b



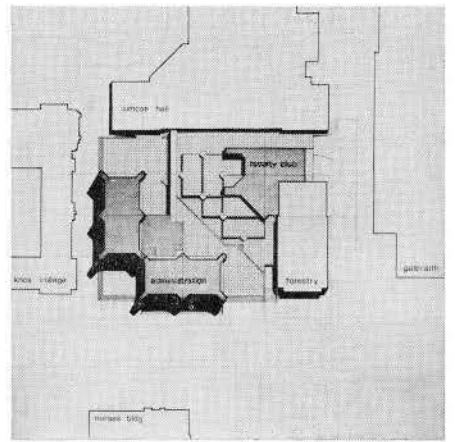
29c

Marani, Rounthwaite & Dick
Architects

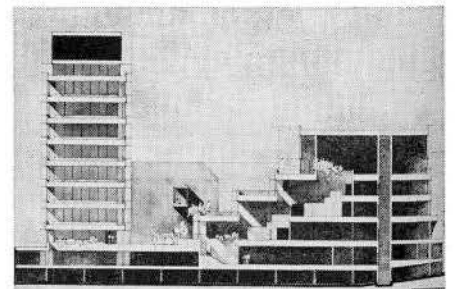
- 30a
Model
Modèle
- 30b
Site plan
Plan d'emplacement
- 30c
Section
Coupe



30a



30b



30c

Commercial and Industrial

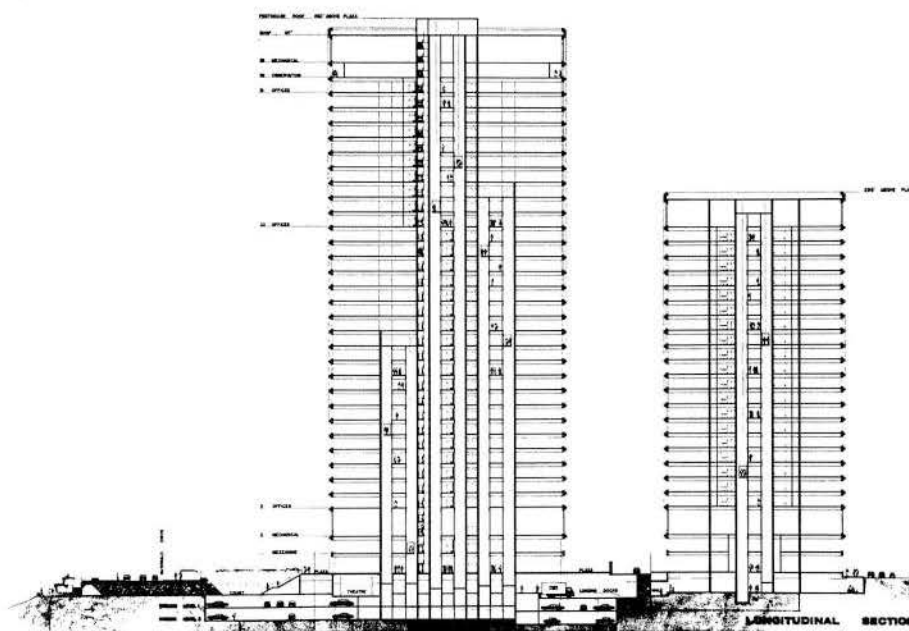
AGT Complex
Edmonton, Alberta

Rule, Wynn, Forbes, Lord & Partners
Webb, Zerafa, Menkes, Architects

1a
Model
Modèle
1b
Longitudinal section
Section longitudinale



1a

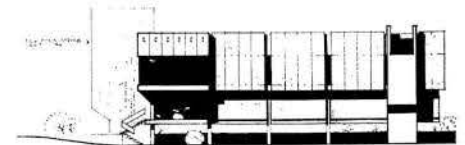


1b

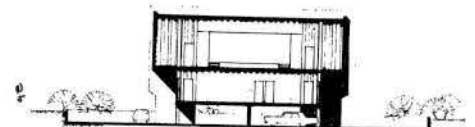
Union Hall, Toronto, Ontario

Gordon Korbee Tirion, Architects

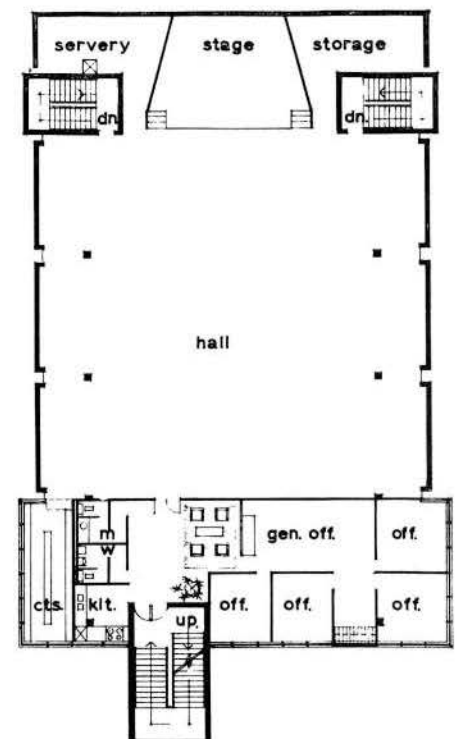
2a
East elevation
Élévation est
2b
Section
Coupe
2c
Second floor plan
Plan du deuxième étage



2a



2b



2c

220 Room Addition to the Skyline Hotel
Toronto, Ontario

Basil Capes, Architect

- 3a
Perspective
- 3b
North elevation
Élévation nord



3a

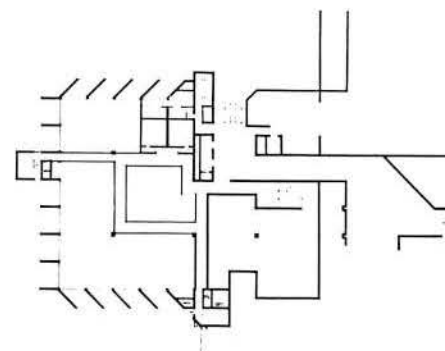
Ontario Stock Yards Office Building
Toronto, Ontario

Dunlop Wardell Matsui Aitken,
Architects

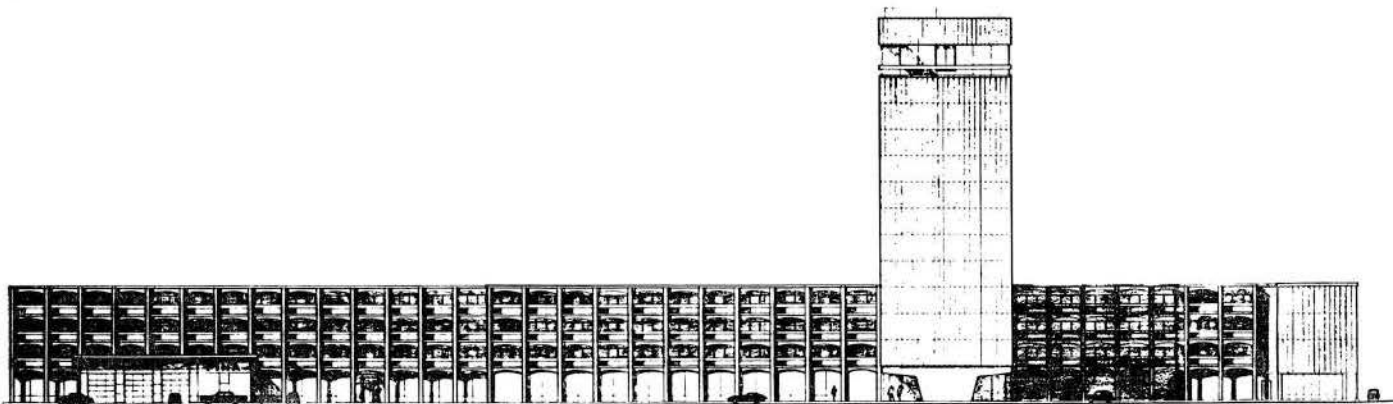
- 4a
Model
Modèle
- 4b
Ground floor plan
Plan du rez-de-chaussée



4a



4b



3b

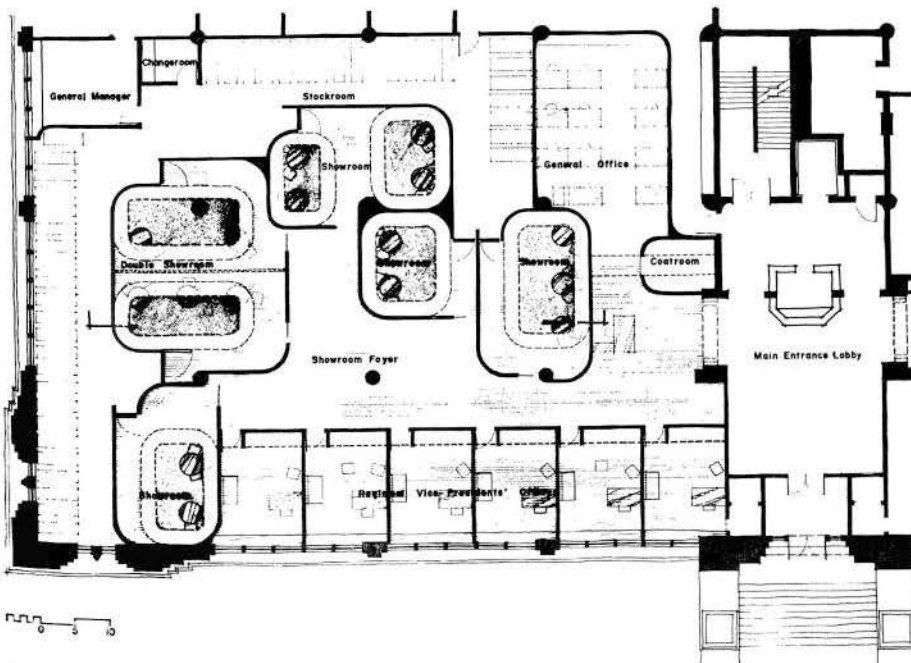
Showroom for Dylex Diversified
Toronto, Ontario

Jerome Markson, Architect

5a
*Perspective section through the showroom
area*
Coupe perspective sur la salle d'exhibition
5b
Plan



5a

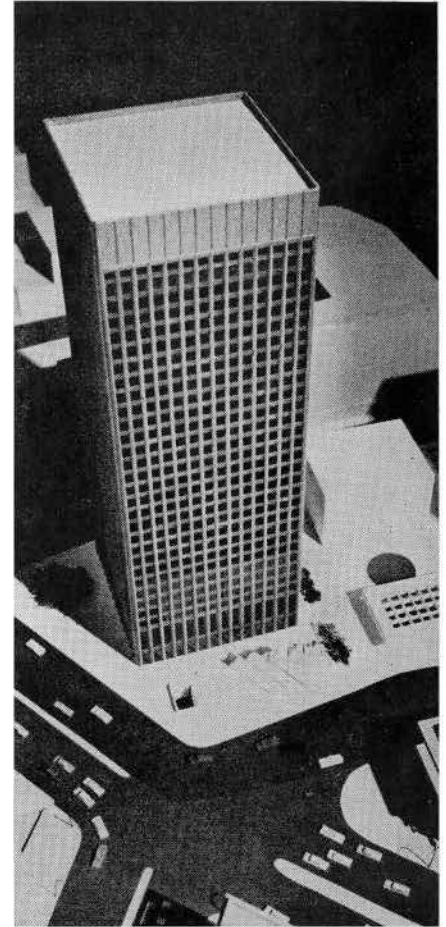


5b

Lombard Place Development
Winnipeg, Manitoba

Smith Carter Searle, Architects

6a
Model
Modèle



6a

Scotia Square, Halifax, N.S.

Allward & Gouinlock, Architects

7a

Trade Mart perspective

Place du marché, perspective

7b

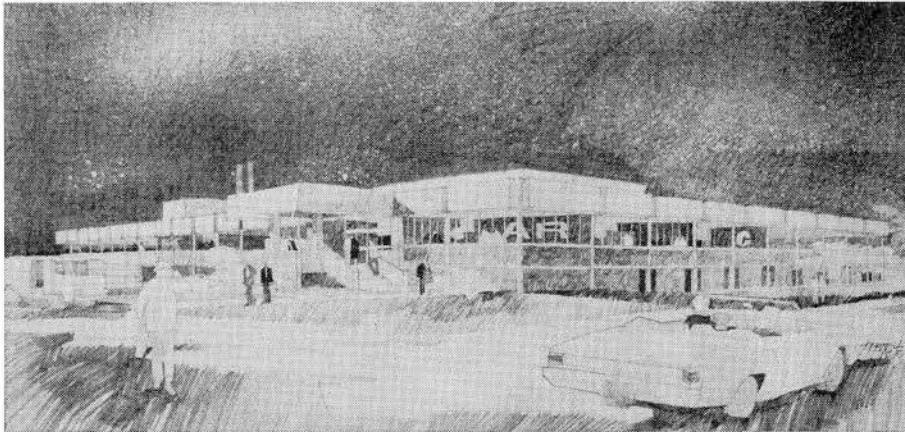
Hotel elevation

Hôtel, élévation

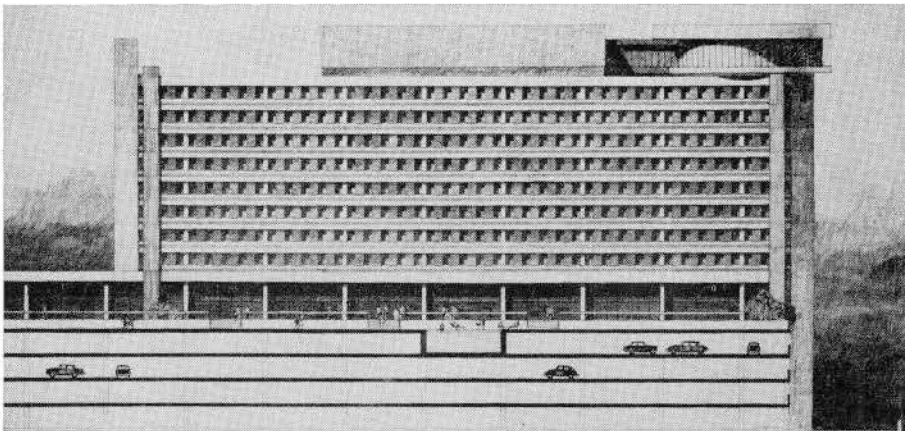
7c

Barrington Street office building

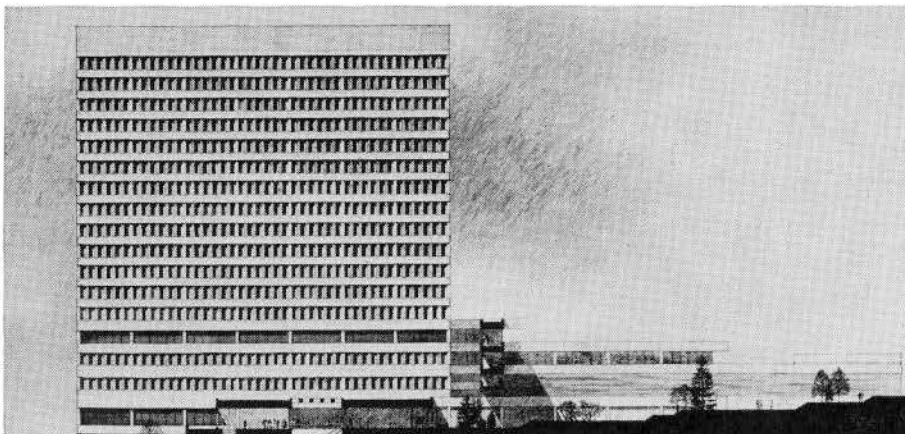
Immeuble de bureaux, rue Barrington



7a



7b



7c

Office Building, 112 St Clair W.

Toronto, Ontario

Webb, Zerafa, Menkes, Architects

8a

Ground floor plan

Plan du rez-de-chaussée

8b

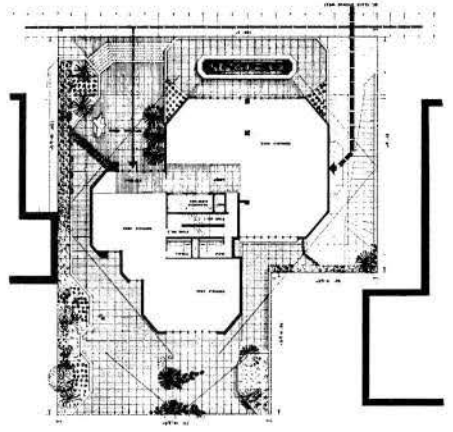
Typical floor plan

Plan d'étage typique

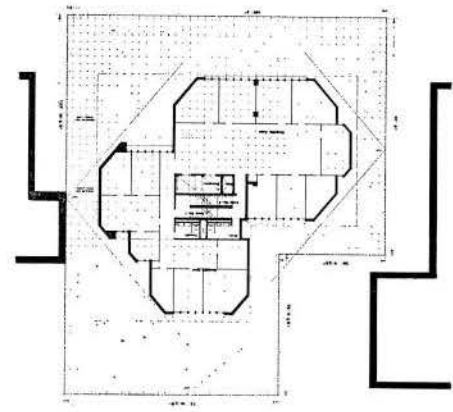
8c

Model

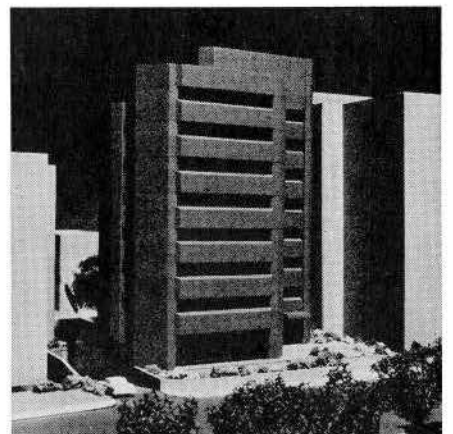
Modèle



8a



8b

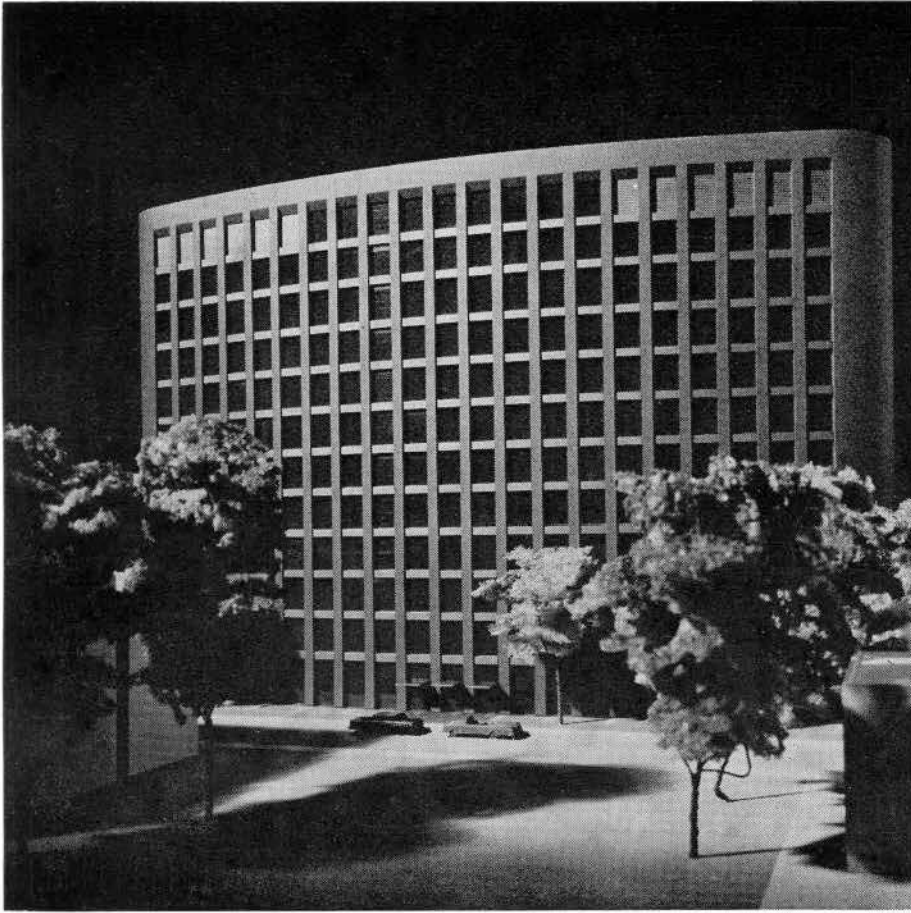


8c

Office Building for Public Service
Alliance of Canada Holdings Ltd
Ottawa, Ontario

Schoeler, Heaton, Harvor, Menendez
Architects

11a
Model
Modèle
11b
Ground floor plan
Plan du rez-de-chaussée



11a

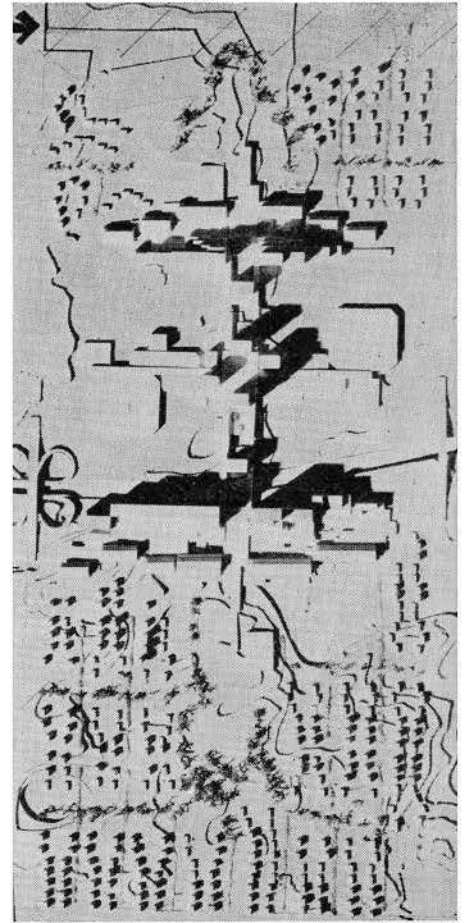


11b

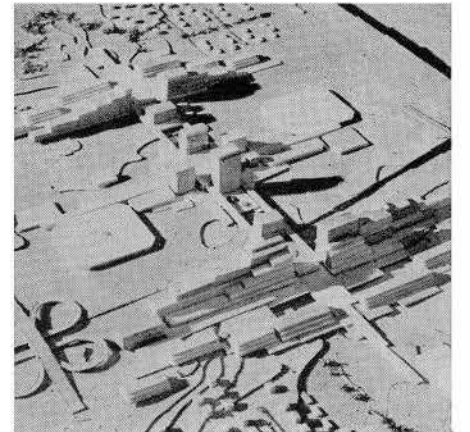
Carma Town Centre, Calgary, Alberta

Architectural Group, Waisman, Ross,
Blankstein, Coop, Gillmor, Hanna
Architects
Jonas Lehrman, Housing Consultant

12a, b
Models
Modèles



12a



12b

Housing

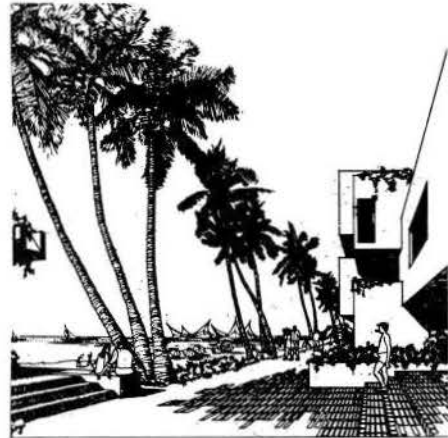
Mas de la Mal Resort, Calafell, Spain

Philip David Bobrow, Architect

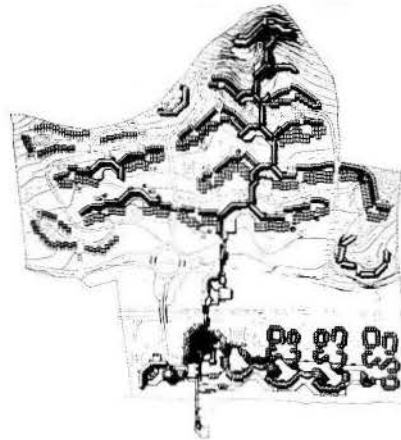
1a
Perspective

1b
Site plan
Plan d'emplacement

1c
Isometric of hill units
Isométrique d'unités dans les collines



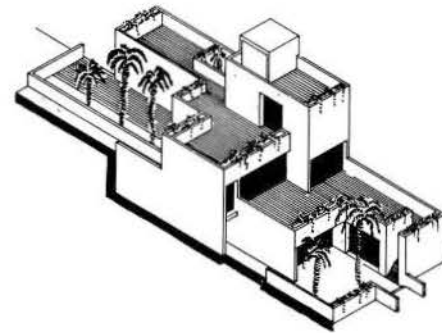
1a



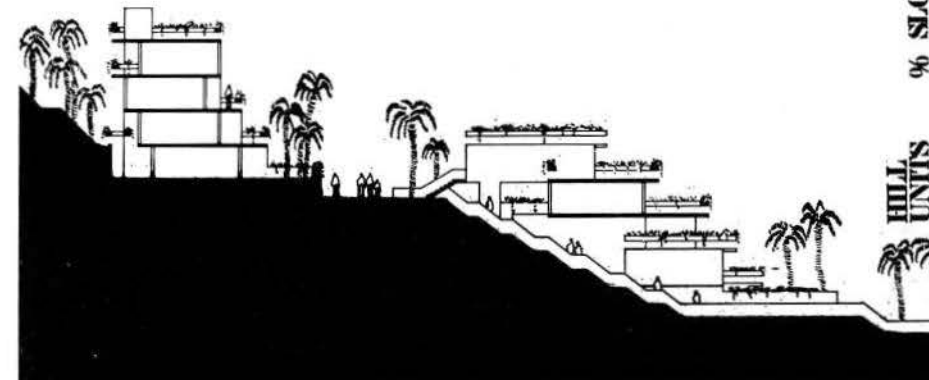
1b



1c



1d



1e

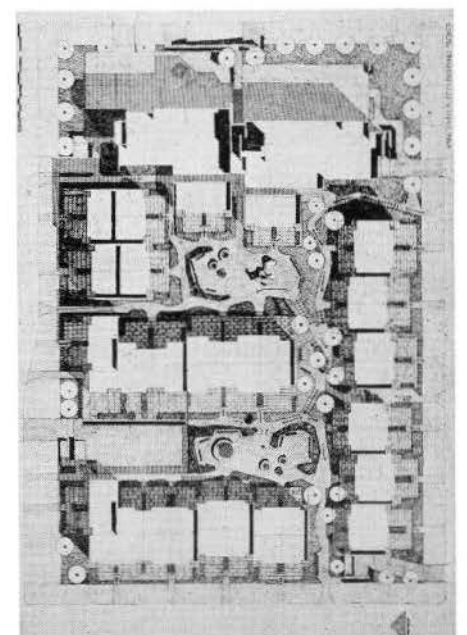
Vancouver FP7, Housing Project
Vancouver, B.C.

Rhone and Iredale, Architects

2a
Model
Modèle
2b
Site plan
Plan d'emplacement



2a

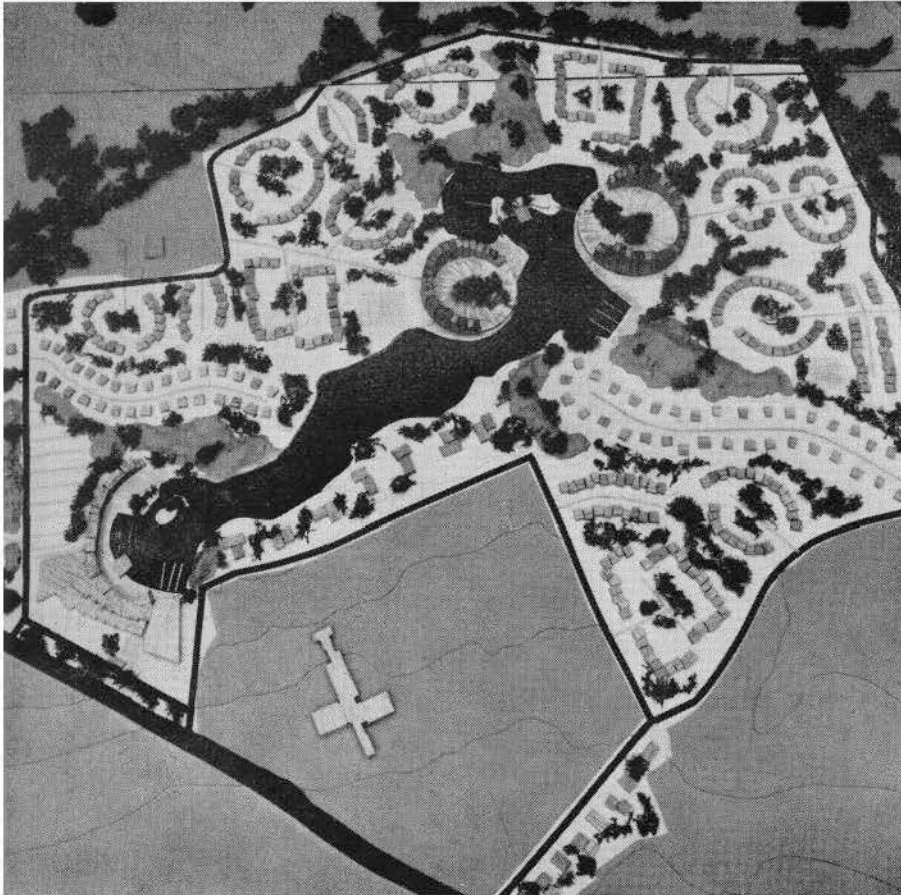


2b

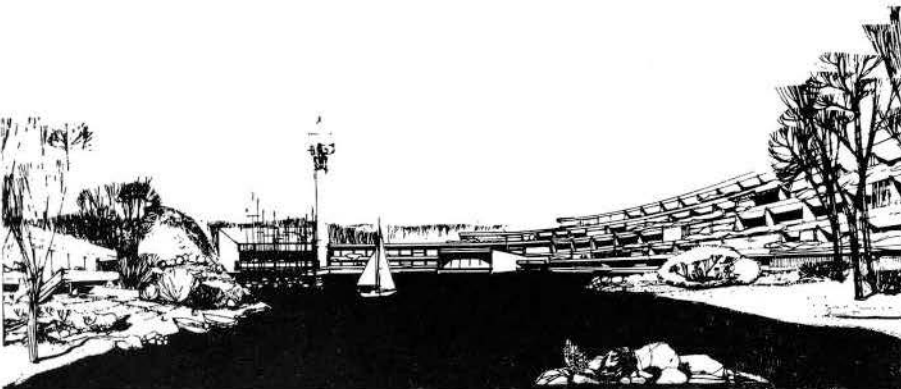
New Town, Chester, England

Gardiner Thornton Davidson Garrett
Masson & Associates

3a
Model
Modèle
3b
Sketch
Croquis



3a

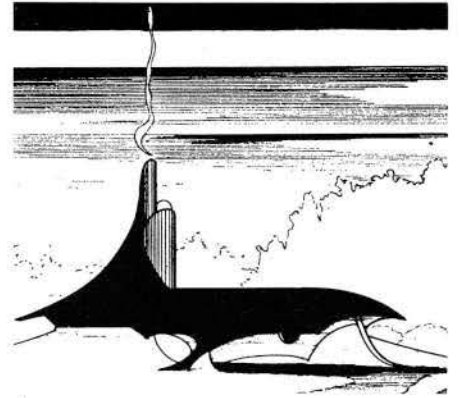


3b

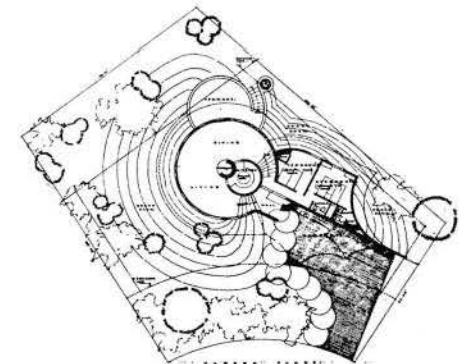
Residence for Mrs R. Nicoll
Beach Grove, B.C.

John R. Kay, Architect

4a
Perspective
4b
Plan



4a



4b

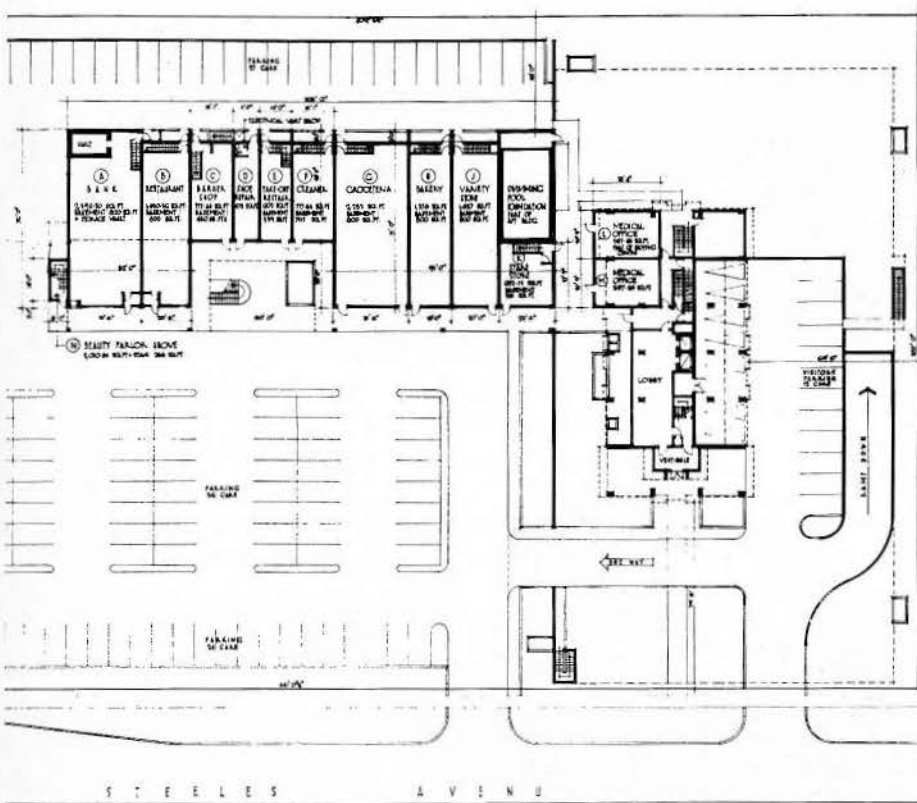
Apartment Building and Shopping
Centre for Bayview Summit
Development
Borough of North York, Ontario

Lipson and Daskin, Architects

- 5a
Perspective
- 5b
Commercial rental plan
Plan de location commerciale



5a



5b

Edgeley Housing Project for the
Ontario Housing Corporation
Borough of North York, Ontario,

Irving Grossman, Architect;
Environment Planning Associates Ltd.
Planning Consultants

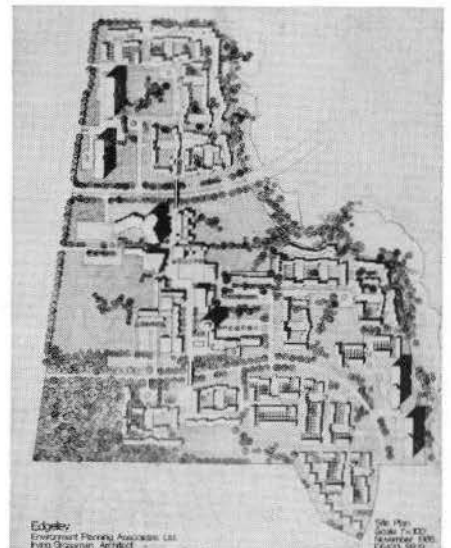
- 6a, b
Model
Modèle
- 6c
Site plan
Plan d'emplacement



6a



6b

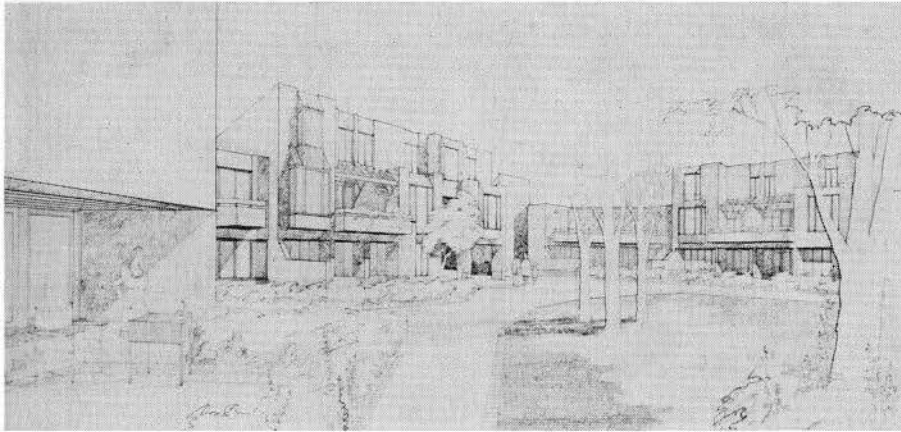


6c

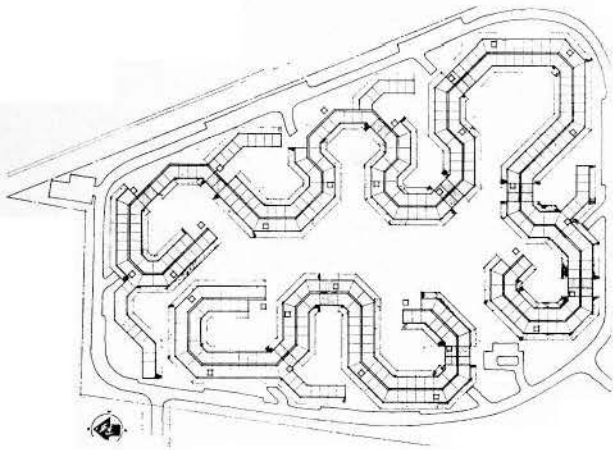
**Multiple Housing Project in Northern
Metropolitan Toronto**

Jerome Markson, Architect

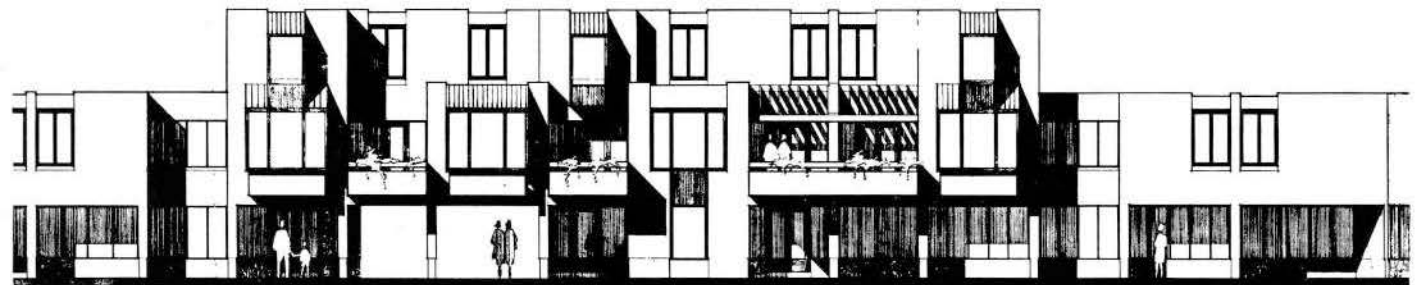
- 7a
Perspective
- 7b
Site plan
Plan d'emplacement
- 7c
Elevation
Élévation



7a



7b



7c

**Highrise Apartment Development,
Richmond, B.C.**

**J. M. Schmidt Associates, Architects
and Consulting Engineers**

- 8a
Perspective

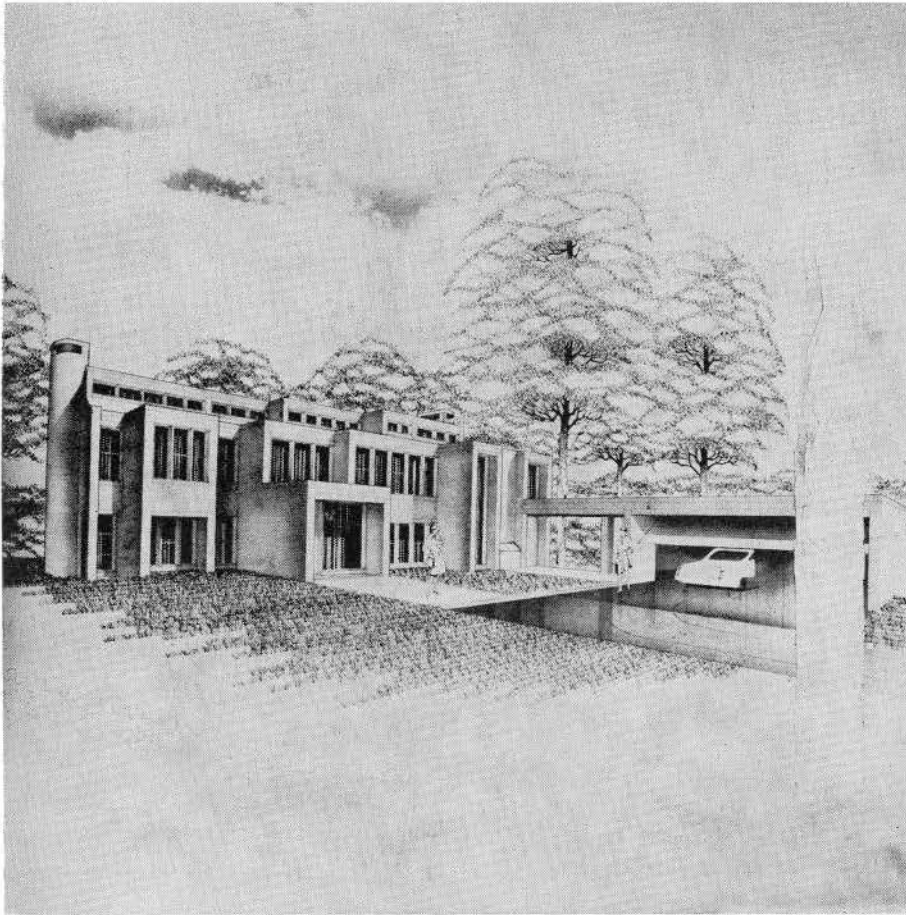


8a

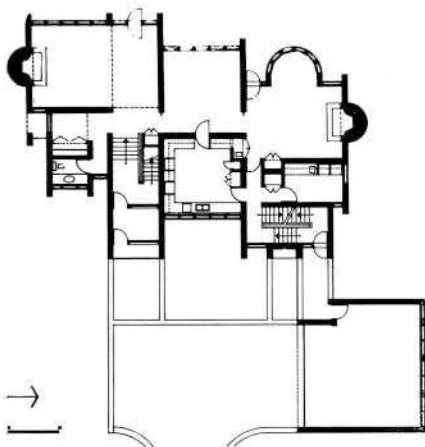
**Smith Residence, Forest Hill Village
Toronto, Ontario**

Moffat Moffat and Kinoshita

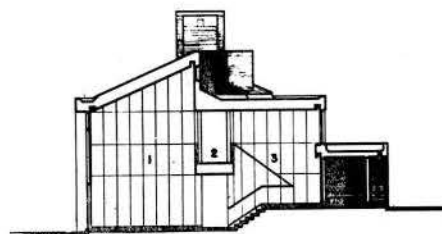
- 9a
- Perspective*
- 9b
- Ground floor plan*
- Plan du rez-de-chaussée*
- 9c
- Section*
- Coupe*



9a



9b



9c

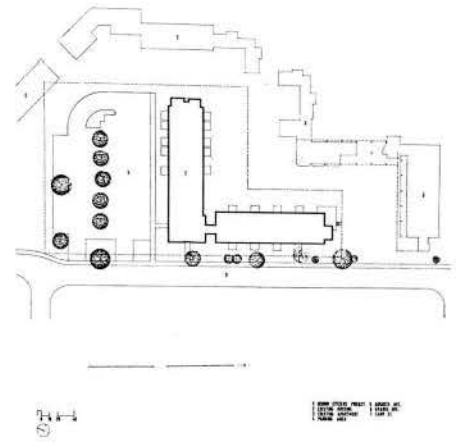
**Alexandra Park Senior Citizens'
Apartment, Toronto, Ontario**

**Gordon S. Adamson and Associates,
Architects**

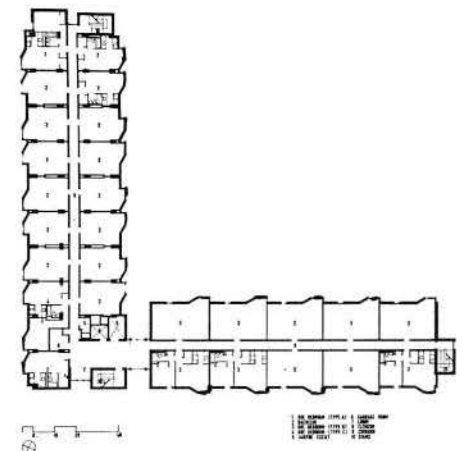
- 10a
- Perspective*
- 10b
- Site plan*
- Plan de situation*
- 10c
- Typical floor plan*
- Plan d'étage typique*



10a



10b

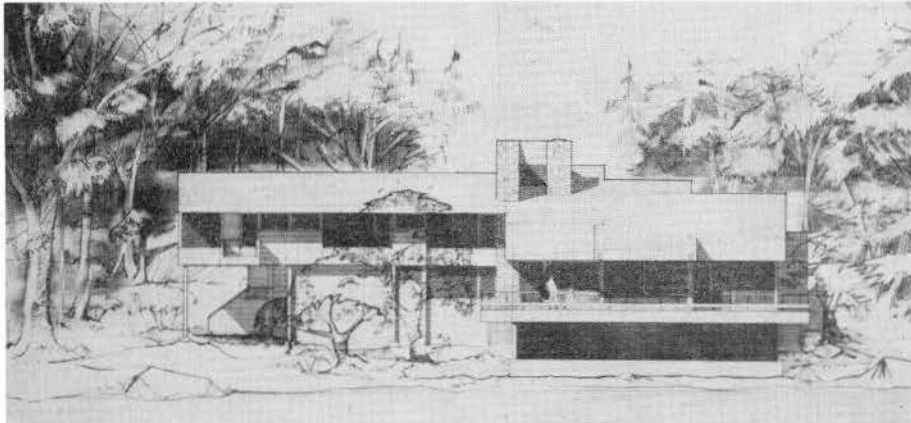


10c

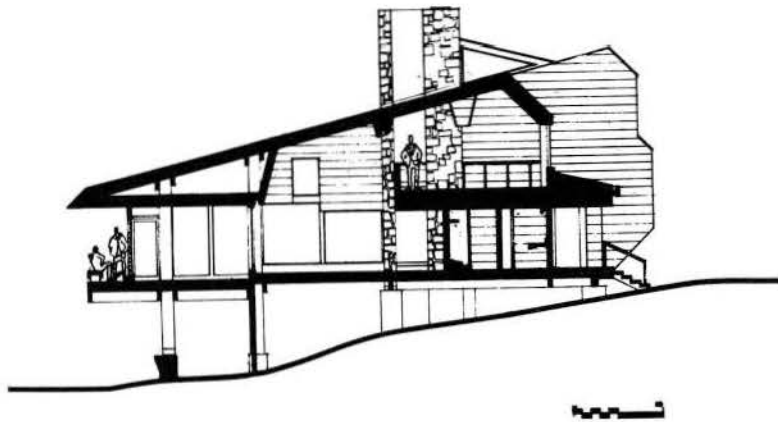
**Private Lodge for a Mining Company
in Northern Ontario**

Jerome Markson, Architect

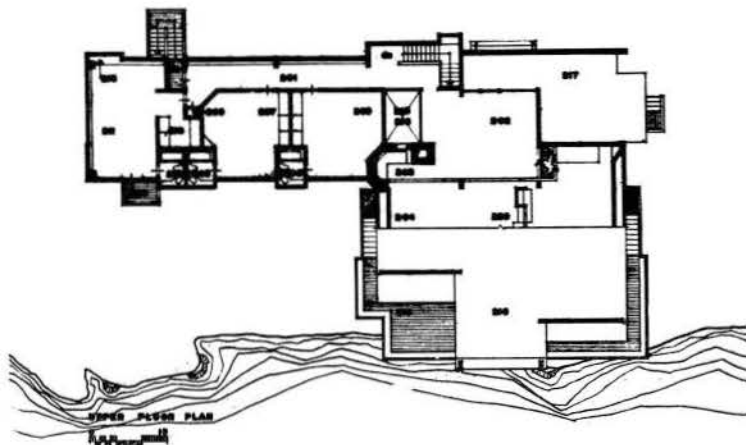
- 11a
South elevation
Élévation sud
- 11b
Section
Coupe
- 11c
Upper floor plan
Plan de l'étage supérieur



11a



11b

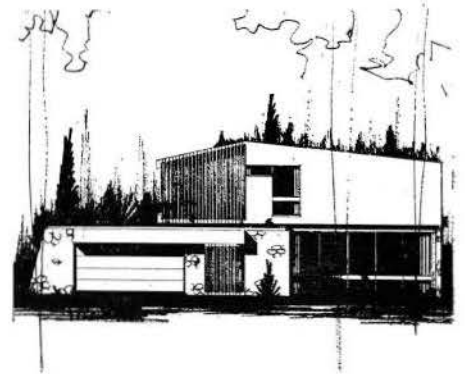


11c

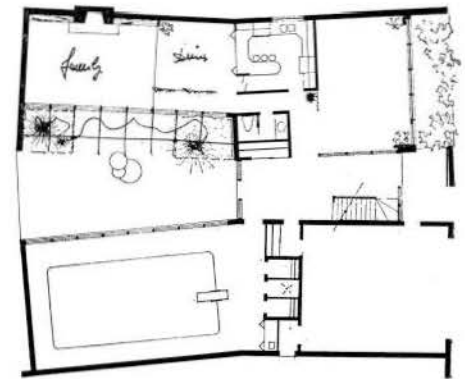
**House for H. Kassinger
Oshawa, Ontario**

Aldo Riva, Architect

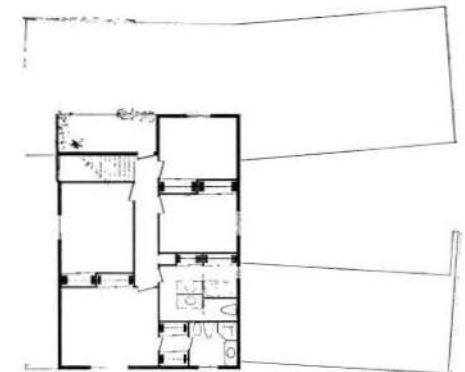
- 12a
Perspective
- 12b
Ground floor plan
Plan du rez-de-chaussée
- 12c
Second floor plan
Plan du second étage



12a



12b

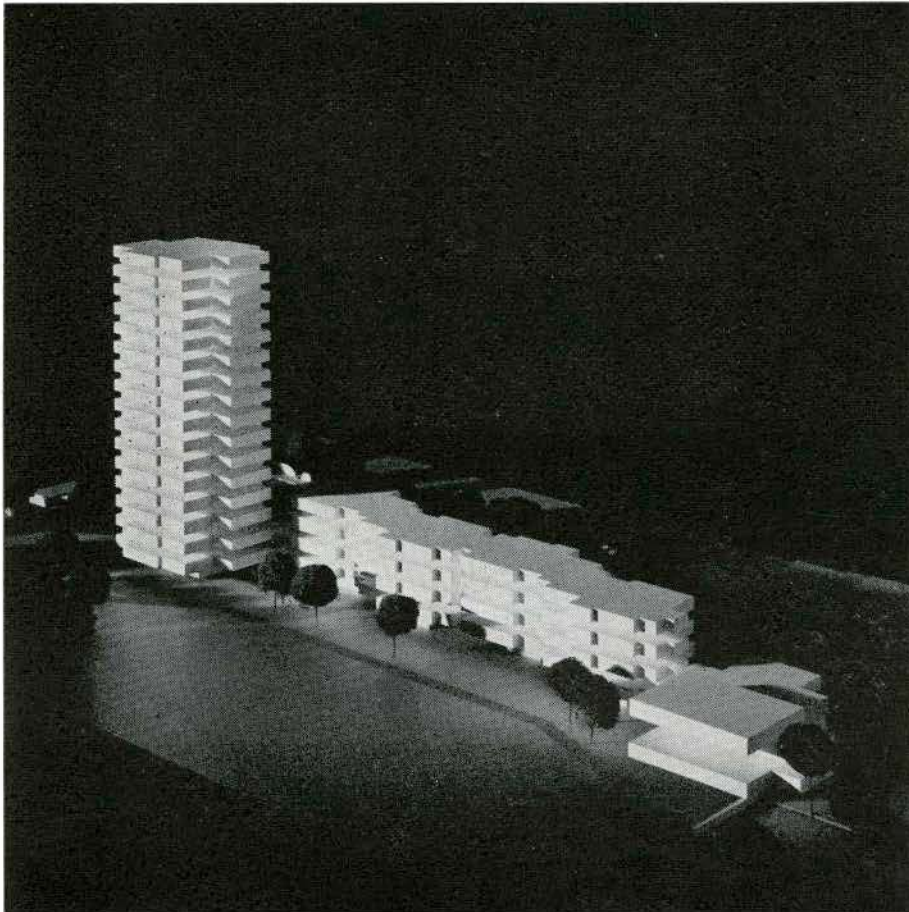


12c

**Student Housing Saint Mary's
University, Halifax, N.S.**

**Elmar Tampold, J. Malcolm Wells,
Architects
Henno Sillaste, Associate Architect**

13a
Model
Modèle
13b
Plan



13a

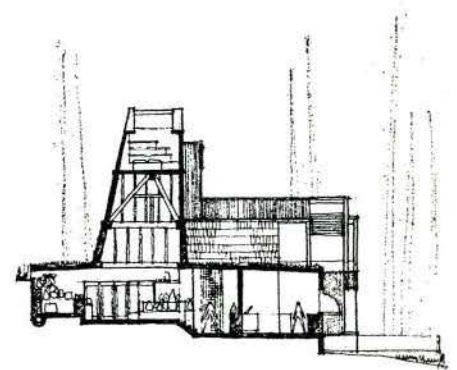


13b

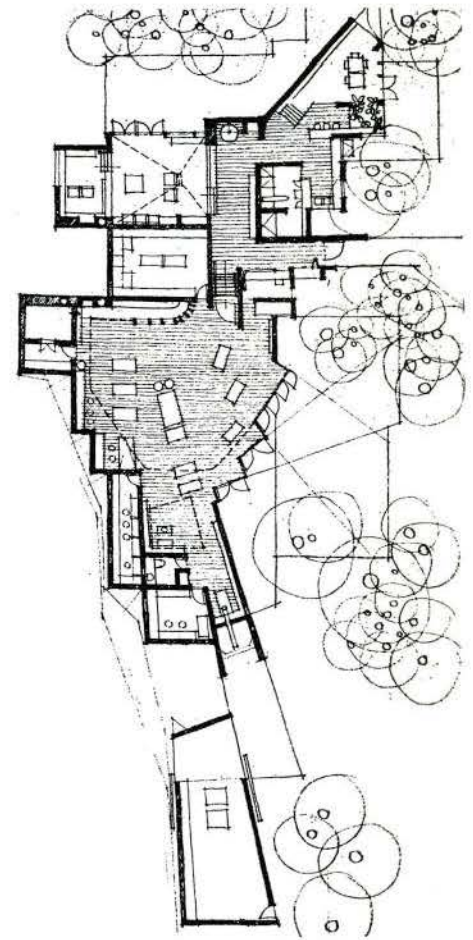
**Drahanchuk Studio and Residence
Bragg Creek, Alberta**

Gordin L. Atkins, Architect

14a
Section
Coupe
14b
Plan
Plan



14a



14b

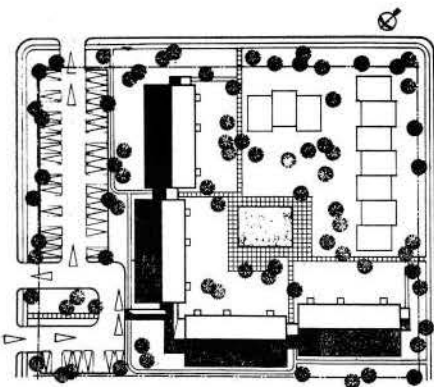
**Apartment Development,
Port Hawkesbury, N.S.**

**Cruickshank Avramovitch and
Associates, Architects and Planners**

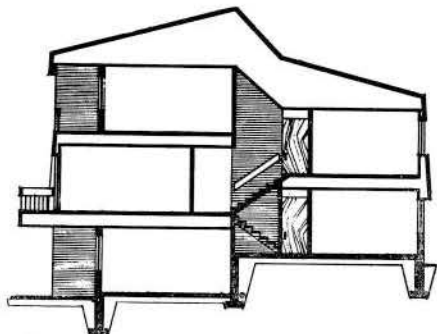
- 15a
Perspective
- 15b
Site plan
- 15c
Plan d'emplacement
- 15c
Section
- 15c
Coupe



15a



15b

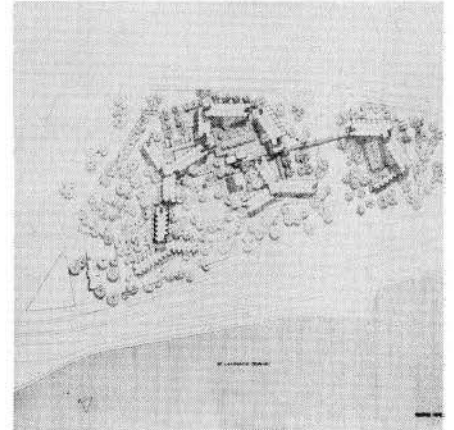


15c

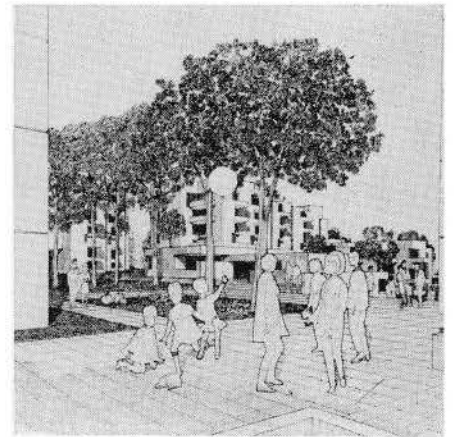
**Préville Housing Development
Préville, Quebec**

Philip David Bobrow, Architect

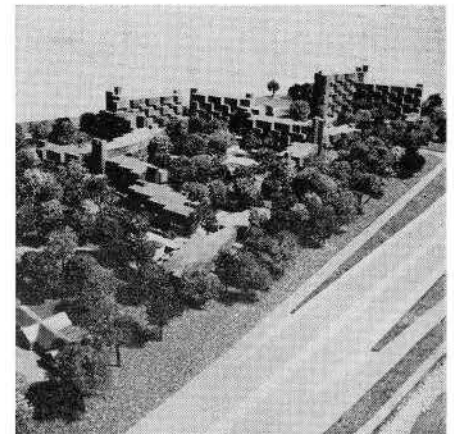
- 16a
Site plan
- 16a
Plan d'emplacement
- 16b
Perspective
- 16c
Model
- 16c
Modèle



16a



16b



16c

Public

Whitby General Hospital
Whitby, Ontario

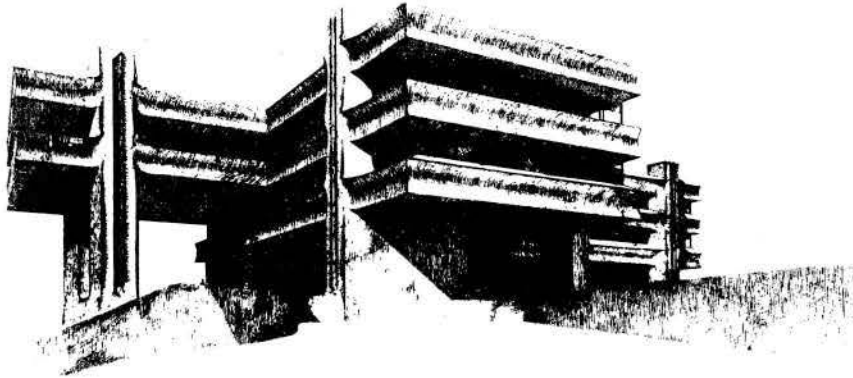
Craig, Zeidler & Strong, Architects

1a
Perspective drawing of building with porte
cochere entry

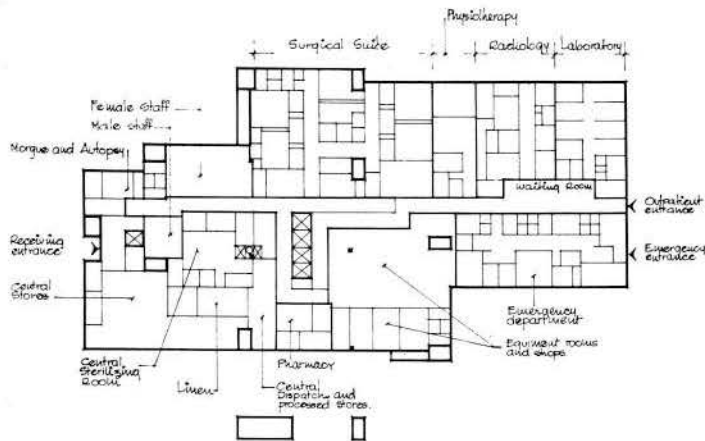
Dessin en perspective d'un bâtiment
avec porte cochère

1b
Ground floor plan

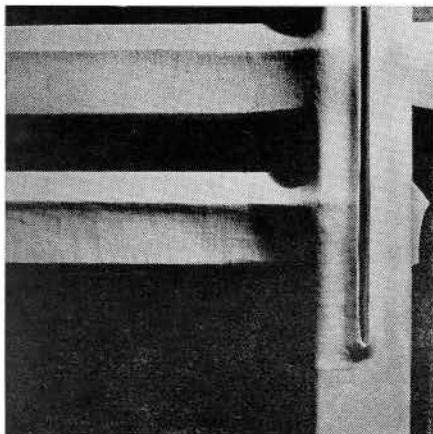
Plan du rez-de-chaussée



1a



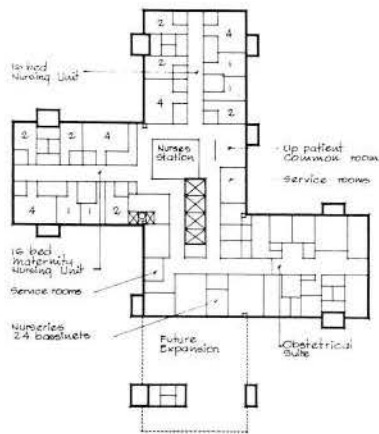
1b



1c

1c
Photo of final model showing structural
expression
Photo de la maquette montrant expression
structurale

1d
Second floor plan
Plan du deuxième étage



1d

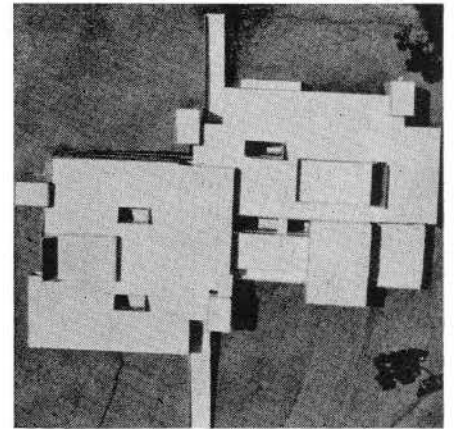
**Norfolk County Court House and
Registry Office, Simcoe, Ontario**

Warren Smale, Architect

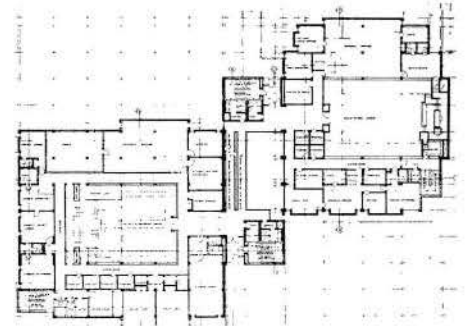
2a
Interior
Intérieur

2b
First and second floor plan
Plan du 1er et 2ème étages

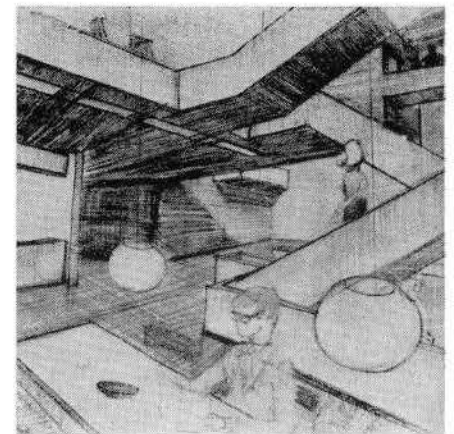
2c
Model
Maquette



2a



2b

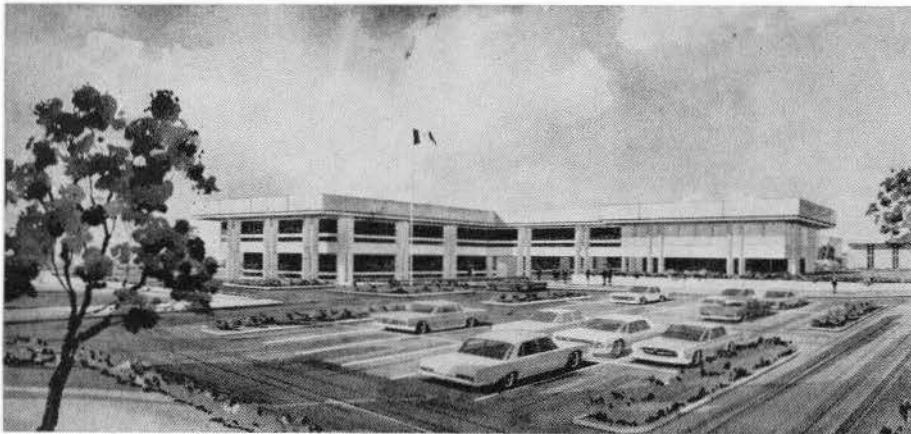


2c

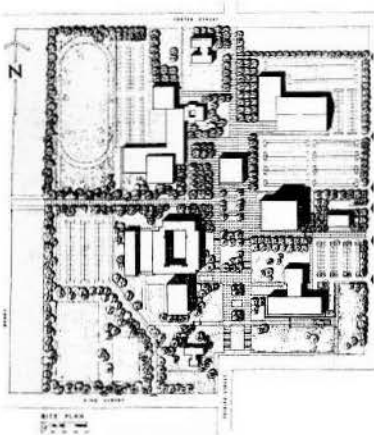
Municipal Hall for Coquitlam, B.C.

Toby Russell & Buckwell, Architects

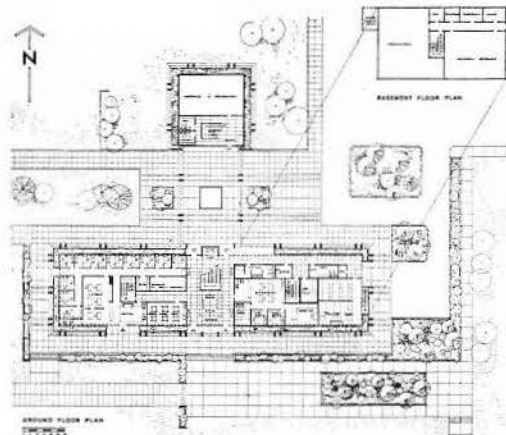
- 3a
Perspective
- 3b
Site plan
Plan d'emplacement
- 3c
Ground floor plan
Plan du rez-de-chaussée
- 3d
Section
Coupe



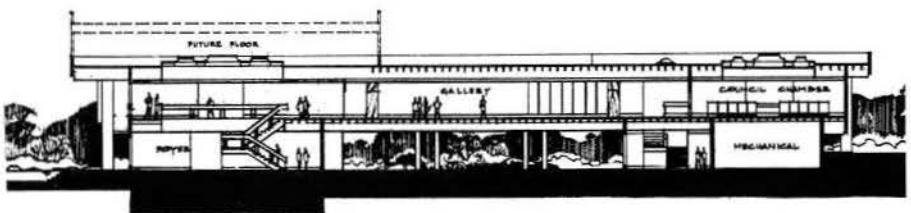
3a



3b



3c

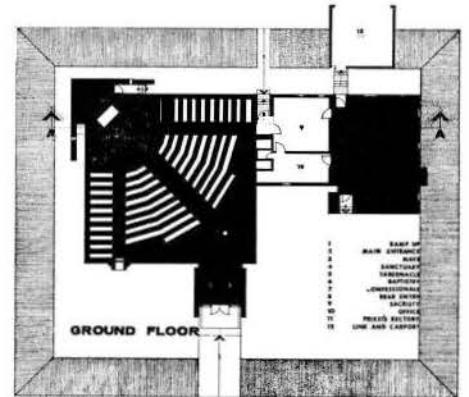


3d

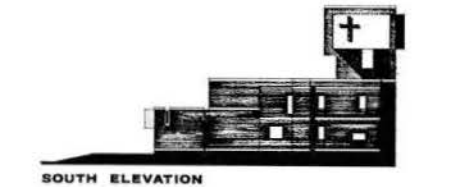
**St Mary's Church
Morrisburg, Ontario**

Murray and Murray, Architects

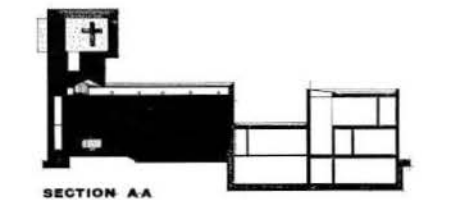
- 4a
Ground floor plan
Plan du rez-de-chaussée
- 4b
South elevation
Élévation sud
- 4c
Section A-A
Coupe A-A
- 4d
West elevation
Élévation ouest



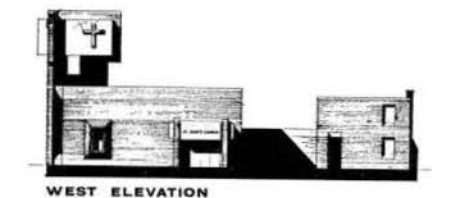
4a



4b



4c



4d

CANADIAN

BUILDING DIGEST



DIVISION OF BUILDING RESEARCH • NATIONAL RESEARCH COUNCIL

CANADA

LOOK AT JOINT PERFORMANCE

by G. K. Garden

UDC 624.078:69.02

Joint designs have traditionally been developed through trial and observation on actual buildings, a process that tends to be slow and too expensive when performance is not adequate. Present rapid changes in materials and methods of construction demand that new joint designs be developed and proved quickly. Although performance tests have been of some value in accelerating this process, they have seldom provided adequate proof of final performance. To meet changing needs, scientifically sound principles, which have been fairly well established in previous Digests, must be followed in designing joints.

In-service performance is always the final proof of any design. Thus, examinations designed to determine why some joints succeed and others fail can be very useful in advancing design capability. The value of such studies, however, is directly related to the ability of the investigator to appreciate the factors that make for success or failure. This Digest will discuss joints in service on actual buildings in order to draw attention to the main factors influencing their performance and to indicate the value of field investigation.

Traditional Joints

Shingled walls are normally accepted as walls that do not leak. Ignored or forgotten because of their unquestionable success are the

myriad of joints present. Analysis shows that in these joints the four forces that can act to drive water inward are adequately controlled (CBD 40). Shingles are overlapped in such a manner that raindrops cannot enter the wall by their own kinetic energy and gravity draws them down the exterior surface. The rather large vertical joints between shingles allow pressure equalization of the space between them and the air barrier, preventing the development of the inward air pressure drop that is instrumental in most cases of rain penetration. Although some capillary passages exist, the net force acting on the water in them is outward.

Joints in solid walls of unit masonry, where the elimination of all leakage openings is attempted, have been generally unsatisfactory in preventing rain penetration. This is clearly shown by the many attempts to improve their performance through the use of overhanging eaves, cornices, belt courses, stucco and even weatherboard sidings. When the face wythe of a masonry wall has been separated from the rest of the wall by a drained cavity, a better performance has been normal. Because all forces acting to drive water inward through the face wythe of a traditional cavity wall are not adequately controlled, however, some water does pass through it. To prevent wetting of the inner wythe, bridges across the cavity must be avoided, the cavity must be adequately drained, and the base must usually be flashed.

NRC

DBR

OTTAWA

JANUARY 1968

CBD 97

Recently Designed Joints

Study No. 1. On the Atlantic coast where rain is frequently accompanied by high winds, a large building suffered severe but localized rain penetration of the cavity masonry walls. Examination showed that water that penetrated the face wythe could not drain through the small weep holes because of an inward air flow. The flashing at the base of the wall had been omitted and the water drained to the interior. After some discussion, the owners were encouraged to open vertical joints in the bottom course of the face brick, to caulk the joint between the inner wythe and the bearing surface (at the inside), and to replace bricks in the face wythe at frequent intervals with brick-sized louvres. In the three years since this work was done, despite many driving rain storms, no rain penetration has been reported. With the larger weep holes and caulking, the water can drain outward more easily than inward; and louvres provide greater freedom for air to enter the cavity, thereby reducing the inward air pressure drop at the wetted plane. The amount of water that actually passes through the outer wythe has been reduced, and drainage to the exterior is not hindered by an inward air flow.

Study No. 2. Both shingled and cavity walls are construction systems in which joints are not continuous from outside to inside. This feature can be used to advantage in designing with contemporary materials and methods of construction, an approach that was employed in the design of the walls of a large concert hall. The masonry back-up walls were insulated on their outer surface and large precast concrete facing elements were used as the exterior finish. As they were aware of the rain screen or two-stage weathertightening principle (CBD 40), the designers specified that all joints in the precast concrete cladding should be left open. The horizontal joints were sloped toward the exterior and the vertical joints were half-lapped, but a 1/2-in. wide clear space was maintained between all panels (Figure 1). In the four years this building has been in service there has been no indication of rain penetration, nor even of partial penetration of the open joints.

It should be mentioned that the cavity was not left continuous around the building or throughout its height. To minimize the inward

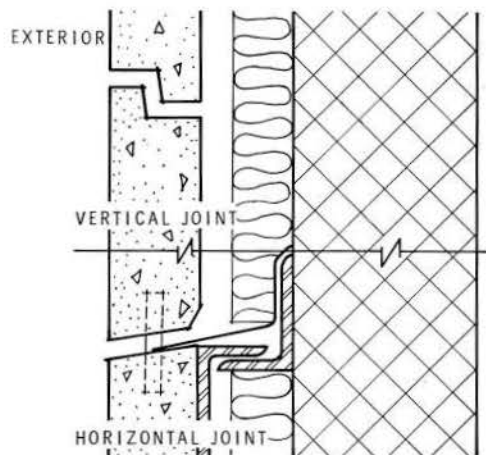


Figure 1 Joints between concrete cladding panels.

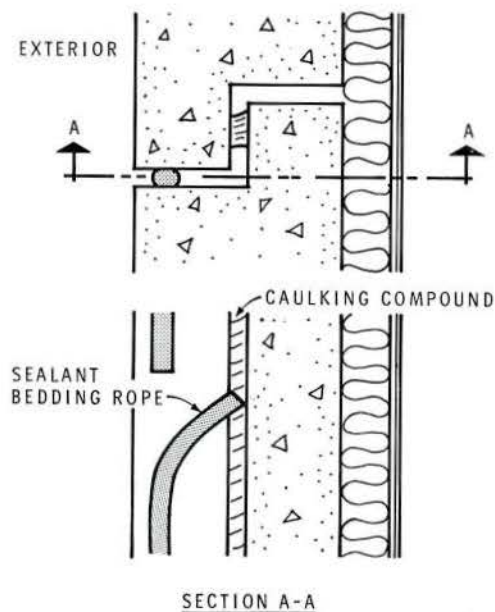


Figure 2 Vertical joint between concrete wall panels. Note: Although rain penetration can be controlled in the joints, the use of this wall design is not recommended (CBD's 93 and 94).

air pressure drop across the facing elements that could normally develop from wind pressure variations over the building surfaces the cavity was blocked vertically at approximately 4-ft centres for 20 ft from each corner and horizontally at panel supports.

Study No. 3. Through-wall joints are employed in many contemporary buildings, and a number of studies of individual cases have been made. A particularly interesting and informative experience was gained during construction of a tall building in Eastern Canada. During installation of the precast concrete wall panels, a bead of caulking compound was placed in the half-lapped joints (Figure 2). The fact that it did not provide an airtight seal was not considered important because a bead of elastomeric sealant was to be installed at the outside face of the joint. The installation of this sealant, however, had to be delayed because of cold weather, and only the sealant bedding rope was placed in the joint. Because the delay was expected to be more than six months the sealant bedding rope was installed with the upper end of each length turned inward to flash the joint space, incidentally leaving a 2- to 3-in. gap at frequent intervals. No rain penetration was noticed during the delay. Only after installation of the elastomeric sealant at the outside of the joint was leakage observed, and after a few months it became a serious problem.

Study of the situation that existed during the delay indicated that although the caulking had not provided a complete air seal, it was considerably more airtight than that provided by the sealant bedding rope. The air pressure on both sides of the sealant bedding rope could equalize and the air pressure difference required to move water past it could not develop (CBD 96). When the elastomeric sealant was finally installed, however, it was far more airtight than the caulking bead, with the result that the air pressure difference between inside and outside the building was borne by it. With both air and water leakage resisted at the same point, rain penetration occurred at even minor failures of the seal. As the outer seal was better than the inner seal, any water that entered the joint could only drain to the building interior. The same conditions and performance were experienced at the window joints.

Study No. 4. A humidified building had severe condensation on the window frames and adjacent wall areas. The exterior walls were constructed of precast concrete panels, with insulation and a light finish applied to the interior. While examining this problem in January, a little more than a year after the building had been completed, the building superintendent complained that the wall joints were leaking again. The joints between the concrete panels had been resealed at the outside during the previous summer because of rain penetration. The complaint appeared ridiculous, however, because there had been no rain for several months. Examination showed that condensate had accumulated as frost in the joints and because of a temperature rise was melting and draining to the interior.

Several factors contributed to the development of this problem. The basic wall design was rather poor with respect to thermal and moisture considerations (CBD's 48, 50, 93). In accordance with common practice, the interior finish had been omitted behind the air conditioning induction units and above the suspended ceiling. This allowed the humid air in the building to move by convection through the cold joint space where it contacted cold outer materials (CBD's 23 and 72). If the seal in the joint had been located at the interior, the severity of this problem could have been reduced.

Study No. 5. When icicles larger than a man's arm were falling from a point several hundred feet above the ground, a very busy street had to be cordoned off. Examination revealed that the wall design followed the common practice of sealing a curtain wall against rain penetration at the exterior surface. This seal had been considered capable of preventing air leakage and therefore no attempt had been made to provide a seal at the interior. It had been realized, however, that rain penetration frequently occurred in curtain walls sealed at the exterior and an intricate drainage system had been incorporated within the wall, with openings to permit water to flow back to the exterior.

During cold weather the convective interchange of moist air from inside the building

with cold spaces in the wall, plus the outward air flow through drainage holes (especially at upper floors), resulted in excessive condensation within the wall. An incidental but troublesome problem was the dirt streaking of window glass from the almost constant dripping of water from the drain holes. During extremely cold weather, particularly in the north wall, condensation occurred and accumulated as frost. Following a rise of exterior temperature to about 25°F, the frost within the wall melted and drained to the exterior. Here it froze, producing the large icicles and associated hazards.

Study No. 6. Examination of a metal and glass curtain wall disclosed a complicated combination of problems that clearly demonstrate the close interdependence of one problem with another. The mullions of the curtain wall grid were attached to the building at each floor, with expansion joints directly above the connections and coinciding with the middle of the spandrels. The transom bars were attached to the mullions and the sealed double glazing units for both windows and spandrels were held in the aluminum grid by structural neoprene gaskets. The seal against rain and air leakage, however, was dependent upon the ability of the glass to hold the gasket tightly against the aluminum mullions and transom bars.

The effects of temperature variations, although allowed for in the mullions, were not adequately considered in the design of the joints between the various wall elements, nor even in the design of the gasket cross-section. A drop in temperature was reflected in thermal contraction of the various wall components (CBD 56), and resulted in loss of the pressure

required to maintain the gasket seals. Because the joint design was dependent upon a perfect seal, which was now lost, both rain penetration and air leakage occurred (CBD 55). The design and performance of the metal parts of the wall were similar to those previously described and contributed further to the wall problems. With rather high air leakage rates, severe condensation produced large icicles, so that winter use of the building humidification system had to be discontinued (CBD 42).

Expansion accompanying a rise in temperature caused the vertical dimension at the spandrel to reduce. This, combined with the lack of clearance resulted in edge loading of the glass. The temperature rise at the spandrel was extreme because a black-faced thermal insulation was located inward of the space behind the sealed glazing unit. It was calculated that under bright sunshine the temperature at the black surface would approach 250°F and that the air in the sealed glazing unit could reach 180°F. This combination of air expansion in the sealed glazing unit and edge loading due to differential movements resulted in breakage of many panes of glass, despite the use of safety toughened glass.

Conclusion

Trial in service is the final proof of a joint design. Field observations, in addition to disclosing causes of failure, can provide proof of the validity of new design principles and give designers greater confidence and capability in applying them to new work. It should be stressed that the design principles used in the preceding analyses were unrecognized when most of the joints were designed. Hindsight is always easier than foresight, but it should be used to the greatest advantage.

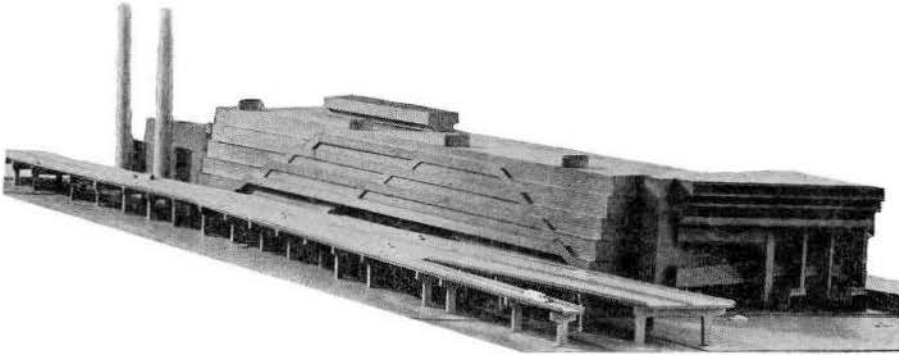
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The Division issues many publications describing the work carried out in the several fields of research for which it is responsible. A list of these publications and additional copies of Digests can be obtained by writing to the Publications Section, Division of Building Research, National Research Council, Ottawa, Canada.

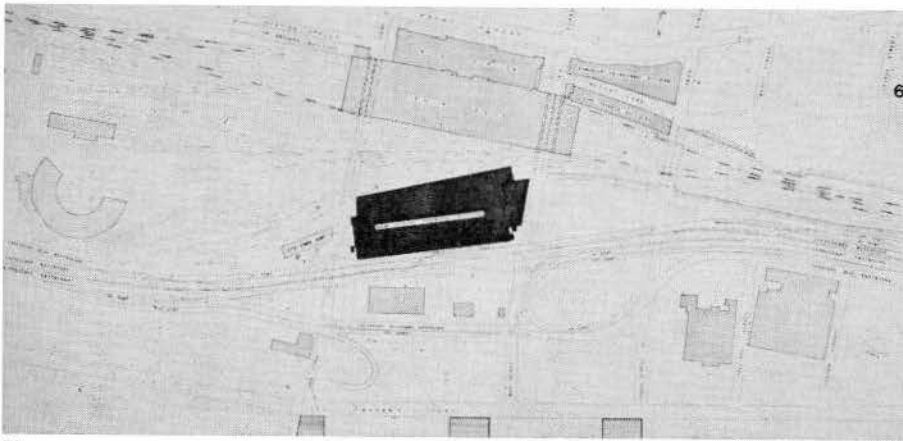
**Toronto Postal Terminal, Toronto
Ontario**

**Gordon S. Adamson & Associates
Architects, Site Planners**

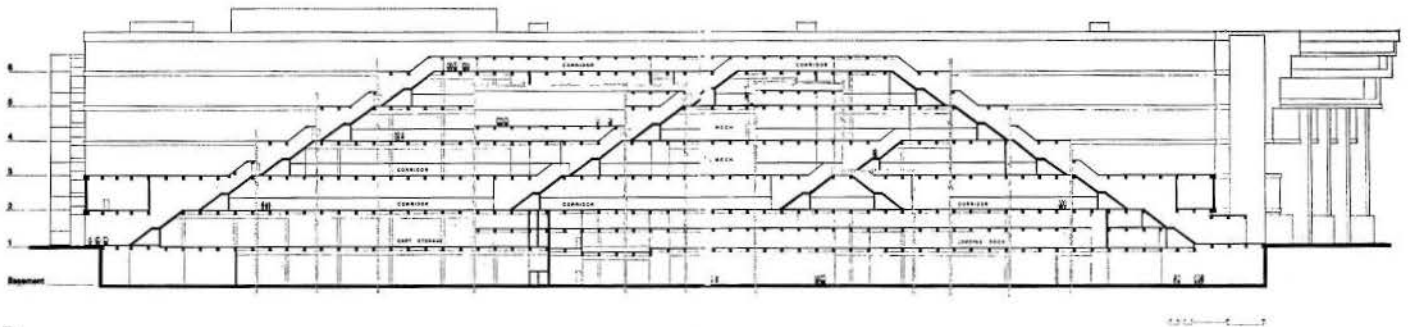
- 5a
Model
Maquette
- 5b
Site analysis
Analyse de l'emplacement
- 5c
East-West section A
Coupe A est-ouest



5a



5b

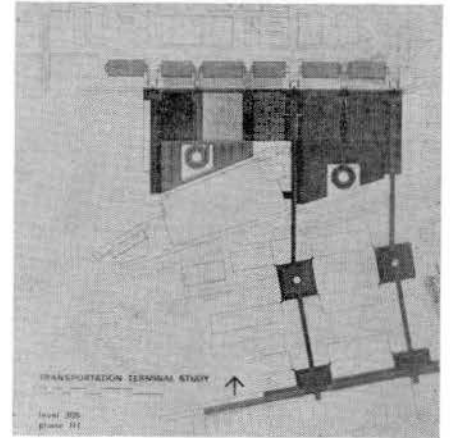


5c

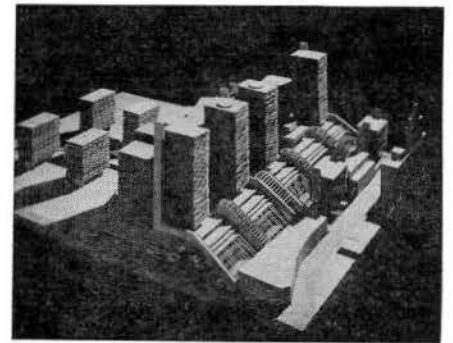
**Toronto Transportation Centre Study
Toronto, Ontario**

**John B. Parkin Associates
Architects and Engineers**

- 6a
Site
Emplacement
- 6b
Model
Maquette



6a

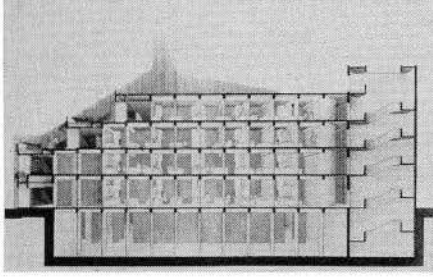


6b

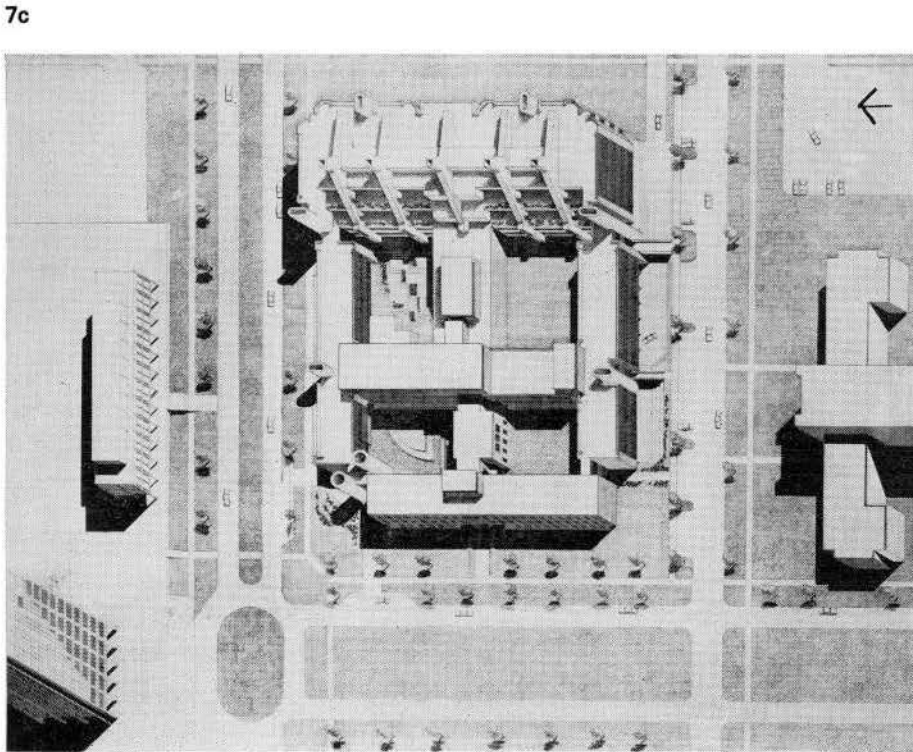
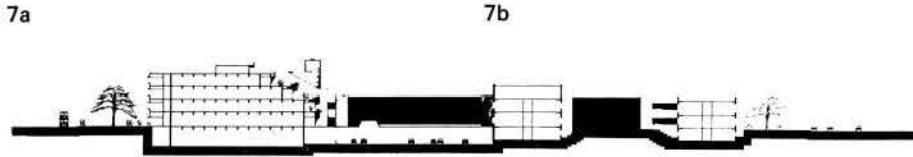
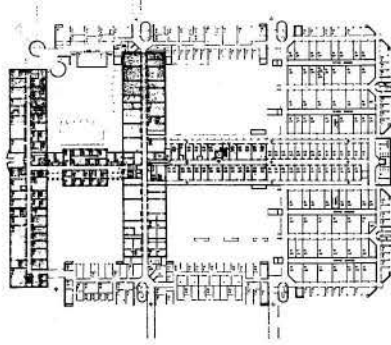
**Additions and Alterations
Food & Drug Laboratory
Tunny's Pasture, Ottawa**

**Shore and Moffat and Partners
Architects, Engineers, Site Planners;
E. C. Martel, Regional Director;
R. F. West, Director of Design, DPW**

- 7a
*Section view of laboratories from corridor
Coupe, Laboratoires vus du corridor*
- 7b
*First floor plan
Plan du premier étage*



- 7c
*Section through south courts looking south
Coupe sur la cour faisant face au sud*
- 7d
*Site
Emplacement*



7d

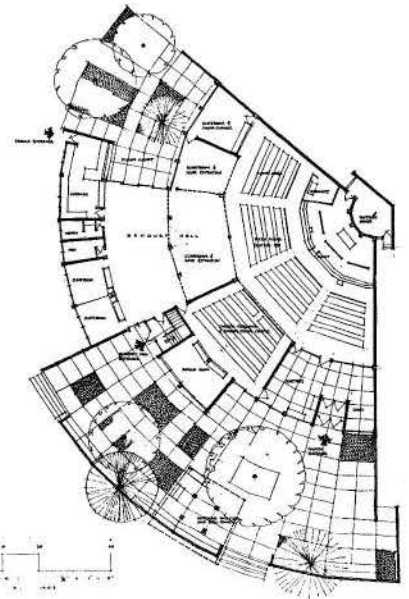
**Redvers Lutheran Church
Redvers, Saskatchewan**

Kennedy/Smith Associates, Architects

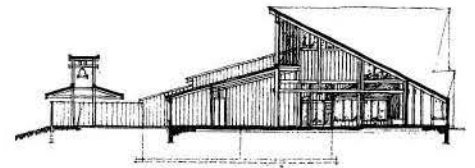
- 8a
*Model
Maquette*
- 8b
*Main floor plan
Plan du rez-de-chaussée*
- 8c
*Cross section
Profile*



8a



8b

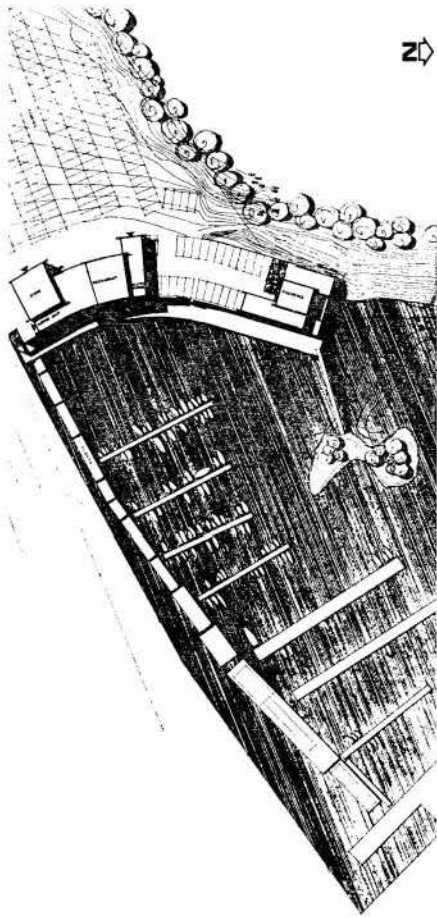


8c

Marina Development, Horseshoe Bay
West Vancouver, B.C.

Underwood McKinley Cameron Wilson
& Smith, Architects

9a
Site plan
Plan d'emplacement
9b
East elevation (from north)
Élévation est (du nord)

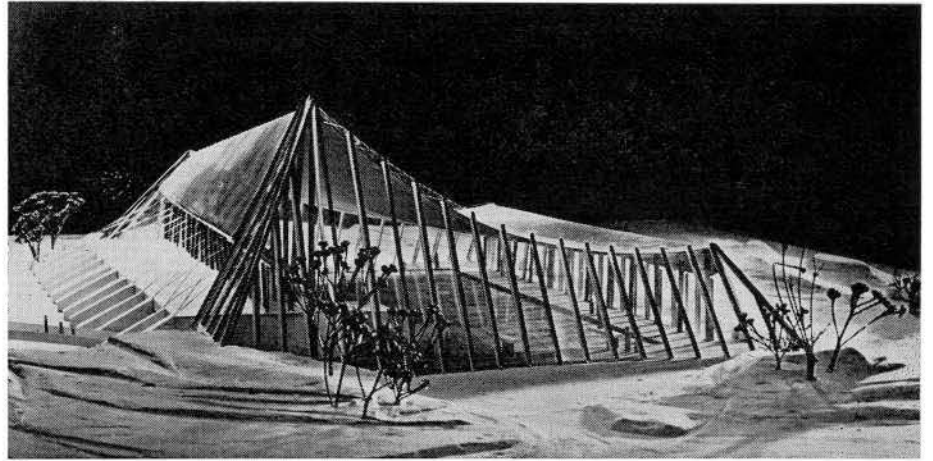


9a

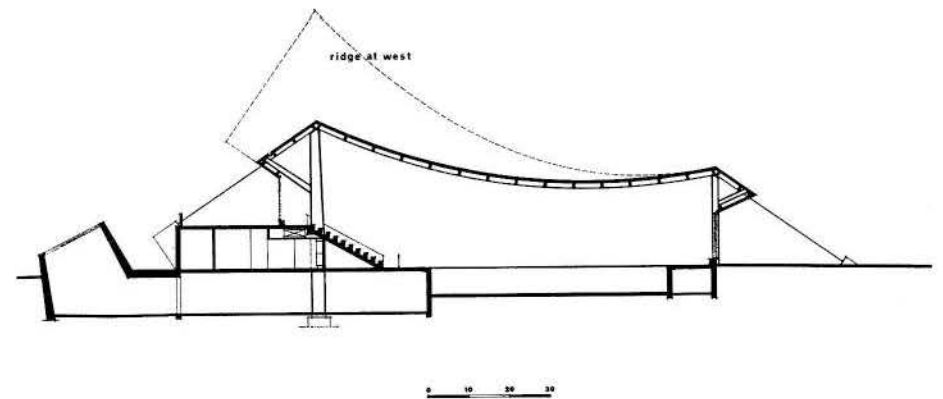
Coronation Park Swimming Pool,
Edmonton, Alberta

Hemingway and Laubental, Architects

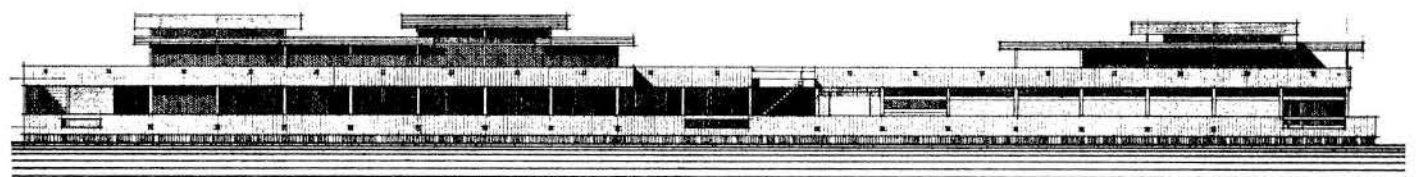
10a
Model
Modèle
10b
Section
Coupe



10a



10b

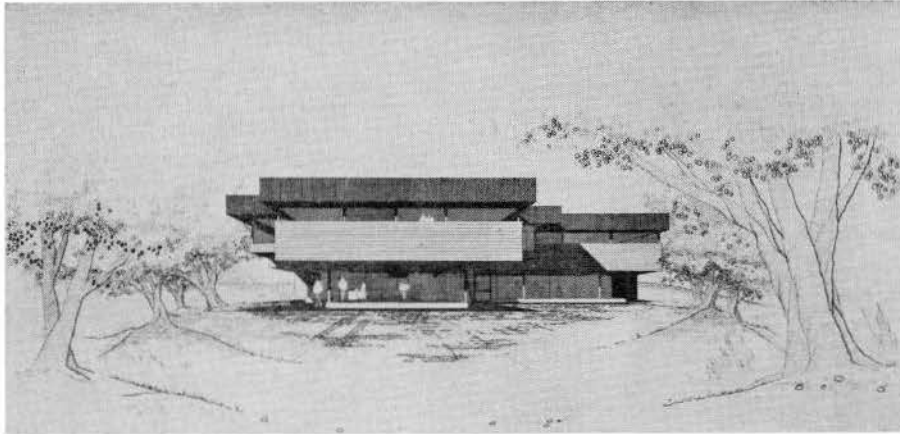


9b

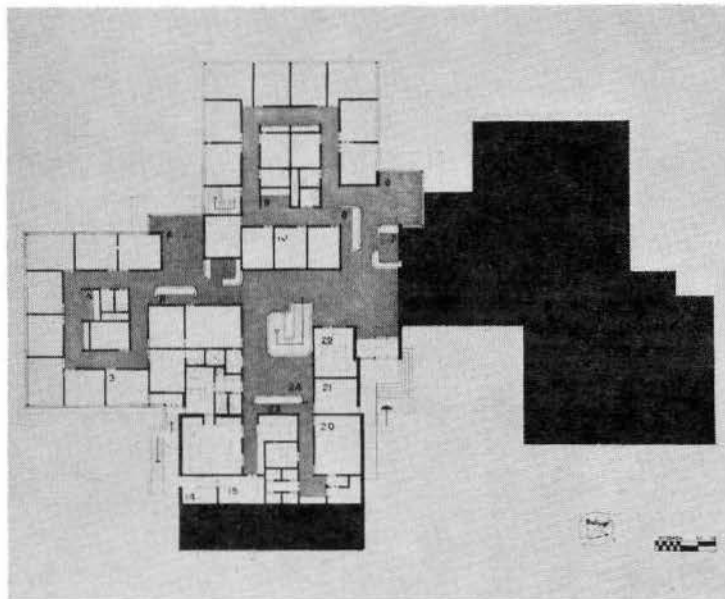
**Group Health Centre, St Catharines
Ontario**

Jerome Markson, Architect

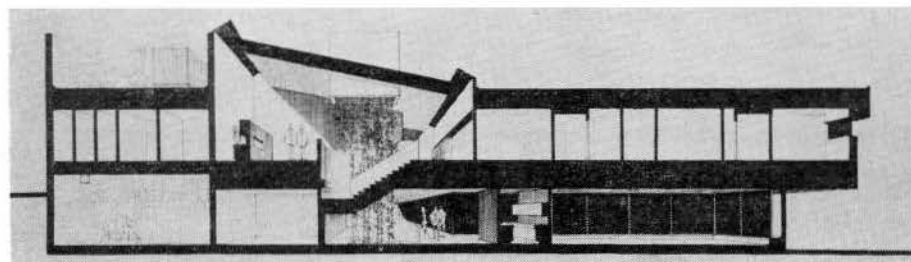
- 11a
Perspective
- 11b
Ground floor plan
Plan du rez-de-chaussée
- 11c
Longitudinal section
Coupe longitudinale



11a



11b

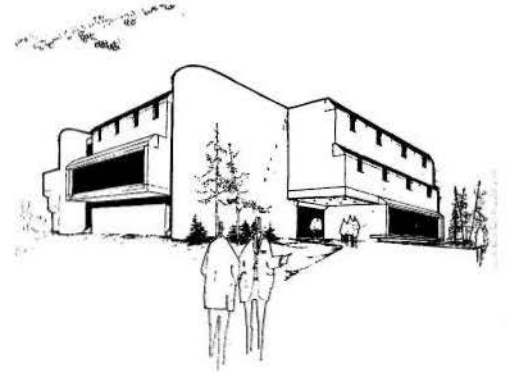


11c

Medical Building, Burlington, Ontario

Gilleland and Janiss, Architects

- 12a
Perspective
- 12b
First floor plan
Plan du premier étage
- 12c
Second floor plan
Plan du deuxième étage



12a



12b

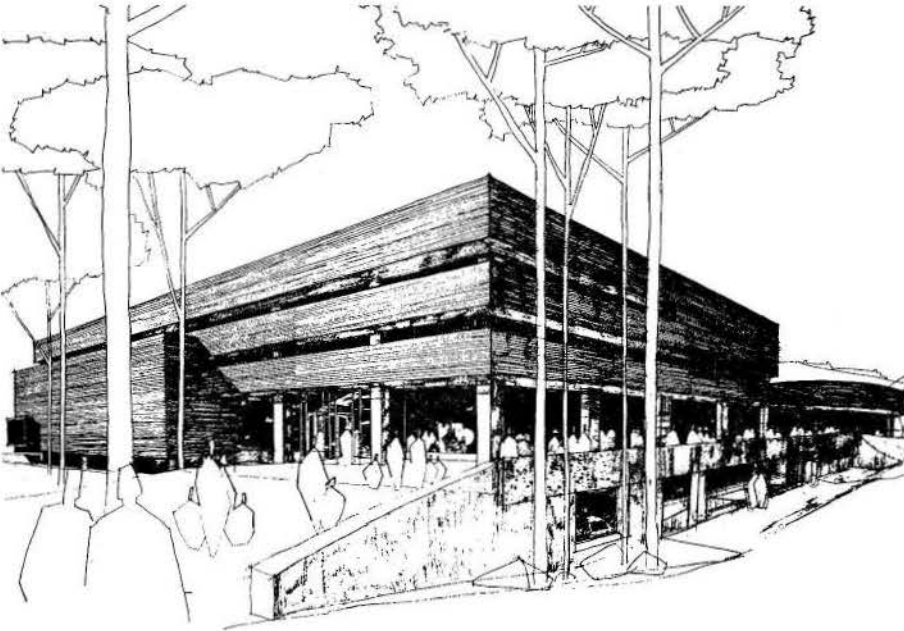


12c

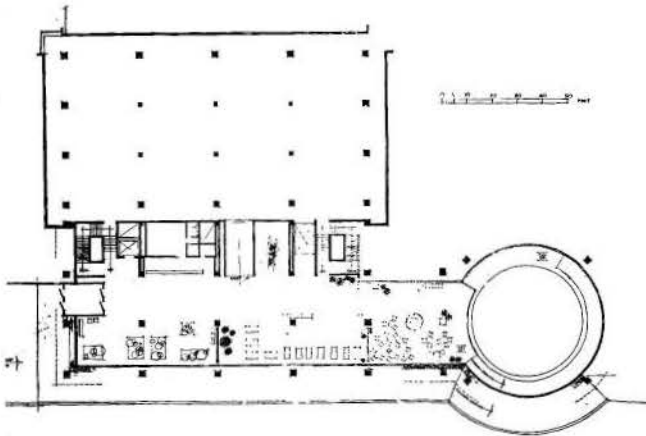
**Nova Scotia Provincial Museum
Building, Halifax**

**Duffus Romans Kundzins, Rounsefell
Architects and Consulting Engineers**

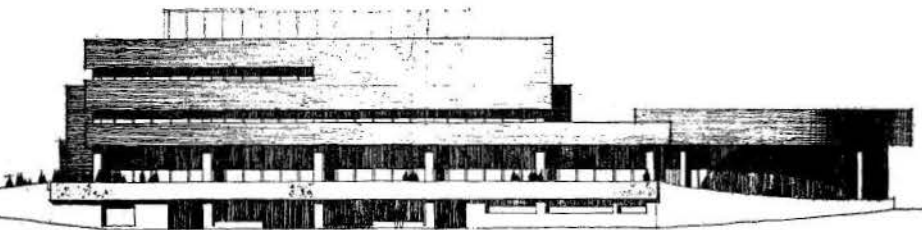
- 13a
Perspective
- 13b
Main floor plan
Plan du 1er étage
- 13c
South elevation
Élévation sud



13a



13b

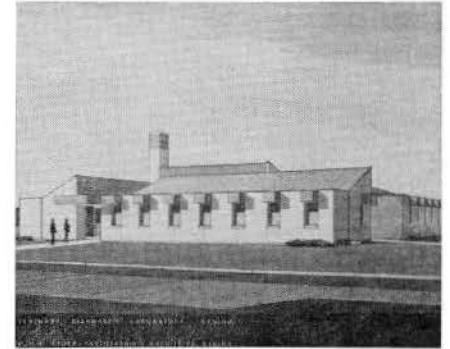


13c

**Veterinary Diagnostic Laboratory
Regina**

The D. H. Stock Partnership, Architects

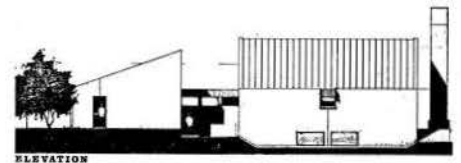
- 14a
Perspective
- 14b
Ground floor plan
Plan du rez-de-chaussée
- 14c
East elevation
Élévation est



14a



14b

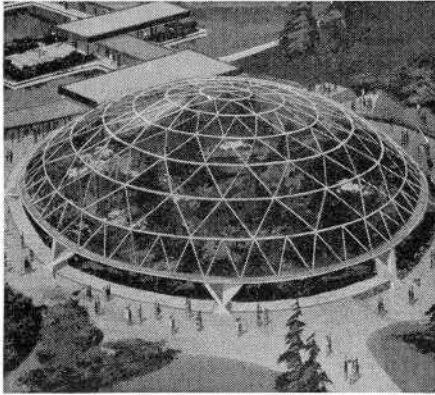


14c

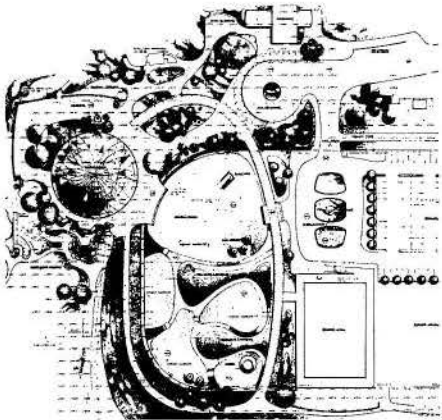
**Floral Conservatory, Little Mountain
Queen Elizabeth Park, Vancouver, B.C.**

**Underwood, McKinley, Cameron,
Wilson, Smith and Associates,
Architects**

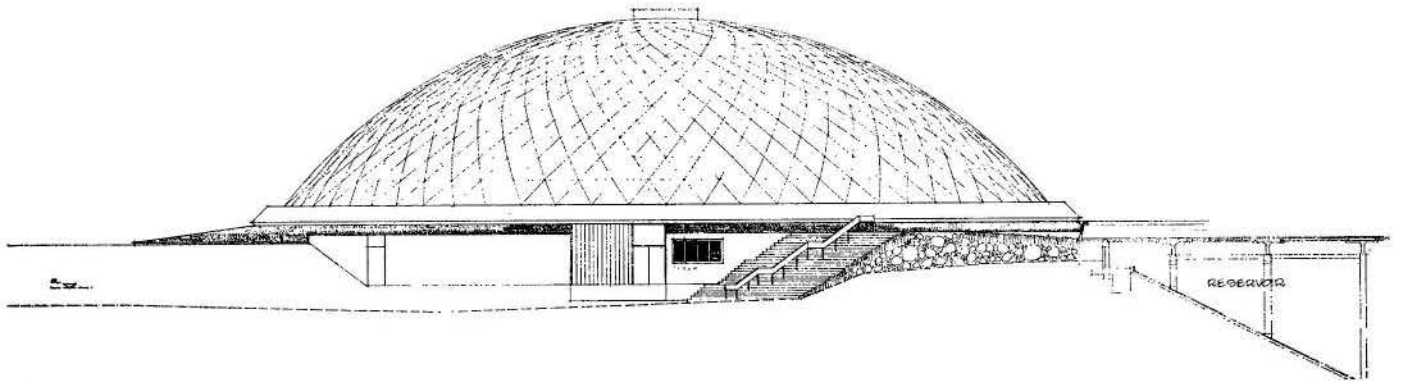
- 15a
Perspective
- 15b
*Master plan of park
Plan directeur du parc*
- 15c
*Elevation
Élévation*



15a



15b



15c

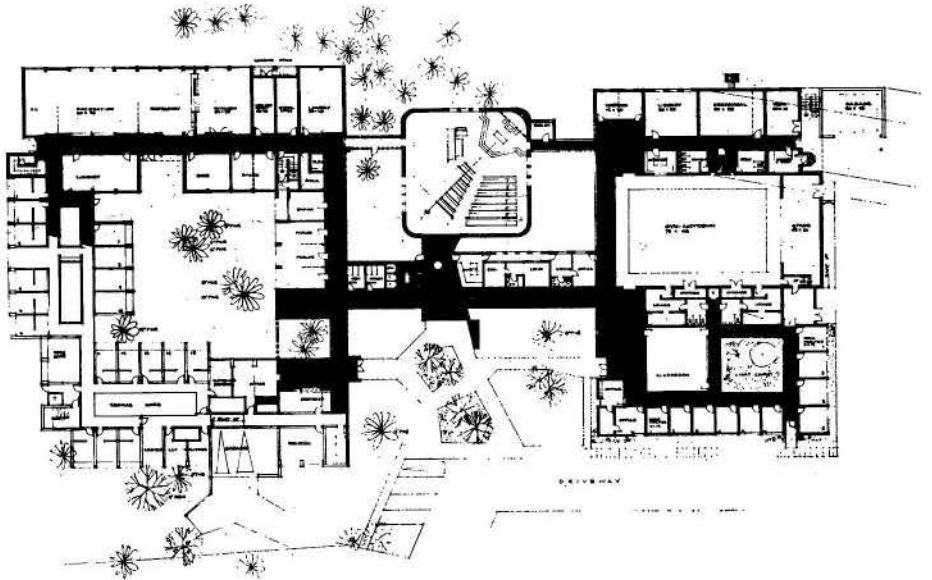
**Avila Centre, Sisters of
Saint Joseph, Port Arthur, Ontario**

Mickelson Fraser & Browne, Architects

- 16a
Perspective
- 16b
Plan



16a



16b

More Power to Mrs Hosken

The Editors :

I have just finished reading the November issue of *Architecture Canada*, particularly the excellent article on "New Towns" in Europe and the United States, by Fran P. Hosken. A better article on the controversial issue of the construction of new towns on this continent has yet to be written.

Coming from Europe myself, I can well appreciate the feelings Mrs Hosken experienced when comparing the new developments in Scandinavia and Great Britain with the feeble attempts in planning and construction of new towns, to an acceptable human scale, anywhere in Canada and the United States.

What particularly struck me in Mrs Hosken's article, was the absence of high sounding words usually so dear to the hearts of the architects and planners. Despite that, she has, quite capably indeed, conveyed her ideas and impressions to the reader in a plain language, readily understood by the "non-philosophical" members of the planning and designing professions. And, I sincerely hope so, also to the occasional reader among the real estate developers and members of the financial community.

I would like to join the other members of the profession who feel as I do, to congratulate Mrs Hosken on her strong and direct approach as well as her ability to express herself without reverting to professional colloquialism.

More power to Mrs Hosken and more writers like her!

*John M. Schmidt, MRAIC, MEIC,
Vancouver*

Workshop for Artists and Architects

Allied Arts Editor

Re : Canadian Craftsmans' Conference, *Architecture Canada*, October, page 21, I'm 100% for it but 100% against a seminar. I hate seminars. What about a workshop conference? Surely the main objective in this case is to let the architects know where these delightful people are and what they can do. Or have I missed the point? I would support such an idea.

George D. Gibson, FRAIC, Toronto

On the Technical Section

The Editors :

You no doubt have a multitude of correspondents and acquaintances with bright ideas to tell you how to improve *Architecture Canada*. Please forgive me if I add one more suggestion to the pile.

I compliment you on the recent technical series and on such technical features as the October article on auditorium acoustics, but may I submit a request for a development of this feature to provide information that I think would be of considerable benefit to all architects and specification writers.

We are all constantly faced with the problem of product, material and equipment evaluation and if we try to do our job conscientiously, we often end up bogged down in a mire of technical information we don't fully understand.

As a case in point, I have been trying to evaluate the relative surface hardness of a group of facing materials. I find that one has a Sward hardness of 40 at 75 degrees F; another a Briwnell hardness of 18 (500 kg load, 10 mm ball, 10 sec.); a third has a hardness of 7-8 by Mohs' scale; the fourth is listed as 47.2 litres of sand /mil tested in accordance with ASTM D 968; the fifth material showed a loss of 0.026 grams using ASTM 1044-56 (1000 cycles using C.S.10 wheels with 1000 gm. load) and the last

one was printed in German which I don't understand either.

Could we please have an article giving a brief explanation of at least the more commonly used test systems together with a conversion table; and may I further suggest a short listing of examples of familiar materials against which we can compare the material under evaluation.

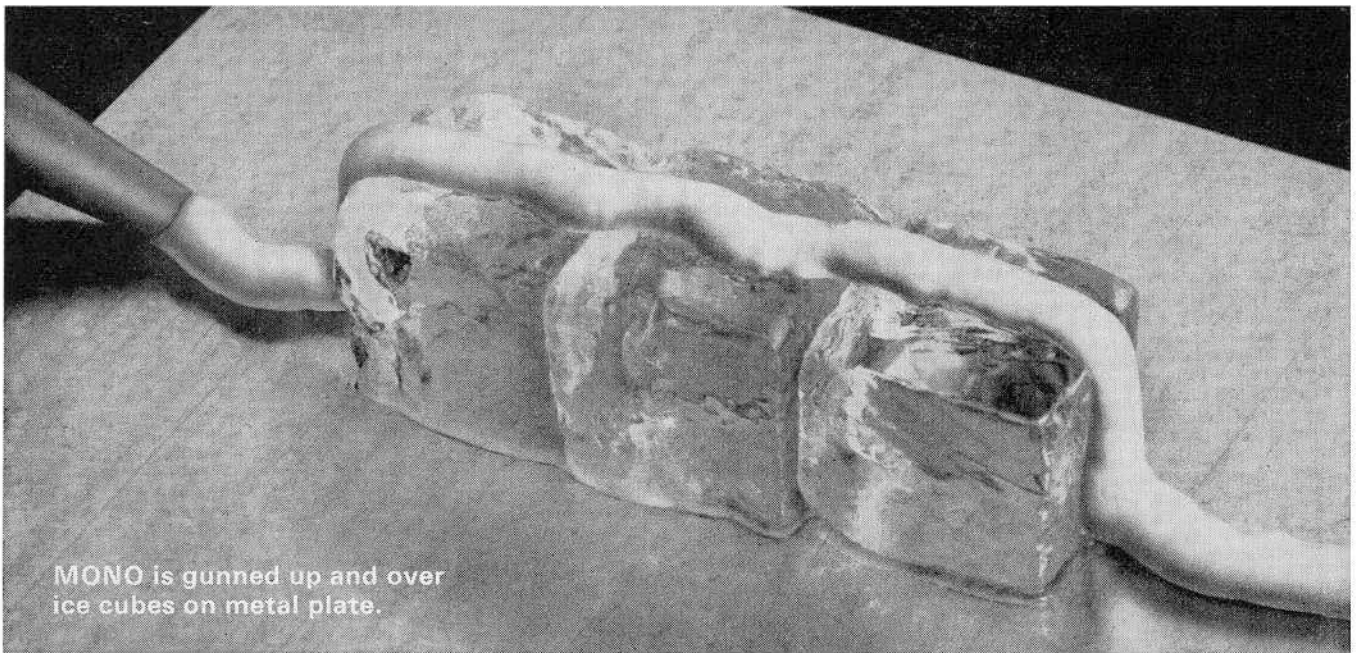
I would suggest that a very beneficial Series could be developed to guide us through the jungles of impact resistance permeability, flexibility, water absorption, gloss, fire hazard classifications, tensile strength, elongation, washability, resilience and all the hundred and one other attributes claimed by various manufacturers to extoll the virtues of their highly touted products.

Help! please!

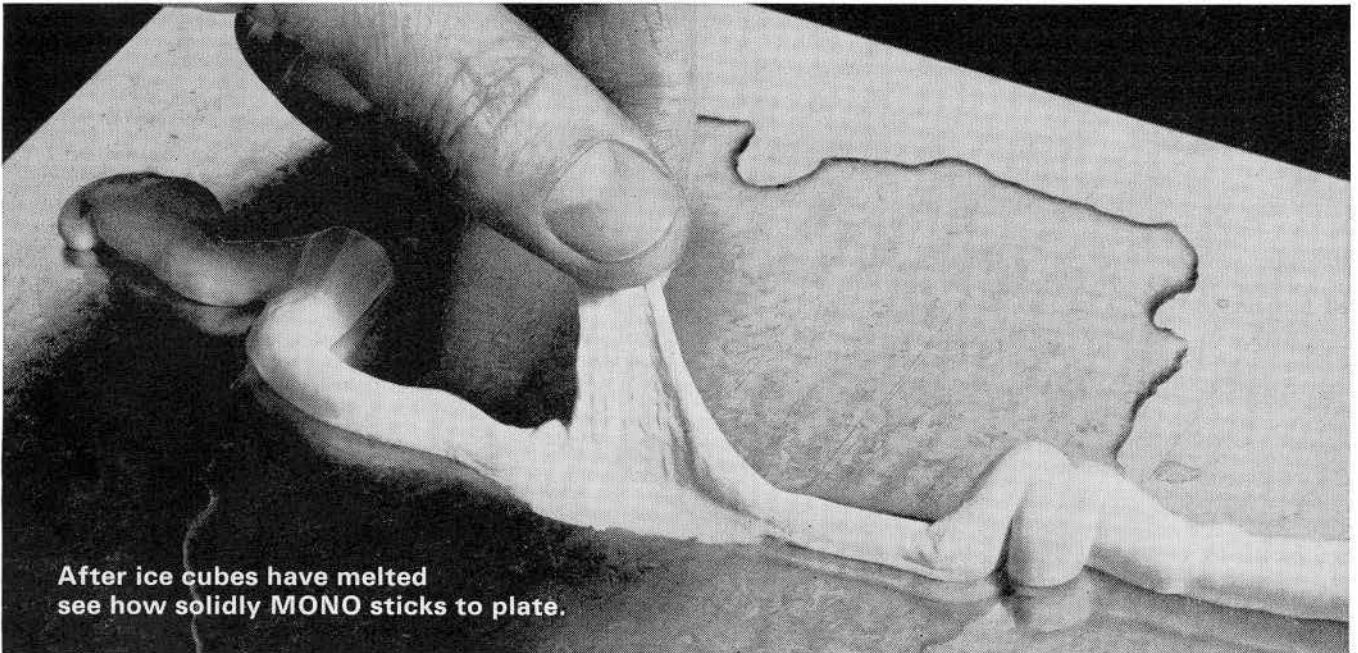
Basil L. Capes, MRAIC, Islington

Editor's Note :

This letter arrived just after we had completed plans to reorganize our technical section. The suggestions do fit in with our new scheme of things.



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Advertisements for positions wanted or vacant, appointments, changes of address, registration notices, notices of practices including establishment or changes in partnership, etc., are published as notices free to the membership.

Appointments

Douglas A. Craig, MRAIC, has been appointed Architect to the Etobicoke Board of Education. He was formerly with Toronto's Board of Education (1963-1967) where he designed school additions and co-ordinated the work of consulting architects on various capital projects. Previously he spent nine years with Ontario Hydro, where one of his biggest assignments was that of project architect for the St Lawrence Power Rehabilitation Project.

Practice Notes

John Leaning, MRAIC, AMTPI, ARIBA, formerly chief architect with the National Capital Commission in Ottawa, has entered private practice as architect and urban design consultant, with offices at 384 Bank St, Ottawa. Telephone 234-3398.

The new office of Cummings Dove Whitten, Architects, is located at 341 Freshwater Road, St. John's, Nfld.

Sinclair, Skakun, Naito, Architects, Edmonton, have relocated their office at 10015-103 Ave, Edmonton, Alberta. Telephone is 429-5616.

Rudolf Papanek, Jerry Miller, Associated Architects, have opened an office at Suite 1195, Place du Canada, 1010 La Gauchetière Street West, Montreal 3, Quebec.

The partnership known as Sorensen, Holthousen, Thompson, La Framboise & Mallette, in Kingston, has now been dissolved. This firm will now be known as Wilfred B. Sorensen, Architect, 10 Montreal St, Kingston, Ontario.

Peter Caspari, MRAIC, FRIBA, announces the opening of a new office in the Toronto Dominion Centre, Toronto 1. Telephone (416) 363-1582.

Levine and Lawrence, Architects, Toronto, have joined with Greenspoon, Freedlander, Plachta & Kryton, Architects, Montreal, and with Surveyors Nenniger and Chenevert Inc.,

Montreal, and SNC Filer Ltd, Consulting Engineers, Hamilton, to form a group which will offer comprehensive architectural, engineering and related services in the field of high rise buildings and other large projects in key centres of Eastern Canada.

Positions Wanted

U.S. architect, interested in partnership in Canada as design partner. Experience of design responsibility in two well-known New York firms. Reply *Box 147 c/o Architecture Canada*.

Husband and wife seek position in Canada, both with six years Technical University in Prague, architect-engineer members of the Czechoslovak Union of Architects, seven years experience in design and directing construction-mass housing, hotels, renovations. Reply: Paul Rysavi, c/o R. Kohout, 507 Riverdale Ave, No 319, Ottawa 1.

British qualified architect, 28 years old, seeks post in Montreal or Toronto. Qualifications: Diploma Architecture (Canada) ARIBA, with five years post diploma experience in England, France, and Tanzania. Available for interview early next year. Navroz Kassum, 10 Broadlands Ave, Streatham, London S.W. 16, England.

Full time employment wanted as architectural delineator. Phone: Sami Suomalainen, 6.00 p.m., 925-0804, Toronto.

Scottish immigrant, 47, 21 years experience construction, design, specification, working drawings, details, site supervision. References supplied, requires employment as architectural draftsman. Associate of the Faculty of Surveyors, England. Write: J. B. Willcock c/o Immigration Office, Hamilton, Ontario.

Project Architect with eight years experience in India, experience with numerous projects of varying magnitudes – can carry out correspondence, arrange and hold meetings – act as overall liaison with clients, contractors and various allied departments. Reply: D. D. Kanga, 71 Thorncliffe Park Drive, Apt. 1608, Toronto 17.

British registered architect, 30, seeks employment in any part of Canada. B.A. honors (architecture) Manchester University 1962. Present position deputy county architect, Shetland, Scotland. Experience mostly schools and housing. R. Bradbury, "Westing", Scalloway, Shetland, Scotland.

Town Planner-Architect, M.A., Diploma Politechnical University Cracov, 1946, seeks position in Canada. Doctor Technical Science 1963. Associated in 1965 with architects in Israel, specializing urban regional pattern, residential design, housing researches. Reply Michael Jassem, 5 Bar-Kochba Str, Israel.

Austrian Architect-engineer, 28 (Diploma Technical University of Vienna 1963), 5 years office experience in Vienna and Paris (residential, educational commercial, industrial bldgs). Fluent in English and French, good references, seeks position. Montreal or Toronto preferred. A. L. Thomas, Grabnerg, 7, 1060, Vienna, Austria.

Indian architect, 26 years old, three years experience, B.Arch, Nagpur University, seeks position in Canada. Reply Ashok V. Belsare, c/o P. D. Rao, Flat 3, Chadha Niwas, 660, 16th Road, Khar-West, Bombay 52.

Swedish Building Engineer, 35 years old, intending to emigrate to Canada, Spring 1968, seeks position in architect's office. Graduate of the Technical Institute, Stockholm, Sweden. Experience, eight years in Sweden, two years in Switzerland. Reply: Normann Visnes, Framnesbacken 9, Solna, Sweden.

Architect-in-training, Pratt Institute, 1963, 4 years experience in New York and San Francisco, has completed 6 of 7 registration examinations in U.S. and expects U.S. license within one year, seeks employment in Canada. Reply: Roger Panek, 22410 Bartlett Dr, Cleveland, Ohio, 44116, U.S.A.

German architect (grad) 23 years, member of the German professional architectural society BDB (Bund Deutscher Baumeister, Architekten und Ingenieure) seeks employment with an architectural office. Reply Christoph Schunicht, 7742 St Georgen Buhlstrasse 35, Germany.



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 KSH Plastics, Inc..... 8gg/KSH
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 of Canada Ltd..... 8gg/RO
 Sanpan Inc..... 8cw/SAN

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 Atlas Asbestos Company
 7ra/AA; 7rs/AAB; 8cw/AA
 Cyanamid of Canada Limited,
 A & F Products..... 6pl/FOR; 8gg/ACR
 Graham Products Limited..... 7rs/GPL
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 KSH Plastics, Inc..... 8gg/KSH
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