

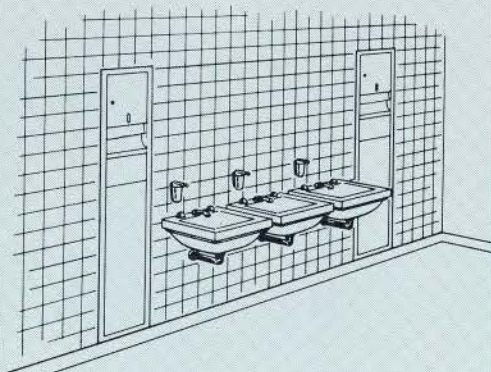


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Detail of Don Valley Village Row Housing Project

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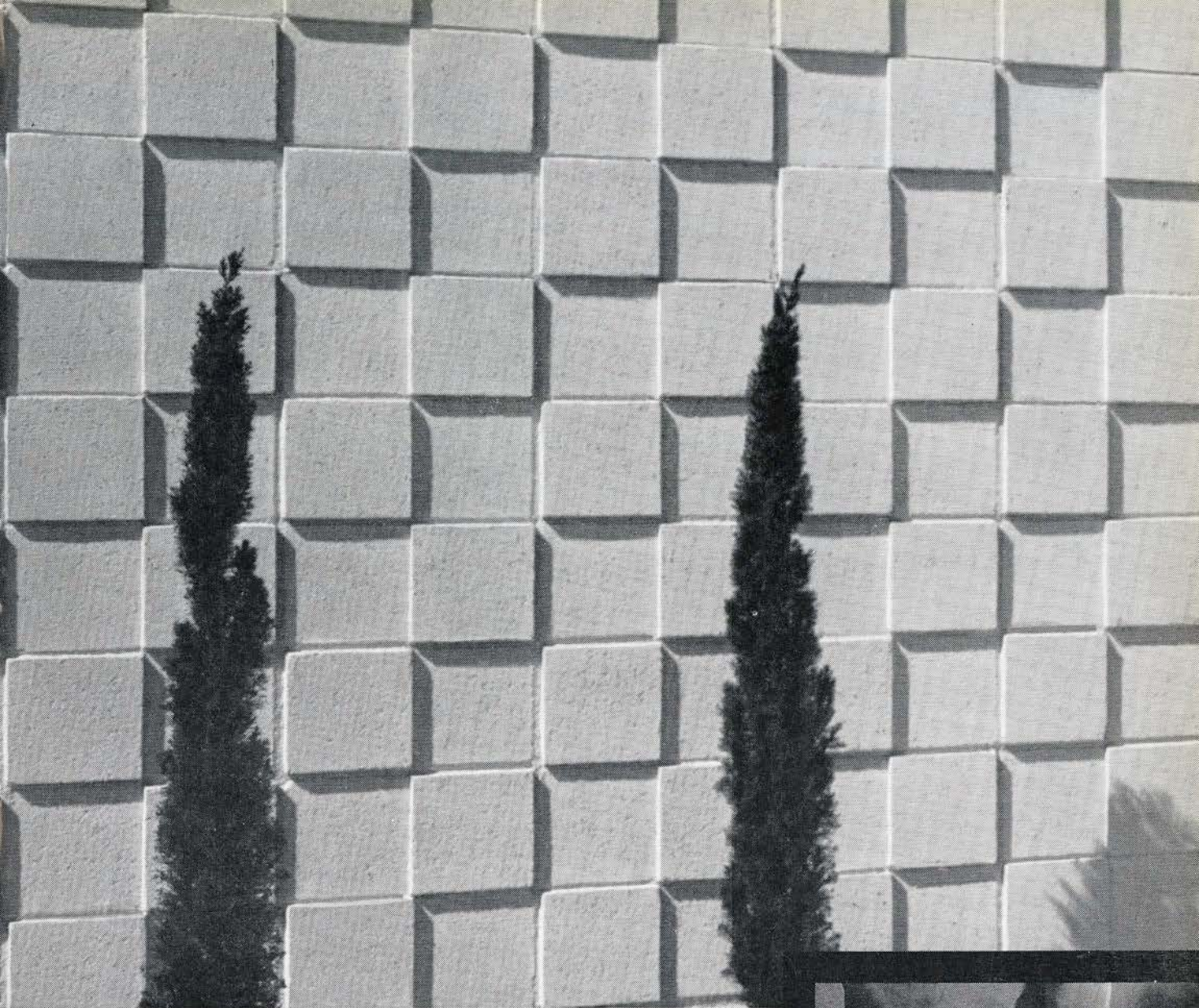
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Institute News

MARVIN F. ALLAN, OBE, FRAIC

Members returning from the RAIC Assembly at St Andrews-by-the-Sea, NB, were shocked to learn of the passing of Marvin Allan at Saint John, NB, Monday, June 22nd. This is the second tragic loss suffered by Marani, Morris and Allan within a few weeks. It is the second tragic loss suffered by the Institute, the profession and humanity.

Marv. Allan was born in Delhi, Ontario, and received his early education there and in Hamilton. He graduated in architecture from the University of Toronto in 1929. He studied at the Sorbonne in Paris and travelled extensively throughout Europe. For several years he worked in architectural offices in Berlin, Germany, and London, England, before returning in 1935 to establish a private practice in Hamilton. In 1940 he was commissioned 2nd Lieutenant in The Royal Canadian Engineers and commanded field companies in Britain and north-west Europe. During 1944 and 45, he served as colonel on the General Staff of HQ 21st Army Group on invasion air field planning. He was awarded the Order of the British Empire in September 1944 for his services.

He was chief architect for Housing Enterprises of Canada, Toronto, from 1945 through 1946, when he joined the firm of Marani and Morris. He eventually became a general partner and the firm name was changed to Marani, Morris and Allan.

Earlier this year, Marv. was appointed Honorary Lieutenant Colonel of the 2nd Field Engineer Regiment (Militia) Royal Canadian Engineers.

It is not necessary to enumerate here the many fine buildings which Marv. and his firm were commissioned to design. Their buildings have always been completed in a fashion which brought stature to our profession and we are all enviously aware of them. Few, however, are aware of the unreserved years of service he gave to his profession. It is that service we here

acknowledge. For many years, Marv. was chairman of the RAIC Legal Documents Committee and a member of the Joint Committee on Contract Forms and Tendering Procedures in co-operation with the CCA, EIC and ACE. He was chairman of the OAA Legal Committee and the Joint Committee of OAA and Ontario General Contractors' Association. He was a member of the sub-committee which established the Toronto Bid Depository.

He had an exemplary professional conscience, which was confirmed by an official of a client firm when he stated that any decision Mr Allan made was

always fair to all parties. This understanding was invaluable in the deliberations of the committees he served. Before the OAA had a Professional Practice Committee, all matters on this subject were referred to Marv. and over the years he and his fund of knowledge were made available to countless new members, who have since become better practitioners and better men because of this exposure to his kindly counsel.

In expressing his sorrow in the great loss suffered by the profession, W. D. S. Morden, QC, OAA solicitor, said "Mr Allan possessed that rare combination of a sensitivity to the more aesthetic aspects

THE RAIC FOUNDATION FORM FOR BEQUEST

In the July issue we reported the formation of The RAIC Foundation, the significance of which is that it enables Fellows, Members and friends of the RAIC to make gifts and bequests on a Tax-exempt basis towards the Institute's program of scholarship and research. The attention of the members of the Institute is called to the following legal form of bequest which has been prepared for the use of those who may desire to bequeath to the Foundation funds for the creation of scholarships or for the furthering of any of the Foundation's activities:

I GIVE, DEVISE AND BEQUEATH to the Royal Architectural Institute of Canada Foundation to further the general objects of the Foundation (or for any other specific purposes, for example: "for the purpose of providing one or more scholarships to be known as the John Doe Scholarships to be given at the discretion of the Foundation to the student who obtains the highest average in the second year of an architectural course at any University School of Architecture in Canada") the sum of and I declare that the receipt of the person who professes to be Executive Secretary-Treasurer for the time being of the Foundation shall be a sufficient discharge therefor.

FORMULE DE LEGS

Au mois de juillet on a annoncé dans le Journal l'inauguration de la Fondation de l'IRAC. Le but de cette Fondation est d'accorder aux Agrégés, aux Membres et aux amis de l'IRAC l'occasion de léguer des sommes à la Fondation sans paiement d'impôt. Ces legs sont pour aider à la réalisation des objets de la Fondation dans le domaine d'érudition et recherche. Nous désirons porter à l'attention des membres de l'Institut la formule ci-après, préparée à l'intention de ceux qui pourraient avoir le désir de léguer à la Fondation certaines sommes soit pour l'établissement de bourses d'études soit pour venir en aide à d'autres activités de la Fondation:

JE DONNE ET LÈGUE à la Fondation de l'Institut royal d'architecture du Canada aux fins d'aider à la réalisation des objets de la Fondation (ou à certaines fins précises, par exemple "aux fins d'établir une ou plusieurs bourses d'études à désigner sous le nom de "Bourses d'études . . ." et à décerner, à la discrétion de la Fondation, à l'élève qui aura obtenu la plus haute moyenne en deuxième année d'un cours d'architecture dans une école d'architecture du Canada) la somme de et je déclare qu'un reçu signé par la personne déclarant exercer alors les fonctions de secrétaire-trésorier administratif de la Fondation constituera une quittance suffisante en l'espèce.

If you're designing a church, school or factory Kalwall translucent exterior panels offer you thirty distinct advantages

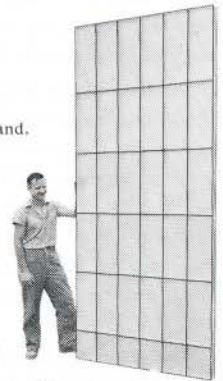


Glenwood United Church (1962), Windsor, Ont. Architects: Pennington & Carter.

Check these thirty distinctive Kalwall features before you specify materials for your next project

1. **Translucent** — Kalwall panels diffuse light evenly over a broad surface giving soft, glare-free natural lighting.
2. **Colourful** — Panels are available in many different colours; also coloured inserts for an extra decorative touch.
3. **Lightweight** — Panels weigh only 1.42 to 1.60 lbs. per sq. ft. making handling and erection easy.
4. **Structurally strong** — Panels have great structural strength due to unique sandwich construction and aluminum grid core.
5. **Modern materials** — Kalwall panels are made of plastic, glass and aluminum.
6. **Watertight** — Continuous pressure by "clamp-tite" joints on sealing tape make installation watertight.
7. **Insulative** — Low U-value of 0.40 is achieved by cellular construction.
8. **Shatterproof** — Fiberglass reinforced polyester faces bonded to aluminum I-beam grid impart great resistance to shattering.
9. **Large size** — Panels are available up to 4' wide by 20' long; longer spans available on request.
10. **Ease of installation** — Erect by hand, seal panel perimeters and anchor at head and sill to pre-placed aluminum channels.
11. **Self-supporting** — Kalwall wall panels are self-supporting; require no mullions or other structural support.
12. **Low maintenance** — Durable nonporous surface resists the elements, acids, alkalis and common solvents. No windows to wash either.
13. **Re-usable** — Panels are easily removed and re-used when adding to an existing building.
14. **Fast delivery** — Panels are made-in-Canada ensuring delivery on the job site on-time.
15. **Low cost** — Installation is rapid due to lightweight, large size and versatile "clamp-tite" joint system. Job site labour costs are drastically cut.
16. **Proven product** — Thousands of installations in the U.S. and Canada have been giving trouble-free service for close to 10 years.
17. **Constant even lighting** — Interior lighting varies only slightly even on over-cast days.
18. **Controlled natural light** — Panels can be constructed to transmit percentage of light desired.
19. **Unique textural effect** — Translucent colours and shadow grid lines create a constantly changing textural effect.
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21. **Opaque panels are available** for use with Kalwall translucent wall systems.
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of his profession with a profound knowledge of the law as related to architectural practice."

We must be thankful that he was so generous with his time during his short stay, for this is the knowledge and experience we have lost, but it is his warm friendship we will miss.

Alvin R. Prack (F), Hamilton

W. E. NOFFKE, FRAIC,

The death of a man who has been not only a partner — but an inspiration and above all a friend — can leave a great void. With the passing of "W.E." on July 30, an architectural era in the City of Ottawa spanning some sixty years came to a close. Up until three years ago, he was actively engaged with his practice when ill health forced a curtailment.

Born in Stolp, Germany, he immigrated to Ottawa while a preteen and obtained his formal education at St. Paul's Lutheran School and the Ontario College of Art. A staunch churchman, his architectural talents came to the fore in the religious field with the Grey Nuns' Mother House Chapel as a shining example, while the Ontario countryside is dotted with his many Lutheran Churches. His best known work is the Ottawa Post Office. His architectural outlook was undoubtedly influenced by a contact with Sullivan in the early stages of his career. A second influence was a brief sojourn spent in California in the 1920's.

Throughout his life he was a man of confirmed principles and ideals. He was the bane of many a construction firm yet achieved a respect within the industry which did not waiver with the years. His activities embraced both O.A.A. and R.A.I.C. organizations and he became an original member of the College of Fellows.

The careers of many architects have been touched by this man. He will be missed.

Earle Ingram

TELEPHONE PAVILION

Five firms of architects across Canada have been appointed to carry out as a joint venture the design and construction of a pavilion which will house the exhibit to be presented at the 1967 World Exhibition in Montreal by the Telephone Association of Canada.

The names of the firms are: J. Phillip Dumaresq & Associates, Halifax; David,

Barott, Boulva, Montreal; Gordon S. Adamson & Associates, Toronto; Smith Carter Searles Associates, Winnipeg and Thompson, Barwick, Pratt & Partners, Vancouver. The Montreal firm of David, Barott, Boulva will act as co-ordinators for the joint project.

JAPAN CONVENTION

The Architects of Japan have called together an architectural convention to be held in Tokyo, November 1-4, in conjunction with the Olympic Games. The number of participants is limited, and final registration must be submitted by September 30. Registration fee, which includes social events and inspection tours, is \$10.00 (and \$5.00 for wives). The RAIC is participating in the International Exhibition on Sports and Recreational Facilities, which will form part of the convention. Details and

registration forms are available from RAIC headquarters.

CMHC REQUIREMENTS

To provide a better service to borrowers and builders and to reduce delays in construction, CMHC inspection requirements on NHA financed houses have been amended to take effect September 1st.

1 Inspections

The minimum number of mandatory stage inspections has been reduced from five to three and these are as follows:

(1) Foundation; (2) Ready for Lath; (3) Final; (4) Excavation; (5) Supplementary Inspections.

2 Infractions

3 Loan Advancing

4 These new procedures do not apply to apartment buildings.



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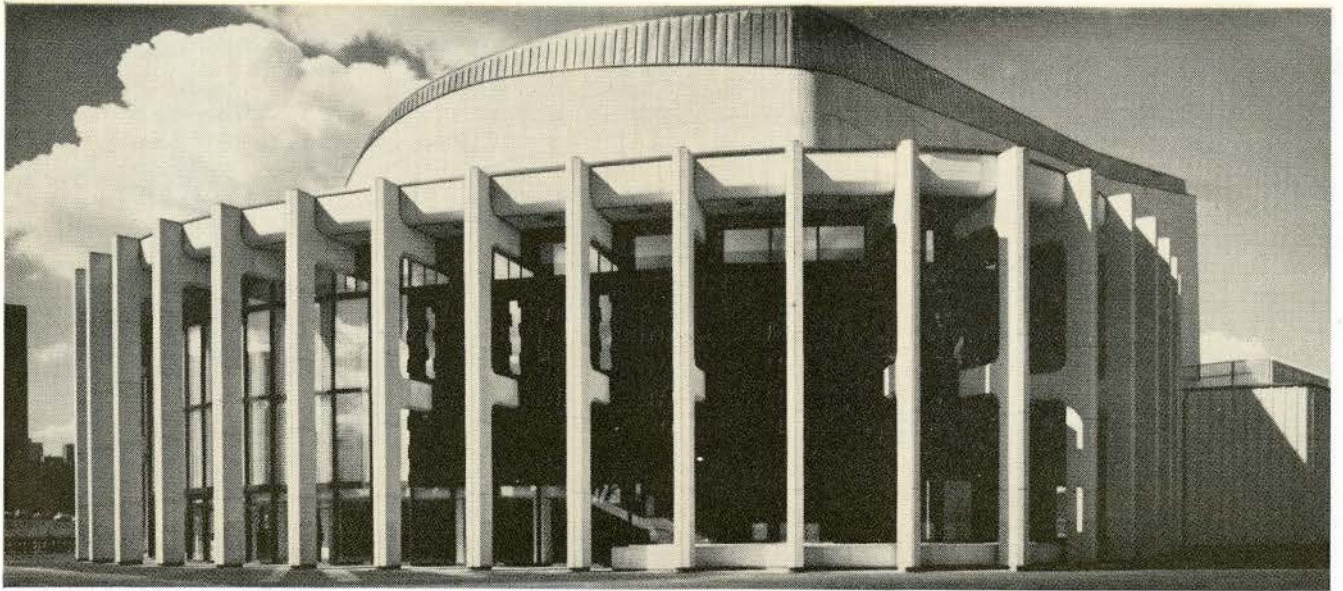
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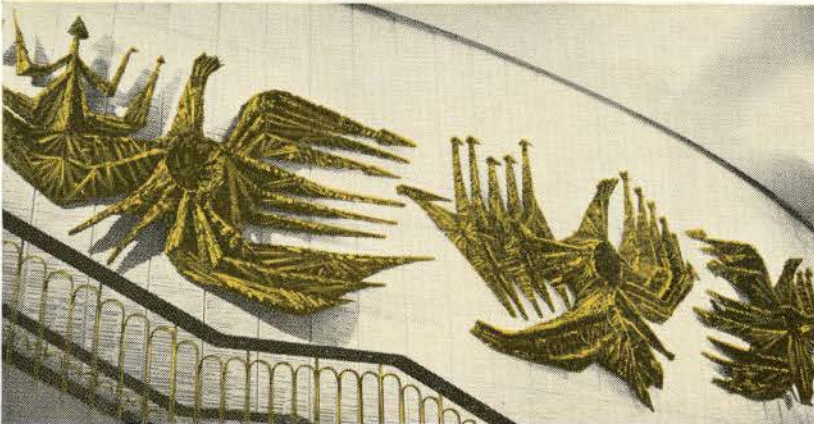
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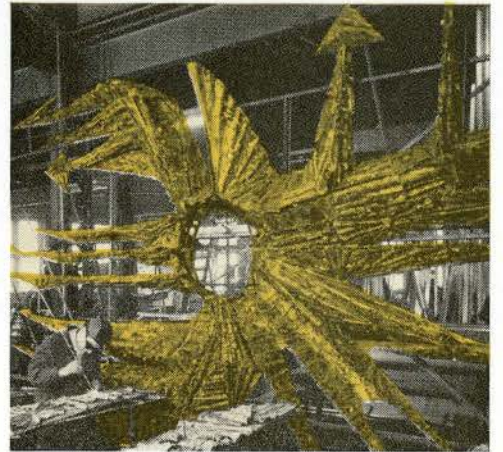
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The angel group is 64' wide. It was created in the workshops of A. Faustin Cie Limitée under the direction of Sculptor Louis Archambault. 3' x 8' Muntz metal plates were cut into smaller pieces. These, weighing 3,500 lbs., were shaped by hammering, then spot brazed to iron rod frames.

Some 110,000 lbs. of copper tube supplied by Omer De Serres Limitée went into plumbing, air conditioning, refrigeration and hydronic heating installations by John Colford Contracting Company Limited. Copper metals found wide use in the complex electric control system.

Architects: Affleck, Desbarats, Dimakopoulos, Lebensold & Sise

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ANACONDA

STRUCTURAL RESEARCH

A conference on structural research in Canada will be held at the University of Alberta, Edmonton, on 30th Nov, and 1st Dec. The Conference will be of interest mainly to those actively engaged in structural research at universities and a few other organizations active in this field. The main emphasis at the meeting will be on the aims and problems of structural research as they apply in Canada.

The Conference, sponsored jointly by the National Research Council and the University of Alberta, will follow the opening ceremonies and inspection of a new structural research laboratory in the Department of Civil Engineering at the University. Two special speakers at the meeting, both well known authorities in structural research, will be Dr. M. R. Horne of the University of Manchester and Dr. C. P. Siess of the University of Illinois.

THIRD CIB CONGRESS 1965

Towards Industrialized Building will be the theme of the Third CIB Congress, which will be held in Copenhagen, 23 to 28 August 1965. Some of the subjects to be discussed will be "Integration of Design and Structure", "Production Methods", "Functional Requirements", "Communicating the Knowledge", and "Modular Standardization".

Topics discussed at the Conference will include the present and future aims of structural research in civil engineering structures in Canada and the problems and facilities involved in laboratory work in this field. Speakers from many Canadian universities will introduce the various subjects on the program, and ample time will be allowed for discussions among all the participants.

Registration for the Conference will be limited. Those interested are invited to apply for registration forms by writing to *W. R. Schriever, Building Structures Section, Division of Building Research, National Research Council, Ottawa, Canada.*

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PRACTICE NOTES

Marani, Morris & Allan, Toronto architects, announce the addition of three new partners and a new associate.

The new partners are W. J. Milhausen, B.Sc., P.Eng., M.E.I.C., former chief engineer for C.M.H.C. and with Marani, Morris & Allan since 1955; R. M. Wilkinson, B.Arch., M.R.A.I.C., a graduate of the University of Toronto, who has been with the firm since 1936; and W. K. Aykroyd, M.R.A.I.C., C.P.E. who joined the firm in 1945.

The new associate is James W. Wood, B.Arch., M.R.A.I.C.

POSITION AVAILABLE

Applications are invited from recent Architectural graduates for duties primarily in design and supervising the preparation of working drawings. Apply with details of education, experience and salary desired to Mott, Myles & Chatwin, 13 Germain Street, Saint John, NB.

POSITION WANTED

An architect, graduate of Dundee School of Architecture in Scotland, and having eighteen months' working experience

since graduation, will be emigrating to Toronto in November. He would be pleased to hear from any Architectural firm that might be able to use his services. Write to David R Morrison, 25 Deveron Terrace, Menzieshill, Dundee, Scotland.

NEW OFFICE OPENED

Donaldson, Drummond, Sankey, architects, have combined to form an architectural firm and have their office at 1253 McGill College Avenue, Montreal 2. Their telephone number is 878-9667.

Architect Wanted

Aggressive, young architect looking for a future in a small architectural office. Creative design ability essential. Opportunity for future associate-ship for right man. All details to Box 1964.

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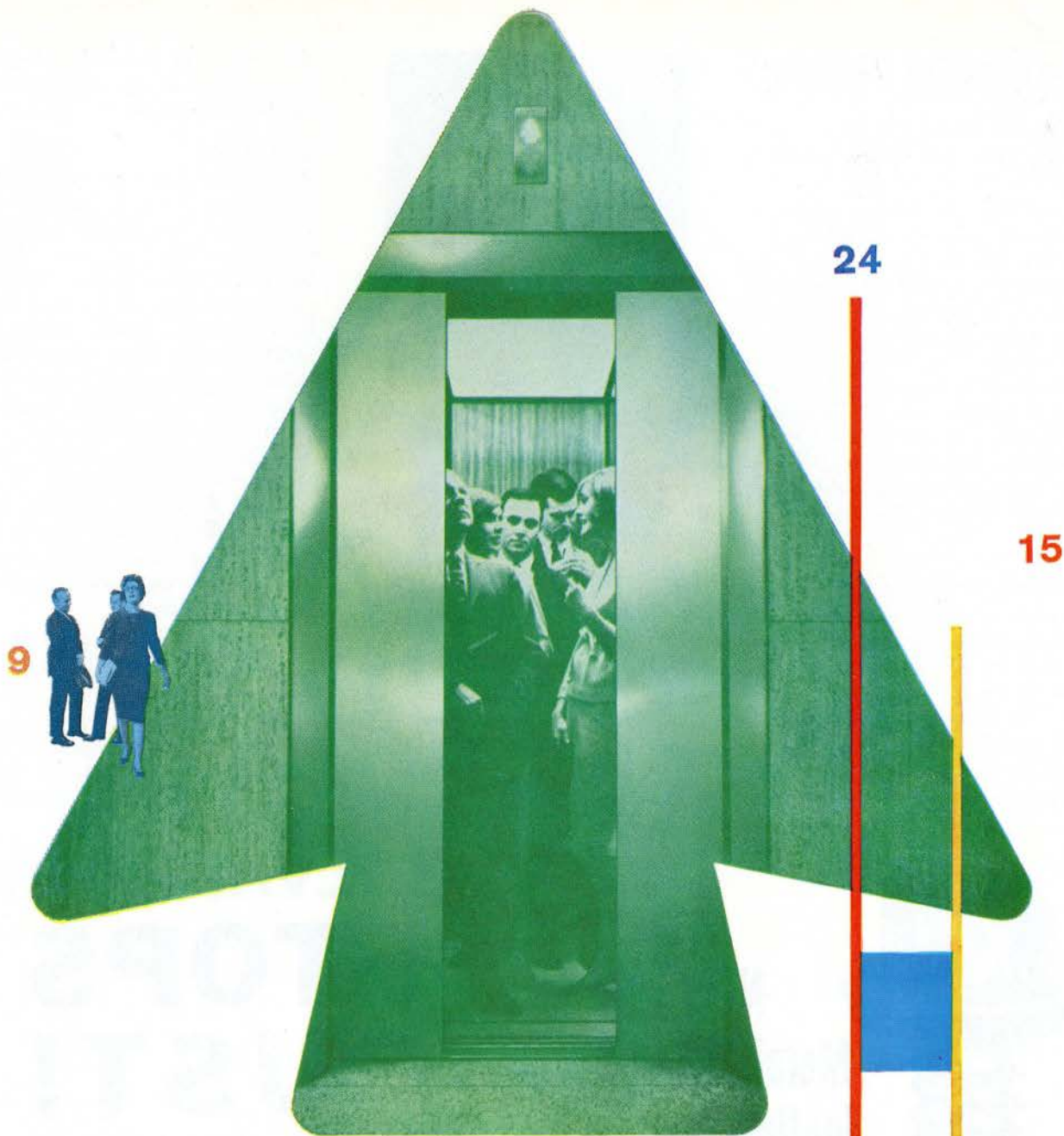
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Provincial News

ONTARIO COMPETITION

The City of Brantford, Ont., announces a competition for a new city hall.

The invitation is to architects resident in Ontario only. The jury will consist of—Prof. John Andrews, who was one of the finalists in the City Hall Competition, Toronto; Ronald Thom, the designer of Massey College; Charles Trudeau, who was a member of the firm who designed the Ottawa City Hall; Alderman Jack Brown of Brantford; and Dr Eric Arthur, who is also professional adviser. Prizes are \$7,500, \$3,000 and \$1,000. Cost of the building is estimated at approximately \$1 million. Entries close January 4, 1965.

SCHOOL PLANNING & RESEARCH

The shape of schools to come will be given more intensive scrutiny by the Ontario Department of Education, with the formation of a new office in the Department—the Division of School Planning and Building Research.

Director of the division will be Frank J. K. Nicol, Scottish-born and a graduate



Frank J. Nicol, MRAIC

of the Aberdeen School of Architecture. He was formerly Assistant Technical Adviser in the Department. His new appointment carries the title of Research Architect.

1964 GRADUATES

BRITISH COLUMBIA

T. Barkley, J. R. Currie, A. B. Fisher, A. Greiner, R. B. Herman, V. Houlbjerg, G. G. Kennedy, B. Olson, N. Pelman, L. Redpath, C. W. Reeves, T. Tanner, W.

Tong, B. Turik, J. Vincent, T. H. S. West. The RAIC Medal was won this year by L. A. Redpath.

MANITOBA

David Anslie Allen, Brian William Bancroft, James Clarence Barnum, Juris Voldemars Bergins, Clemens Robert Briskie, Phillip Houghton Carter, Edward John Darch, Morris Epstein, Philip Vincent Esnouf, Peng-Suy Go, Gary Arthur Hack, Richard George Henriquez, William Leader Hyde, John William Keith-King, Siu-Kau Lau, Douglas Victor Lintula, Anthony George Logothetis, Gerald Waino John Maki, Robert Ian Anderson McDougall, Lenard Burns McQuarrie, Walter Michael Moroz, Peter H. Neijmeijer, Frederick Brian Pritchard, Herbert Denham Repole, Karl Heinz Stevens, James Stuart Stirton, Robert John Todd, Roger James Walls, Lyall Alfred Webster.

Some of the award winners at the University recently were: The University Gold Medal in Architecture; Stevens, Karl H.—The Royal Architectural Institute of Canada Medal; Henriquez, Richard G.—The Alpha Rho Chi Medal; Carter, Phillip H.—The Bachelor of



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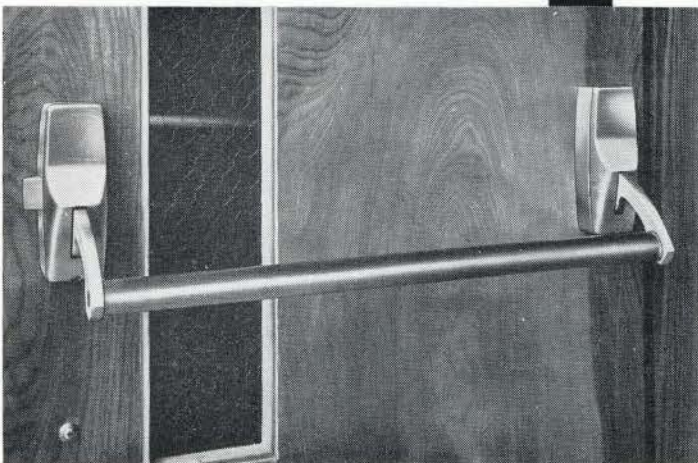
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Architecture Thesis Prize of \$100; (two prizes awarded) Henriquez, Richard G, and Stevens, Karl H. — The University Gold Medal in Interior Design; Lewis, Linda Lloy.

McGILL

Bruce Anderson, Philip Beinhaker, Patrick Blouin, George Challies, Jacques Dalibard, James DeWolf, Robert Eaton, Lada Patricia Falta, Herbert Feifer, Harris N. Forusz, Douglass Gill, Melvin Glickman, Murray Goodz, Ross Hayes, Alan Hopkins, John Houghton, Gunners Janitens, Pierre LaRose, Kenneth McReynolds, Lionel Mincoff, Earl Murphy, Frederick Palmer, Verma Pantan, Morton Rossberg, Gerald Sheff, Werner Szydlow. Some of the prizewinners were: Pierre Teasdale, The CMHC Travelling Scholarship.

Bruce Anderson, The Lieutenant Governor's Gold Medal.

R. F. Williams, The Lieutenant Governor's Silver Medal.

Bruce Anderson, The RAIC Medal and also the Pilkington Scholarship.

Letters

ARCHITECTURAL STANDARDS

*Editor,
RAIC Journal*

Mr. Russell, in his letter regarding architectural standards and "Sound Tests" in particular, seems to be confusing measurement techniques, standards and specifications. (*Journal, June 1964*)

Measurements provide data regarding performance. Standards relating to measurement techniques aim at hedging the measurement process with sufficient limits that valid comparisons can be made between one set of measurement data and another.

Specifications, on the other hand, either report an anticipated performance, or indicate a required performance.

I am quite in sympathy with Mr. Russell's complaint concerning test data on sound attenuation of prefabricated partitions. This is probably due to an anomaly in the measurement conditions, not covered in the measurement standard ASTM, E90-61T. However, this data, obtained in whatever fashion you please, is the basis for the specification, and changing the method of specification will not compensate for differences due to measurement. Whether the specification were quoted as the average transmission loss at nine frequencies, or in terms of Sound Transmission Class, the difference

due to measurements would still be present.

Now consider specifications. When the laboratory completes a test the data consists of eleven numbers, per ASTM, E90-61T, each of which provides its own quantum of information; but when this data is compressed into one number, whether by averaging a selected set of numbers to obtain Transmission Loss or distorting the average to obtain Sound Transmission Class, a great deal of the information is discarded. So might I

suggest that rather than worrying about which method of averaging is to be used, and I agree that more useful information is retained under the Sound Transmission Class process, architects and manufacturers would serve their clients better if they took the time and effort to use the full set of data, without resorting to the old U.S. game of simplifying problems to the point where you get the wrong answer for the right reason. *V. L. Henderson, Department of Electrical Engineering, U of T.*



I.B.M., Yorktown, N.Y.
Architect: Eero Saarinen & Associates



Elmont Memorial High School, Elmont, N.Y.
Architect: Frederick P. Wiedersum

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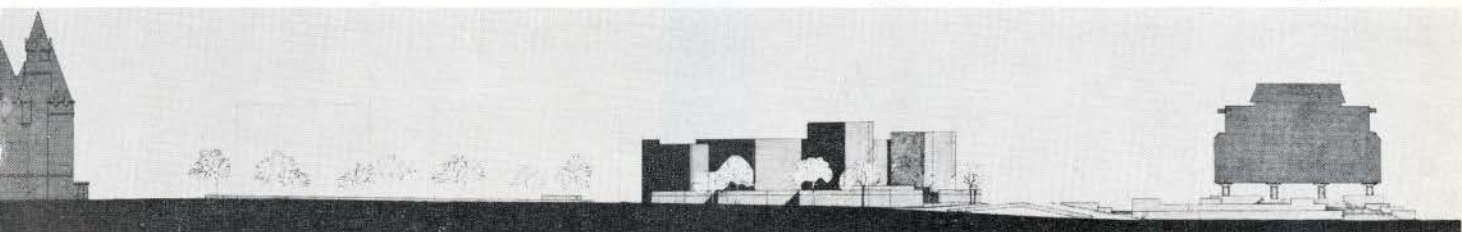
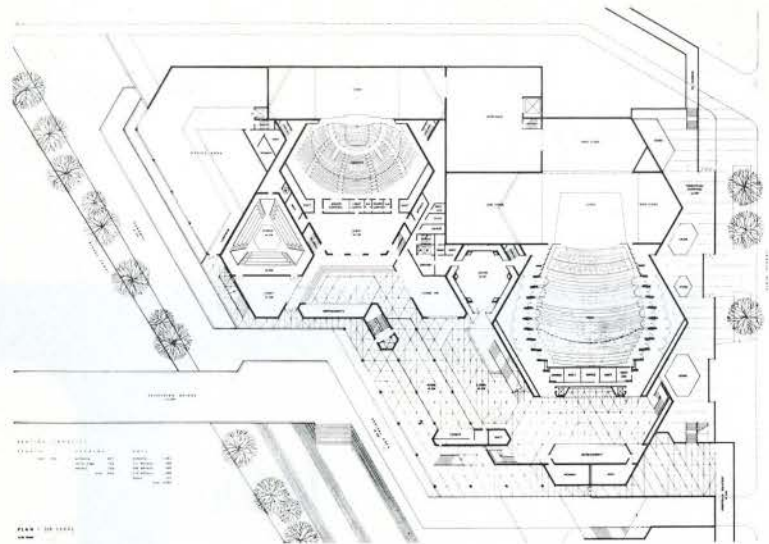
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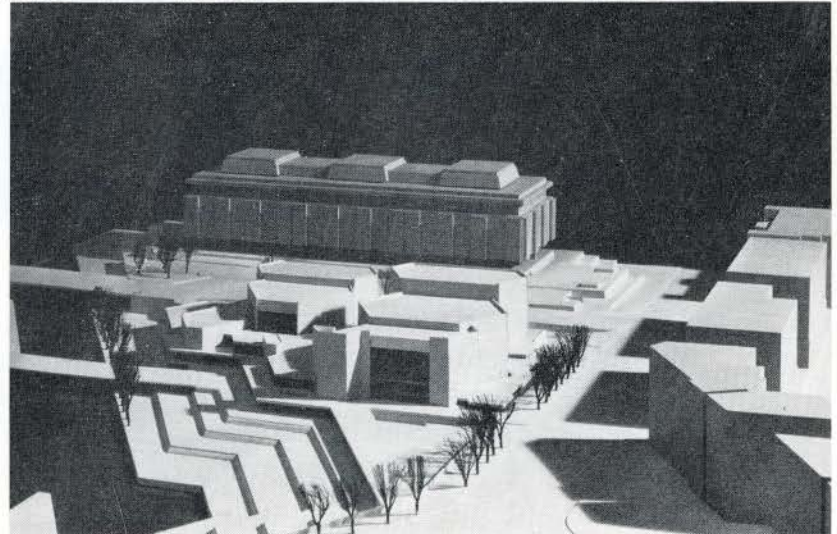
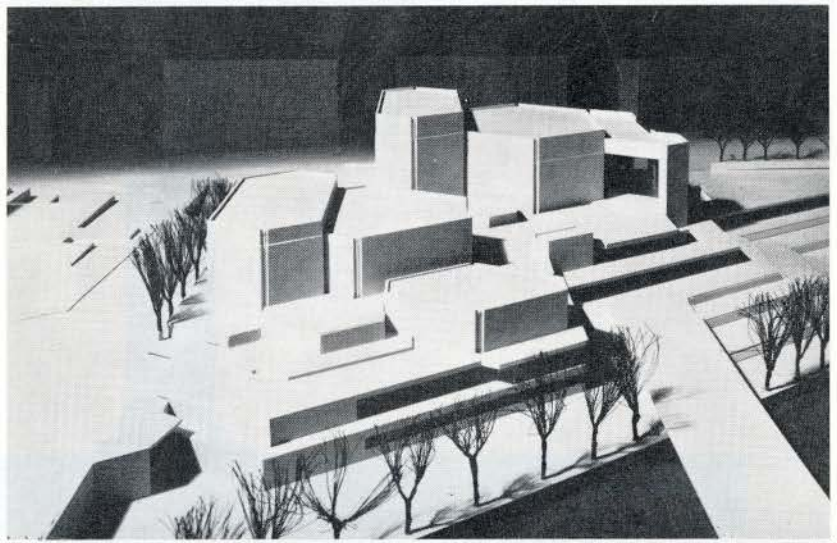
Ottawa



The site is in the heart of Ottawa which is undergoing re-development. The buildings have been conceived as series of terraces with the more prominent bulk of the theatre Opera house and experimental theatre protruding almost as great stones. Part of this complex is a garage for 950 cars and covered pedestrian link which will enable free movement from Wellington Rideau streets to Sparks street, the National Centre for the Performing Arts and eventually to the Museum to be built on the south side of the MacKenzie bridge.

The various terraces slope gently to the canal which in this area will probably be widened and give great life and interest to its impact on the future use of the canal and its relation to both the Performing Centre and the development which will eventually take place on the East side of the Rideau canal.

Architects: Affleck, Desbarats, Dimakopoulos, Lebensold, Sise
Partner-in-charge: D. F. Lebensold
Project architect: Arthur B. Nichol



October in

JOURNAL RAIC - L'IRAC

Who

What

Where

When

How

About

STEEL

The October issue of the Journal RAIC will be devoted to the facts, problems, possibilities and latest advances of Steel in the design and construction of buildings and building complexes in Canada. As well as articles dealing with Steel today, there will be announcements by the manufacturers, distributors and processors of Steel in Canada — all brought to you in the October issue of the Journal RAIC.

1964 Stratford Seminars on Civic Design

by W. S. Goulding

This year, at the fourth annual seminar, the subject was the upcoming Centennial celebration and its possible contribution to civic design.

The Seminar became aware of three main factors; first that there is \$100 million of federal money committed to the project; second that some good planning has yet to be done; third that it would be much better to plan for things to be started in 67 and continued from there, rather than make firm decisions about projects that would be finished by 67.

We began to find out in the various workshops of the sort of response to the birthday party that municipalities had already shown. It was roughly that a prosperous relative had just died and left a small legacy. It would now be possible to get a new fire station cheap, or put a concrete floor in the arena, or in one case, to build a heated burial vault. These various ploys all showed the frantic lack of money which bedevils every local municipality even in a period of prosperity. The local government, which is supposed to decide what it would like best for that community's Centennial, would like best just a bit of extra cash.

Mr. Ronald Way, who has been in charge of Fort Henry at Kingston for many years and now also runs Upper Canada Village, described how history conscious the public is. The Americans began it for us with Williamsburg but this is a real, Canadian interest now. Support comes from what he called the sentimentalists; from families wanting a focus for their joint holiday, from the rootless but historically minded who want to identify with the past, from educationists who see a good teaching aid, and from the tourist industry which knows that Upper Canada Village has brought \$22 million to Seaway Valley. Mr. Way took pains to point out that any historical project must be well researched to establish its merit, and well checked to see that it is economically sound as a continuing operation. "From the past", he said, "take the embers, not the ashes".

The liveliest of several panel discussions had Bob Fulford in the chair, and included Bill Kilbourn, Tom Patterson, Jim Strutt and Bill Teron. They were all concerned with how unconcerned the country seems to be about its upcoming birthday party. It does not yet seem real to most people. Teron wanted to start

"Hypo 67", or as he wanted to spell it "Hipo". This would be a calculated shot of stimulus and of information by government to the public to get people thinking and planning. The word has to get around that 20 million people, including you and me are going to have this party; that the \$100 million that the federal government is prepared to spend means \$5 per person and this needs to be matched by \$5 worth of effort on the part of everybody so that everybody will feel involved.

Apart from its work of discussing the aspects of civic design involved in the Centennial, the Seminar's Board of Sponsors this year began giving design awards to people outside the design professions who had been instrumental in creating or sponsoring good civic design. The awards went to a wild variety of personalities; to William Zeckendorf of New York as a promoter, to Dr Frank MacKinnon of Charlottetown as chairman of Fathers of Confederation Memorial Foundation Committee, to Dr R T M James of Toronto as chairman of the Yorkville Association.

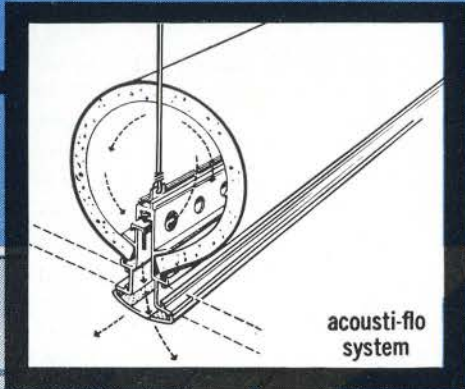
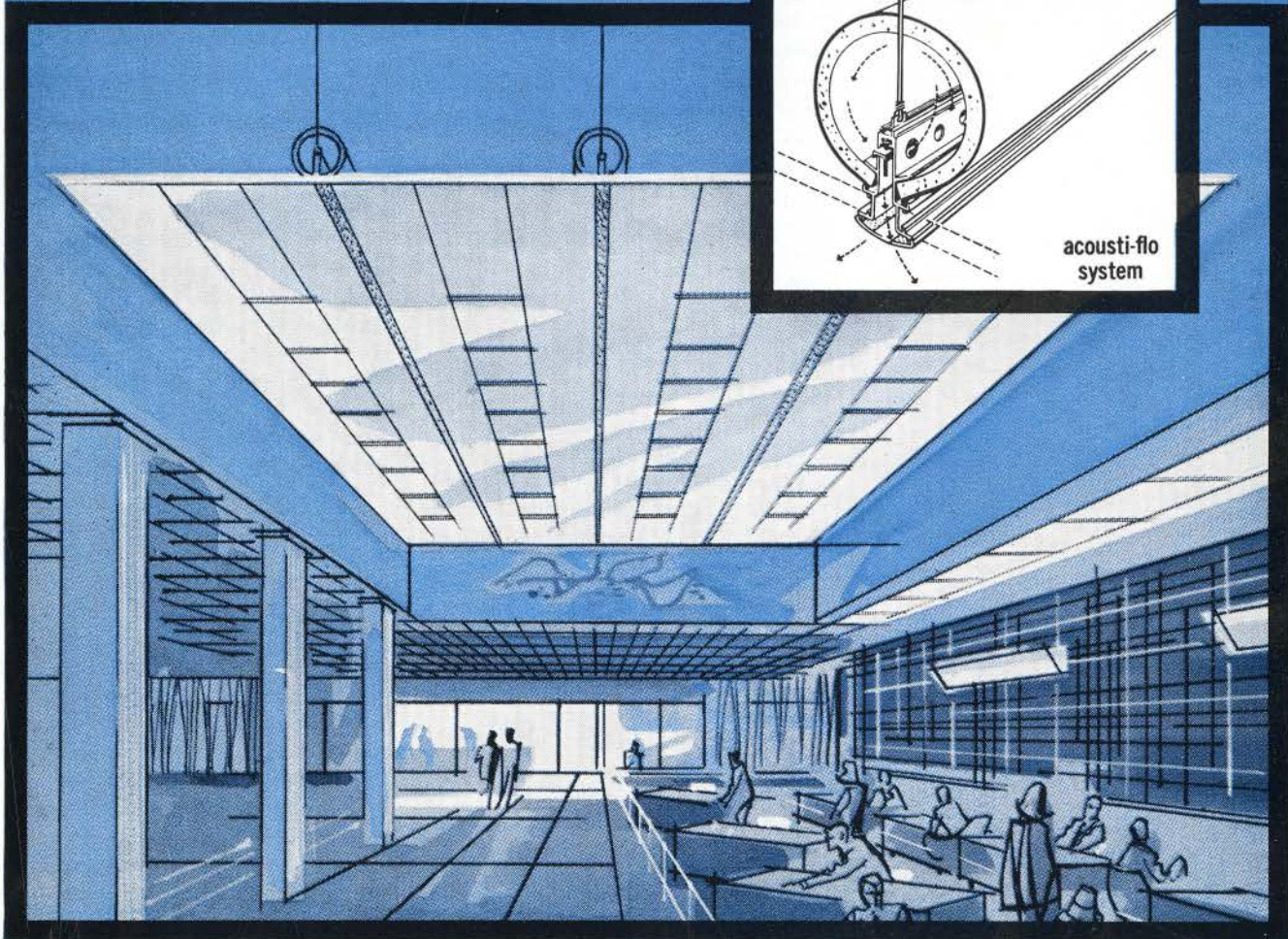
At the end of the seminar, the various workshops brought in recommendations, and it is now up to the Board of Sponsors to sort them out and make them known. It was noted for example, that the Urban Development Institute runs clinics for its members on such shopping centres and subdivisions. It was recommended that the Provincial centennial authorities run "centennial clinics" to review and advise on local plans. It was also stressed that new public programs such as the 1964 amendments to the National Housing Act affecting urban renewal, and the operation of the new Ontario Housing Corporation should be widely advertised to municipalities. Here the seminar was touching not only on specific centennial projects, but on the whole new possible range of civic design which could be spotlighted in the centennial year. It was also noted that we expect a wide range of centennial activity from non-governmental institutions like banking and industry as well as by local associations, and all this is going to need good professional advice and a lot of coordination. In particular, everyone at the meeting seemed concerned to help stir up public imagination and get away from the new-fire-hall type of birthday present, which someone suggested would be like getting a pair of gray socks for Christmas.

Mr Goulding is Assistant Professor, School of Architecture, University of Toronto. An earlier commentary on the Stratford Seminars was written for the Journal by Professor Hugo-Brunt, and published in the May Journal.

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Management Practices

Planning

by James W. Vair

The importance of long-range planning, or where and what does your firm want to be? In ten years, by 1974? In fifteen years, by 1979? What sort of practice are you preparing for your younger associates? Only by thinking this far in advance can decisions be threshed out and the necessary steps taken to organize for growth, profitability and improved practice.

Earlier in this series, mention was made of the role of planning in the "Management Cycle," but this was essentially short-range planning — planning for a year in advance, or for the life of a project at most. Obviously, we are talking about a different sort of planning when we start trying to visualize the position of the firm ten or fifteen years hence. In order to place the planning process in proper perspective, then, it is necessary to distinguish between the many types of plans which occur at many places and levels throughout an organization. These fall into three broad classifications: goals and objectives, standing plans, single-use plans.

The first type is frequently misunderstood or taken for granted by most members of the organization. Needless to say, without the existence of clear-cut and well-defined organization goals, the foundation for other types of plans is, at best, rather shaky.

Standing plans include policies, standard methods and standard operating practices that are designed to cover the repetitive situations which a firm faces almost every week or every day. They are more of a feature of large-scale and complex organizations (such as governments, public utilities, and large corporate entities) than professional firms. Such large-scale organizations could scarcely operate without formally stated sets of policies and procedures (frequently incorporated into organization and procedure manuals) which ensure a uniform decision regardless of the location of the division, branch, unit of, or level within the organization. Standing plans thus achieve their best use when they provide for uniformity of decisions and meet the requirements of a situation. They are not very helpful, however, in the face of exceptions or cases which were not contemplated by the regulations. The attempt to make a standing rule cover a new and dynamic situation often leads to irrational be-

haviour. Thus, we sometimes hear complaints about the "unimaginative adherence to routine" which is displayed by civil servants or public service employees, but this is simply a symptom of the inflexibility of standing plans in certain situations.


The third category, single-use plans, consists of programs to fit specific situations, such as a project of the firm, and are usually obsolete when the goal is reached or the project for which they were prepared is terminated. Despite their short-

(No. 4 in a series of bi-monthly articles)
Mr. Vair is a vice-president with The Thorne Group Ltd., Management Consultants.

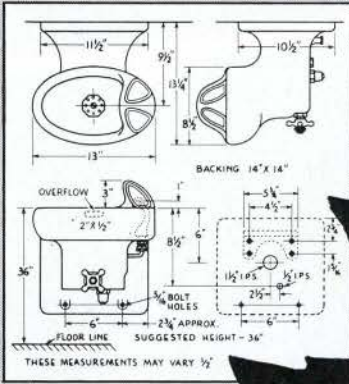

term characteristics, however, their importance in the Management Cycle must not be underestimated.

With this brief explanation as a background, it will be seen that there is a hierarchy of planning within every organization involving the establishment of broad goals and objectives at the top which are translated into more detailed plans at lower levels. It is evident also that long-range planning is a function of the goals and objectives of the organization. The latter provide the framework

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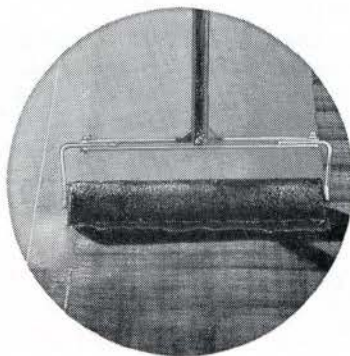
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for an integrated decision system in the light of which major decisions can be evaluated to determine whether they will carry the firm toward or away from its desired future position.

It was stated above that the goals and objectives of the firm are frequently misunderstood or taken for granted. Thus, the most common reaction to the question, "Do you know your firm's goals?" is one of surprise that any thought is required to answer the query. A typical reaction is—"Of course we do; we've been in practice for years and we know where we are going." Experience indicates that this assumption is likely to be one hundred per cent wrong. Where there has been no formal effort to define objectives based on a factual analysis of the firm's competitive strengths and weaknesses, there is seldom, if any, agreement among the partners of key members of management on fundamental goals. Furthermore, it is no help to say that the goal of the firm is excellence in design, the complete satisfaction of all clients, and the making of a fair profit. This may sound good from a public relations standpoint, or as a firm motto, but it does not serve as an effective guideline to decision-making at operating levels. Such broad goals must be translated into meaningful objectives for each function, each organizational unit or functional specialty, and finally, each position in the firm.

Where do you start? A logical approach involves the consideration of certain basic questions such as the following:

- 1 What is the political, economic, and competitive environment likely to be ten or fifteen years from today?

The growing population of Canada, together with trends of urbanization and automation, are creating more and more needs for the services of architects. There are more opportunities for large integrated firms offering diversified and collateral services, and there are also more and more needs for the smaller firms offering either specialization or what is perceived as the personal contact and more direct interest of the principals.

- 2 How do you visualize the role of the firm in this environment?

Is diversification of services or greater specialization the best response to this challenge? One of the most complex problems facing any firm is striking a balance between a "consultation unlimited" or

"all things to all men" policy and offering the most familiar service or best capability that the firm can now present. As in the case of businesses which offer more tangible products for sale, a sound principle to follow is — find out what the customer (client) wants and needs; then organize to provide it for him.

- 3 What size and what sort of organization is contemplated by the role of the firm as defined by the answer to the second question above?

This, in turn, involves a review of the personnel policies of the firm, and whether they are consistent with the kind of organization you wish to create. For example, what steps are you taking to build up your associates? Do you have difficulty retaining competent staff? Are the right people in the right positions?

Another way of looking at the above questions is to consider them as three concurrent and inter-acting systems which determine the firm's future; (1) the environmental system which defines the social, cultural, political, and economic restraints within which the firm must operate; (2) the competitive system which describes the characteristics of the profession, competitive relationships, and client-firm relationships; (3) the internal organizational system which comprises the organization structure, the objectives and policies, and the interpersonal relationships which make the firm a unique system different from all other firms. Effective planning, then, involves the synthesis of knowledge about each of these three systems and its translation into concrete plans for short- and long-term action.

SUMMARY:

Planning for the firm itself is similar in many ways to the steps taken as a matter of routine in connection with the professional work of the firm. Thus, you first approach a major project by asking basic questions about the project and what is involved. As you program a factory, a hospital, a school, or a private residence, you investigate the aims, methods and people involved in manufacture, medical treatment, education, or family living. The steps involved in your own review and planning, then, may be summarized fairly simply in three questions: (1) where do you (as a firm) want to go? (2) are you organized to get there? (3) have you the right people in the right positions to do the job?



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Principles Underlying the Bestowal of Fellowships



Three years ago the College of Fellows instituted a study of possible improvements to the procedures for the nomination and election of new Fellows. The Officers of the College, along with a group of senior Fellows under the Chairmanship of Mr. Earle Morgan, Dean of the College, put forward certain recommendations for improvements and these recommendations were accepted at the Business Meeting of the College held in Hamilton, May 18, 1963.

For the information of all members of the Royal Architectural Institute of Canada we hereby publish the two chief documents which implement these new procedures. One document outlines the procedures for nomination and election and the other document sets forth the Principles Underlying the Bestowal of Fellowships. New Nomination Forms are in use and may be obtained on application to Mr. Maurice Holdham, Executive Secretary of the Institute.

Harland Steele, Chancellor, College of Fellows.

Fellowship is the highest honour the Royal Architectural Institute of Canada can bestow upon a member. To guard and further the prestige of the College, to observe the pledge of high professional conduct and service, and to assume full responsibility in maintaining the highest standard of the profession is the duty and obligation of every member of the College of Fellows.

The constant goal of improvement in the architectural profession in Canada is the principal objective of the RAIC College of Fellows. By recognizing the good works of our members who contribute most to the profession, we stimulate others to improve and so deserve equal awards. Recognition must be truly deserved or the objective of the College is destroyed.

A member of the RAIC who is over thirty-five years of age and has achieved professional eminence or rendered distinctive service to the profession is eligible for nomination to Fellowship. He must have proper qualifications under one, or more, of the following categories: design; science of construction; service to the Institute; public service; education or literature. The total membership of the College must never be over eight per cent of the total Institute membership and proper qualifications, regardless of locality or other influences, are the only criteria for election to the College.

To guard and improve the prestige of the College, the procedure for nominations has been enlarged and revised. The work of the Nominating Committees and the Screening Committee is to ensure that unworthy candidates are not elected and worthy candidates are not overlooked. Proposers should feel quite certain that nominees' achievements have sufficient distinction to make them notable contributors to the advancement of the profession and of architecture and should remember that the personality and popularity of a member does not of itself constitute a notable contribution; nor is Fellowship necessarily an award for the nominee's industry and success.

Letters attesting to intimate knowledge of the good works and character of nominees are required from each of the five proposers.

Procedure for the Nomination and Election of Fellows

"A member of the RAIC who is over thirty-five years of age and who has achieved professional eminence, or rendered distinctive service to the profession shall be eligible for nomination to Fellowship."

Any five Fellows may nominate, using the prescribed printed form, and each nominator must write a letter, addressed to the Chairman of the Screening Committee, attesting to the qualification of the nominee. The nominating form and letters must be submitted to a local committee before October 15th of each year.

The Chancellor shall appoint a chairman of a local committee for each provincial association who shall choose a committee of one to six members to either receive and/or initiate nominations for Fellowship in that association. This committee shall forward all documents for nominations to the Screening Committee before November 1st and include a list of those considered, with reasons why those considered but not nominated were omitted. Where nominations have not been initiated by a local committee it shall recommend or otherwise give the reasons, to the Screening Committee, why they have not been initiated.

Not later than February 1st, a list of all proposed nominees shall be sent to all Fellows with notice that if any Fellow objects to any name he must write a confidential letter, stating the reasons for his objections, to the Screening Committee before February 15th. The Screening Committee shall act on any such letters entirely at their discretion.

The Screening Committee will consist of the RAIC President, the Vice-President, the Chancellor, and the Dean of the College of Fellows. It shall consider all nominations submitted, and have the power to accept, reject, or postpone them; thus advising the Chancellor. The Screening Committee shall also recommend Honorary Fellowships and Corresponding Members. They shall meet for this purpose sometime between November 1st and February 1st and confer again between February 15th and March 1st to confirm final recommendations.

The Chancellor shall receive the final list of recommended nominees from a Screening Committee, not later than March 1st, for his presentation to the Executive Committee.

Only Executive Committee members who are Fellows shall meet with the Chancellor to consider the list of nominations and elect new Fellows, accepting or rejecting the Chancellor's recommendations but having no power to add new names or replace rejected nominees. Election will take place at the first meeting of the Executive Committee after March 1st.

The Registrar will send letters to Fellows-elect, advising them of their election, asking them to fill out a "form of consent", and inviting them to attend the convocation ceremony at the next RAIC Assembly.

The Chancellor will write congratulatory letters to Fellows-elect after they have returned the "form of consent".

The Registrar will compose a notice for the *Journal*, naming the newly elected Fellows with reasons for their election, to be published in the first issue following convocation. This notice will be approved by the Chancellor before submission to the *Journal*.

Principes Régissant l'Admission des Agrégés



Il y a trois ans, le Collège des Agrégés étudiait divers moyens d'améliorer les modalités visant la mise en candidature et l'admission de nouveaux membres. Les dirigeants, ainsi qu'un certain nombre de membres en vue du Collège, sous la présidence du doyen, M. Earle Morgan, ont recommandé, en ce sens, certaines règles de procédure qui ont été acceptées par le Collège à sa réunion d'affaires à Hamilton, le 18 mai 1963.

Pour la gouverner de tous les membres de l'Institut Royal d'Architecture du Canada, nous publions, avec la présente, les deux documents principaux mettant en oeuvre les nouvelles modalités. Le premier de ces documents expose la méthode à suivre pour la mise en candidature et l'acceptation des nouveaux membres et le second, les principes qui régissent l'admission des nouveaux membres du Collège. On peut se procurer la nouvelle formule de mise en candidature, en en faisant la demande à M. Maurice Holdham, secrétaire exécutif de l'Institut.

Le chancelier du Collège des Agrégés, Harland Steele.

Le titre d'Agrégé est le plus grand honneur que l'Institut Royal d'Architecture du Canada peut conférer à un de ses membres. Chaque membre du Collège des Agrégés a pour devoir et obligation de sauvegarder le prestige du Collège et de travailler à augmenter son rayonnement, de respecter son engagement quant à la haute qualité professionnelle de sa conduite et de ses services et d'assumer pleine et entière responsabilité en ce qui a trait au maintien des plus hautes normes de la profession.

L'objectif du Collège des Agrégés de l'IRAC est l'amélioration constante de la profession d'architecte au Canada. En reconnaissant le bon travail de nos membres qui contribuent le plus à la profession, nous encourageons les autres à s'améliorer et à mériter ainsi le même honneur. Toutefois, cet honneur doit être véritablement mérité, sans quoi le Collège manque son but. Tout membre de l'IRAC âgé de plus de 35 ans, qui s'est distingué dans l'exercice de sa profession ou a rendu à celle-ci des services signalés, peut être proposé comme membre du Collège des Agrégés. Il doit posséder les qualités requises sous l'un ou plusieurs des chefs suivants: composition, science de la construction, services à l'Institut, civisme, enseignement et littérature. Le nombre des membres du Collège ne doit jamais dépasser 8% de l'effectif global de l'Institut et le mérite est, à l'exclusion de l'endroit de résidence et de toutes autres influences, le seul critère d'admission.

Afin de sauvegarder et de relever le prestige du Collège, on a révisé et élargi le processus de présentation des candidats. Les fonctions des Comités locaux et du Comité de sélection consistent à empêcher que des candidats non méritants soient acceptés et que des candidats méritants soient oubliés.

Les proposeurs doivent s'assurer que leurs candidats se sont suffisamment distingués pour constituer une contribution notoire à l'avancement de la profession et de l'architecture, et, se rappeler qu'en soi la personnalité et la popularité ne sont pas des contributions notoires; en outre, le titre de membre agrégé ne constitue pas nécessairement une récompense pour le travail ou les succès d'un membre.

Chaque candidature doit être appuyée par une lettre de chacun des cinq proposeurs, attestant qu'il connaît personnellement le bon travail et la bonne réputation du candidat en cause.

Règles Visant la Mise en Candidature et l'Admission de Membres

"Tout membre de l'IRAC âgé de plus de 35 ans, s'est distingué dans l'exercice de sa profession ou lui a rendu des services signalés, peut être proposé comme membre du Collège des Agrégés."

Cinq membres du Collège peuvent, au moyen de la formule imprimée réglementaire, proposer un candidat; mais chacun doit adresser au président du Comité de sélection une lettre attestant les qualités de ce candidat. La formule de proposition et les lettres doivent parvenir au Comité local avant le 15 octobre de chaque année.

Le Chancelier nomme le président d'un comité local pour chaque Association provinciale. Ce président choisit de 1 à 6 membres pour former son comité dont les fonctions consistent à recevoir et (ou) proposer de son propre chef des candidatures au titre d'Agrégé parmi les membres de cette Association. Ce comité doit transmettre tous les documents relatifs aux candidatures au Comité de sélection avant le 1er novembre, en y ajoutant la liste de tous les membres dont la candidature a été considérée, ainsi que les motifs qui ont incité le refus de ceux dont les noms ont été proposés mais non recommandés. Il doit faire à l'égard des candidatures qu'il n'a pas lui-même proposées des recommandations motivées, favorables ou défavorables, au Comité de sélection.

Le Comité de sélection se compose du président et du vice-président de l'IRAC ainsi que du chancelier et du doyen du Collège des Agrégés. Il étudie toutes les candidatures soumises et il a le pouvoir de les accepter, de les rejeter ou de les différer et d'aviser en conséquence le chancelier. C'est lui aussi, qui recommande les candidats aux titres d'Agrégés Honoraires et de membres correspondants. Il se réunit à cette fin à une date quelconque entre le 1er novembre et le 1er février et, de nouveau, entre le 15 février et le 1er mars, cette fois pour confirmer les recommandations définitives.

Au plus tard le 1er février, la liste des candidats proposés est envoyée à tous les Agrégés avec une note leur demandant de bien vouloir aviser le Comité de Sélection, avant le 15 février, au moyen d'une lettre confidentielle de leur opposition à tout candidat recommandé, en donnant les motifs qui justifient cette opposition. Le Comité de sélection a entière discrétion quant à la suite à donner à toute lettre de ce genre.

Au plus tard le 1er mars, le Comité de sélection fait parvenir la liste définitive des candidats recommandés au chancelier afin que celui-ci la présente au Comité exécutif.

Seuls les membres du Comité exécutif qui sont également membres du Collège des Agrégés ont le droit de siéger avec le chancelier pour l'étude des candidatures et l'acceptation de nouveaux Agrégés. Ils peuvent confirmer ou rejeter les recommandations du chancelier mais ils n'ont pas le pouvoir d'ajouter de nouveaux noms ni de rétablir des noms rayés. (Première réunion au Comité exécutif après le 1er mars.)

Le secrétaire-archiviste envoie aux candidats choisis une lettre les avisant de leur candidature et leur demandant de bien vouloir remplir la "formule d'acceptation" et les invitant à assister à la cérémonie d'investiture à la prochaine assemblée.

Le chancelier adresse une lettre de félicitations aux futurs membres dès qu'il a reçu d'eux leur "formule d'acceptation".

Le secrétaire-archiviste envoie aux candidats choisis une lettre les avisant de leur candidature après l'investiture, un avis contenant la liste des membres choisis et les raisons qui ont motivé ce choix. Cet avis doit être approuvé par le chancelier avant d'être envoyé au Journal.

Public Housing

by Hans Elte

It has been, still is, and probably will always be, the pride as well as the duty of any civilized country to provide living accommodation for its subjects. Nothing is so impressive as a state with a long tradition of justice, freedom and order, which, looking inwardly, becomes aware of unsatisfactory internal conditions and, thereafter moves towards establishing suitable administrative, financial and other arrangements, with the aim to provide help and assistance for those unable to help themselves, particularly in the field of housing. Such action should not be treated as an effort to launch new ideas, nor to create new ideological systems.

The democratic countries of North-western Europe and Britain have gone a long way in securing better accommodation for housing their subjects (with rents for such homes related to earnings). In turn and almost in one generation, this has altered the face of countries concerned, nor is this hollow rhetoric, for the fame of these endeavours will surely endure for unlimited time.

Within most countries, the characteristics of housing costs related to income should bear a relation to the relative need for publicly sponsored housing. It may be of interest to note here that, in West Germany the average dwelling costs ten times the average annual income, whereas in Canada the equivalent would be four times the annual income. Yet, in spite of the eloquence of these facts, in our country there is a very real and urgent need for public housing.

There is sufficient evidence to indicate that reconditioned (where possible) or new housing should be provided for those with lower incomes long before demolition of existing low rental homes takes place, particularly in central areas marked for redevelopment. The lack of availability of low income housing accommodation is being greatly aggravated here by the demolition of reasonable quality housing before adequate alternative accommodation is made available. This demolition is often undertaken to clear the way for the introduction of redevelopment by means of high-rise, or moderate to high-rise apartments, for the benefit moreover of those with a higher income than those being moved or ejected, that is, for those better able to fend for themselves.

The present rate of construction of high-rise apartments in large communities appears to bear no relation to the neces-

sity for them, and ignores the financial and family needs for low and moderate income accommodation. At the present time, roughly half the building effort is directed into high-rise apartments, although recent trends indicate a tendency to other forms of multiple housing such as maisonettes, row housing, garden even unite's d'habitation. The situation is courts, and in a somewhat diluted form, extreme in suburban areas where the total dwelling stock comprises a high proportion of single family dwellings, and high-rise apartments. The limited dividend provisions of CMHC have been exploited for high-rise apartments, although demand for low income family accommodation called for other forms of multiple housing. Perhaps this type of accomodation was preferable to the disgraceful shared basement accommodation which, for a long time, provided the only alternative.

But, can this state of affairs be considered as a permanent solution to the housing needs of the low to moderate income families? The answer of course is, NO.

The crux of the matter is that our three levels of government seem but mildly interested in the problem and, this lack of concern can be related to the inadequate provision of low cost housing in Canada. By endless delaying tactics, the impression is given that they wish to evade the necessity for making firm decisions, in spite of the urgent need for action.

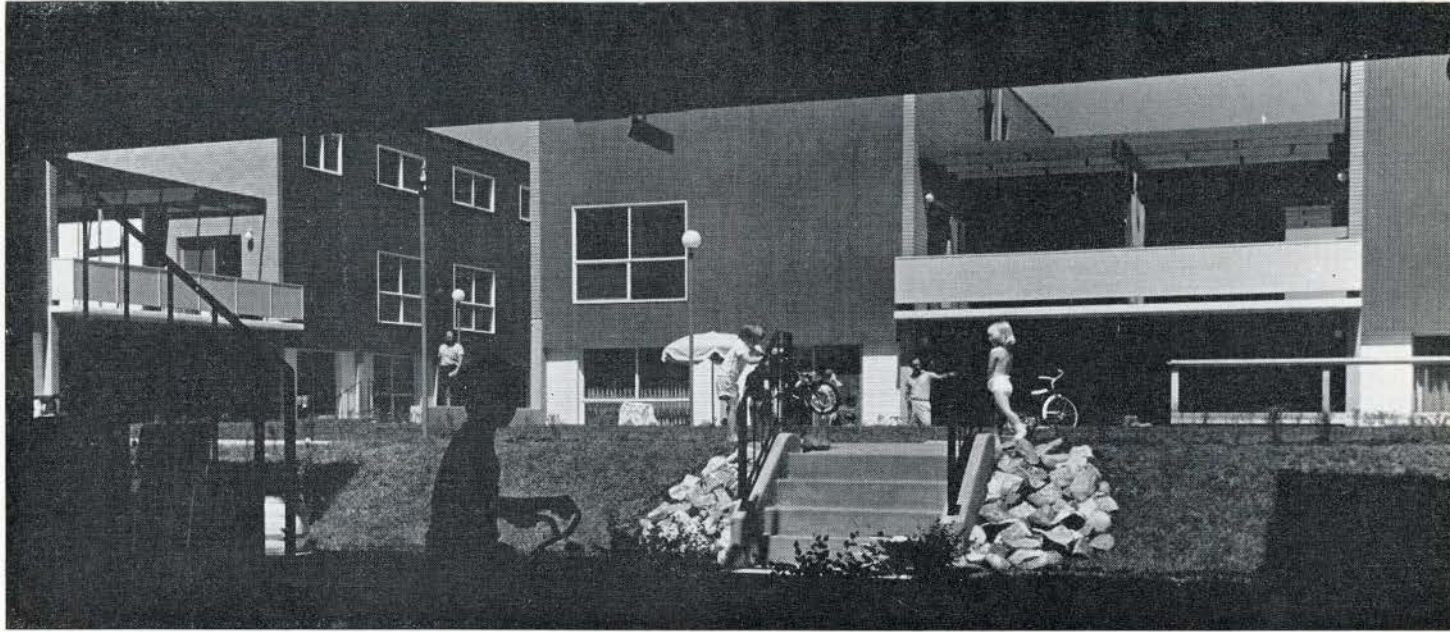
It is most unfortunate as we have the facilities, the skill and the machinery to deal with the problem. The housing projects conceived by CMHC are designed with great ability as well as considerable knowledge of environmental conditions, and stand head and shoulders above most other "developments", because of the human values incorporated, values so often ignored elsewhere.

Our elected representatives appear to have few or no ideas, and in general, no policies on housing. At election times vivid phrases appear, and at rare moments, as a result of sensational newspaper reporting, come demands for action, and those who ask the politicians for a solution have a just and urgent cause.

The responsibility for the hardships which official and unofficial delays have caused belongs to the politicians and, "Time shall unfold what pleated cunning hides: Who covers faults, at last shame them derides."

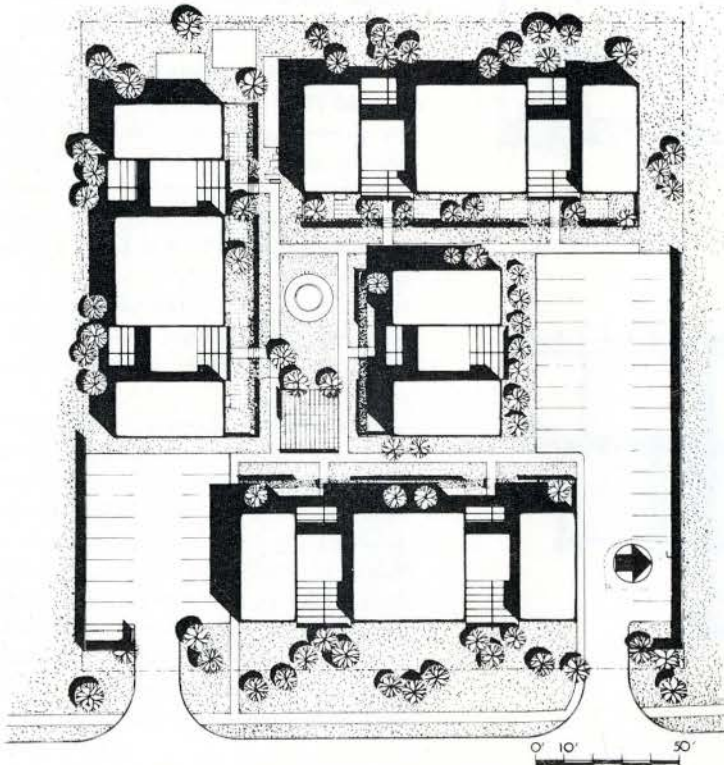
In this issue the Journal presents two comments on housing today, and three examples of recent projects. We asked Mr Hans Elte MRAIC, of Toronto, to give his views on public housing, and his comments appear on this page. On page 55 are extracts from the 1964 Housing Design Council Lecture by Mr Ian MacLennan, FRAIC, Executive Director of CMHC. The three examples of current housing projects, one in Calgary and two in Metropolitan Toronto, are presented on the 16 pages immediately following.

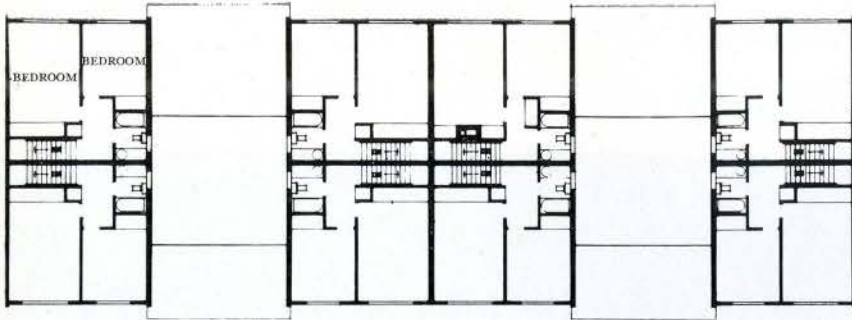
Kelvin Grove Patio Apartments Calgary



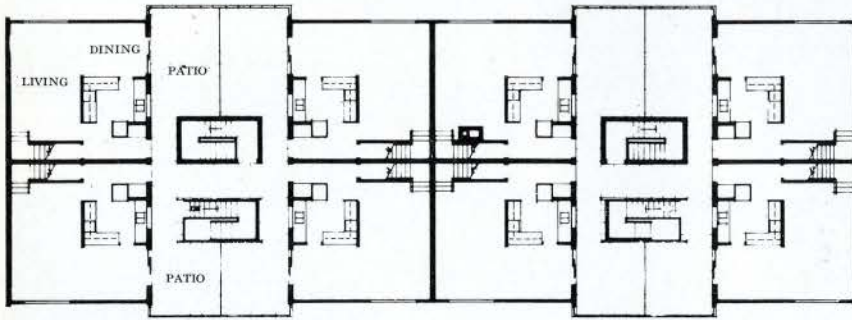
Interior street view from ground floor patio

Architect/John W. Long
Owner/Kelvin Grove Patio Apartments Ltd.
Consultant/R. Jaffe & Associates
Structural Engineer/Strong, Lamb & Nelson
Mechanical & Electrical Engineers/Kostenuke & Forest
General Contractor/David E. Smith Ltd.

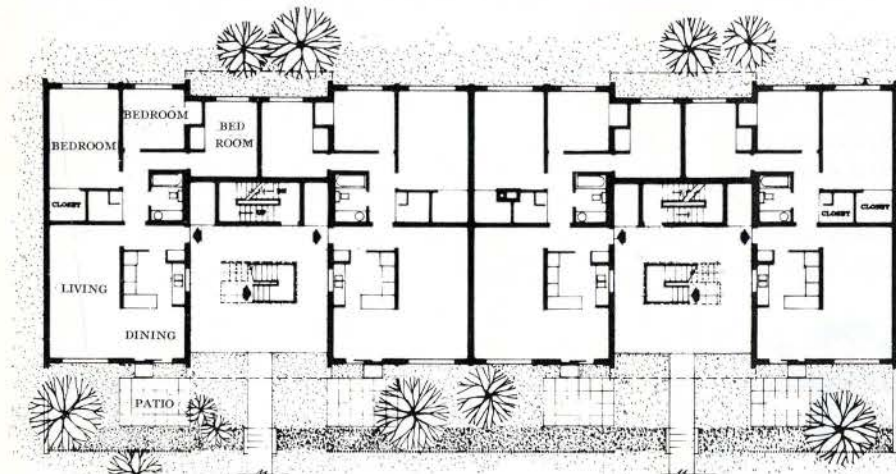




SECOND FLOOR PLAN

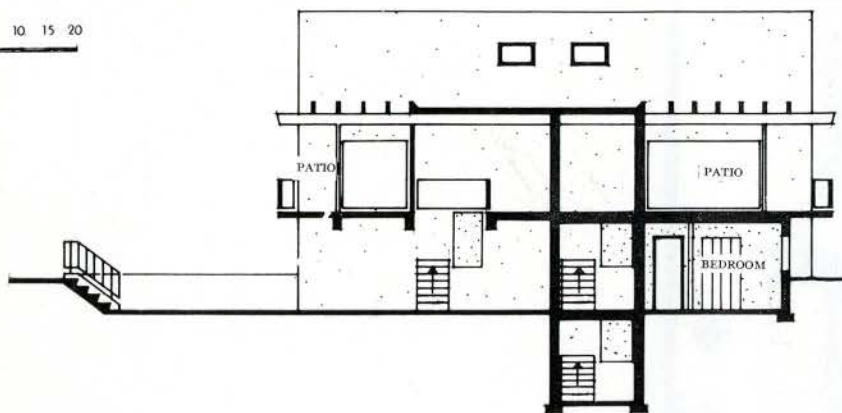


FIRST FLOOR PLAN



GROUND FLOOR PLAN

0 5 10 15 20



Kelvin Grove is a grouping of four buildings, housing a total of forty-two family dwellings oriented around an internal landscaped court. Each dwelling has its own outside entrance, a large patio either at grade or above grade; sliding glass doors to the patio; exposure on two sides for natural light and cross ventilation; a closely related common automobile parking space; baths with natural light, and kitchens with outside exposure for control and supervision of children.

The objective was to create a compact community environment with all the amenities of the private home, in an urban environment, but without the deterrent elements often associated with apartment house living.

Vehicle parking is kept to the sides of the property and allowed to penetrate only at the front and along the edges. The interior malls and courts have all the attributes of an active public way without jeopardy of automobile traffic. Children enjoy the space immensely and there is no undue invasion of privacy to the individual suites.

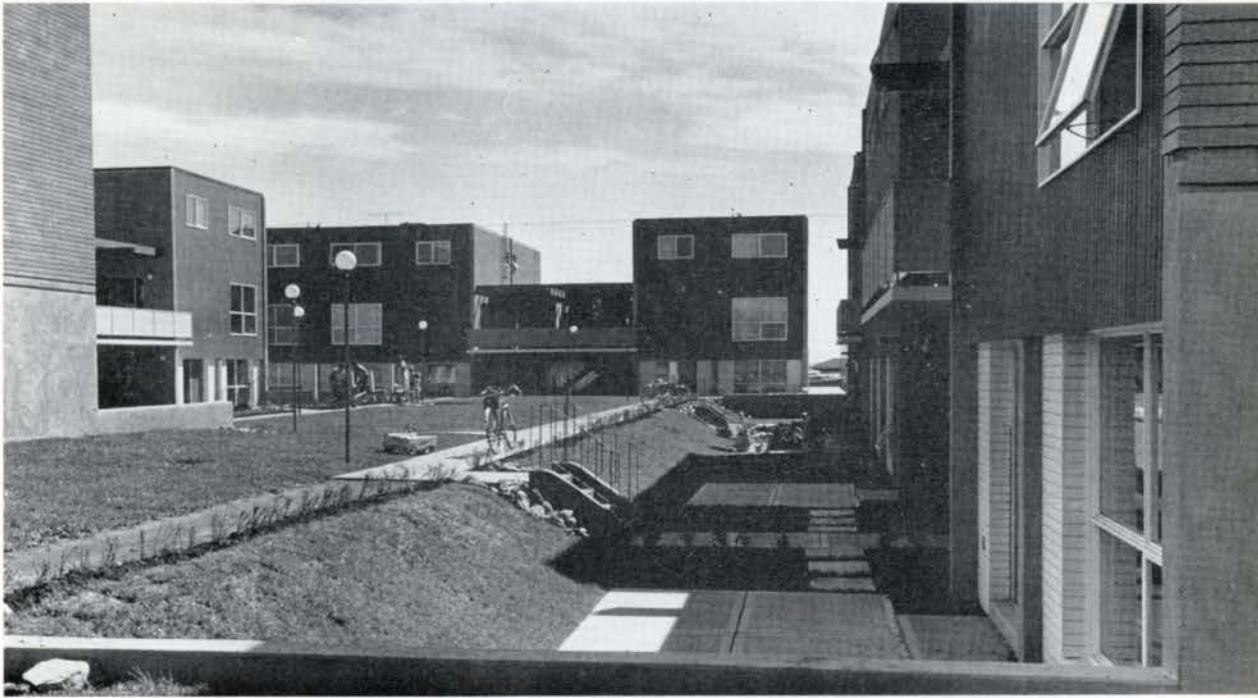
The ground floor is reserved for the three bedroom units with their patio and garden facing onto the mall in a slightly sunken terrace. The two bedroom, two storey units are above grade and have an entry off an open, but protected stairway. These units have their large patios above the ground and suspended between the dwelling units themselves. All dwellings are separated by a concrete slab or 8 inch feature block walls. Noise transmittance has never been a source of complaint.

CONSTRUCTION METHODS AND MATERIALS
Ground Floor: — Concrete slab on grade except wood joists over basement area, bearing side walls of 8 inch reinforced concrete; 5 inch concrete slab over. Upper floors and roofs, wood frame construction supported by 8 inch block bearing sidewalls.

Wall Materials: — Drywall, feature wood panelling, feature concrete block.
Flooring: — Carpeting and vinyl asbestos tile.

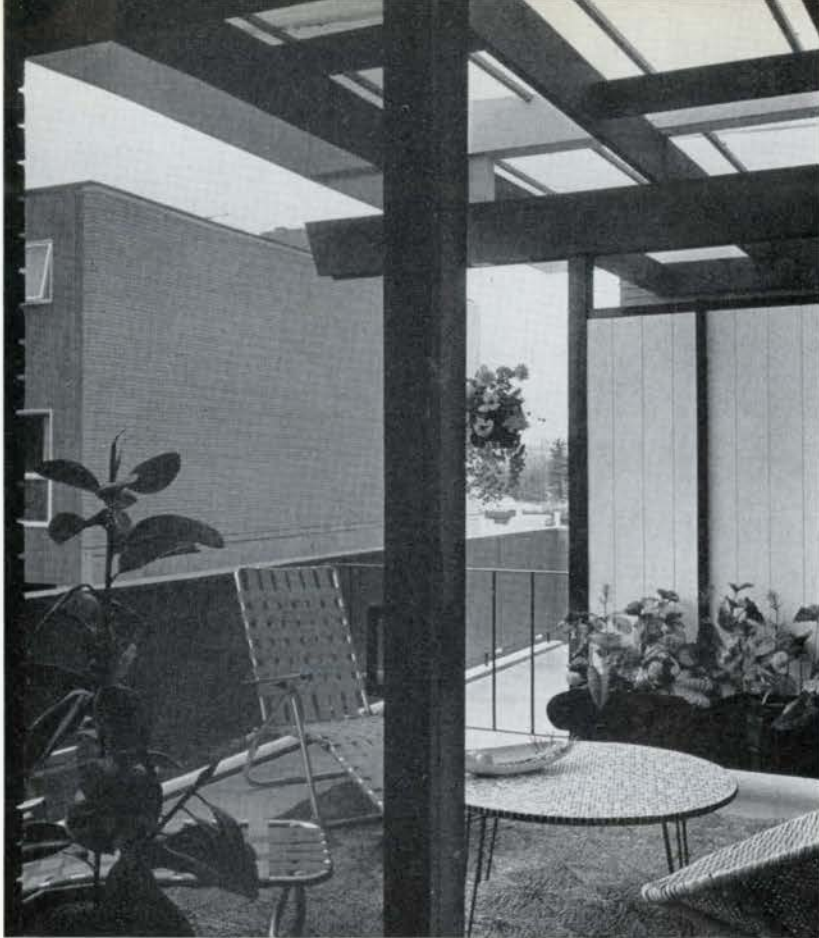
Exterior finish: — Parged concrete lower level; horizontally scored concrete block for bearing walls; stained vertical wood siding for non-bearing walls; stained wood pergolas over upper level patios.
Painting: — Generally soft, muted shades for field colors, tan for block, olive green for siding. Various co-ordinated punch colors of blue, orange, yellow and black for balconies, patio partitions, block stair wells, and concrete stairway.

John Long

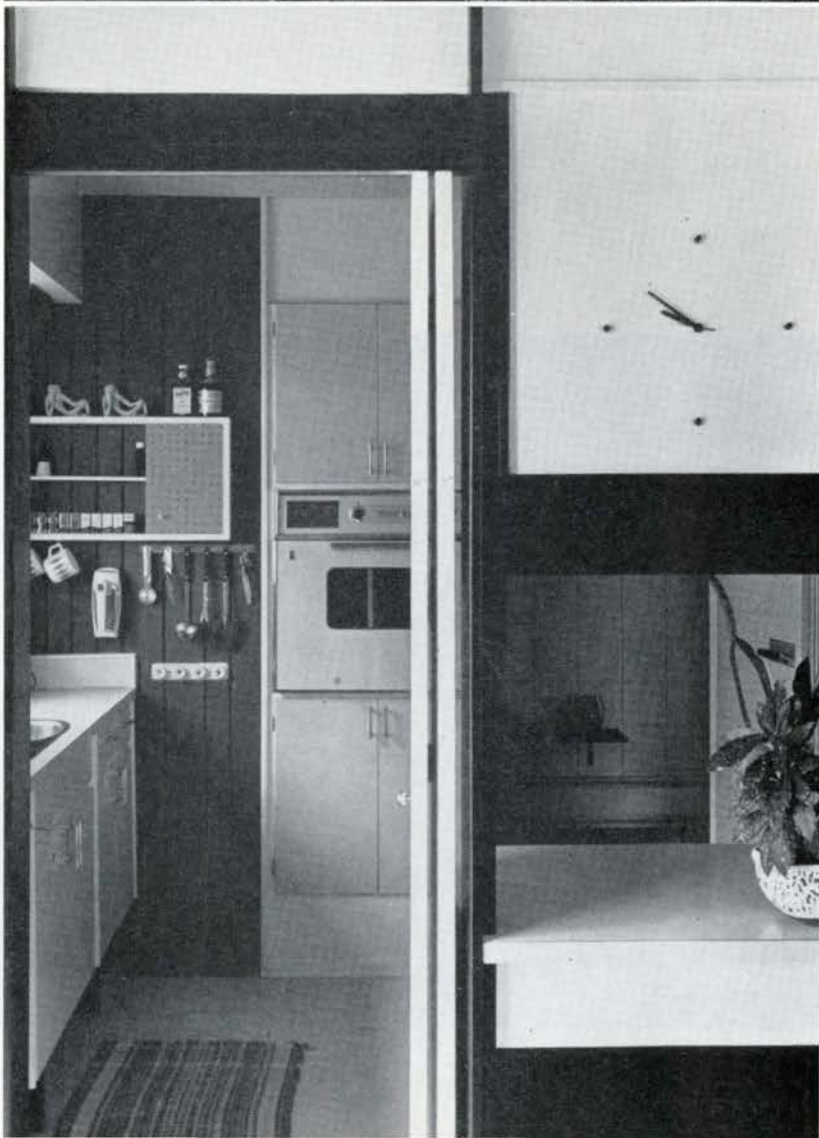


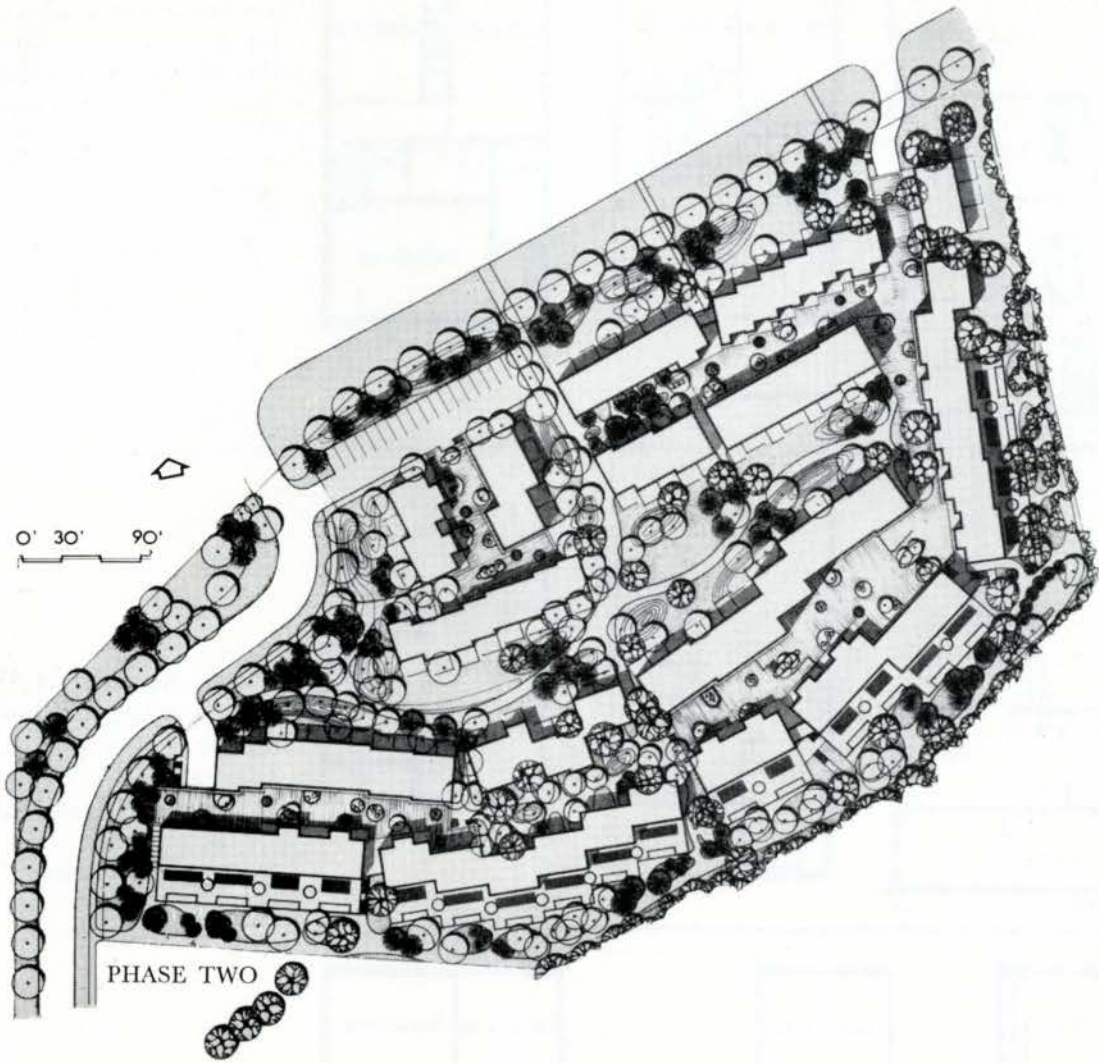
Interior streets — photos by Paddock





Typical patio kitchen unit
Photos by Paddock





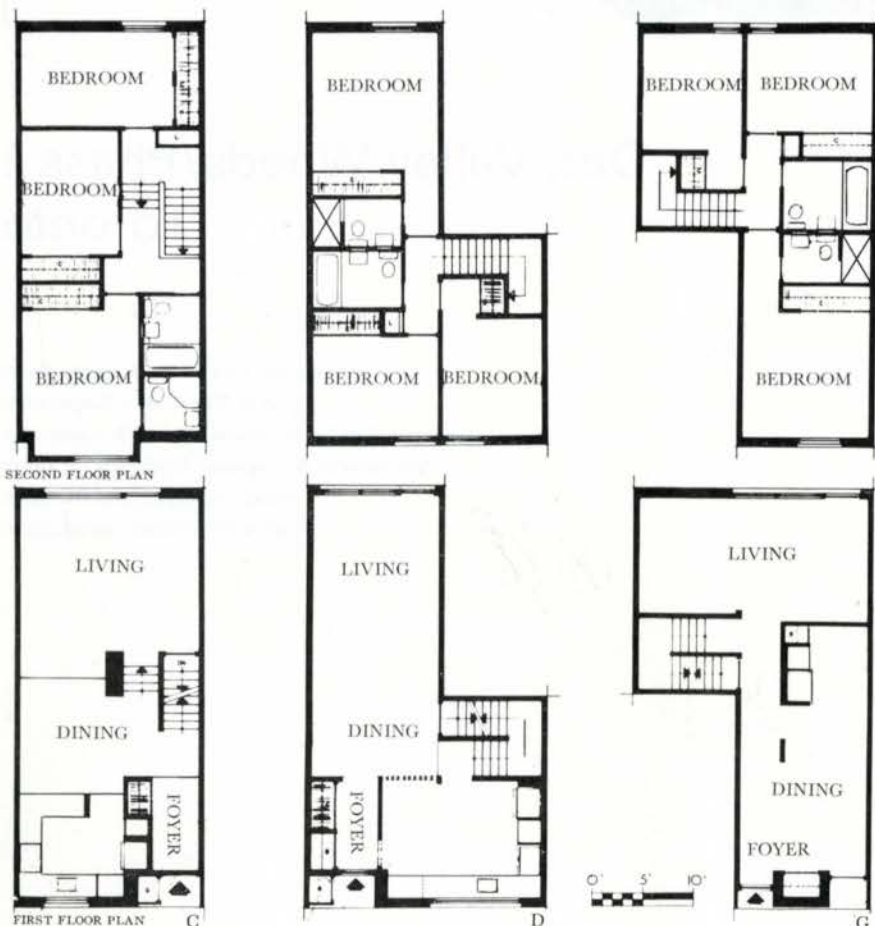
Don Valley Woods/Phase 1 Toronto

Architects/Jack Klein & Henry Sears
Owner/The Rubin Corporation
Landscape Architects/Sasaki-Strong & Associates
Mechanical & Electrical Engineers/J. Garay
Structural Engineers/N. Onen
Builder/Thornwell Construction



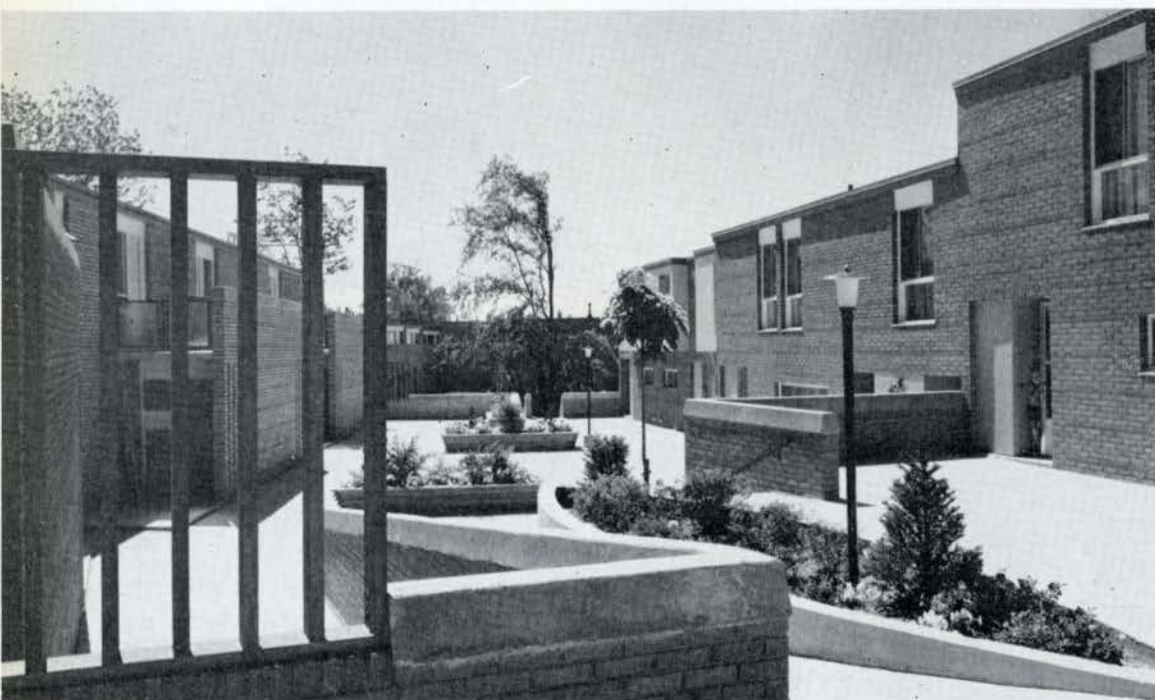
DON VALLEY WOODS PHASE 1
 143 units in 7 basic types located on York Mills Road adjacent to Woodbine Avenue in North York Township. This is a rental project and is fully occupied. It was designed in 1961 and built in 1963. It is the first phase of an 800 unit development.
 —20 units per acre
 —100% tenant parking underground + 12% guest parking surface.
 —Masonry bearing walls, wood joists floor and roof construction and wood stud interior partitions. Standard finishes throughout. Reinforced concrete garage roof.

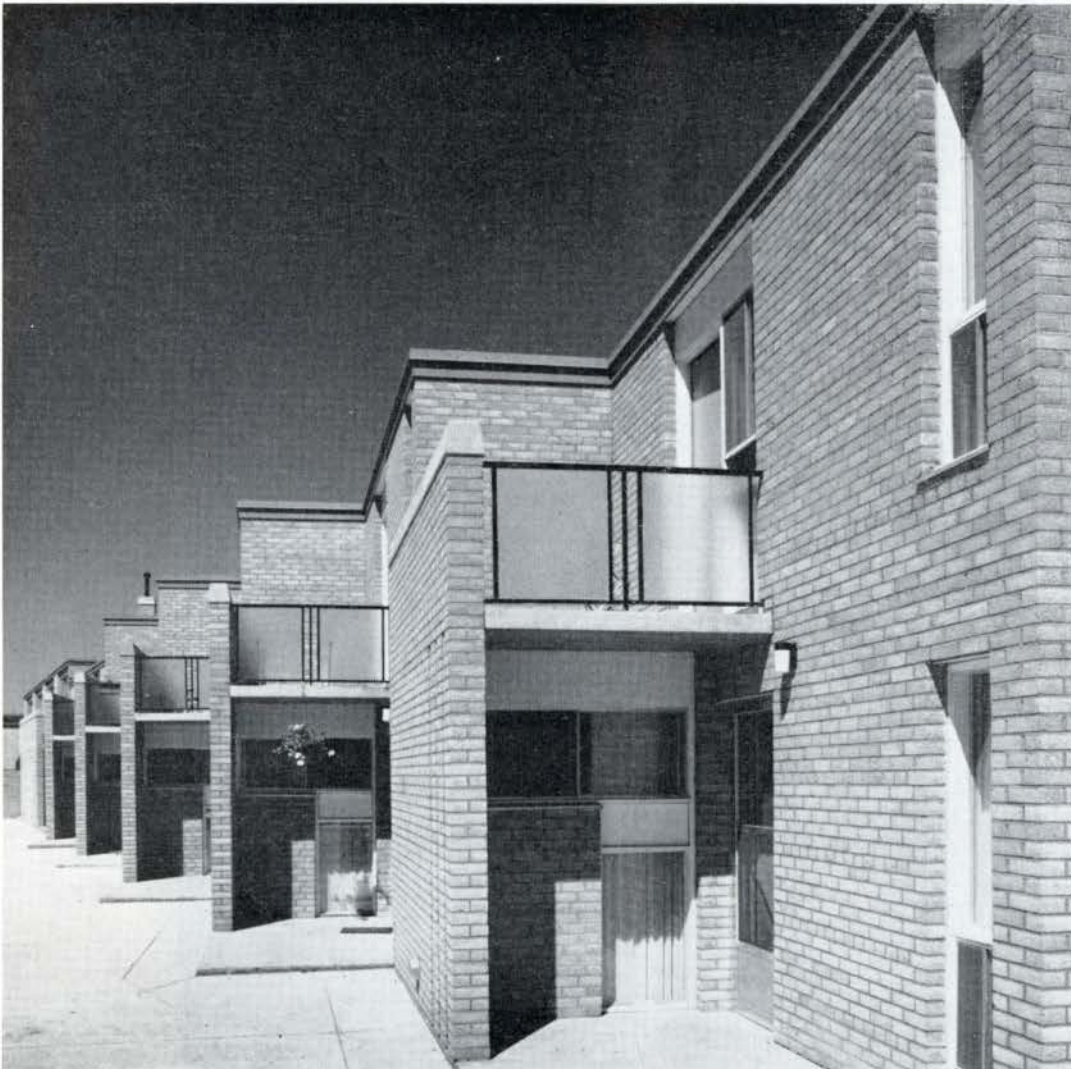
1 Units fronting York Mills Road — access to underground parking is below concrete areaway in foreground
 2 Interior street, showing pedestrian access to underground parking via ramp and stairs
 Photos by Roger Jowett



HOUSING IN METRO
 by Henry Sears
 Row housing in its various manifestations has only recently become a respectable and respected method of housing people in Toronto. In spite of some excellent old examples, row housing had been synonymous with slum housing in the minds of most people in this city. In the past decade row housing schemes disguised under various sugar coating terms such as "town houses, garden courts, multiple-family, group housing" have sprung up in the suburban areas. These developments were designed to provide suitable rental accommodation for families with growing children — accommodation which had not been previously provided on an adequate scale or in an appropriate manner. These suburban row housing schemes exist because of the existence of sophisticated developers who were willing to experiment with forms of housing as well as some administrative officials in municipal government and
 (Concluded on page 50)





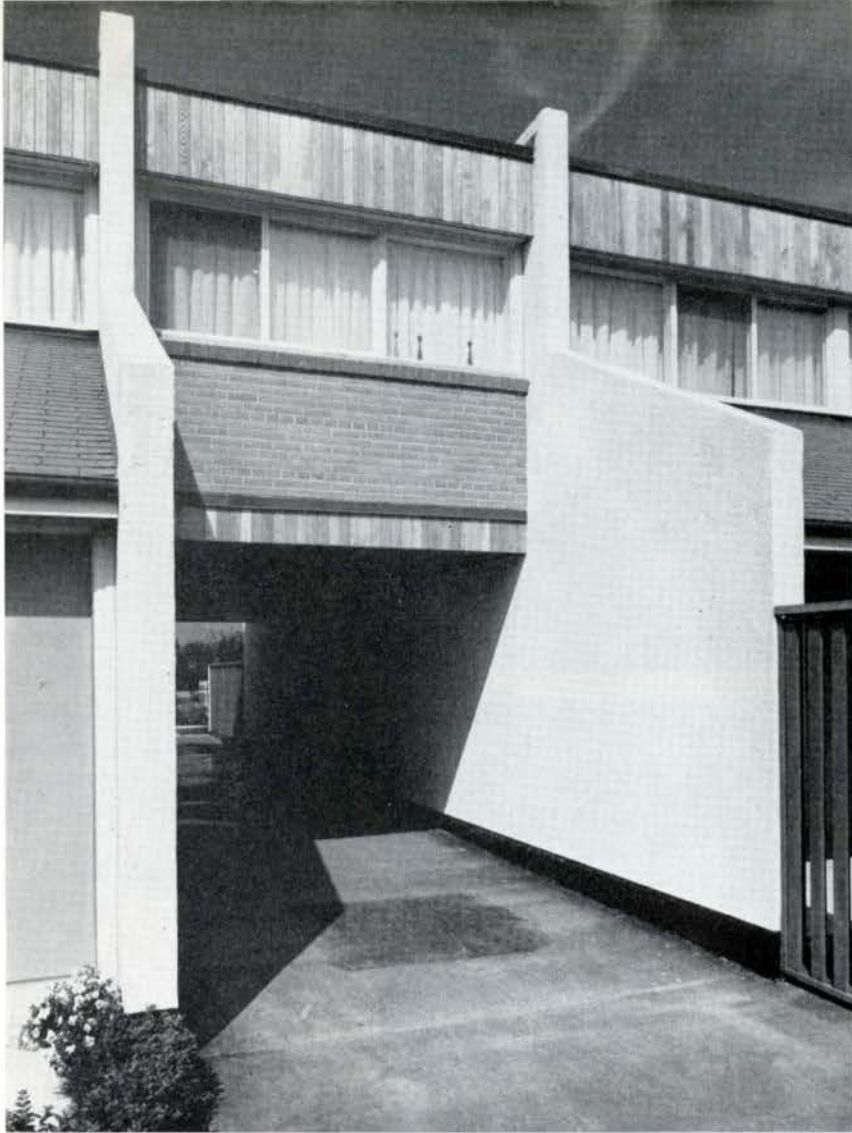


*General views of
interior streets
photos by Roger Jowett*





Terrace units facing Don Valley parklands on southern perimeter. Behind arches are protected patios and living areas
Photos by Roger Jowett



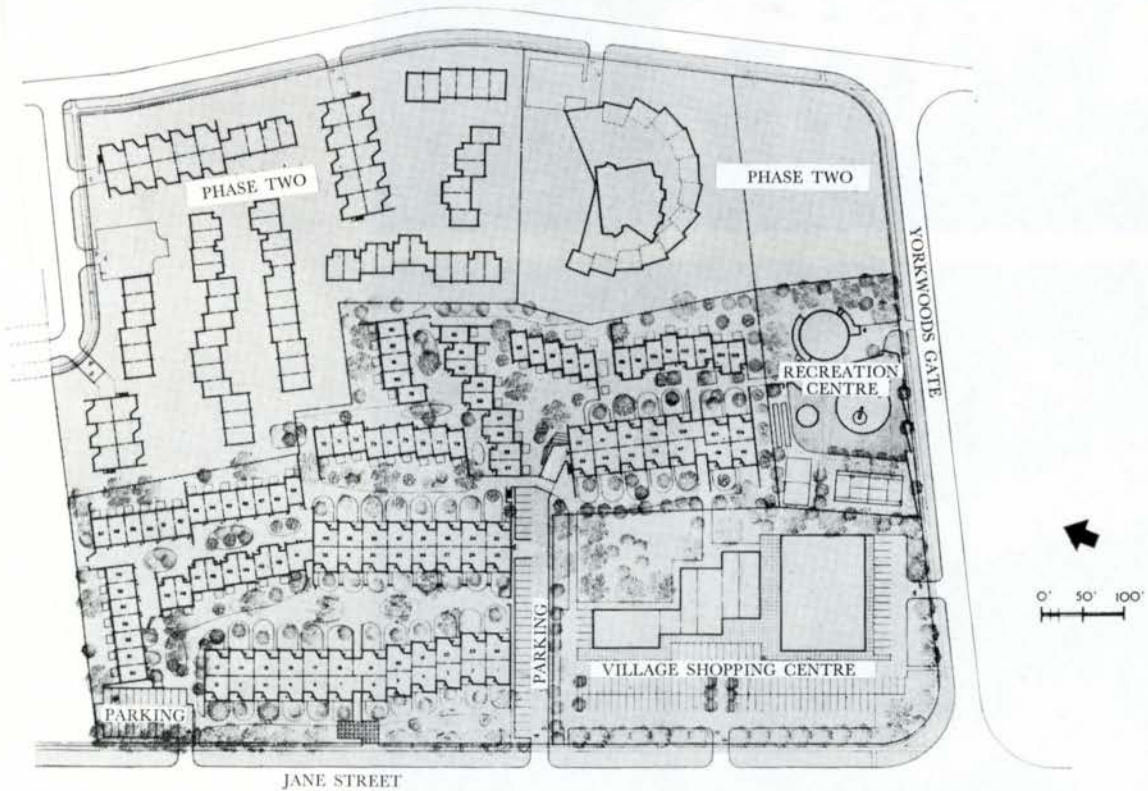
YORKWOODS VILLAGE PHASE II

119 units in 4 basic unit types located on Jane St., south of Finch Avenue in North York Township.

This is a sale project and the units are all sold. It was designed in 1962 and built in 1963. It is the first phase of a 1700 unit development. In addition to the housing there is a Community Centre and Shopping Centre provided by the owners.

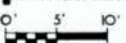
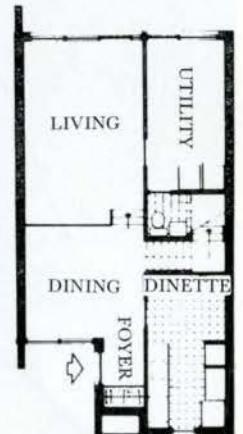
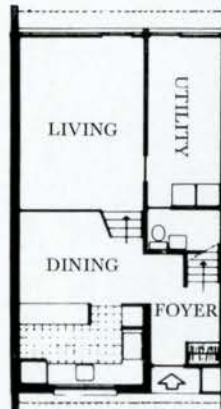
- 18 units to the acre
- 80% tenant parking underground
- 20% tenant parking surface
- 12% guest parking surface
- Masonry bearing walls, wood joists floor and roof construction and wood stud interior partitions. Standard finishes throughout. Reinforced concrete garage roof.

Pedestrian entrance to interior courtyard from Jane Street (background, through archway). Photo by Roger Jowett.



Yorkwoods Village/Phase 1 Toronto

Architects/Jack Klein & Henry Sears
 Owner/The Rubin Corporation
 Landscape Architects/Sasaki-Strong & Associates
 Mechanical and Electrical Engineers/J. Garay
 Structural Engineer/N. Onen
 Builder/Lescar Construction







Landscaped walkways between units. Ends of walkways open on to courtyards with play spaces. Electrically heated housing units are self-contained and individually owned.

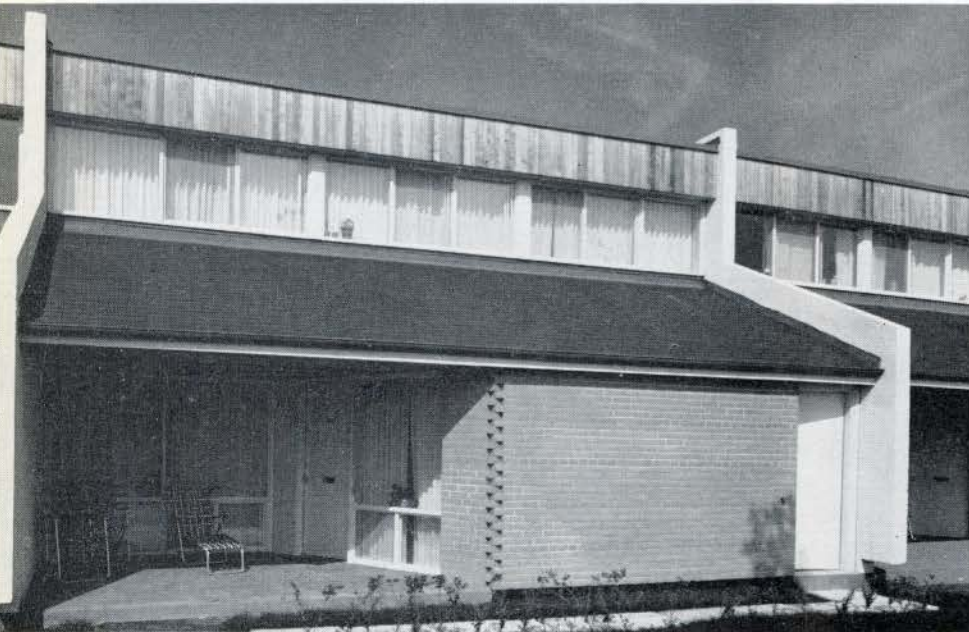


(Continued from page 40)

CMHC who agreed that these forms of housing were appropriate.

The row housing schemes produced a variety of types of accommodation as well as variety of methods of siting those units. The handling of parking became a significant element in the development of these schemes. Surface or underground parking had to be provided so as to not intrude on the remainder of the site, and pedestrian zones free from cars were developed. The two examples by our firm that are illustrated indicate the effect that topography can have on the development of a housing scheme. The Don Valley Woods Phase I site is gently rolling with a densely wooded ravine to the east and south. The resulting view to the adjacent parkland and the change of grade within the site in those directions were elements that conditioned the entire design of the scheme. The types of units and the method of siting were developed to solve those specific problems. In contrast the Yorkwoods Village Phase I site was flat and featureless with only a few trees at the perimeter. It became necessary to create the views and interest within the site itself. Consequently the basic character of the siting is different. It has been a basic consideration in both sites to create a basically pedestrian precinct but yet to accommodate the automobile appropriately. The automobile has been separated out by providing the bulk of parking underground and the remaining parking in surface lots carefully located in peripheral locations and screened so as to minimize their intrusion. This enables the car to be parked within a reasonable distance of the housing unit without destroying the character of the landscape. The sites have become areas where adults can walk and children play without concern for the auto. At the same time the car is conveniently accommodated nearby.

The suburban row housing developments have gained a measure of popular acceptance. We feel this fact, in combination with the renewed interest in the central area of the city will lead to the development of in-town row houses in the central area of the city. This will come as the prejudices erode and the regulations are adjusted to permit this kind of development. These will be able to cater to a wider segment of the population and will help to stimulate the renaissance of these central areas which in the past several years has become a major factor in the development and growth of our city.



The Architecture of Urban and Sub-Urban Development

by Ian MacLennan, FRAIC,
MTPIC, Executive Director
Central Mortgage and
Housing Corporation

The following extracts were taken from the 1964 Canadian Housing Design Council Lecture, given at the Royal Ontario Museum Theatre in Toronto, last April. This Lecture is one in a series presented periodically by the Canadian Housing Design Council as part of its efforts to encourage an improvement in housing design in Canada. Since its formation in 1956 the Council has directed a number of programs towards this end. The lecturer selected this year was Mr MacLennan, who had recently been advanced to his present position from the post of Chief Architect, CMHC.

Mass prosperity and purchasing power without historical precedent have been accompanied by shattered technological change and tremendous expansion; and this has sparked a bewildering array of new problems and choice of solutions in the planning of our environment. At the same time, areas of dramatic growth are suffering from organizational difficulties in the so-called explosion of our cities.

Visitors from abroad are often surprised to learn that Canada's communities, unlike those in Scandinavia, Western Europe and in the British New Towns, are often planned and built by private enterprise. After viewing some of the results, it's been suggested that we may be mistaken in leaving the creation of our communities to private enterprise alone. We don't, of course. The housing industry works in partnership with the new patrons, responding to their demands, and subject to their laws and regulations.

THE SUBURBS

One of the most important areas in which dramatic changes are taking place, is in the new housing development of the suburbs.

At first emphasis was on the speedy production of badly needed housing units, or on the number of front door knobs per year, as the boast went. Municipalities were proud and eager to grow and there were few controls on development. People were eager to buy or rent anything which was produced; they were enchanted by the thought of a home of their own at a reasonable price, and the verdant delights of suburban pastures for their children.

Yet a certain disenchantment with the suburbs soon became apparent (with some of the suburbs, not all); and even the word "suburban" spoken with the right amount of amused inflection, joined "colonial" and "provincial" in that sea of derogatory, though not dirty, words. It might be interesting to consider for a moment, the reasons why.

Here are five reasons, voiced not only by the disenchanted but by many concerned with our developing communities:

1. The post-war suburbs provided an oversimplified solution for the community's housing requirements: three bedroom, detached, single-family houses for sale to young families of middle income. No provision was made for old people, for poor people, for single people, and no provision for young marrieds — until they had 2.4 children. The resultant homogeneous society — representing only one segment of the community, produced a dull social environment — more important, one necessarily transitory in nature. The lack of continuity or permanence in the living pattern of the suburb evolved by this limited concept of housing was one of the strongest charges levelled against the suburban environment.

2. Although most suburbs eventually provided the necessary community facilities: churches, shopping, schools and their playing fields, town hall and post office, open space and recreational facilities, they have rarely been grouped together to form convenient and meaningful centres of community life. The historic village green or traditional market place gave way to disorder and lack of focus. And the library arrives on wheels, Wednesday afternoons.

3. The physical design of the suburbs has been poor by traditional or contemporary standards of architecture. Single family houses, drably similar or desperately different, offered no true variety, change of scale or visual surprise. Often dominated by overhead wiring, television antennae and unrelated roof lines, they have created a street architecture possessing little charm or character, compared to street scenes of earlier times, in our own and other countries. There has been overall — a lack of urbanity, a restless expression of an inherently dull, unrelieved and monotonous concept, or lack of concept, of community.

4. Suburbs, with their generous road allowances and requirements for lot sizes, set backs and side yards (which often contributed little to family privacy) have been extravagant and unduly expensive to the community in their use of land and in the necessary extensions of city services. Also, because they are dormitory in nature, the suburbs require efficient connection to places of work. Too low in density to support efficient transporta-

tion systems, their inhabitants must travel separately in private automobiles, requiring more and more large scale and expensive highway paraphernalia in the landscape.

Fifth and last, perhaps unfair, is the charge that in spite of alleged failures, the suburbs threaten the very existence of the old city itself. Feeding on it for employment at first, but ever extending their areas and developing their own vast shopping centres, industrial estates, places of amusement, and even universities, the suburbs become in fact, gradually independent. Then with only the old and the poor, and a handful of the rich remaining in the city, lack of confidence and deterioration sets in at the centre, and major enterprises, faced with this phenomenon, abandon the city and turn once again to investments in the suburbs.

Robbed of invaluable tax assessment, the city's cry of "Thief!" — against the spawning grounds of suburbia, recalls Dr. Johnston's devastating charge, hurled at a passing adversary on the Thames: "Your wife, sir, under pretence of keeping a bawdy house, is a receiver of stolen goods."

There is little doubt that too often the architectural design of post-war housing has been poor and the overall design of the environment undistinguished and sometimes downright ugly. I will talk about the environment later, first — a word about the housing. Through the activities of the Canadian Housing Design Council, and the gradual introduction of the architectural profession into the housing industry, the architectural design of our housing is improving and should continue to improve.

This is not to say that we can't expect aberrations from time to time, and 1967 may well unveil some interesting moods — perhaps Gothic revival — or more simple but still daring, an Indian Tepee or Longhouse design could be ranched or split, according to requirements. But

these fey and retrogressive moods will surely come and go with decreasing incidence, in the face of new materials and techniques, and the economic need for expressing them in simple and appropriate fashion.

Municipalities, once innocent, are struggling with rising costs, and are not always so eager to grow; they are much more critical of proposed development. Town planners, rarely seen in Canada only a few years ago, are graduating in ever increasing numbers from our universities and flocking to the municipalities — who are eager to receive them. Controls quite naturally abound, and the battle (not necessarily fought by Queensberry rules) is now joined.

The high cost of serviced land and the need for variety in accommodation has long since been recognized. The familiar house building industry is changing rapidly into a housing and land development industry, more efficient than ever and fiercely competitive. New forms of family housing, forecast by Murray & Fliess and Schoenauer & Seeman, in their books commissioned by CMHC, offer alternatives to the detached single family house. Recent changes to the National Housing Act makes possible for the first time, the same maximum loan for all forms of family housing.

This recognition of economic realities and return to higher densities, traditional with urban living, may not seem an attractive proposition in itself, but handled with care and imagination can bring obvious benefits to builders and developers, and most of all — to families of all income groups.

Hardest hit by these problems are often those areas which, by their nature, are least well equipped to solve them. The fact remains that the expansion of our cities beyond their political boundaries takes place in predominantly rural areas, where effective municipal government — capable of coping with these problems — evolves only after unplanned patterns of

new development are well under way.

But our cities of the future are taking their shape today, with a million new houses every ten years — soon a million and a half, their growth into the countryside is uncoordinated but inevitable. This growth needs to be guided and shaped in a more realistic way.

If present trends continue, municipal boundaries and the distribution of tax assessment will be realistically organized on a development-area basis in the not too distant future. Communities will be designed in outline or skeleton form, with major lines of communications first established. Land will be acquired by the community, in advance of need, at critical points in the overall plan to form the centres and subcentres of future development. Comprehensive zoning with appropriate density controls will complete the framework within which private developers and investors will build the major part of the community.

I would like to turn my attention now to the city but first I'm going to discuss a problem which affects the future of both suburb and city — the housing problems of the poor.

PUBLIC HOUSING

It is possible, in theory, to build so many new houses through the private market that adequate housing eventually becomes available even for the very poor. This is called the "filtering down" process and it's never worked very well. It is an expensive and uncertain way of providing housing for low income families. Expensive because it requires sufficient new housing not only to meet their particular needs, but enough to improve the housing circumstances of everyone else as well. It's uncertain because it requires a public policy to sustain the demand for new housing far beyond the normal market requirements.

The National Housing Act provides for the construction and operation of public housing in Canada — on the initiation of municipalities, with the approval of the

provinces. In 14 years the programme has produced only 8,000 subsidized dwelling units, and there is no doubt that thousands more are needed. An approximate comparison indicates that in 1961 the British paid about \$3.15 per capita in annual subsidies for public housing, the Americans about \$0.80 and the Canadians just under \$0.10.

In the past, one of our main efforts to preserve and revitalize the city has been the attack upon the slums. Other efforts have included intensive studies of the traffic problem, for as we know only too well—the unwieldy pressure of private transportation within the city is strangling the downtown area. (And I'm very happy to think that this particular baby belongs to somebody else.)

It has been said that the city constantly regenerates itself, but the rhythm in our time has slowed down. The city is not used to competition, and because of the revolution in transportation, which has given man a choice of living away from his work and allows industry to be freed from its markets, the city has been losing ground to the suburbs, despite its great assets and historic attractions.

All the books on cities agree on at least one thing; that the worst slums are inhabited by our lowest income groups. If it were not for this fact the control and elimination of slums would be in theory relatively simple. They would be either improved on condemned and destroyed. (As some are of course in Canada.) But a large scale condemnation would leave thousands of low income families with no place to live, or would cause overcrowding and deterioration in other areas of the city.

Large scale urban redevelopment done in this manner has been dubbed "the bulldozer approach" and has been criticized in the United States—the loveliest of old trees, the most evocative buildings, the city's eccentricities and reminders of another age, have been thrown indiscriminately on the trash heap along

with other less desirable slum appendages.

And speaking of such redevelopment projects in the United States, William H. Whyte Junior says, "Not surprisingly, wherever these new projects have gone up a host of little enterprises have sprung up on the bad side of the street, as witness to the vacuum of the design. Visually, the effect is enough to drive an architect crazy; grocery stores with fruit out in the street, discount houses covered with garish signs, pastry shops, delicatessens, a Happy Time Bar and Grill, and a host of other perversities to clutter up design. People are just no damn good."

A comprehensive scheme of urban renewal would encompass a whole range of aids to reestablish confidence and vitality in deteriorating neighborhoods. These would include, beside redevelopment and public housing at least four other measures,

(1) Refurbishing of community services such as streets, lighting, parks and schools. This would depend on financial aid to the municipality for help in replacing utilities and facilities in parts of the area being developed. This is important because lending institutions are unlikely to invest in renewal areas which are in unsatisfactory condition.

(2) Partial rehabilitation for houses which do not require total clearance. This must be done quickly if the deterioration of the buildings and their surroundings are not to reach a point where it will not be financially wise to invest in repairs. The basic demands of rehabilitation are to use what we have that is worth using, and to keep costly redevelopment to a minimum.

(3) Financial assistance in the form of loans to owners of existing houses (in areas included in the urban renewal programme)—to increase their marketability, or to assist those wishing to rehabilitate their own dwellings. Through this plan residential buildings could be

given additional life of many years.

(4) Neighborhood conservation through the enforcement of building maintenance codes and occupancy bylaws. These would maintain improvements made in the urban renewal programme.

A combined attack of public and private enterprise on urban blight through such a comprehensive plan could alter the face of our cities in a substantial and dramatic manner.

Some people aren't waiting for future official urban renewal schemes to give them its blessing. The middle income group—such a vital element in the rehabilitation and conservation of the city appears to be returning—if not in droves, then at least in a trickle; if not in all cities, then at least in some. This group is doing its own private urban renewal and in a very witty and irreverent article in the April issue of *Maclean's* their activities are dealt with by Harry Bruce. (A do-it-yourself kit is included in the package.)

His article is entitled, "Glory be—The Whitepainters are Coming" (white-painters are Mr. Bruce's term for private renewal addicts; you don't have to paint everything white to qualify.)

He depicts the two central Toronto avenues where he grew up as "largely populated by hairy men in singlets, by widows of unholy age, and by packs of dogs . . . certainly not slums but they were almost seedy and . . . seemed to decay a little more obviously each autumn."

In conclusion, the community I would hope for is not one in which there would be no argument, people will never be of one mind, nor should they be. In this talk I have tried to outline some of the circumstances which surround and condition the Architecture of our Urban and sub-Urban Development, in this democratic age; and I have tried to show how the problem of public housing is critical to the healthy development of both. Thank you, gentlemen.

The 57th Assembly

by Harry Meyerovitch

At the request of The Journal, Mr Meyerovitch has written some of his personal impressions of the events at the 57th Annual Assembly at St Andrews, NB. Mr Meyerovitch was chairman of one of the Assembly seminars and contributed to others.

The special significance of the Seminar of the 1964 Assembly lies in its having come to grips in a serious way with the total problem facing our profession, its present dilemma and its future role. It was strange confirmation of our human status to know that we architects are not exempt from the need for "agonizing reappraisals". Rapid and drastic developments in every aspect of man's world have made in painfully evident that our

own place and responsibilities in that world would have to be reassessed. We have undertaken this examination and the spirit of the Assembly was an indication that it would be pursued with vigour and clarity. Inevitably there were more questions than answers, but it is now clear that we are beginning to know *what* questions to ask.

We were fortunate to have had presented a comprehensive definition of the problem by Sir Robert Matthew, who, as president both of the RIBA and the IUA, was able to bring to it a view based on first-hand information and personal dedication. In his opinion, the nature of the challenge was determined by the staggering scale of the building function in our day. The limitless needs of the emerging African, Asian and Latin American nations, together with the increasing demands for more and better buildings in the more highly developed countries, add up to an unprecedented total. It has been estimated that by the year 2000, more urban building volume will have been put in place on this planet than all that has been built in all our towns since the beginning of time. Building has become one of the major activities of the age. (Our Prime Minister summed up the situation pithily in these words: "It is buildings which make our geography and even their air-conditioning which makes our climate").

It is clear that we will be required to help satisfy at great speed urgent human needs which, if unsatisfied, can lead to serious political consequences. In this situation, continued Sir Robert, the architect will deal increasingly with programs rather than single buildings, square miles rather than square feet and governments and corporations rather than individual clients. We are called upon no longer to design buildings but environments. There will be need for increasing standardization of materials and building components, development of building systems, bulk buying and organization of long production runs. Towards this end, great programs of research, in the technical, sociological and planning fields would have to be extended and intensified. Canadian efforts in this direction, through the work of the Canadian Council on Urban and Regional Research, and the National Research Council will have to be coordinated with world-wide programs.

"In the past architects and planners have gone too much on hunches and too little in science." These words of Sir

Robert's stand as an indictment that architects cannot ignore.

In the light of this, Sir Robert turned to the thorny questions of professionalism. The architect has hitherto contributed his services as a professional, *ie* as a disinterested agent of a client. Is this status compatible with discharging the new and onerous responsibilities facing us? While the architectural profession has been deeply divided on this question, Sir Robert declared himself to be "an unabashed defender of the professional idea".

The discussions which followed (for two days) revealed that, while there seemed to be general acceptance of the increasing scope and the importance of the architect's responsibility, there were implications which aroused doubts and fears.

1. There was fear of the inroads made by engineers and planners.
2. There was concern that the architect might lose his individuality in the growth of large organizations.
3. There were doubts as to the ability to maintain high levels of artistic expression when highly rationalized methods of building were involved.
4. There was continuing fear of the effects on the profession of the package dealer, although his existence was grudgingly accepted. There was an increasing inclination, I think, to join 'em if we couldn't lick 'em.

Not the least of the fears expressed — and that usually in an impassioned way, which revealed its intensity — was for the architect as artist. The new demands on the profession tend to arouse the suspicion that we might now become tools in the hands of large organizations and computers, to degenerate into "organization men" for whom individual expression would become a mirage. Was there truth in Russell Lynes' desolate cry: "The world has passed the architect by — the architect has become an anachronism."

The fear was real enough, and so was the question. Can vast building projects, weighted in the direction of the economic and the rational, be devised on the basis of the personal aesthetic we have been taught to pursue? When "Houses become Housing" (Alan Armstrong's happy phrase) has the artist been evicted?

Or on the other hand, is there a new avenue to be explored? Has the architect, one or two stages removed from major policy and power of decision, accepted by default the weakening of the

aesthetic element in large scale planning and construction? Has not the public learned to live without beauty? (The brutal fact is that a mere 20 per cent of all construction in this country is architect-planned). Or again, do the new conditions call for a new aesthetic? When buildings are now produced in increasing quantities through the assembly of manufactured components, is it realistic to cling to an aesthetic based on a demodded craft idea?

What of the role of architectural education, which was also seriously discussed. A very clear statement on this by Alan Armstrong: "We should be considering very earnestly what is changing in the practice of architecture, of itself and in relation to allied professions — and from that follow conclusions about the content of architectural education, as linked to education for the allied professions". It is apparent that the architectural schools of this country are aware of the need for change—and there is evidence that much progress is being made in the modification of teaching programs.

I was fortunate to have been able to visit the School of Architecture at Halifax prior to the Assembly, and was impressed by Douglas Shadbolt's program which introduced the first year student to the fundamentals of human physiology and to the relationships to environment through such basic forms as tables and chairs. We are happily moving to a greater integration of the student to the world as it *really* is. We can only hope that this process may be accelerated and extended so that the present generation of students may rapidly become aware of the fundamental relations in the world of economics, politics, social relations, and technical development which provide the basis for an architecture true for our time.

Architecture has in the past attracted the "artistic" personality. In recent years it has attracted other types who have been impressed by the income tax department's classification of architects as a high-income group. Would it now be possible by a deliberate selective process to attract to architecture those who show signs of viewing architecture as an integral part of a complex world? It was small comfort to have been told by Sir Robert Matthew that "the professions are *all* narrowly trained". The architectural profession because it has (or should have) to play a major coordinating role, should be the first to broaden its view. The narrowness of our view prompted

Stewart M. Andrews (President of Community Development Consultants Ltd., who presented the developer's point of view) to describe architects as "truth-seeking disciples with blinkers on". More than one architect winced. Do we in fact have too narrow an outlook to enable us to solve problems of ever increasing breadth? This question, I feel, is being honestly faced and adjustments and improvements are being sought, understandably enough, within the present professional framework.

As evidence of this were the prolonged discussions on the relative capacities of the large and small architectural office to provide comprehensive professional services. The merits of tentative organizational solutions were debated — through modifications of relationships as between architects themselves, and as between architects and other specialists — the need for architectural schools to train more specialists, etc. Whether groups of specialists were better housed under one roof or under many, whether one should deliberately limit the size of an office, these matters were seriously discussed. As moderator of the panel devoted to this question, I confess to a lurking suspicion that, in spite of good suggestions proposed, our discussions were relatively inconclusive.

What seemed to be the trouble? Was the issue a false one? Was the question itself indeed too narrowly conceived? At this stage perhaps one can only guess.

My own guess is that our attitude has been and still is basically conservative. We wish to retain and protect professional privileges and further extend them. Inevitably, because of the changing nature of the building process, we run into other professional specialists trying to do the same. The situation and atmosphere becomes one of increasing conflict. This must generate some blindness in the participants on both (or all) sides and any working arrangements in these circumstances must of necessity be in the nature of a truce. This leads me to the disturbing thought, that perhaps professionalism is a static concept which it is difficult to apply to a rapidly expanding situation. Does the dilemma of the specialist lie in his being moved towards an exclusivity, inevitably leading to polarization of purposes, rather than to synthesis? Can this possibly lead to ultimate paralysis?

What alternatives are there? And how can they be explored? I feel that a healthy start has already been made

through the survey instituted by the RAIC Committee on the Profession. The answers which will be provided by architects to the questionnaire, together with the first hand information gleaned by Prof. Raymore on his coast-to-coast canvas, may well provide a sound factual basis from which scientific conclusions can be drawn and recommendations devised.

But these recommendations may well have limited value if they are not worked out against the background of the monumental changes so eloquently described by Sir Robert Matthew. Architecture is indeed changing — but these changes derive from the more fundamental and significant changes now revolutionizing the entire *building process*, in purpose, in scope and in possibilities. Of the entire building process, architecture, at present, occupies itself with only a small part.

Technically, building is just moving out of the horse and buggy stage into an era of greater rationalization and industrialization. Economically, much building in countries like Canada and the US has become a *commodity* product, something to be bought and sold on the open market by a promoter or developer who is not the ultimate user, but who seeks to attract an unknown client whose needs can only be guessed at. The ultimate use of the product is frequently a secondary factor, its primary one being simply to turn a profit. Socially, the mass character of the building process has created many new possibilities and many new problems — the new suburbs, the gutting of the central portions of large cities, low rental housing projects, are all phenomena peculiar to our time.

The architect has not attained his full stature in this brash new world. It must be acknowledged that he has not been trained to cope with, nor has he seriously sought to accept, this unprecedented challenge. It is possible that a return to the ancient and honorable role of master builder would be more appropriate? Can he once more become the organizer, the co-ordinator of the building process, but operating under new conditions, involving vastly increased and diversified needs, vast financial resources, and vast technical possibilities. Are we willing to accept new responsibilities beyond the limits now established by our habits, our training, our professional form of organization? This was the main question, I think, which was opened up at the 1964 Seminar — and which awaits profound, dispassionate and imaginative answers.

Architects in a Changing World

by Sir Robert Matthew, CBE,
President of the RIBA

These extracts from the keynote speech, given by Sir Robert Matthew at the 57th Annual Assembly of the RAIC, conclude our report on these seminars and discussions held at St Andrews, NB.

The keynote speech at the Assembly of the RAIC was given by Sir Robert Matthew, CBE, President of the RIBA. Sir Robert announced that he had developed his theme from that of Thomas

Creighton, who gave his speech a year ago on the theme of Architecture In A Changing World. After describing his visits to many parts of the world Sir Robert continued:

"What impresses me most is the changing scale of architecture. Where we used to discuss single buildings we now discuss programs. Where we once consulted individual clients we now consult national or local governments or large corporations. Where sites once measured in frontages of a few feet we now measure them by tens or hundreds of acres, or even, in the case of our new towns, by the square mile.

"The problems that confront client organisations are often such that they cannot be solved with the resources to be found within the boundaries of a single state. The emerging countries of Africa, Asia and Latin America face a building problem of a staggering size. One half of their population lives in unsanitary and overcrowded housing, and many are homeless. Sixty million people are being added every year to the world population, and the problem is aggravated by the far more rapid growth of urban centres. If present trends continue, by the year 2,000 the total world population in towns of over 100,000, now about 700 million, will have risen to 4,000 million — an increase of 480% in 36 years.

"A vast planning and construction problem must be tackled at great speed if human needs are to be satisfied and social explosions averted, but the countries of Africa, Asia and Latin America have neither the skilled personnel nor the material or financial resources to do so unaided. The United Nations, the International Union of Architects, and the Commonwealth Association of Architects all have essential parts to play. These bodies have been brought into existence to play their part in the general attack on poverty and want. The developed countries, such as ours, and the "developing" countries, have a common interest in solving these great human problems which, in the last analysis, are often planning and building problems.

"The change in scale of building operations, arising from the pressure to satisfy growing social needs, is forcing us all to think in terms of building programs of enormous size and that, in turn, has thrown up the need for client organisations able to place orders for large programs, and for better industrialised building methods by which these programs can be carried out. In Britain, for

example, the national building program is likely to increase from its present annual figure of £2,250 million to £3,225 million by 1970. Of this 45% will be new work in the public sector — universities, schools, housing, hospitals and so on. But the labour force is not likely to increase by more than 5%. The housing program alone has been increased in the last year from 300,000 houses a year to 350,000 immediately and 400,000 within the near future. Yet, there are more than 1,500 separate public housing authorities (quite apart from thousands of private developers) whose average site contract is for only 34 houses.

"We believe that the problems of planning, land use, social habits, design, construction, materials and all the social and physical sciences connected with the use, planning, design and construction of buildings must be seen and studied as a whole. We have asked the government to set up a National Research Council to co-ordinate and promote research in the field of the 'Built Environment'. There is another aspect of scale which has been brought home to us in England by the Report on Traffic in Towns by Professor Buchanan and his team last November. Professor Buchanan, who is an architect, an engineer and a town planner, was asked to study the long-term problem of planning in towns. His studies have shown that it is not possible, physically or financially to provide for the unlimited use of the automobile in a fully motorised society. However, a clear theoretical basis exists for the design of towns in which the demands of people for mobility can be reconciled with the creation of environment free from the dangers and nuisances of motor traffic. It is useless to attempt, as had been done in some countries for years, to treat the automobile as a sacred cow, and to attempt to solve the traffic problem by engineering methods alone, by traffic management and the construction of freeways and parking garages. If war is too serious a matter to be left to the generals, so are traffic and towns too serious to be left to the traffic engineers alone. Not only has all traffic, road and rail, public and private, to be fitted into a single transportation plan, but the development plan for a town or a region must relate the transportation plan to the plan for the use of the land. It is buildings, or the activities within them, that generate traffic. It is the buildings, their use, density and location that determine the pattern of movement. One can no more plan buildings apart from highways than one can plan the rooms of a

building apart from the corridors or the elevators. That is why, on the one hand, town design is an inter-professional job, for teams possessing a variety of skills, and on the other hand the design of buildings, roads, access ways and open space is a single design exercise, which Colin Buchanan has called "traffic architecture". This brings the architect into an area from which he is too often excluded.

"It is not going to be easy to bring about the inter-professional collaboration on which "traffic architecture" or true environmental design, must rest. Highway engineers have been accustomed for so long to thinking that they can handle traffic problems unaided that they often resent the participation of the architect, the planner, the sociologist, and the economist. The architect, on the other hand, having had little responsibility for many aspects of town planning or town design, and having frequently been excluded from them altogether, must learn to use the skill of the traffic engineer and other technical experts in urban design.

"The complexity of building, and the comprehensive approach that this requires, brings me to another matter, the design of services. Buildings today more and more house services of many kinds. The survey of architects' offices which the RIBA made three years ago led the survey team to recommend that architectural education should become specialised; in addition to training general practitioners our schools should also turn out specialists in such subjects as structural design, mechanical engineering, heating and ventilating, lighting, acoustics and town planning.

"The last problem arising from the new scale of building on which I wish to speak is professionalism. Here it may seem to some that I am old-fashioned, for I do not believe that the concept of professionalism is played out. Nor, in my view, will it be, so long as society requires to be protected in a competitive market from the claims and methods of commerce. Professionalism grew up in the 19th Century to give the public guarantees of integrity and competence, the one upheld by a professional code of ethics and behaviour, the other upheld by a system of examinations to set a standard for entry into the profession. Of course, some of our members fall short in integrity; and the standard of competence is certainly not adequately ensured by an examination taken at the

very beginning of one's career. It follows that we have to take another look at the meaning of integrity, and the means of upholding it, and that we have to take special steps to raise and then sustain the standard of service, of competence, that our members offer to the public. We in the RIBA are having a fundamental look at our Code of Conduct, and are re-appraising professionalism in the light of modern conditions. We have also taken a series of steps to provide our members with better services. These are slow to mature, and we are conscious that we have not done nearly enough. Nevertheless, our Handbook of Practice and Management, management courses, advisory services and so on, are all directed to this end. So was our decision, 18 months ago, to introduce a new system of practical training linking closely the practitioners with the schools, to ensure that students are not let loose to practice until they really have acquired an essential range of experience not only in architects' offices but in the building industry.

"Professionalism, however, is a more difficult problem, and we are attempting to reach a decision on the question that has divided the profession for many years — should architects be permitted to direct commercial companies engaged in building, development or the manufacture of materials. In England we are at present in an illogical position. We allow members of the Institute to take employment with building and manufacturing firms, and a few do so. On the other hand we draw the line at architects taking a controlling interest, as directors. This seems to make just about the worst of both worlds, for we are, in fact, at the production end in a relatively minor capacity. We have then, logically, two choices; either to retract and withdraw membership from any participation in the production of buildings as distinct from their design or, on the other hand, go into it in a big way; though we can of course remain illogical and leave the situation as it is.

"This is a changing world, and there are many changes, of the most direct interest to us as architects, that I have been unable to touch upon. The problem, in this shifting scene, is to know when to move and when to consolidate. I have tried to show that there are points where we must move, and move fast, and others where we should move, if at all, with care. We must change with the times, but we must not change for change's sake, for change is not the only virtue."



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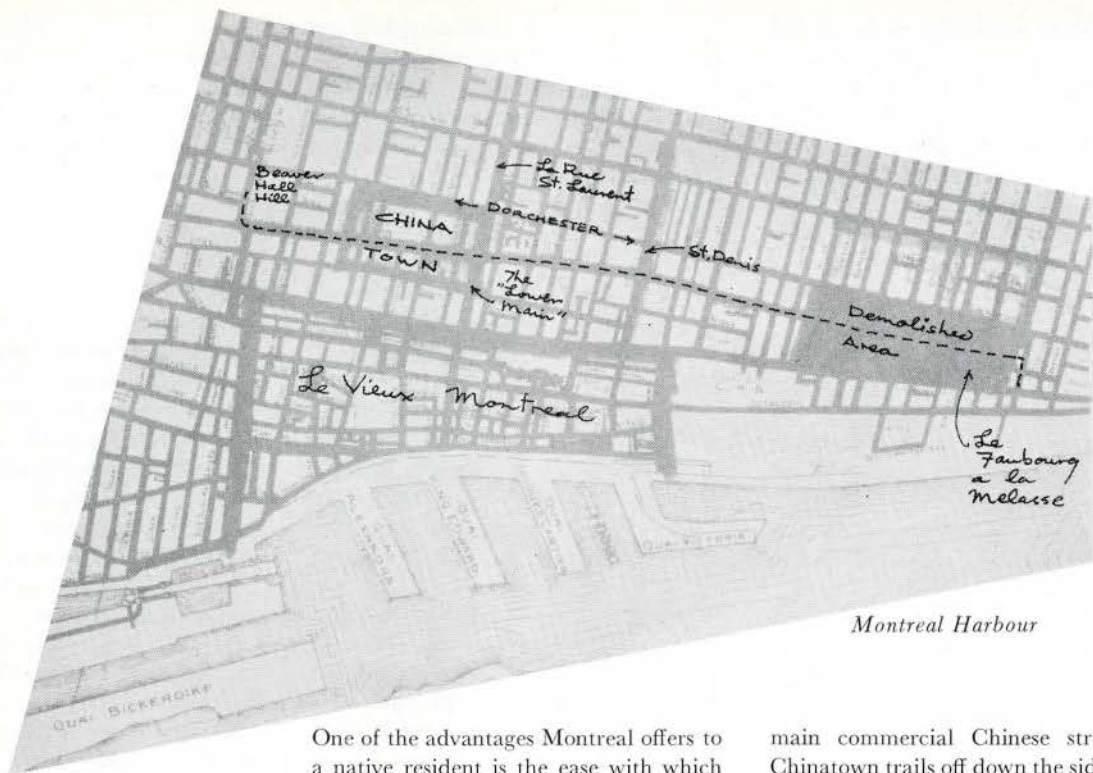
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Montreal Harbour

In Memoriam

by Stuart Wilson

Professor Wilson, who has been a member of the faculty of the School of Architecture of McGill University for many years, has devoted considerable time to studying some of the now-vanishing parts of Montreal such as La Gauchetiere Street, and has now become accepted as an authority on them.

One of the advantages Montreal offers to a native resident is the ease with which the mood and character of the ambient environment can be changed. To step on a street-car, nowadays a bus or cab, is to take a trip to another world, and to arrive at districts of different character, appearance and language than the home-area.

More than halfway down Beaver Hall Hill, Lagauchetiere Street intersects and runs eastward as one of Montreal's longest, narrowest, and most colorful streets, until it terminates near Molson's Brewery and the Harbour Bridge. A walk eastwards along Lagauchetiere leads below the garden of St. Patrick's severe Montreal Gothic facade, through the city's commercial printing centre to Bleury Street.

Past Bleury from Chenneville to Rue St. Laurent, and between Rue de Vitre to Dorchester, near the downtown central business district is Montreal's conveniently located Chinatown, fifth largest in America. Lagauchetiere becomes the

main commercial Chinese street, and Chinatown trails off down the side streets. Two, three, four and five-storey buildings, some of grey ashlar stone, but mostly of plain red brick, with flagpoles, balconies and notices in Chinese script, butt on narrow sidewalks, and hang over the street. Bright signs, sometimes large and fantastic, flashy-painted metal, incandescent and neon lighted, project from the fronts of twelve Chinese restaurants. Three groceries, like general stores, sell food, clothing and household items, with ginger, lichee and canned delicacies on shelves; porcelain in red, gold and turquoise and lilies with succulent green vegetables in windows; half a roast pork hangs from a hook, glistening golden brown crackling from a white tile recess with grease-stained Chinese newspapers below; sausages, roast duck, boiled chicken and barbecued internal parts and organs on counter. Abacus clicking, staff and family eat beyond a fretwork wooden arch with ricebowl and chopsticks from large steaming bowls of soup, meats and



greens. Three curio shops display model junks — slow boats to China, embroidered slippers and silken kimonos for empresses. Two bookstores, shelves heavy with almanacks and novels, depict Hong-Kong belles smiling from periodical covers. Ten tong-houses, or old home-country clubs, have permanent club-rooms, on upper floors, with balustrated balconies. Gold script, black backgrounds, tong-names.

Elderly Chinamen, retired from daily strife, live on second floors of tong-houses. Windows open in the hot summer, they fan themselves, amongst birds in cages, plants, and washing on lines. They sit smiling at doorsteps and talk to kids with black mop-hair. Most Chinese no longer live here. Housing is bad as well as expensive.

But Chinatown remains the initial meeting-place where people from the old country make their first contacts with the community and the assimilated immigrants. Chinese are conservative and well-behaved, bring up their children to be courteous, and cling to their own way of life. The community has two churches and a hospital as well as a place of business and meeting. In a church, Chinese lanterns, with tassels and painted silk and teak frames carved into dragon forms, hang beside Corinthian columns. Sunday is the big day. Chinamen from all over town fill the streets, restaurants and gambling clubs — Chinese only. The only non-Chinaman ever admitted to a gambling "den" was the former proprietor of a nearby pharmacy. In the old days anyone could buy a lottery ticket covered with Chinese numbers, printed on pink and green paper.

On Sunday, almost all the restaurants sell steamed pure-white buns, like dumplings, stuffed with bean curd, or edible, spicy fragments and sausage bits.

Settlement began around 1881, when Chinese from the seashore districts of the southern provinces of Chit Kwong and Kwong Tung came to Montreal via the United States or from the western part of Canada. They came as labour for railway construction camps and mines, settled down later to open restaurants and laundries.

La Rue St. Laurent, or the lower Main, cuts across Lagachetiere and runs down to the harbour. Cops stand at each corner. Policemen never go in singles on this part of the Main. Wild stompin' music and leather jacket hangouts, alternate with continuous-show cafes and low-price restaurants. Further up are the best

hot-dogs, about a half-a-dozen places, and the gaudiest movie-posters in town. On the east side of Main is "Au Smoked Meat", a franglaise sign hanging from an old stone Montreal-style gable chimneyed house. This delicatessen has been in business for a long time. The floor is below the sidewalk and a look down at the window and in at the counter embraces salami, cheeses, black and purple olives, pickles and dried fish in barrels, nuts in sacks and pistachios in jars.

Down on side-streets are flop-houses, quiet refuges offering more independence and freedom to homeless men than the Sally-Ann. "Got a match, Mack?" Wine-o and gut-rot, canned heat, and a handout for the price of a flop. Way to go.

Across Rue St. Denis is an area of former dignity, grandeur and even of some splendour which is being neglected and allowed to deteriorate. At the foot of St. Denis is Place Viger, a fine large park with stately elms. The former Place Viger Station and Hotel, now offices for the municipality, cast in the mould of a romantic chateau, overlooks the square from the south side. On the north and west stand terrace-houses five and six stories in height. They are pulling them down to make way for parking lots and large office structures. Also on the north side, amongst the terrace-houses, is

the benches of Place Viger is an army of disconsolate men, quietly talking. Eastward of St. Denis, the narrow street runs past the old facade and incongruous new wing of L'Hopital de la Misericorde, a maternity hospital for pregnant women in need.

Ahead lies a working-class dwelling-area, a parish of French-speaking people. The district forms part of La Paroisse de Saint-Pierre-Apôtre, whose tall-spired church rises above Lagachetiere and surrounding streets on the corner of Rue de la Visitation and Dorchester. Eastwards is another parish and the steeple of Ste. Brigide de Montéal.

This habitat, lying north and south of Lagachetiere Street, is bordered on the north by the broad traffic alley of Dorchester Boulevard, itself once a long, narrow street before renovation and conversion into a speedway, and is skirted on the south by La Rue Notre Dame, a heavy traffic route.

The enclave forms a small area of narrow streets, containing dwelling places, mostly, as well as corner stores; while small factories, garages and religious buildings are scattered through the southern portion. A grid-iron plan of slightly irregular blocks through views from Dorchester or Notre-Dame. The effect is to heighten the sense of enclosure and belongingness in the neighbourhood. Old houses and



Photo by Sternthal

l'Ecole des Hautes Etudes Commerciales, a part of the University of Montreal, and a large florid classical stone building.

Everywhere the eye can see are signs of destruction and rebuilding without an appreciation of heritage or ancestry. On

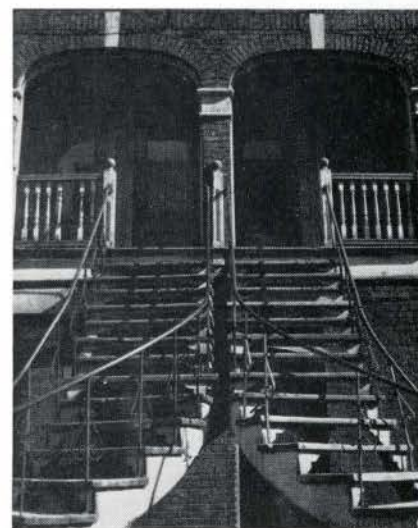


Photo by Sternthal

churches terminate vistas; church-towers and spires dominate the parish.

Individual houses from older and more prosperous days, late eighteenth, early and mid-nineteenth century, Victorian houses and later typical Montreal-style exterior spiral apartments mingle in a quiet downtown backwater.

This tranquil area lies just above the



View up St. Denis

Montreal harbour with the warehouses and cold-storage buildings rising high above Notre Dame. Traffic zooms south and north, but is tamed within the precinct by the cramped and out-of-line streets. Streets are narrow, and telegraph poles with a maze of wires mingle with the few trees to enclose them more. People live close to work in harbour, factories and shops, close to the bright lights of St. Catherine, East, and downtown city life.

Old men sit on porch steps. Girls skip on sidewalks, singing:

Crème glacé, limonade sucré,
Dis-moi le nom de mon cavalier,
Vite!
Ah, Beh, Seh, Deh, Eh, etc.
Georges est ton cavalier.
Alphonse . . .
Henri . . .
Denis . . .

Boys run messages on bruised bikes, play ball in the streets, hang around street-corners. Kids play with dirt and mud in the yards.

Streets are lined with houses, flush-up close to sidewalks, with closed green painted blinds and doorways recessed into building-fronts. Three or four steps lead up to each door, the bottom step of cement or stone, chipped from the winter-time ploughing, protrudes two or three inches outside the wall. The reveals of the doorways are covered with wood panelling and the doors vary from plain and simple to the elegant or fantastic and humorous. A whole row of Victorian houses have horse-shoe motif doors, no doubt, for good luck. Those were the days when men had time for such light-hearted and naive fancies.

Amongst the older houses are a number of more recent exposed-stair houses of flats or apartments. This is a common Montreal type, now prohibited by law; and appears to have been a natural development of a vernacular form in response to local conditions.

Montreal was a small city, which grew rapidly after the American Civil War. From that time Montreal has been close-packed. Building lots are long and narrow. A common lot width is twenty by sixty-five. Construction of two and three-storey flats is carried out in Quebec frame, a carpentry construction employing rough-saw planks of spruce and pine of common grade, two or three inches in thickness and sheathed with tongue and groove pine laid diagonally over tarpaper. Because houses are usually cheek by jowl along the street, they are separ-

ated at the lot lines by masonry walls, called "mitoyen walls", which act as party-walls and fire-stops. Further to diminish the fire hazard, Quebec frame buildings must be faced on all exposed faces with brick veneer.

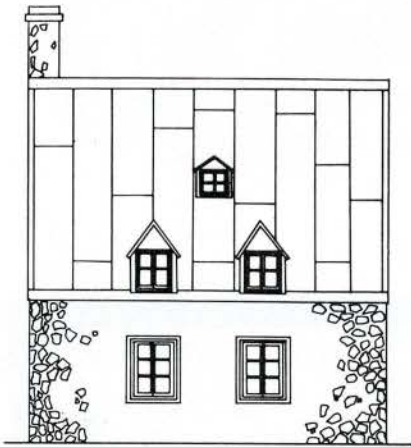
The brickwork is anchored to the plank with large spikes or crinkled metal anchors at every fifth or sixth brick course. As the framework is held together largely by spiking, dovetailing and the framing of floor joists into the plank wall, windows are usually kept at widths of three to four feet, so as not to weaken the frame unduly. This home-made style of construction, easily erected by comparatively unskilled labour, and apparently naive and uncouth, results in a wall which is weather-proof, well insulated and relatively cheap.

Most Montreal flats are built to be rented, home ownership being less common than in many other Canadian cities. Moreover, since many natives of Montreal desire security, and see themselves in the image of a "rentier" or landlord collecting rents to supplement or even replace other income, there has always been a tendency for owners to live on one floor of "flats", and to rent the others. The ultimate development of this vision occurs when the "rentier" is also a "restaurateur", or when he runs a restaurant in the front of the dwelling, lives in the back and rents the rest. Restaurants, so-called, of this character, can be found scattered through many a Montreal residential district. Such eating-places may have a lowly rank in the minds of those who appreciate the culinary arts, but the phenomenon does indicate a praiseworthy effort on the part of their owners to earn a better livelihood.

Because many Montreal flats were built for small-time proprietors of limited capital, the normal tendency, prevalent in all practical endeavour, to get the most for the dollar, has been carried to a fine point of development in Montreal vernacular. Perhaps the most striking example of this tendency is the notorious winding exterior stair. Interior stairs take up rentable space, as well as complicating the construction of a house. To overcome this disadvantage the outside stair was elaborated, which occurs in a number of forms of which the corkscrew and the chevron are the most well-known.

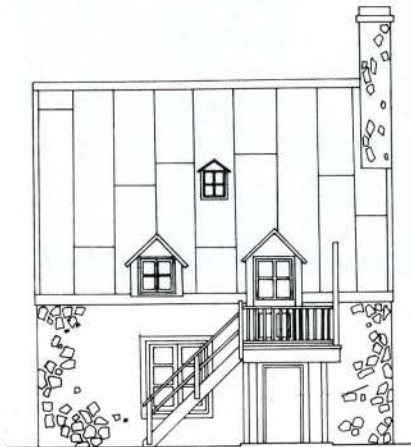
Raymond Tanghe, Montreal's geographer, has discussed the development of the typical Montreal house:

"In the last quarter of the 19th century the rapid growth of the population of our



SOUTH ELEVATION

Hubert Dit LaCroix House



NORTH ELEVATION

city provoked a crowding together of buildings; one could no longer live at one's ease and use as much ground as one wished, a compact style of living became necessary. The first superimposed lodgings date from this period. Timid attempts were made at first: two doors side by side in the same opening, one leading to the ground floor and the other giving on to an interior stair leading to an upper floor. When there were three floors, the two higher ones formed a single dwelling. The top-most floor of the dwelling occurred in the attic of a mansard, then a common type of roof. These houses were built either entirely of brick or with a stone foundation.

Later the true mansard-type roof was displaced by a composite type formed from a slightly sloped roof and an almost flat vertical mansard-like form.

This was a kind of truncated mansard roof. At the juncture of the two surfaces there was generally an ornamental iron crest, serving to hold the snow on the flat part of the roof. . . . The contemporary house followed the above type and before we examine it, we shall establish the definition of the "Normative House". To do this we shall paraphrase a definition given by Jean Bruhnes of the Agglomeration Type.

The "normative house" is the least original and the most anonymous. It is that type which the tourist does not observe because it is indistinct from any other, but which, precisely because of this, recalls and expresses all the others and which has in consequence a true geographic value. . . .

This type is two generations old, which is not very old when compared to house-types in other countries. . . .

The "Normative House", a representative average of the urban habitation, is only found on land whose value is average or below.

. . . . Briefly, here is a description: it is a house faced with brick, composed of two, three or four floors, generally known as "flats", having a smooth facade, sometimes with vague attempts at ornamentation in the arrangement of bricks or even a parapet decoration. The roof is flat. Other frequent characteristics possessed by the typical Montreal house are exterior stairs, a gallery and balcony, and a similarity in the disposition of rooms." A balcony occurs at the front of such a house, and the gallery is at the rear. Galleries are often connected with storage sheds of wood or corrugated iron. An ingeniously framed wooden or a



metal spiral rear stair leads to the ground and the basement.

Lagauchetièrè Street and district contain the history of evolutionary changes in the normative or commonplace Montreal dwelling. The arrangement of houses and their open spaces, or courts and streets, have not received the benefit of urban planning. The accidental, fortuitous or necessary elements are gathered together as a collection of things in response to city-living. If any beauty, fantasy or interest occurs it may be due to an accidental occurrence of events, or to the inevitable human patterns of existence.

The streets are more decorous than the backyards or balconied courts. Little houses with Queen Anne fronts and Mary Ann rears alternate with row-houses or flats. Row-house fronts are balanced and formal, but the backs are freer and more revealing.

Facing on courts are superimposed layers of continuous balconies, sheds and flights of steps. Extensions and additions have been made, new doors and windows, from demolition contractors, placed. Material from scrap-heaps and second-hand building yards have been added and nailed-up impromptu. Make-do ersatz, and cast-off material or irregular and ragged boards or corrugated iron, old signs, Kik and Flirt, Alouette and Old Chum, strips or flattened food-cans cover up surfaces or fill up holes. Wires and clothes-lines on pulleys fixed to poles or sheds interlace with ladders and stairs.

Men play French checkers on back galleries. Washing of many colours and embarrassing shapes flaps in the breeze. Kids yell and cries comes up from the courtyards below. Women stand on balconies taking in washing and calling the news to the neighbours.

This is Lagauchetièrè, East, or was.

July, 1963, the Montreal Star ran a story headed, "City to Aid 700 Relocating Families". A large area of the city was to be torn down to make way for a new home for Radio Canada.

Students in the third year of the School of Architecture, McGill University, commenced a visual survey of the area bounded by Dorchester, Papineau, Craig and Wolfe streets in September. The survey continued along with other studies for three weeks. Starting simultaneously with the survey, and continuing with the progress of the demolition, the newspapers covered the destruction.

October 28, 1963, appeared a complete story and photo page in the "Star"

headed, "Destruction Patterns on Site for New CBC Centre", with pictures of broken buildings and pensioners on house-steps, as well as a story, "Old Farmhouse to be Demolished".

We quote from the "Star" story, "Situated at 1476 Dorchester Boulevard the farmhouse-type structure will be demolished along with the surrounding sector to make way for the construction of the CBC complex in the east end.

The lot where the building stands was granted by Sieur de Maisonneuve in 1655 to a Gilles Lauzon.

Although dating back to the 17th century, the farmhouse, built of heavy stone, is still in excellent condition. Until some weeks ago the house was occupied by two families who were unaware of its historic value. Records show that in 1731 a structure was erected at the Dorchester Boulevard site on the Maisonneuve land. Occupied for 35 years by the Lauzon family, the land was turned over to the Hubert-Lacroix family. The building was considered by experts as one of the oldest surviving farmhouse-type dwellings in the city.

It was only recently that historians discovered the building surrounded by sheds and other tenements and probed into the records for its history."

Later came newspaper articles announcing an effort to save the farmhouse, "Historians Ask Funds to Save Farmhouse", and "Group Seeks to Save Old Montreal House".

Paul Gouin, president of the Jacques Viger Commission, an organization for the preservation of historic Montreal, was quoted as saying, "The City Planning Commission have concluded that the only place for relocating this farmhouse would be in the Historical Village, and have offered it to them as a gift."

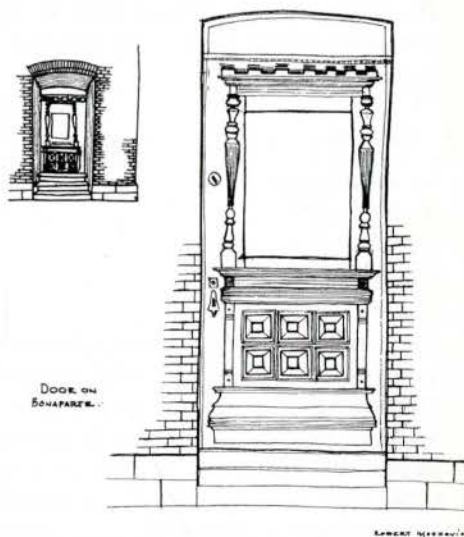
Mr. Antoine Prevost, executive director of the Village then attempted to raise funds for the removal of the house. He set November 25, 1963, as the deadline. Later, the "Star" announced: "The 270-year old Hubert-LaCroix farmhouse which so many Montrealers fought to save from the demolition crews, is now being moved to its final resting place—the Jacques de Chambly Historical Village.

Under the direction of Andre Prevost, curator of the Village, the house is being gently dismantled, marked and shipped to the Village site from its location on Dorchester Boulevard East."

On December 4, 1963, the "Montreal Star" carried an article headed, "Wrec-

kers Create Largest Vacant Lot Downtown to Make Way for CBC Building". Above the announcement was a bleak picture of empty lots stretching over a wide area of the city.

A part of the Lagauchetièrè Street East faubourg will grace the Chambly Historical Village. It is nice that this venerable farmhouse has been preserved, but it does not redeem the fact that seven hundred families had to be displaced from their habitations, and that an area moody and flavorful, which was a living museum of the development of the Montreal vernacular house, and a haven of folkways, no longer exists.



Technical Column

Edited by Douglas H. Lee

Asphalt Paving

by Norman W. McLeod

This is the last of a three-part article by Norman W. McLeod, BSc, MSc, ScD. Doctor McLeod is asphalt consultant with Imperial Oil Limited.

Pavement construction consists of preparing the paving mixture in a hot-mix plant, transporting it to the job-site, and spreading and compacting it to the specified thickness, density, profile and cross-section.

The aggregate should be heated in a drier and should be thoroughly dry when it is weighed into the pugmill at the hot-mix plant, where it is uniformly coated with the specified quantity of hot asphalt cement. The mixture temperature should be within the temperature range of 275 to 325° F.

The finished paving mixture must at all times satisfy the tolerances specified for it. The tolerances stipulated by The Asphalt Institute are:

Sieve Size	Permissible Variation Per Cent by Weight of Total Mix
No. 4 and larger	± 5.0
No. 8	± 4.0
No. 30	± 3.0
No. 200	± 1.0
Asphalt Content	± 0.3

The cross-hatched area in Figure 5 illustrates the application of these tolerances to the production of a given paving mixture. The heavy line through the centre of the cross-hatched area represents the grading of the total aggregate required by the job-mix formula. If it is to satisfy the tolerances of the cross-hatched area, after the asphalt has been extracted from each sample of paving mixture, the sieve analysis of the recovered aggregate should provide a grading curve that lies within the cross-hatched area at all points.

After the paving mixture has been hauled to the job-site, it is spread with a self-propelled mechanical paver on large paving jobs, and is then compacted by rolling. On small jobs, such as small driveways, the mixture is ordinarily spread by hand, using shovels and rakes.

From the point-of-view of achieving good long term pavement performance, the most important construction operation is compaction. Poorly compacted pavements have large air

voids which provide easy access for air and water that cause rapid hardening of the asphalt binder. This in turn results in a brittle pavement in which considerable cracking may then develop.

In addition, as illustrated by Figure 7, pavements that are

Sieve Size	% Passing by Weight
¾ inch	100
½ inch	86-100
¾ inch	75-100
No. 4	60-80
No. 8	45-60
No. 50	18-30
No. 200	5-15
Asphalt Cement (60/70 penetration) (% by weight of total mix)	5.5-8

poorly compacted have very low stability. This results in complaints of soft pavements from the owners of freshly paved driveways laid in warm weather. Similar complaints may be made in warm weather about newly-laid poorly compacted pavements on shopping plazas and parking areas where the common use of power steering during the parking of vehicles may result in gouging or at least scuffing of the new surface. Samples cut from a number of these newly-paved parking areas and driveways following these complaints, have shown that the degree of compaction achieved by rolling has often been in the range of only 90 to 93 per cent of laboratory compacted density. Figure 7 indicates a Marshall stability value of 1,400 pounds

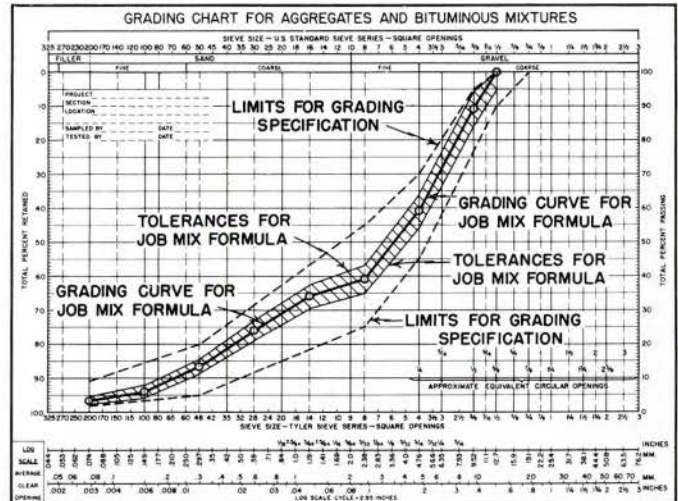


Fig. 6

for a particular paving mixture that has been compacted to 100 per cent of laboratory compacted density. This would ordinarily be considered to be a very stable paving mixture. However, if this same paving mixture is compacted to only 92 per cent of laboratory compacted density, Figure 7 shows that its Marshall stability has been drastically lowered to about 100 pounds. Consequently poor compaction is the most common immediately after their construction on driveways and parking basic cause of the complaints about soft unstable pavements areas.

The principal causes of this poor compaction are rollers that are too light, and allowing the paving mixture to become too cold before any substantial amount of compaction has been achieved. Sometimes too, the foundation on which the paving

mixture has been placed is so soft that the heavy rollers required for adequate compaction would cause failure of the pavement structure.

Unlike highways and streets, pavements on parking areas, shopping plazas, and playgrounds receive little additional compaction by traffic. Consequently specifications should require compaction by rolling during construction to a minimum of 97 per cent of laboratory compacted density for pavements on these area. Pavements on driveways should be compacted by rolling to a minimum of 95 per cent of laboratory compacted density.

Undisturbed samples should be cut from the pavement after rolling and tested for density to ensure that the specified degree of compaction is being achieved.



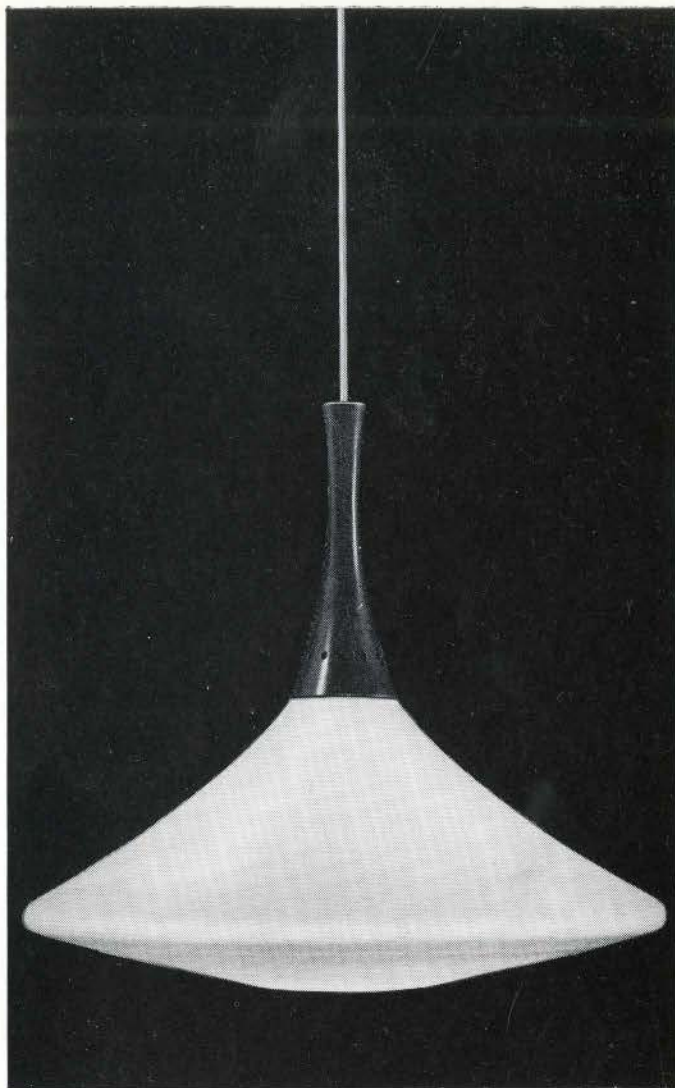
Fig. 7

MISCELLANEOUS

Asphalt curbs provide inexpensive curbing where this is required on large paved areas. Table 7 contains The Asphalt Institute's recommended asphalt mixture for asphalt curbs. These curbs are placed on existing paved surfaces, with the back of the curb at least one inch from the pavement edge. If the pavement is old, a tack coat of 0.05 to 0.1 gallon per square yard of SS-1 asphalt emulsion should be applied over the width to be occupied by the curb. No forms are required. The hot hixture is fed into an automatic curbing machine which extrudes, compacts and finishes the asphalt curb in one operation at rates of 4 to 8 feet per minute. The newly laid curb is ready for use as soon as it has cooled, after which it may be painted if desired.

Inexpensive, durable, asphalt sidewalks can be constructed by placing from 2 to 4 inches of hot-mix on from 1 to 4 inches of cinders, sand, crushed stone, or gravel.

Because it is waterproof, dense-graded asphalt concrete can be employed as a lining for swimming or wading pools. About three inches of asphalt concrete is usually placed over four to six inches of compacted, free-draining, crushed stone, or gravel. Tennis courts are frequently surfaced with from 2 to 3 inches of fine-textured hot-mix placed on 3 to 6 inches of well compacted crushed gravel or crushed stone. Asphalt paving mixtures containing pipes through which cold brine is circulated have been used to support and maintain sheets of ice for skating, hockey and curling. At other times these asphalt surfaces have been used for roller skating.



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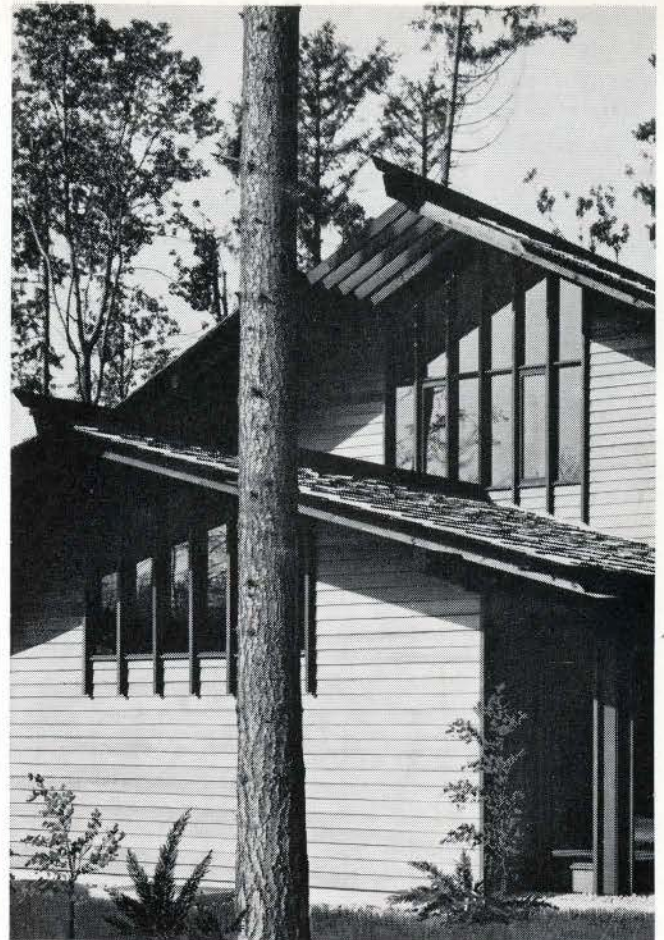
A recent development is the introduction of electric heating elements into the asphalt pavement or ramps and other areas where a surface accumulation of ice or snow would be a serious traffic hazard. Longitudinal insulated electric heating cables on 2 to 4 inch centres, and even ordinary 2 x 6 inch wire mesh are laid on an asphalt concrete base, and covered with an asphalt concrete wearing course from 1½ to 2 inches thick. These wire or cable heating elements are designed to provide from 30 to 40 watts per square foot, and limited experience indicates that this installation is capable of melting at least one inch of snow per hour at 32°F. The heating costs are reported to be so high that this method of keeping pavements free from ice and snow could only be economically justified under exceptional circumstances where other means for snow and ice removal are either not satisfactory or impractical.

SUMMARY

- 1 Asphalt pavements are widely used for shopping plazas, parking areas, playgrounds, driveways, etc.
- 2 To be successful, the entire pavement structure consisting of the subgrade, subbase, base course, and asphalt surface must be carefully designed and constructed.
- 3 Each layer in the pavement structure should be thoroughly compacted and well drained.
- 4 Hot-mix asphalt concrete can be substituted for the granular subbase and for the crushed stone or gravel base course of the conventional asphalt pavement structure.
- 5 The basic principles of design for hot-mix asphalt paving mixtures are briefly described.
- 6 The requirements for good asphalt pavement construction practice are reviewed, indicating that to obtain satisfactory pavement performance, particular attention should be given to achieving adequate compaction by rolling.
- 7 Reference is made to the use of asphalt paving mixtures for asphalt curbs, sidewalks, tennis courts, skating rinks and swimming, and wading pools.

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