



Kingston, Bartlett print
from *Canadian Scenery*,
published 1842

SERIAL 426, VOLUME 38, NUMBER 2, FEBRUARY, 1961

ROYAL ARCHITECTURAL INSTITUTE OF CANADA JOURNAL

MANAGING EDITOR, WALTER B. BOWKER
EDITORIAL ADVISER, ERIC R. ARTHUR (F)
ASSISTANT EDITORS
MARITIMES, LESTER J. PAGE, *Halifax*
QUEBEC, PAUL O. TREPANIER, *Granby*
WEST COAST, CHARLES A. TIERS, *Vancouver*
ADVERTISING MANAGER, J. F. SULLIVAN
ADVERTISING REPRESENTATIVE, LLOYD SAWYER

JOURNAL COMMITTEE
EARLE C. MORGAN (F), *Chairman*,
E. BRUCE BROWN (F), ROBERT C. FAIRFIELD,
D. E. KERTLAND (F), R. SCHOFIELD MORRIS (F),
FORSY PAGE (F), HARLAND STEELE (F)

EDITORIAL BOARD
Chairman, ROBERT C. FAIRFIELD, *Toronto*
HOWARD D. CHAPMAN, *Toronto*
PETER COLLINS, *Montreal*
E. C. S. COX, *Toronto*
RONALD A. DICK, *Toronto*
HUGH ELLIS, *Hamilton*
H. A. DUNN, *Edmonton*
HENRY FLIESS, *Toronto*
D. C. HALDENBY, *Toronto*
J. A. LANGFORD, *Regina*
J. S. MACDONALD, *Halifax*
H. CLAIRE MOTT (F), *Saint John*
EARLE C. MORGAN (F), *Toronto*
LOREN A. OXLEY, *Toronto*
NORMAN C. H. RUSSELL, *Winnipeg*
WM. J. RYAN, *St John's*
L. E. SHORE (F), *Toronto*
DENIS TREMBLAY, *Sherbrooke*
JOHN H. WADE (F), *Victoria*
JOHN G. WASTENEYS, *Toronto*
G. EVERETT WILSON (F), *Toronto*

THE OFFICIAL PUBLICATION OF THE
ROYAL ARCHITECTURAL INSTITUTE OF CANADA
PUBLISHED AT 600 EGLINTON AVENUE EAST,
TORONTO 12, TELEPHONE HU 7-4714.

Subscriptions: Canada, Commonwealth
and U.S. (12 issues) \$7.00; foreign, \$8.00

*The Journal and the RAIC do not hold themselves
responsible for opinions expressed by contributors.*

Editorial	33
A New Responsibility	
Message From The President	34
Project	37
Saskatchewan Power Corporation Head Office Building, Regina	
<i>Architect, Joseph Pettick, Regina</i>	
Urban Renewal	
Kingston, Ontario — A Planning Study	38
<i>From the Report by Gordon Stephenson, MTPIC and G. George Muirhead, MTPIC</i>	
Stockholm City Centre	52
<i>By Henry Fließ</i>	
The Architect and The Building Community	58
The Consulting Engineer's Point of View	
<i>By P. M. Butler, M.E.I.C., P.Eng.</i>	
Departments	
From the Executive Director's Desk	36
Viewpoint	60
Legal Notes	60
Institute News	61
Coming Events	67
Industry	68
Canadian Building Digest	after page 62
Weather and Building	
<i>By D. W. Boyd, the February insert from the Division of Building Research, NRC, Ottawa</i>	
Index to Journal Advertisers	89

Authorized as Second Class Mail,
Post office Department, Ottawa

CCAB Member of the Canadian
Circulation Audit Board Incorporated.



The Royal Architectural Institute Of Canada

Founded 1907 • Patron Her Majesty The Queen

OFFICERS 1960-61

PRESIDENT, HARLAND STEELE (F), *Toronto*
 VICE-PRESIDENT, JOHN L. DAVIES (F), *Vancouver*
 HONORARY SECRETARY, F. BRUCE BROWN (F), *Toronto*
 HONORARY TREASURER, R. C. BETTS (F), *Montreal*
 EXECUTIVE OFFICES: 88 METCALFE STREET, *Ottawa*
 EXECUTIVE DIRECTOR, ROBBINS ELLIOTT
 SECRETARY, LEONARD FALLIS

COLLEGE OF FELLOWS

CHANCELLOR, A. T. GALT DURNFORD (F), *Montreal*
 DEAN, J. Y. McCARTER (F), *Vancouver*
 REGISTRAR, F. BRUCE BROWN (F), *Toronto*

REPRESENTATIVES TO COUNCIL

ALBERTA ASSOCIATION OF ARCHITECTS — G. B. McADAM,
 T. A. GROVES, D. G. FORBES, J. B. BELL, H. L. BOUEY.
 ARCHITECTURAL INSTITUTE OF BRITISH COLUMBIA —
 JOHN L. DAVIES (F), W. G. LEITHEAD, C. E. PRATT (F),
 C. D. CAMPBELL, P. M. THORNTON (F), J. H. WADE (F).
 MANITOBA ASSOCIATION OF ARCHITECTS — J. E. SEARLE,
 N. M. ZUNIC, G. A. STEWART, N. C. H. RUSSELL.
 ARCHITECTS' ASSOCIATION OF NEW BRUNSWICK —
 N. M. STEWART (F), J. R. MYLES.
 NEWFOUNDLAND ASSOCIATION OF ARCHITECTS —
 W. J. RYAN, E. A. STEINBRINK.
 NOVA SCOTIA ASSOCIATION OF ARCHITECTS —
 J. L. DARBY, L. J. PAGE.
 ONTARIO ASSOCIATION OF ARCHITECTS — F. B. BROWN (F),
 E. C. S. COX (F), G. D. GIBSON (F), C. H. GILLIN, D. E. KERTLAND (F),
 G. Y. MASSON (F), N. H. McMURRICH, W. T. PENTLAND, A. R. PRACK (F),
 W. G. RAYMORE, H. STEELE (F), G. E. WILSON (F).
 PROVINCE OF QUEBEC ASSOCIATION OF ARCHITECTS —
 M. PAYETTE (F), R. C. BETTS (F), H. MERCIER (F), P. MORENCY (F),
 G. VENNE (F), F. J. NOBBS (F), H. A. I. VALENTINE (F),
 P. G. BRASSARD (F), R. E. BOLTON (F), E. FISET (F).
 SASKATCHEWAN ASSOCIATION OF ARCHITECTS — G. H. KERR,
 J. PETTICK, G. R. FORRESTER.

CHAIRMEN OF STANDING AND SPECIAL COMMITTEES

ARCHITECTURAL EDUCATION, JOHN L. DAVIES (F), *Vancouver*
 BUILDING RESEARCH, S. A. GITTERMAN, *Ottawa*
 PROFESSIONAL USAGE, HARLAND STEELE (F), *Toronto*
 SCHOLARSHIPS, A. T. GALT DURNFORD (F), *Montreal*
 DUTY ON PLANS, L. E. SHORE (F), *Toronto*
 EDITORIAL BOARD, R. C. FAIRFIELD, *Toronto*
 EXHIBITION AND AWARDS, A. R. PRACK (F), *Hamilton*
 JOURNAL COMMITTEE, EARLE C. MORGAN (F), *Toronto*
 LEGAL DOCUMENTS, MARVIN ALLAN, *Toronto*
 SPECIAL COMMITTEE ON THE PRESERVATION OF
 HISTORIC BUILDINGS,
 E. R. ARTHUR (F), *Toronto*
 MASSEY MEDALS COMMITTEE, J. A. RUSSELL (F), *Winnipeg*
 PACKAGE DEAL COMMITTEE, COLIN H. COPEMAN, *Montreal*
 PUBLIC INFORMATION, G. Y. MASSON (F), *Windsor*
 COMMITTEE ON HOUSING, JAMES A. MURRAY, *Toronto*
 ARCHITECTURE ABROAD, HARLAND STEELE (F), *Toronto*
 ARCHITECT-ENGINEER RELATIONS, RANDOLPH C. BETTS (F), *Montreal*
 RAIC-CCA COMMITTEE ON BUILDING MATERIALS, ERNEST J. SMITH,
Winnipeg
 PLANNING FOR 1967 CENTENARY, PETER THORNTON (F), *Vancouver*

A NEW RESPONSIBILITY

AS SOON AS ONE ACCEPTS THE CHAIRMANSHIP of a national committee, one becomes acutely conscious of the difficulty of communication in a country as large as Canada. The aim of the Committee on Preservation of Historic Buildings was, first, to find out what relevant legislation existed in the several provinces, and what chartered societies there were whose objectives, like those of the Committee, were the recording of "ancient monuments", and the preservation of the more important. That essential information has been slow in reaching the active quorum of the Committee which, of necessity, draws its members from a fifty mile radius of Toronto, and is, after a year, far from complete. It may well be that provincial associations and historical groups will have to be visited by the Chairman of the Committee before we can regretfully assume that the noble heritage of any one province is one with Nineveh & Tyre.

If that side of the Committee's work has only recently shown signs of promise, the Committee itself is greatly encouraged by its reception in high places and by the possibilities for its continued usefulness where expert architectural opinion is sought at any level of government.

At the moment, the committee is engaged in promoting an exhibition of photographs of early buildings of unquestioned merit that will tour Canada, and may turn out to be not uninteresting to those responsible for exhibitions in an even wider sphere.

By a rather curious coincidence, the AIA and the RIBA are both stressing not only the urgent need for preservation of historic monuments, but the essential role that the architectural profession can take in a national program. A particularly effective speech was made by Sir Wm Holford, the President of the RIBA, who saw preservation as a particular responsibility of the profession as well as a rewarding branch of practice for those who made the repair and reconstruction of ancient buildings a genuine study.

The title of the RAIC Committee is, unfortunately, a misnomer which is likely, for a long time, to get it side tracked by well meaning persons within and without the profession. The Committee was engaged to launch a really vast program of recording historic monuments in a country where only one province, Quebec, had made even a beginning. Under the direction of Mr Jean-Paul Morrisset, the Province of Quebec has got off to a magnificent start with several hundred superb photographs, and complete historic documentation on each building, however humble its use or origin.

By contrast, our efforts in the rest of Canada are uncoordinated and, often, untabulated, and exist, largely, as a result of lay and professional enthusiasm frequently outside organized societies. To tap these sources, and build up an inventory is the principal work of the Committee. If, in its line of duty, it is faced with the problem of preservation of a building offered as a gift or threatened with destruction, it will use all its efforts and its influence to see that the building has a secure and useful lease on life. On the other hand, it cannot be too clearly stated that preservation is but an interesting and fruitful side line to the major task of the inventory.

UNE RESPONSABILITÉ NOUVELLE

IL SUFFIT D'ACCEPTER LA PRÉSIDENCE d'un comité national pour prendre conscience du problème des communications dans notre vaste pays. Le rôle assigné au Comité pour la conservation des bâtiments historiques est d'abord de faire le relevé des lois pertinentes dans les diverses provinces, ainsi que des sociétés à charte qui s'occupent de cataloguer les "monuments anciens" et de préserver les plus importants. Ces renseignements essentiels ont été lents à parvenir aux membres du Comité qui, forcément, sont recrutés dans un rayon de 50 milles de Toronto et dont le nombre est encore loin d'être complet après un an. Peut-être faudra-t-il que le président du Comité visite les associations provinciales et les sociétés d'études historiques avant d'admettre que le noble patrimoine de certaines provinces est voué au sort de Ninive et de Tyr.

Si cet aspect de l'oeuvre du Comité ne fait que commencer à donner des signes de promesse, le comité est, par contre, très encouragé par l'accueil qu'il reçoit en haut lieu et par la perspective de pouvoir continuer à rendre services aux gouvernements, à tous les paliers, qui ont recours à ses lumières.

Le comité prépare actuellement une exposition de photos d'immeubles anciens, d'une valeur architecturale sûre. Elle fera le tour du pays et pourrait même intéresser les organisateurs d'expositions d'un caractère plus général.

Par une étrange coïncidence, l'AIA et le RIBA se préoccupent eux aussi, actuellement, de la pressante nécessité de conserver les monuments historiques et du rôle essentiel que les milieux architecturaux peuvent jouer à cet égard dans un programme national. Dans un discours très éloquent, le président du RIBA a déclaré que la conservation impose des devoirs particuliers aux architectes, tout en offrant un champ d'activité passionnant à ceux qui font de l'entretien et de la restauration des vieux bâtiments une véritable spécialité.

Par malheur, le comité est mal nommé et risque, en conséquence, d'être dédaigné même par des architectes bien intentionnés. Son premier rôle est de réaliser un ambitieux programme de documentation sur les monuments historiques du pays. Seule la province de Québec a déjà fait un premier pas dans cette voie: sous la direction de M. Jean-Paul Morrisset, elle a déjà réuni plusieurs centaines de superbes photos ainsi qu'une documentation historique complète sur chaque bâtiment, si humble que soient son emploi et son origine.

Par contre, le travail accompli ailleurs au Canada est fragmentaire et, souvent, ses résultats ne sont pas catalogués. Il s'agit surtout d'initiatives prises par des profanes et par des professionnels en marge des groupements organisés. Le comité a pour tâche première de puiser à ces sources et de dresser un inventaire. S'il lui arrive d'être saisi du cas d'un bâtiment offert en don ou menacé de destruction, il fera tout pour assurer à ce bâtiment utilisation et durée, mais on ne saurait trop répéter que son rôle de conservation n'est que le complément, si utile et intéressant soit-il, de sa fonction première, qui est d'inventorier nos valeurs architecturales.

E.R.A.

THE ROYAL ARCHITECTURAL INSTITUTE OF CANADA

EXECUTIVE OFFICES
88 METCALFE STREET
OTTAWA 4, ONTARIO

OFFICE OF THE PRESIDENT

February 6th, 1961.

To Architectural Firms Practising in Canada:

Subject: Implementation of RAIC Committee of Inquiry Report

Last May the 1960 Annual Assembly in Winnipeg adopted the Report of the RAIC Committee of Inquiry into the Design of the Residential Environment. It was then recognized that the duty of implementing the recommendations lay primarily with the Institute, and following meetings of the RAIC-CMHC Joint Committee last summer, it was decided to launch an appeal to the membership at large to raise a fund of \$15,000 to make possible the appointment of an administrator at RAIC headquarters in Ottawa and the carrying out of a planned one year program.

In response to my appeal last September, 144 firms and 540 individual architects have contributed a total of \$11,070.10, as follows:

Alberta	\$1,104.30	Newfoundland	\$ 73.25
British Columbia	658.30	Nova Scotia	199.15
Manitoba	1,072.25	Ontario	4,991.70
New Brunswick	300.00	Quebec	<u>2,443.15</u>
Saskatchewan	228.00	Total	\$11,070.10

To ensure a full year's operation and guarantee success for the program, an additional \$4,000 is required. This appeal is addressed to the 469 firms who have not yet contributed.

Members are entitled to ask how the funds collected have been employed. Contributions defray the salary and office expenses for twelve months of the administrator, Mr. E. D. Fox, who is on loan from head office of CMHC, and his secretary; the partial cost of publishing 3,000 copies of the Report, travel expenses to meetings with interested organizations and component societies, and of speakers travelling to address Canadian club and Service club audiences in all major cities of Canada.

I would like to express my appreciation to the Provincial Associations who have already established local committees to study and implement the Report. A particular word of commendation must be extended to the PQAA for their successful residential environment conference in Montreal on December 7th. Since then Mr. Fox has directed at Winnipeg a conference of provincial representatives from Alberta, Saskatchewan and Manitoba to discuss implementation in the three Prairie provinces. A similar conference for Maritime representatives will be held at Halifax February 15. The OAA has already begun a series of conferences with builders, preparatory to calling a joint technical committee on implementation, which will include representatives from other organizations within the building industry.

Yours sincerely,



Harland Steele,
President.

L'INSTITUT ROYAL D'ARCHITECTURE DU CANADA

BUREAU EXECUTIF
88 RUE METCALFE
OTTAWA 4, ONTARIO

BUREAU DU PRÉSIDENT

Le 6 février 1961.

Aux maisons d'architectes du Canada,

Sujet: Application du rapport du comité d'étude de l'IRAC

A son assemblée annuelle de mai dernier à Winnipeg, notre Institut a adopté le rapport de son comité d'études sur l'aménagement des milieux résidentiels et reconnu qu'il lui incombait au premier chef de donner suite aux voeux exprimés. Au cours de l'été, le comité mixte de l'IRAC et de la SCHL a décidé de lancer un appel à tous nos membres afin de recueillir les \$15,000 nécessaires à l'emploi d'un administrateur à notre bureau central d'Ottawa et à la mise en oeuvre d'un programme d'un an.

En réponse à mon appel de septembre dernier, 144 maisons et 540 architectes particuliers ont versé \$11,070.10. Voici la liste des montants reçus par province:

Alberta	\$1,104.30	Terre-Neuve	\$ 73.25
Colombie-Britannique	658.30	Nouvelle-Ecosse	199.15
Manitoba	1,072.25	Ontario	4,991.70
Nouveau-Brunswick	300.00	Québec	<u>2,443.15</u>
Saskatchewan	228.00	Total	\$11,070.10

L'application efficace du programme pendant un an exigera un supplément de \$4,000. Aujourd'hui, je fais appel aux 469 maisons qui n'ont pas encore contribué.

Nos membres ont le droit de savoir à quoi ont été employés les fonds recueillis jusqu'ici. Nous nous en servons pour acquitter le traitement et les frais de bureau pendant un an de l'administrateur, M. E. D. Fox, dont les services ont été obtenus de la SCHL, et de sa secrétaire, une partie du coût de 3,000 exemplaires du rapport, les frais de transport pour assister à des réunions avec des organismes et des sociétés intéressés et les frais de voyage d'orateurs à des assemblées du Club canadien et de clubs d'entraide dans la plupart des grandes villes canadiennes.

Je félicite les associations provinciales qui ont établi des comités locaux pour étudier le rapport et y donner suite et, en particulier, celle de la province de Québec dont le congrès sur le milieu résidentiel, à Montréal le 7 décembre, a remporté un vif succès. M. Fox a ensuite dirigé à Winnipeg une assemblée de représentants de l'Alberta, de la Saskatchewan et du Manitoba sur l'application du rapport dans les provinces des Prairies. Une assemblée du même genre des représentants des provinces Maritimes aura lieu à Halifax le 15 février. L'AAO a commencé une série d'entretiens avec les constructeurs en vue de la formation d'un comité technique mixte groupant des représentants d'autres secteurs de l'industrie du bâtiment.



Le président,
Harland Steele.

FROM THE EXECUTIVE DIRECTOR'S DESK

"CANADIAN JOINT COMMITTEE ON CONSTRUCTION MATERIALS"

SO MUCH SOLID PROGRESS has been logged by the RAIC-CCA Committee on Building Materials since creation of the Joint Committee at Toronto last September, that I am tempted to refer back to remarks made at page 164 of my column appearing in the April 1960 issue of the *Journal*. In a review of the then tentative proposal to establish a "Canadian-style Producers' Council" I posed the question "Will we rise to the challenge?"

I suggested then that the proposed Joint Committee "represents an opportunity for the profession to cement strong mutually beneficial relations with an important part of the construction industry". The alliance since established between the RAIC and the Manufacturers and Suppliers Section of the Canadian Construction has proved to be worthwhile in every way.

Among the accomplishments over a five month period are the production of a film catalogue on building materials and equipment, the approval in draft of a brochure to guide manufacturers in preparation of product literature, the conducting in early January of a sales seminar for architects and sales managers in the Ontario region, and a start on formation of architect-producer committees in major centres across Canada. The effectiveness of the Joint Committee moved one architect member to comment recently that the group "has done more in a shorter space of time than any other joint committee I have known".

The Joint Committee held its second meeting at Toronto on January 21st and the result has been the formulation of clear-cut terms of reference for the organization, now known as the Canadian Joint Committee on Construction Materials. The next meeting of the Committee, comprising five architects and five manufacturers of building materials, will be held in conjunction with the 1961 RAIC Assembly at Quebec City on May 17th.

In the meantime, my question of last April has been answered — the profession did rise to the challenge.

"COMMISSION MIXTE CANADIENNE SUR LES MATERIAUX DE CONSTRUCTION"

DEVANT LES GRANDS PROGRES ACCOMPLIS par la Commission mixte de l'IRAC et de la CCA sur les matériaux de construction depuis sa fondation à Toronto en septembre dernier, je suis porté à rappeler les réflexions que je faisais dans ma colonne en page 164 du numéro d'avril de notre *Journal*. En parlant de ce qui était alors un projet d'établissement d'un "Conseil proprement canadien des producteurs", je me suis demandé: "Serons-nous à la hauteur de la tâche?"

J'ai ajouté que la Commission mixte projetée "fournit à la profession une occasion de nouer avec un important secteur de l'industrie de la construction des relations mutuellement profitables". Effectivement, le rapprochement qui s'est ensuite effectué entre l'IRAC et le secteur des manufacturiers et des fournisseurs de l'industrie canadienne de la construction a été de tous points de vue bienfaisant.

Au nombre des réalisations qui ont marqué la période de cinq mois écoulée depuis la fondation de la Commission mixte en septembre, mentionnons la production d'un catalogue de films sur les matériaux et l'outillage de construction, l'approbation, à l'état de projet, d'une brochure destinée à guider les fabricants dans la préparation d'imprimés sur les produits, la tenue, au début de janvier, d'un séminaire sur les ventes à l'intention des architectes et des directeurs des ventes de la région de l'Ontario et la formation des premiers comités d'architectes et de producteurs dans les principales villes du Canada. Impressionné par tous les succès remportés par cette Commission mixte, un architecte déclarait récemment qu'elle avait "accompli plus en mois de temps que toute autre commission mixte que j'aie encore connue".

La Commission mixte a tenu sa deuxième réunion le 21 janvier à Toronto; elle a alors précisé les attributions de l'organisme aujourd'hui connu sous le nom de Commission mixte canadienne sur les matériaux de construction. La prochaine réunion de cette Commission mixte, qui se compose de cinq architectes et de cinq fabricants de matériaux de construction, aura lieu à Québec à l'occasion de la prochaine assemblée annuelle de l'IRAC, le 17 mai.

Déjà, j'ai obtenu la réponse à ma question d'avril dernier: nous avons bel et bien été à la hauteur de la tâche.

Project

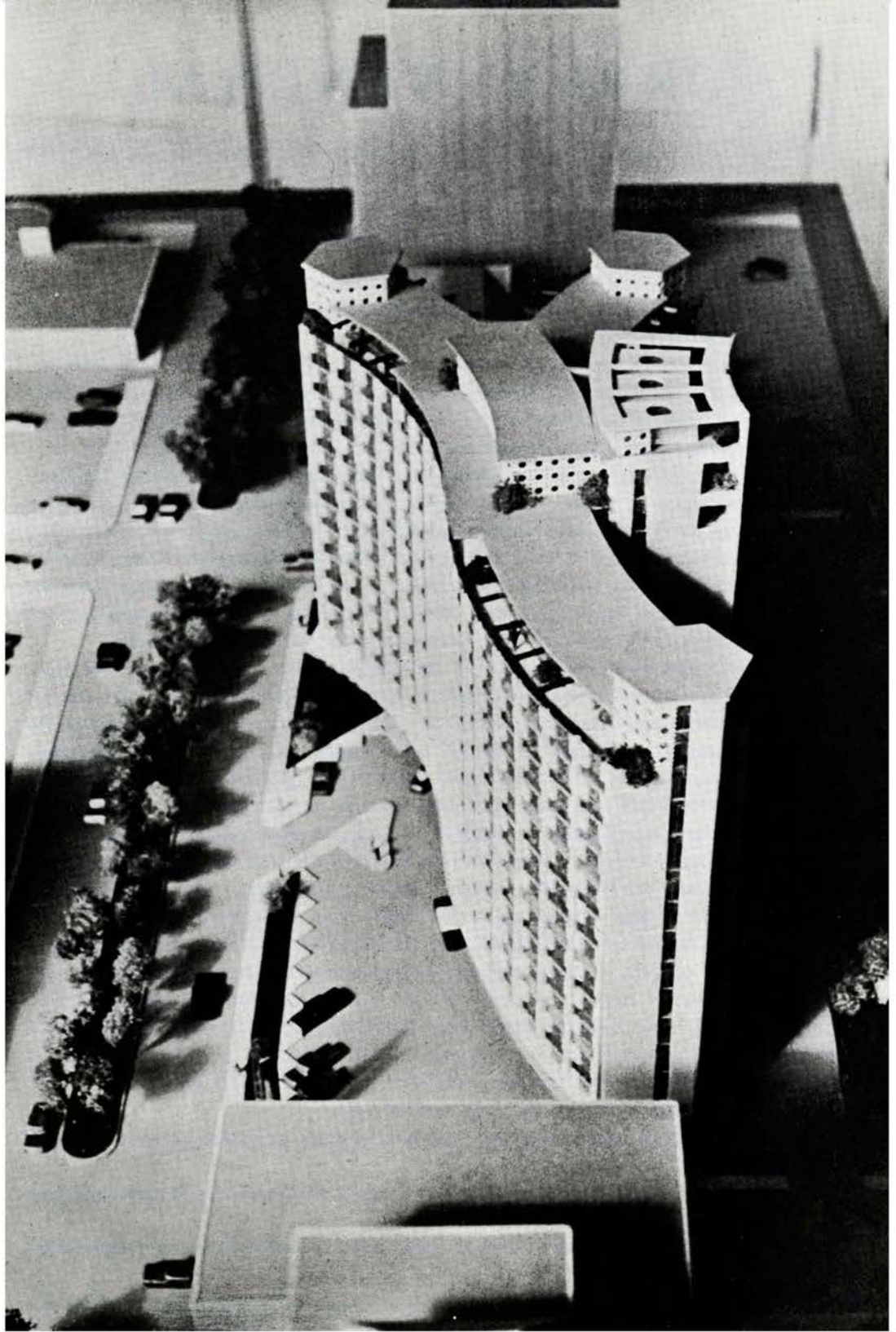
SASKATCHEWAN
POWER
CORPORATION
HEAD OFFICE
BUILDING

Regina

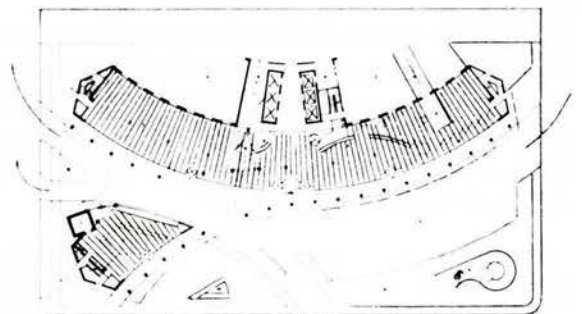
ARCHITECT:

Joseph Pettick

Regina



Model of the Y shaped, 13 storey building, which will be the tallest office structure in Saskatchewan. A traffic underpass at the ground floor level at the branch of the Y was necessary because of the one-way street system in this part of Regina.



GROUND FLOOR PLAN

URBAN RENEWAL

AN INTRODUCTION TO URBAN RENEWAL STUDIES

BY STANLEY H. PICKETT

ASSISTANT DIRECTOR, URBAN RENEWAL & PUBLIC HOUSING DIVISION
CENTRAL MORTGAGE AND HOUSING CORPORATION

THE *Planning Study for Kingston* draws attention to a form of urban research which was brought into being by amendments to the *National Housing Act*, passed by Parliament in 1956.

An amendment to Section 23 of that Act permitted municipalities to tackle the problems posed by slums and blight by acquiring and clearing substandard areas with Federal financial participation. Financial aid had been available before 1956, but for a more limited range of activities and upon less attractive conditions.

It was realized that it would be difficult for a municipality to formulate a clearance and redevelopment program without a good deal of knowledge about the condition of the urban fabric and the housing circumstances of the citizens. For this reason amendments were passed to Section 33 of the *National Housing Act* under which a municipality can apply, with the concurrence of the Province, for a grant from the Federal Government towards the cost of an examination of housing conditions and a determination of the need for new housing and for urban redevelopment.

These urban renewal studies, as they are now generally known, are of two types; city-wide studies, such as that completed in Kingston, and area studies of a part of the city, usually carried out as a preliminary to the preparation of an application for aid in redevelopment. Federal grants for these studies may be up to three-quarters of the cost of city-wide studies and up to half the cost of detailed studies of limited areas. Over \$600,000 has been committed to date for thirty-five studies in thirty Canadian cities ranging from St John's to Victoria in geographical distribution and from Port Moody, BC, to Montreal in size. Eight of the studies are of limited areas and the remainder are city-wide in scope. Sixteen reports have so far been published and, with three or four exceptions, are available from the Cities concerned.*

The studies have been conducted by the municipalities, and have been directed by staff planning officers or town-planning consultants. As the problems facing each city are unique, the approaches taken by the studies in pursuit of almost uniform objectives have varied widely. There is no standard list of contents. Some indication of the range of contents may be obtained from the following contents of a study of a hypothetical city prepared for use in an *Urban Renewal Seminar in Ottawa in 1959*.

1. Sketch Municipal Plan, i.e. in broad outline only.
2. Physical survey, including land use, age and condition of buildings and residential densities.
3. Social survey, including density and overcrowding, and incidence of disease, crime, fires, etc.
4. More detailed examination of selected areas and the establishment of priorities for renewal.
5. Sketch proposals for redevelopment, rehabilitation and conservation, and for the relocation of people displaced by clearance.
6. A program for implementation, including timing and the sources of capital.

Although primarily intended to underlie and support applications for financial assistance in carrying out redevelopment projects, the studies have already proved themselves to be one of the most valuable sources of information on urban conditions in Canada in the middle of the twentieth century. When the reports of all the urban renewal studies are available this wider value will be still more firmly established and may well become paramount.

* Halifax, Sydney, Saint John, Moncton, Montreal (Concert Hall Area), Kingston, Toronto, Hamilton†, Windsor, Sarnia†, Winnipeg (CPR - Notre Dame Area), Winnipeg (South Point Douglas)†, Regina, Trail, Vancouver, Vancouver (East End Area)† († - not generally available.)

THE PLANNING STUDY of Kingston was prepared in 1958-59 by Gordon Stephenson, then head and professor of Town Planning, University of Toronto, now consultant on the campus plan for the University of Western Australia in Perth; and G. George Muirhead, planning officer of the City of Kingston Planning Board (to whom the *Journal* is much indebted for his cooperation in the presentation of this review); assisted by John Billingham, ARIBA, (who prepared the sketches accompanying this article) and K. Grace, R. Ollerhead and Mrs E. McMaster of the City Planning staff. The study was under the general supervision of the Urban Renewal Advisory Committee, consisting of J. F. Brown (chairman) and D. Taylor of the Community Planning Branch of the Department of Municipal Affairs; J. McCulloch, P. Dovel and R. Bruce of CMHC; and Aldermen R. Bruce, A. O. Earl (1958), G. Vosper and F. D. Stevens (1959-60). The report was presented early in 1960, and the City Council has subsequently appointed a special committee to expedite study of the proposals. Prof Milner of the Faculty of Law, University of Toronto, has been retained to revise the zoning by-laws; and the planning staff is now engaged on the new official plan. Because of its wealth of historic buildings, Kingston is of special interest to the RAIC Committee on the Preservation of Historic Buildings, and the inventory of them has been started by Dr E. R. Arthur, the chairman, (*Journal*, November, 1960, page 495).

The Plan for Kingston Ontario

*A Commentary on
the 1960 Report*

Prepared for

the City Council by

Gordon Stephenson, MTPIC

and

G. George Muirhead, MTPIC

WALLACE R. BERRY



The site of the future City was first explored by Champ-lain in 1615, and its strategic location was recognized early in the westward expansion of the French fur trade by the construction of a fort and trading post by Frontenac in 1673. Fort Frontenac figured in the St Lawrence theatre of the Seven Years War and was taken by the British forces a year before the fall of Quebec in 1759. The importance of the site was reflected in its selection for a Loyalist settlement after the American Revolution, and the arrival of the first groups in 1784 marked the beginning of the future city's first real development.

The war of 1812 with the United States brought prosperity to Kingston through its development into a military and naval base and, too strong to be attacked, it escaped the material and commercial damage suffered by other British communities on the St Lawrence and the lakes. By 1821 it was the largest town in Upper Canada. Its position as an important port of trans-shipment was further enhanced by the construction of the Rideau Canal — an inland waterway connecting Montreal and Kingston via the Ottawa River at Bytown, now the City of Ottawa — built by the military authorities in 1832 to provide an interior route of communication, by-passing the vulnerable international section of the St Lawrence, in the event of further hostilities with the United States.

Civic pride and development reached its highest point in 1841 when Kingston was selected to be the capital of the newly united provinces of Upper and Lower Canada, but the new dignity was short-lived. The government was moved to Montreal in 1844 and the selection of Ottawa by Queen Victoria in 1857, to be the permanent Capital, was a severe blow not only to civic pride but to commercial prosperity. The City's importance as a military station dwindled; the coming of the railways brought a

decline in ship building and in the forwarding trade.

But before Kingston's character and destiny were changed, the foundations already had been laid for a solid if less spectacular future. Many of the buildings and institutions which today make Kingston a place of architectural and historical interest were constructed in these early years. The Anglican and Roman Catholic cathedrals and St Andrews Church; the provincial penitentiary and the City Hall and market; the court house, customs house and post office; Regiopolis College, which later became the Hotel Dieu hospital; the Martello Towers and new Fort Henry, today a museum and a leading tourist attraction; and many fine commercial buildings and residences. Queen's University, originally incorporated as Queen's College, made its appearance in 1841; and the Royal Military College was opened in 1876.

Although the original forces which contributed so greatly to Kingston's early development continued to decline in importance, they were replaced to a growing degree by the establishment of prosperous small industries and by Kingston's increasing role as an educational and military centre. One of the legacies from its days as a capital was City Park, which had been purchased as a possible site for the Parliament buildings but was later developed as a municipal recreation area, the first of its kind in Canada. The City's proximity to the Thousand Islands and the commercial and pleasure traffic on the Rideau Canal gradually made the tourist industry of increasing importance. The City grew steadily between the wars and was probably less affected by the depression of the '30's because of the economic stability provided by its many established institutions.

Kingston in 1875.



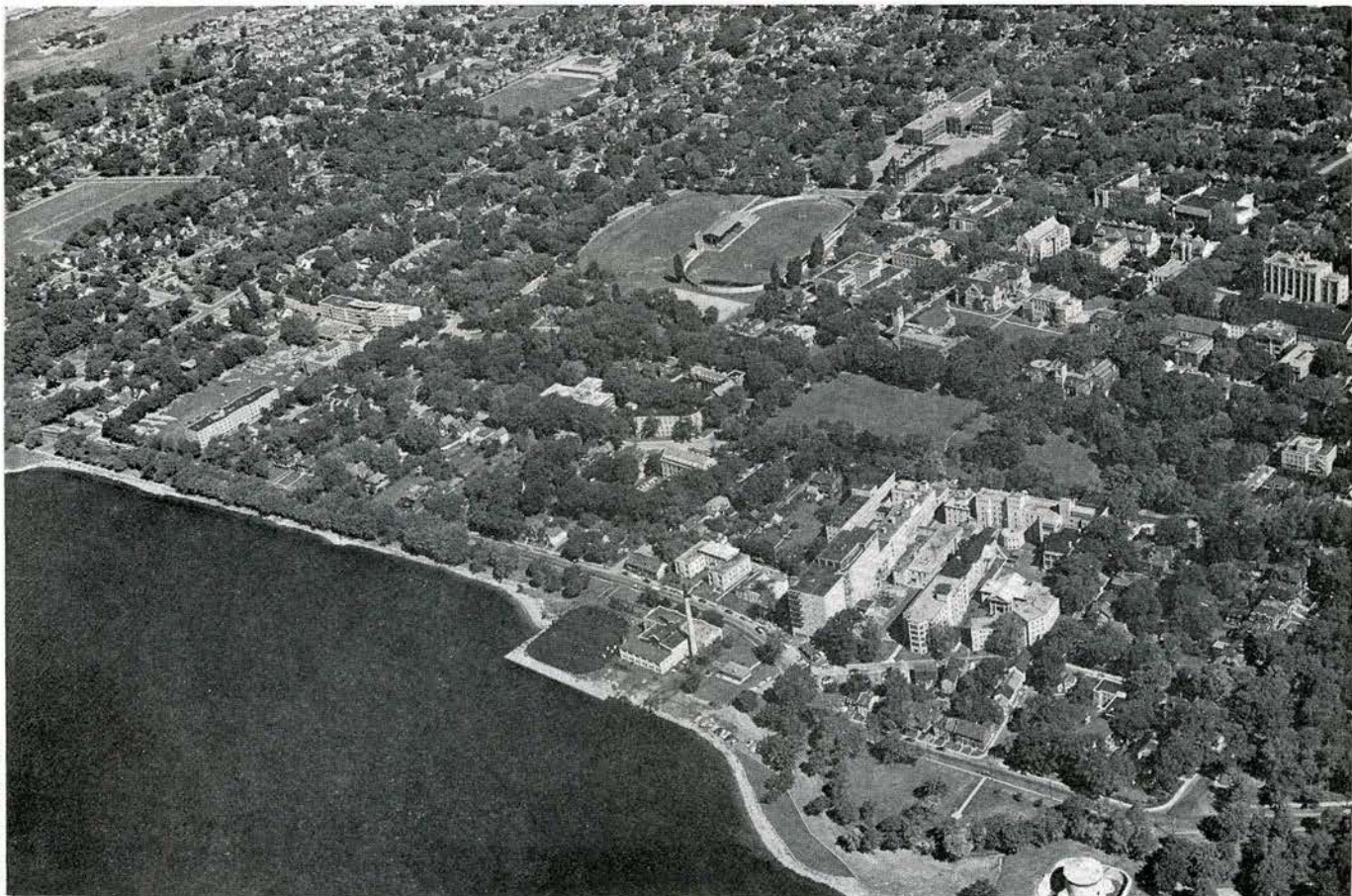
DICK HERRINGTON



Above: view west from the city centre. In the foreground is the City Hall (the portico has since been removed); with behind it the market and right of it the lower main shopping area. Left centre is the block-wide buffer of institutional buildings separating Old Sydenham Ward residential area from the commercial section. At bottom is part of the waterfront, blighted by rail installations and obsolete buildings.

Below: Queen's University and, lower right, Kingston General Hospital, the Murney Tower and waterfront park.

WALLACE R. BERRY



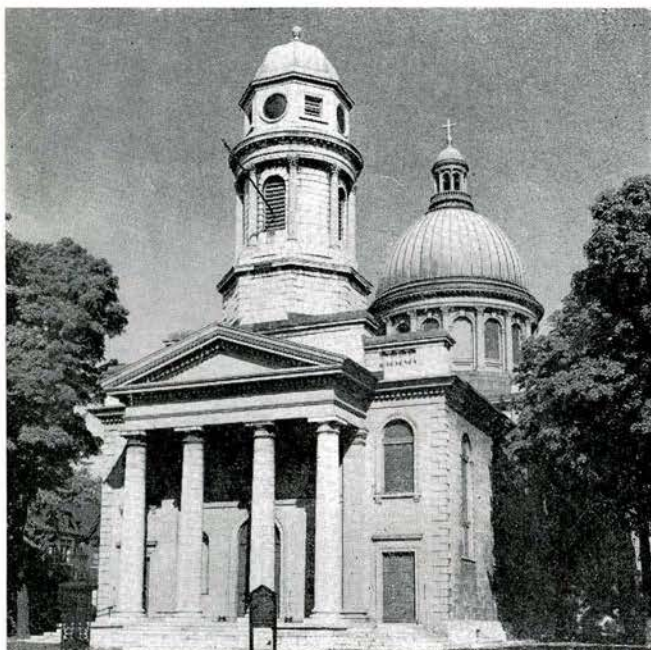


Left: the City Hall, built in 1833-34, during the three year period when Kingston was the Capital of Canada. The architect was George Browne. The view of the building from the waterfront is spoiled by the absence of the portico, which was removed for safety reasons in 1956, and should be restored.

Below left: St George's Cathedral, begun in 1825. The clock tower and portico were added in 1846, and the dome in 1891. Architect for original building, Charles Robertson, additions, Joseph Power.

Below right: Frontenac County Court House, built in 1855-56, architect, Edward Horsey.

ROBINSON - HOLDER



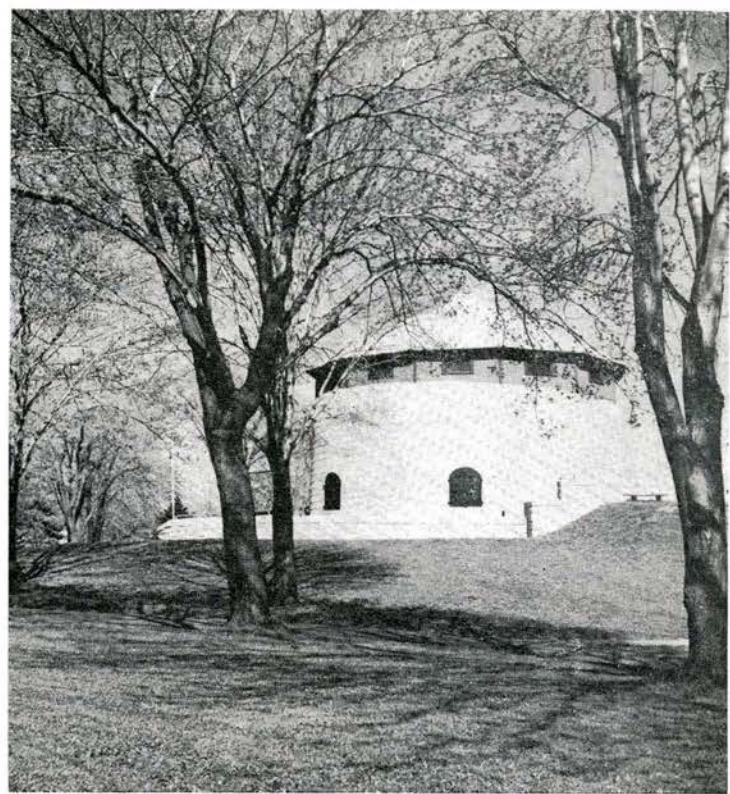
ROBINSON-HOLDER



GEORGE LILLEY



R. E. HAUNTS



ROBINSON - HOLDER

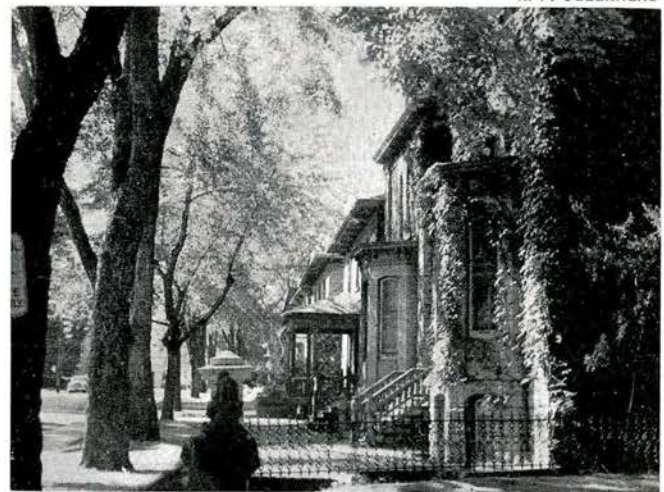
Below: four of the attractive old Kingston residences which the report on the planning study recommends should be preserved for their historical and architectural merit. Above left, double house, Simcoe St; right, row of double stone houses, Earl St; below left, former private residence, Brock St, now Elizabeth Cottages, architect, Edward Horsey; and right, the Cartwright house, King St.

Above: the Murney Tower in MacDonal Park waterfront recreation area, one of four Martello Towers built across Kingston harbor in 1846 to strengthen the defences guarding the entrance to the Rideau Canal

Above left: Kingston's long-established Market Square, with the Police Station and City Hall to the east



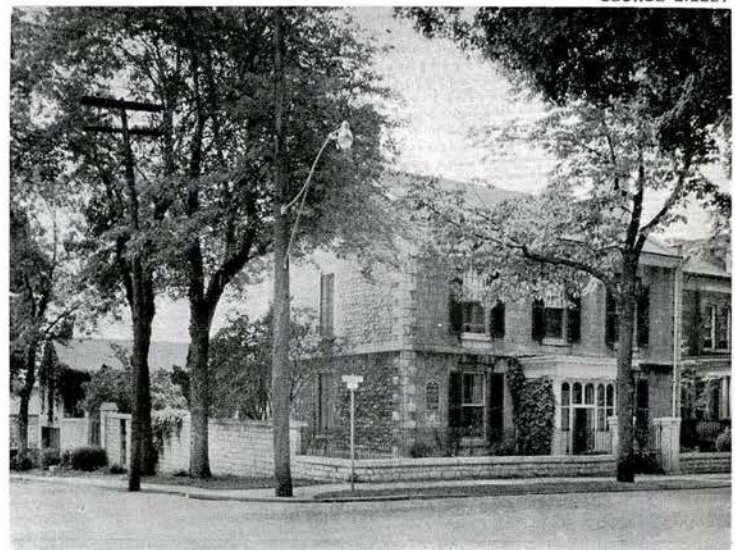
R. E. HAUNTS



R. P. OLLERHEAD

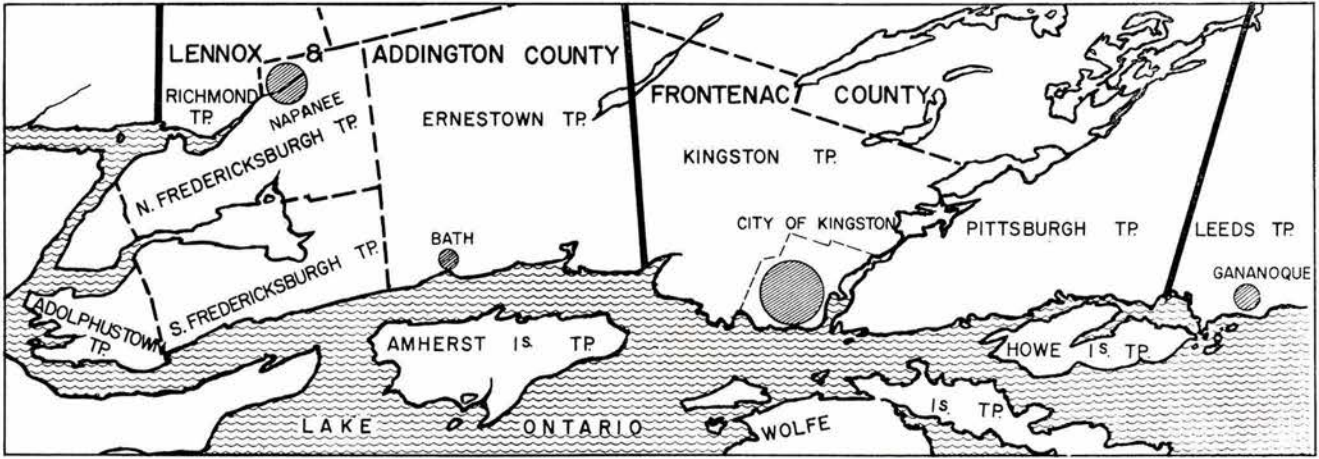


GEORGE LILLEY

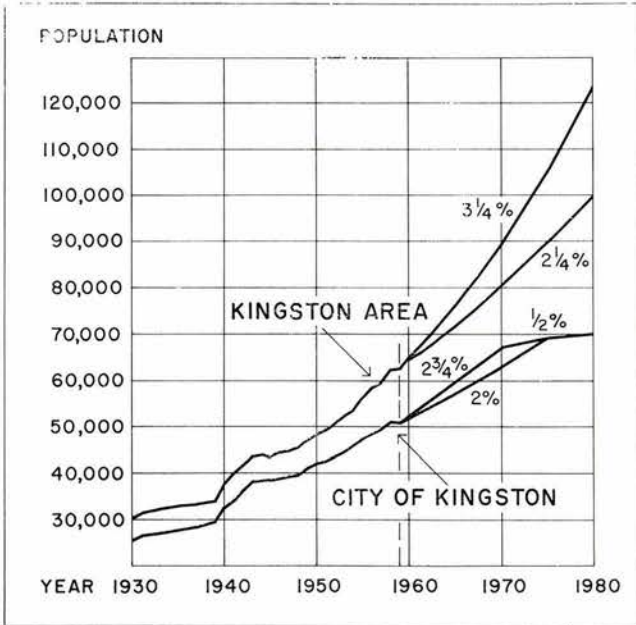


GEORGE LILLEY

KINGSTON AND REGION: FUTURE DEVELOPMENT



The Region: political boundaries



View from Kingston's western boundary: the new housing subdivisions in the foreground; the Old City, distinguished by the presence of mature trees in the background, and in between the Aluminum Plant and shopping centre



WALLACE R. BERRY

THE AREA OF THE STUDY covers generally the Kingston "market area" which extends about forty miles along the Lake Ontario waterfront from Adolphustown on the west to Gananoque on the east, and about fifty miles north of the City. The population, including the City, is 101,000. Within this is the community of Greater Kingston, centred on the City and including the adjoining townships of Kingston and Pittsburgh. It is to this area that the physical proposals in the planning study are largely confined.

The population within the area is now upward of 60,000 and studies indicate that by 1980 it will approximately double in size.

Because of ample water supply and access to major highway, rail and water communications, and favourable conditions for industrial and residential development it is anticipated that most of the future expansion of the Greater Kingston will take place in the west and north. The problem is to guide the expansion along practical and economical paths and prevent the uncontrolled and haphazard suburban development of the past. This includes concentration of future residential growth around existing centres, the provision of full services and the use

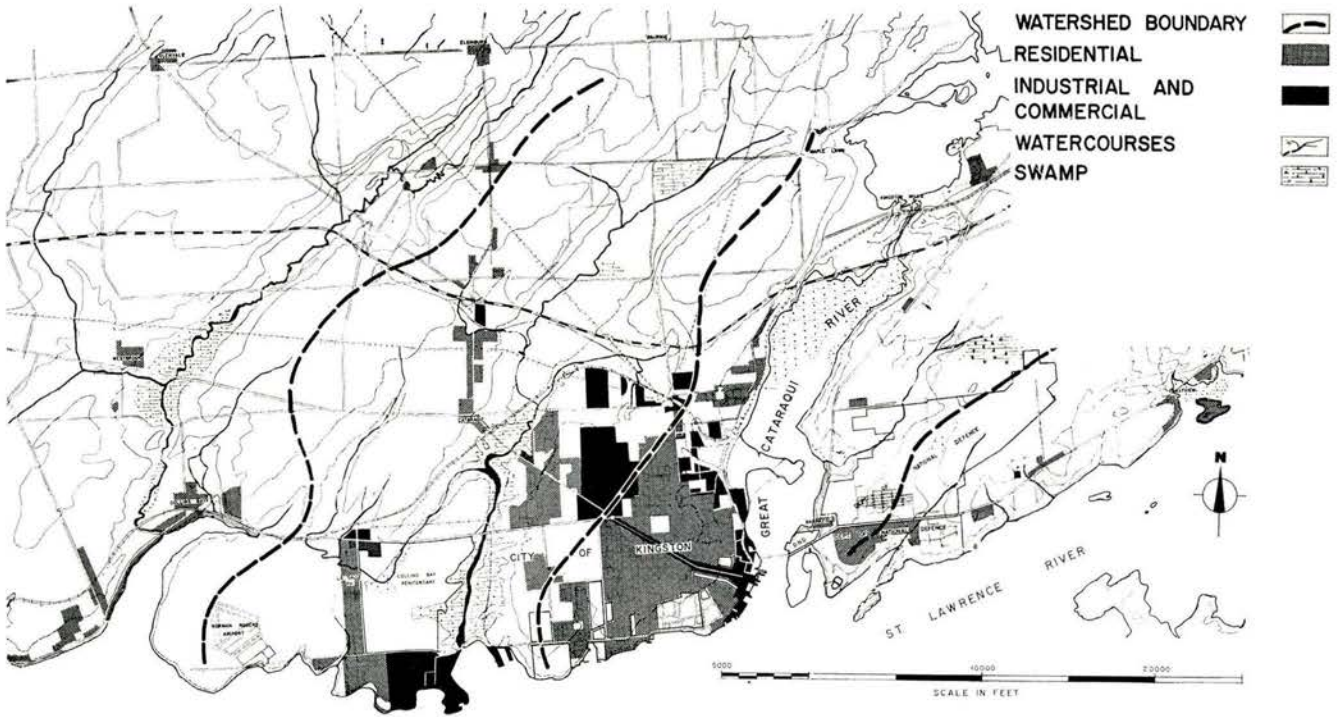
of watershed boundaries to define the limits of service development. Also recommended is the adoption of the neighbourhood system of planning, so that houses, schools, open space and services are properly related.

Proposals of this nature are incapable of solution on a local basis. Some matters need provincial participation; others require a regional or co-operative approach. An essential preliminary is the establishment of a single, adequately staffed planning board for the region in the place of the present four boards. Out of this could come a comprehensive regional plan, with communities delimited

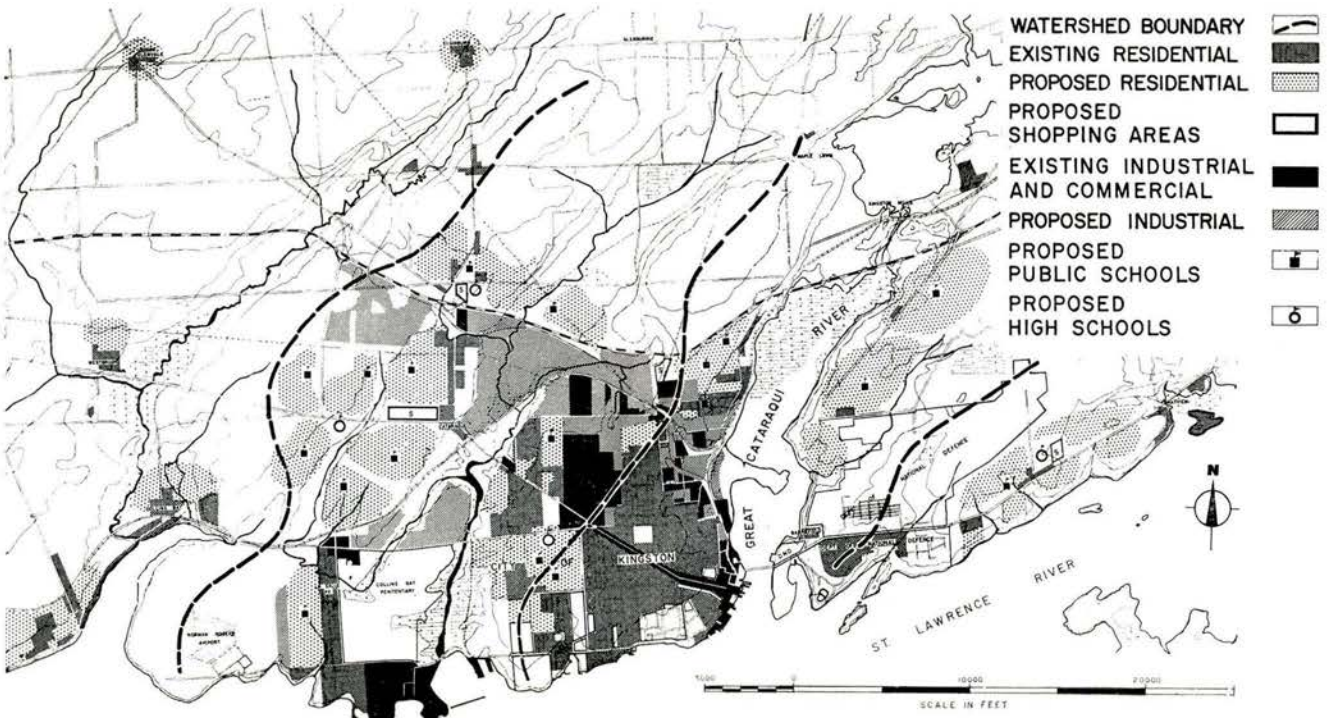
and developed in accordance with population and industrial growth; development plans indicating zoning and density standards; and design and zoning plans for neighbourhoods as required. Restraints should be placed on premature developments so that planned areas may be completed in an orderly and economic fashion.

The planning principles reflected in these proposals are by no means unique; they represent sound and practical advice in the light of what has happened to most Canadian communities through lack of proper planning in the past.

Existing Land Use



Projected Land Use, 1980



SERVICE INDUSTRIES ARE MOST IMPORTANT IN KINGSTON'S ECONOMY

THE SECOND WORLD WAR brought to Kingston its period of greatest development. The area became the centre for large military establishments and for defence industries. Two large industries in particular, the Aluminum Company of Canada and the Dupont Nylon Division, were responsible for changing the City from a quietly prosperous educational, institutional and light manufacturing centre, with military undertones, into a modern city of some industrial consequence. A third large industry was added in the post war years when Canadian Industries Ltd established a new plant ten miles west of the City. Kingston became, in the words of the late B. K. Sandwell, "a bulwark of old-world, 19th century quiet gradually being surrounded and engulfed by 20th century industry".

The inevitability of this development is recognized and provided for in the plan for Greater Kingston, and the factors which are bringing it about are easily recognized — the City's location midway between Canada's two largest urban agglomerations, Montreal and Toronto; ample water supplies; the quality of its labour force, and good rail, road and water communications. The effect of the St Lawrence Seaway is still to be determined, but it is not considered likely that the City will become an important lake port.

While Kingston's manufacturing industries have grown extensively over the past quarter of a century, the Economic Background section of the Planning Study, prepared by the Institute of Local Government of Queen's University, shows that the service industries, particularly those catering to national, provincial, and increasingly to regional needs, such as the hospitals, penitentiaries, religious and educational institutions and the military establishments, are the real basis of the City's economy and ensure its stability.

In 1951 the percentage of the labour force engaged in service industries was 40.3%, a figure much higher than that for most other comparable communities, and one which has remained practically constant for many years. The figures for manufacturing, on the other hand, reveal



Above right: Highway 401, which bypasses the city centre to the north, will greatly benefit Kingston's economy

its growing importance. In 1931, 14.5% of the labour force was engaged in this activity, and by 1951 the percentage had grown to 26.7%.

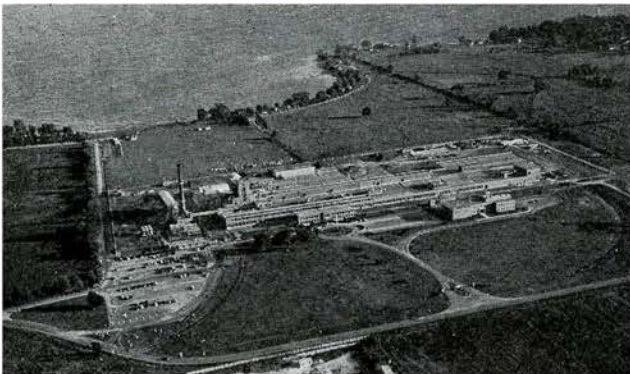
A factor in the economy is the general character of employment. There is relatively little demand for unskilled labour, the industries employing chiefly semi-skilled workers, and institutional employment is, of course, of a generally stable and permanent nature, similar to the fields of transportation, trade and finance and insurance. Earnings, therefore, are generally good, although there is not a high proportion of high wage employment.

A healthy factor in the economy is the relatively high educational level of the labor force, 23.9% having 13 or more years of formal education.

Financially, the City is in much the same position as most other Canadian communities which had to increase their municipal debt in the post war years to service the new areas and build the new schools required by increased population, and to carry out deferred public works. The level of municipal taxation is about average, but collections are at a high level. Implementation of the recommendations in the Planning Study will require financing out of both current and capital account, but the City's debenture position is considered favourable and borrowing capacity should be available if required. The urban renewal proposals for the older part of the City will improve property values and result in increased taxable assessment on properties where services are already paid for.

Below: modern shopping centre in the west end, and, in the background, the Aluminum Company of Canada plant

Right: the Dupont Nylon plant, located west of the city



WALLACE R. BERRY

The economic, demographic and physical surveys which form the basis of the Kingston study reflects a pattern of urban development all too common in Canadian communities — gradual outward growth, leaving obsolescence and decay at the original centre; uncontrolled fringe development beyond the serviced area, and then the population explosion of the post war years.

A housing survey in 1947 revealed an already serious situation. In 1952 the city annexed 5,585 acres, with 9,000 inhabitants, on the northern fringe and extended services into the area. Three years ago a federal-provincial municipal land assembly scheme was entered into to provide serviced lots at cost. A 71 unit subsidized low rental project was also begun. A serious sub-standard housing problem still exists, however, centred on the eastern section north of Princess Street, the main east-west artery, and is the subject of proposals in the planning study.

The construction of Highway 401, which now permits through traffic to bypass the city to the north, has relieved much of the heavy traffic congestion (and made the area astride Princess Street a much quieter place in which to live); and traffic recommendations should alleviate much of the remaining congestion.

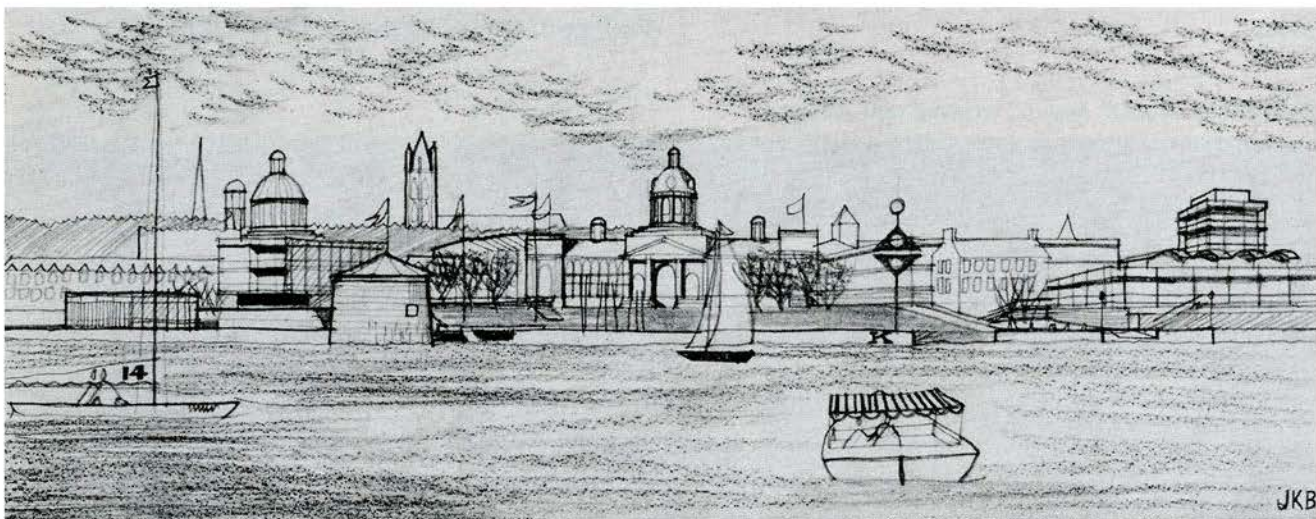
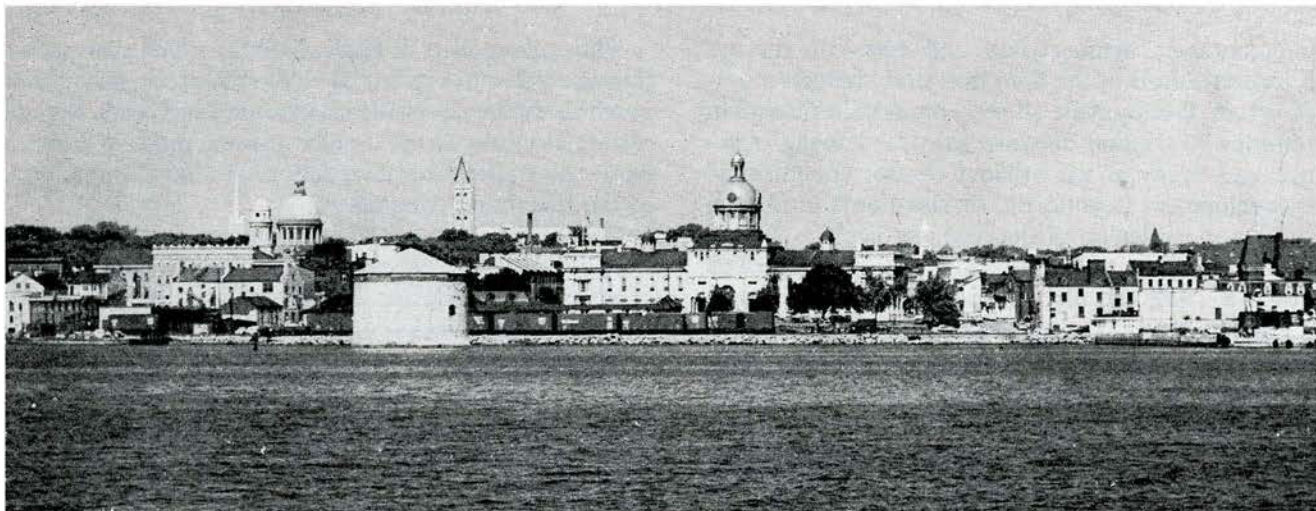
One of the most serious problems is parking. Modern facilities are very necessary, including better utilization of space in the interior of many of the city's downtown and residential blocks.

Much thought has gone into renewal of the residential and commercial areas. Many of the older residential streets have a mixture of indifferent to bad — and good to historically and architecturally worthy dwellings. The lower end of the business and commercial district is a dreary prospect of blight and decay. Examples of what might be done by way of rehabilitation are contained in the Report, and a selection of them follows.

Below: the Market Square, existing and proposed

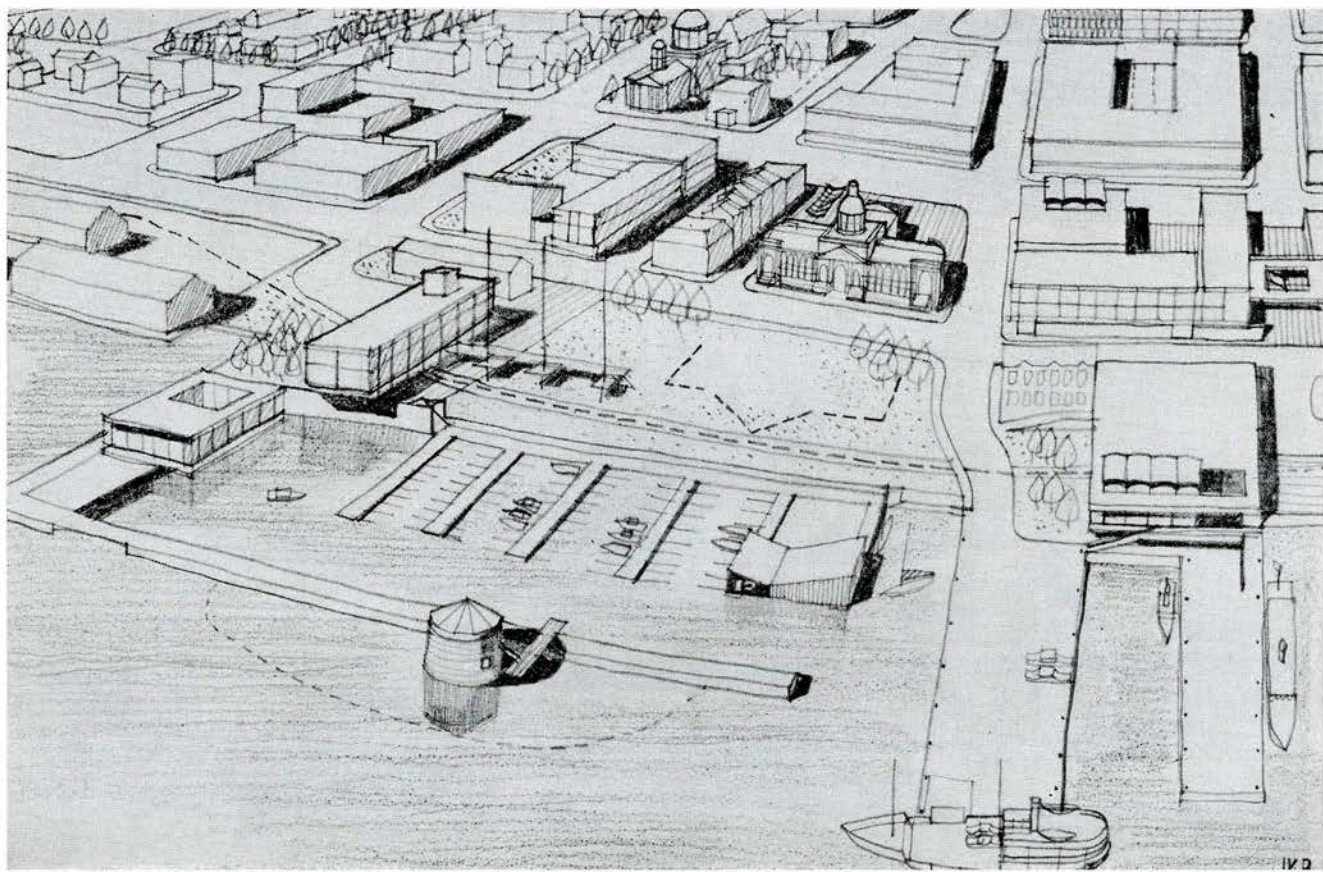
R. P. OLLERHEAD

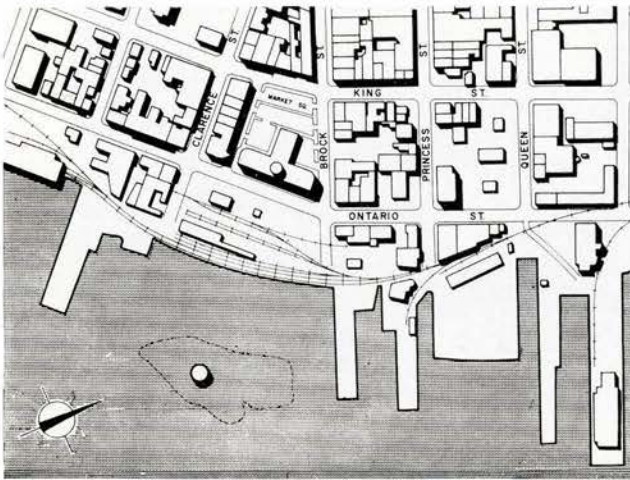




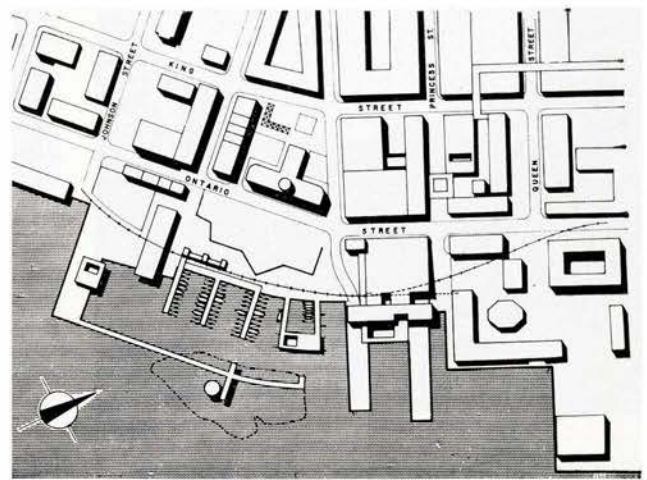
Proposed Waterfront Improvements: top, the existing condition, City Hall in background, and below, sketches of proposed improvements, which include removal of the rail yards,

restoration of City Hall park, and a marina for pleasure craft. Diagrams of the existing condition and proposed improvement are shown at top of opposite page.





The Waterfront, existing condition

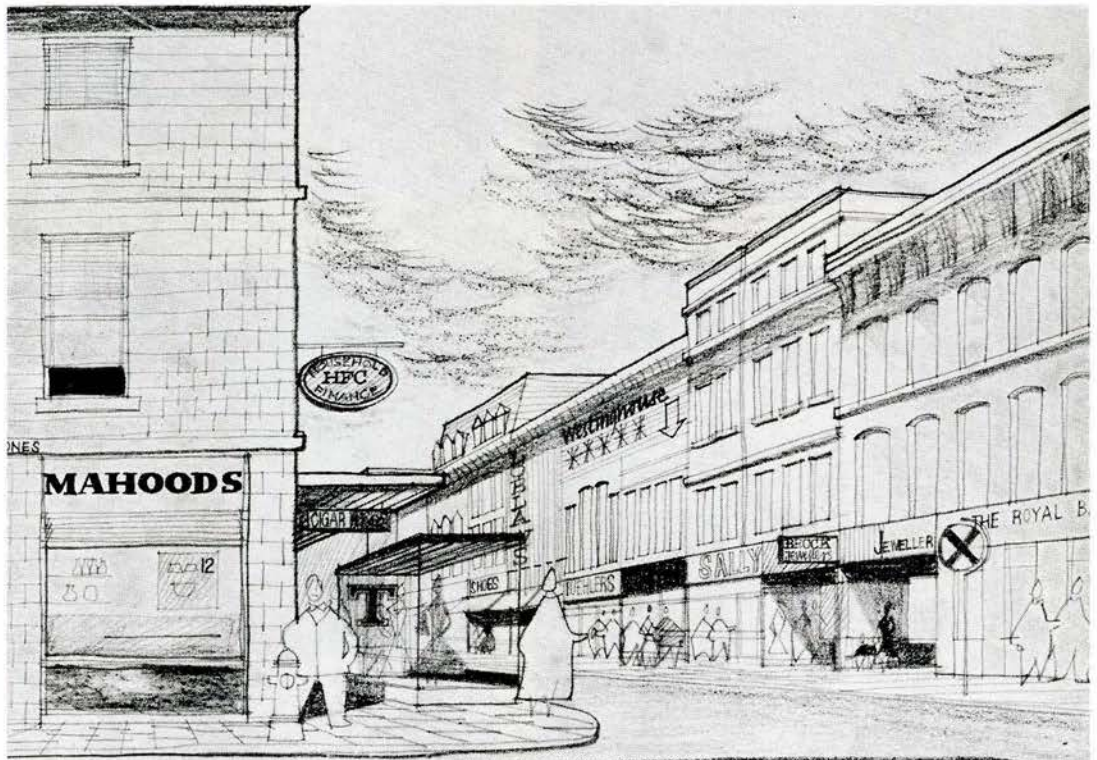


The Waterfront, proposed improvements

ROBINSON - HOLDER

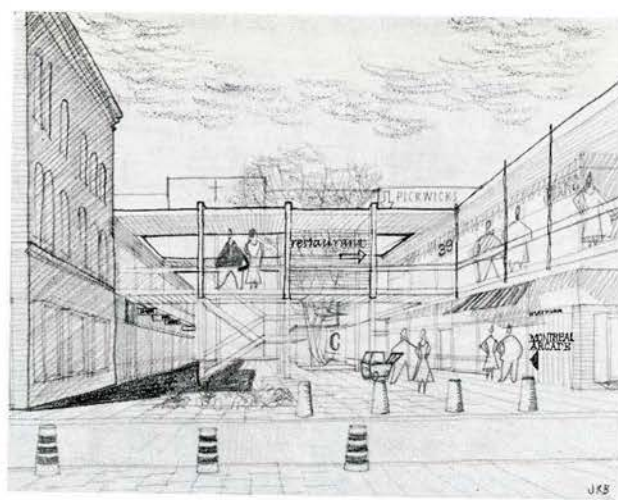


*Princess Street:
The sketch below suggests
a number of improvements
designed to make the
City's main shopping
street more attractive
and convenient, including
shop facades and
co-ordinated street
furniture and shop signs.*





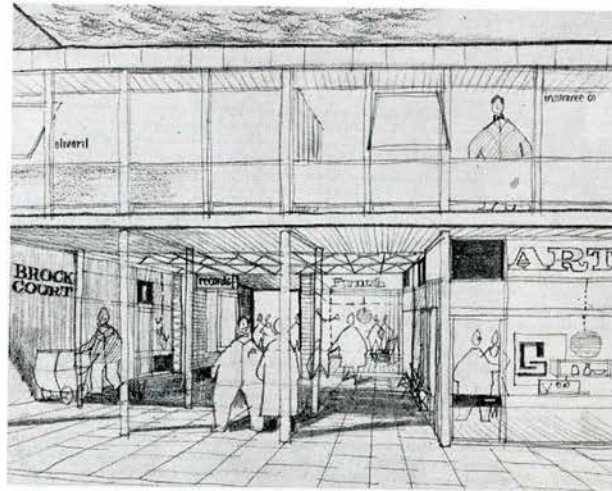
R. E. HAUNTS



Suggested shopping area development, Montreal street.



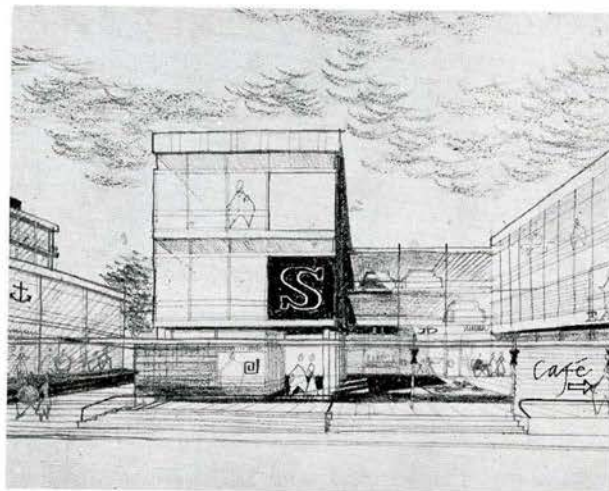
R. E. HAUNTS



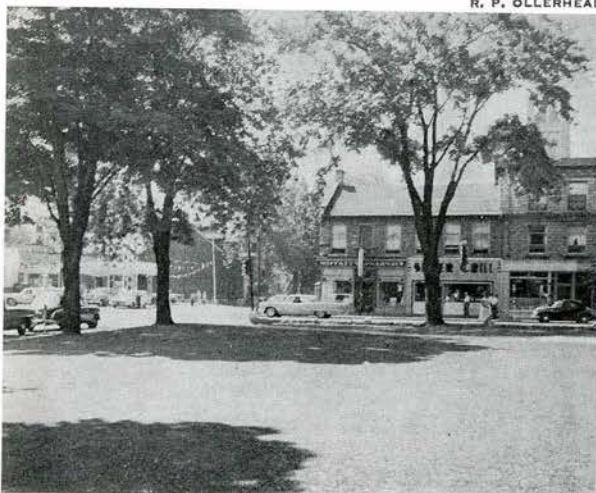
Pedestrian connections to Princess street from car parks in the blocks between Brock and Princess.



R. E. HAUNTS



Proposed pedestrian mall, Princess street between King and Ontario streets.



R. P. OLLERHEAD

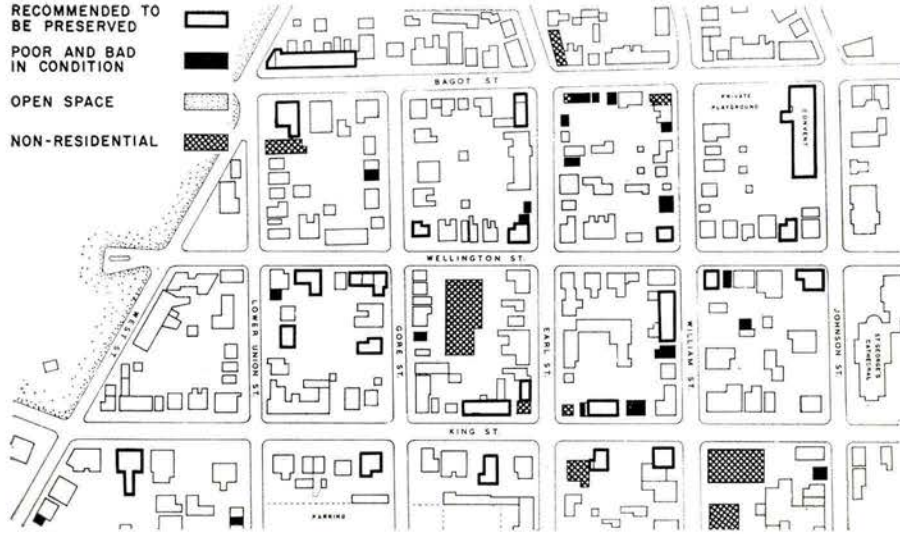


Suggested treatment in vicinity of St Andrew's Church, Clergy street area.



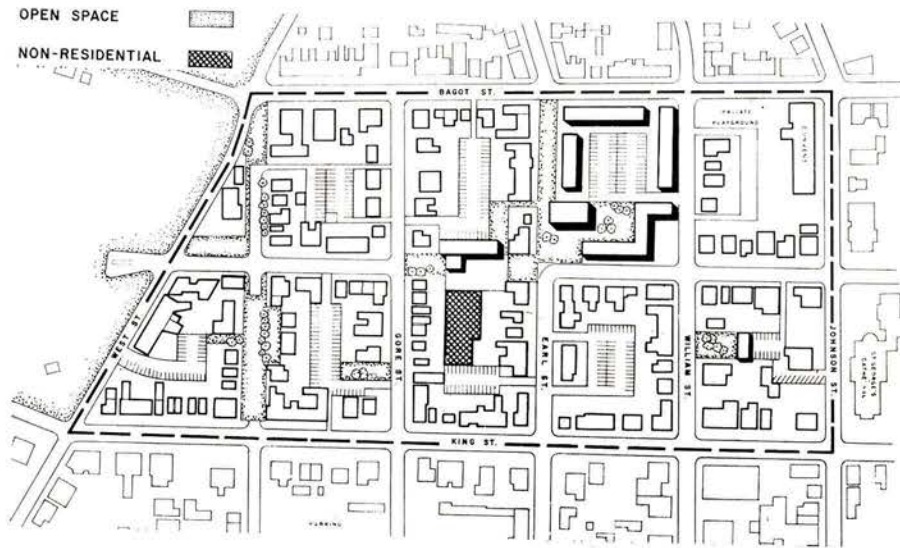
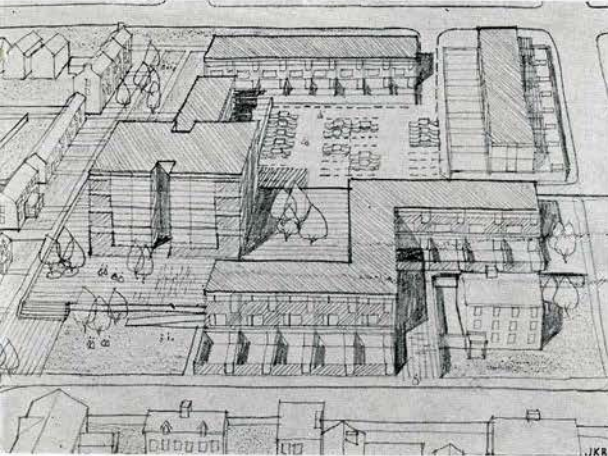
R. E. HAUNTS

Existing housing, Bagot street, Sydenham Ward



Urban renewal, with preservation of buildings of architectural or historical merit in Sydenham Ward; existing condition above, and proposals below, which include closure or diversion of some streets, housing developments of contemporary design and off street parking facilities.

Contemporary housing development for Sydenham Ward, as proposed in diagram at right.



MARION SEYMOUR

A successful conversion at Gore and Wellington streets. The original accommodation of eight rooms and a bathroom has been converted to one three bedroom and three two bedroom apartments. Architect, Selwyn Cooke.



GEORGE LILLEY

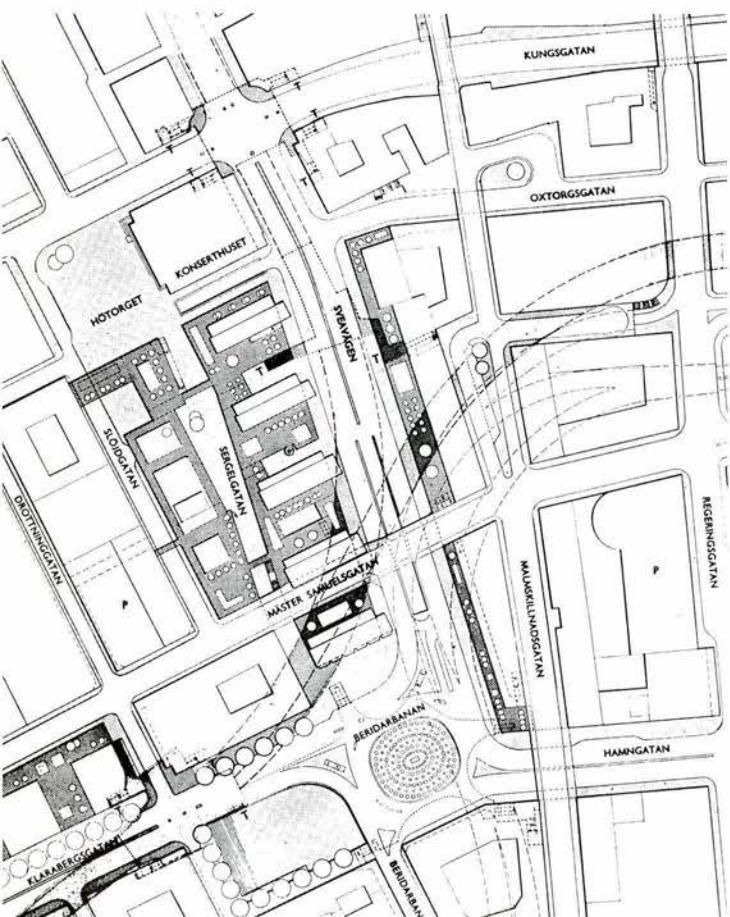
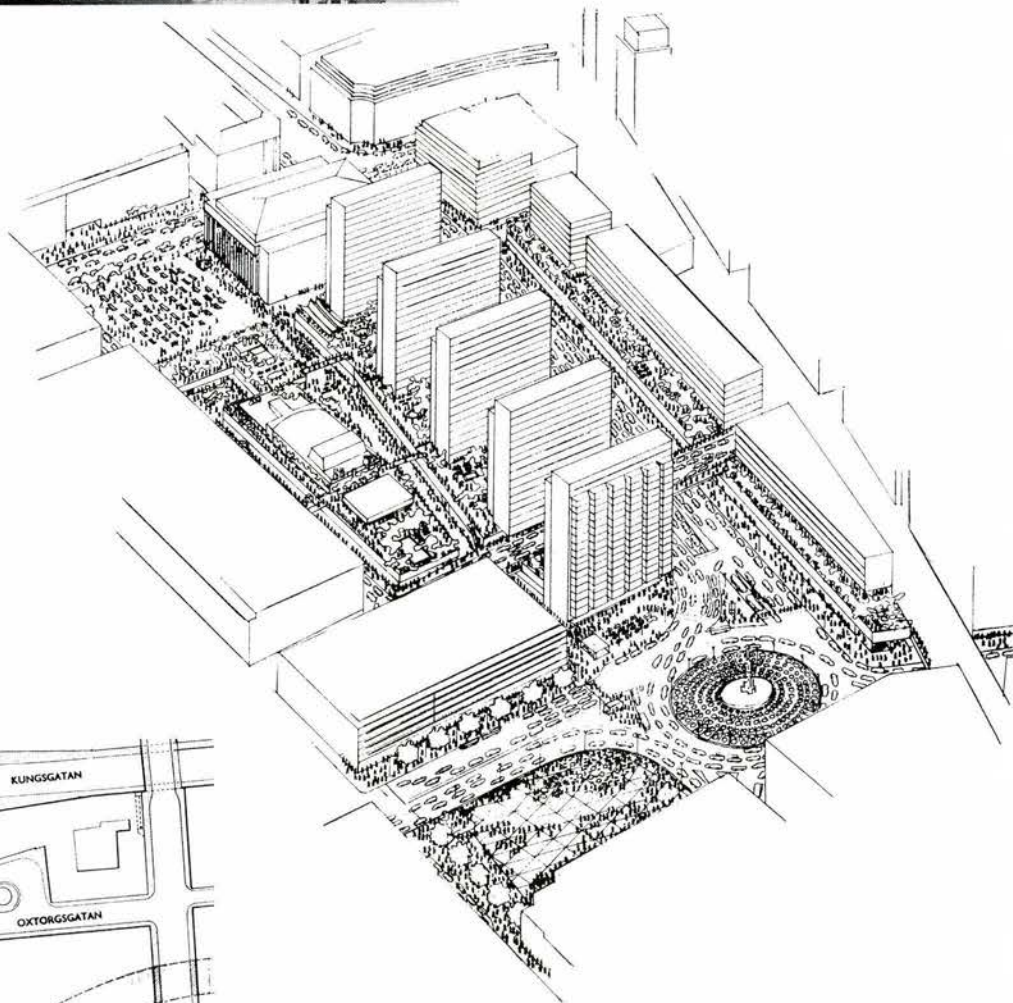




Centre and lower left: perspective and plan of the Hötorget. On the plan pedestrian areas are shown light grey, and roof gardens dark grey. Curving broken lines indicate subway and exits.

Stockholm City Centre

by Henry Fliess



THE VISITING ARCHITECT cannot help but be impressed with the building activity in Stockholm; it is comparable with the tremendous expansion which is taking place in our fast-growing Canadian cities. Whichever direction one travels, intense building activity is taking place and in the centre of the city the whole section between the Concert Hall and Hamngatan is an area of rubble and debris of the demolished old buildings, out of which the new town centre is beginning to rise with its pedestrian streets and its slab type office buildings.

However, what impresses the visitor most is the orderly process in which this development is taking place. The growth of Stockholm has been positively guided by the City of Stockholm Planning Department under Sven Markelius. Functional planning has been combined with a three dimensional study of all new areas. The City Planning Department has constructed models of every new phase of development, setting out the shape and height of buildings and their relationship to each other and to open green spaces. The basic outline of this three dimensional concept must be followed by all developers.

Particular attention has been given to the relationship of the new communities to the rapid transit and express road system, so that the cores of the new communities occur always at rapid transit stations and are connected to the downtown area and to each other by a first class rapid transit system. The construction of the new communities takes place simultaneously with the rapid transit lines. All the new communities will have neighbourhood shopping and community facilities, and three large regional shopping centres have been planned to serve the new suburban areas – one at Vällingby has been in operation for several years, and another at Farsta has just been completed.

The most interesting development, from a planning point of view, however, is the redevelopment taking place in the town centre. Here the old and obsolete commercial structures, consisting mainly of converted residential buildings, are being torn down and replaced by new shopping facilities and office buildings. The redevelopment of the downtown area was started on the one hand as a result of the traffic congestion in that area, which urgently required the provision of a better traffic solution, and on the other hand because of the need for a new and more effectively planned commercial core. New building has been prohibited since 1912 in the area between the Concert Hall and Hamngatan to permit the construction of an underground rapid transit system and a new road system. The city of Stockholm has extensive laws giving it the power of expropriation of private land for purposes of redevelopment, and the city was able to buy most of the needed land between 1912 and 1950. The general planning was carried out between 1945 and 1955 under Sven Markelius, in the capacity of town planning director, with architect David Helldén as the closest collaborator, and is now being completed under the leadership of town planning director Goran Sidenbladh, in collaboration with chief architect Torsten Westman.

Different architects have been selected for each of the office blocks and this should give the new core added vitality. The following architects are responsible for the office blocks:

First block – David Helldén

Second block – Anders Tengbom

Third block – Professor Sven Markelius

Fourth block – Lars Erik Lallerstedt

Fifth block – Backstrom and Reinius.



Rapid transit station and local shopping centre. This is a photograph of a typical relationship of rapid transit station, shopping centre and community facilities, with the point blocks and apartments always located near the neighbourhood centre and row housing and detached houses forming the perimeter of the community.

The whole centre is expected to be completed by 1964.

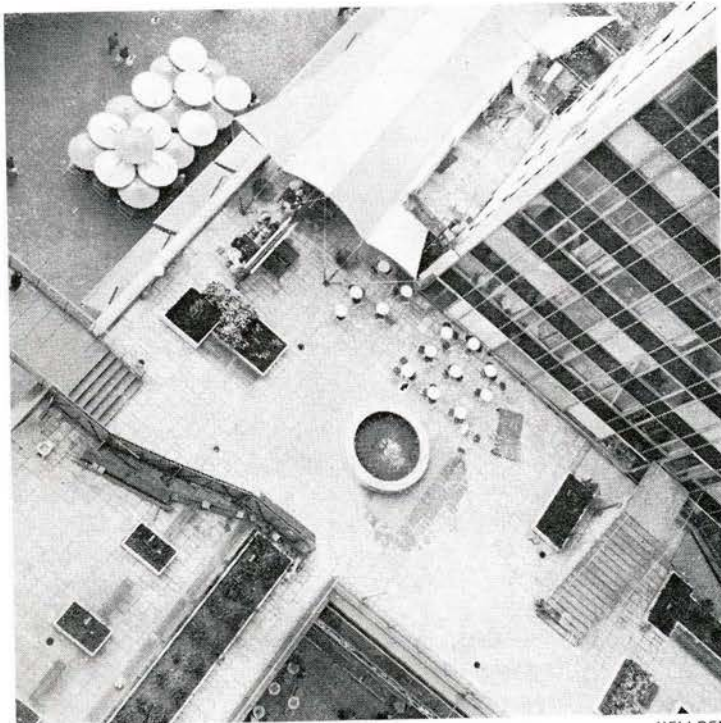
The city had originally intended to carry out the entire building program, but it was later decided to let private companies carry out a large share of the redevelopment. The city has been responsible for the building of the two-storey stores and the first office block. Three private companies, some specially formed for the purpose, are leasing the remainder of the land and are erecting the other office blocks.

The plan provides for an underground transit system and new surface and underground traffic arteries combined with underground parking facilities for 700 cars, underground loading and servicing for stores and office buildings, and an underground service station.

The basic concept of the new development is a two-storey podium of stores, pierced by pedestrian streets and malls, out of which will rise five office slabs 18 storeys high. The concentration of office accommodation into five high buildings makes possible the creation of large open spaces and the provision of adequate light and air into the new commercial core. By the creation of a vast connected area of roof gardens above the second floor level of the stores and the podium of the office buildings, a new and vital pedestrian area will be created which, by means of paving, plant beds, flower boxes, colourful awnings and umbrellas, provides a new area for relaxation for both shoppers and office workers. At this level cinemas and cafes will be located. Stairs will provide access between ground level and roof gardens and pedestrian bridges will connect the various roof gardens to each other.

Throughout the new downtown core, pedestrian and automobile traffic is separated as much as possible. In the case of the Beridarbana, the traffic circle where the major traffic arteries meet, this has been achieved by a separation of levels, permitting the traffic to flow con-

Right: the terraces between the first and second high rise office buildings, and the bridge over the "Sergelgatan".



Below: the stores on the right are under the first high rise office building (see photo upper right).



Right: pedestrian mall at ground level between first and second office block



HELLDEN

HELLDEN



Right: the first high rise office building, architect, David Helldén.



HELLDEN

partially completed, but it was already apparent that it would add a new dimension of open space to the downtown area, which will be of tremendous value and will be a pleasant place for relaxation between work and shopping.

The architecture of the first two levels of stores and offices has a crisp modern character, which is most appropriate to a modern shopping area; the office blocks appeared to lack the elegance of the best Swedish work and seemed to suffer from the influence of the American curtain wall. The main concept, however, overshadows any minor faults and the architects and planners have achieved a modern town centre which is equalled only by the Lijnbaan in Rotterdam. I feel sure that it will become one of the models which will serve as a guide to the planners of future downtown redevelopment.

Upper left: the first and second high rise office buildings, with the concert hall seen lower right.

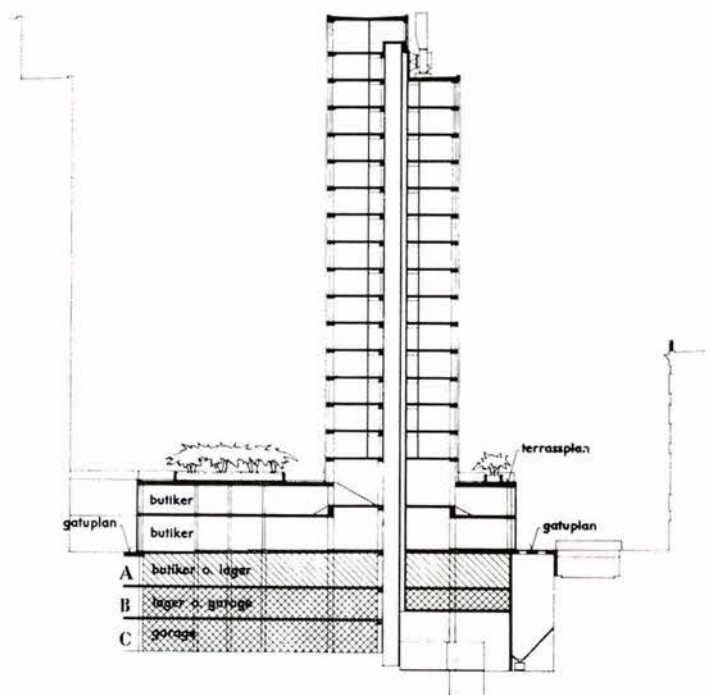
Below: section through the northern most multi-storey building, with elevator shaft, shops and basements a, b and c.

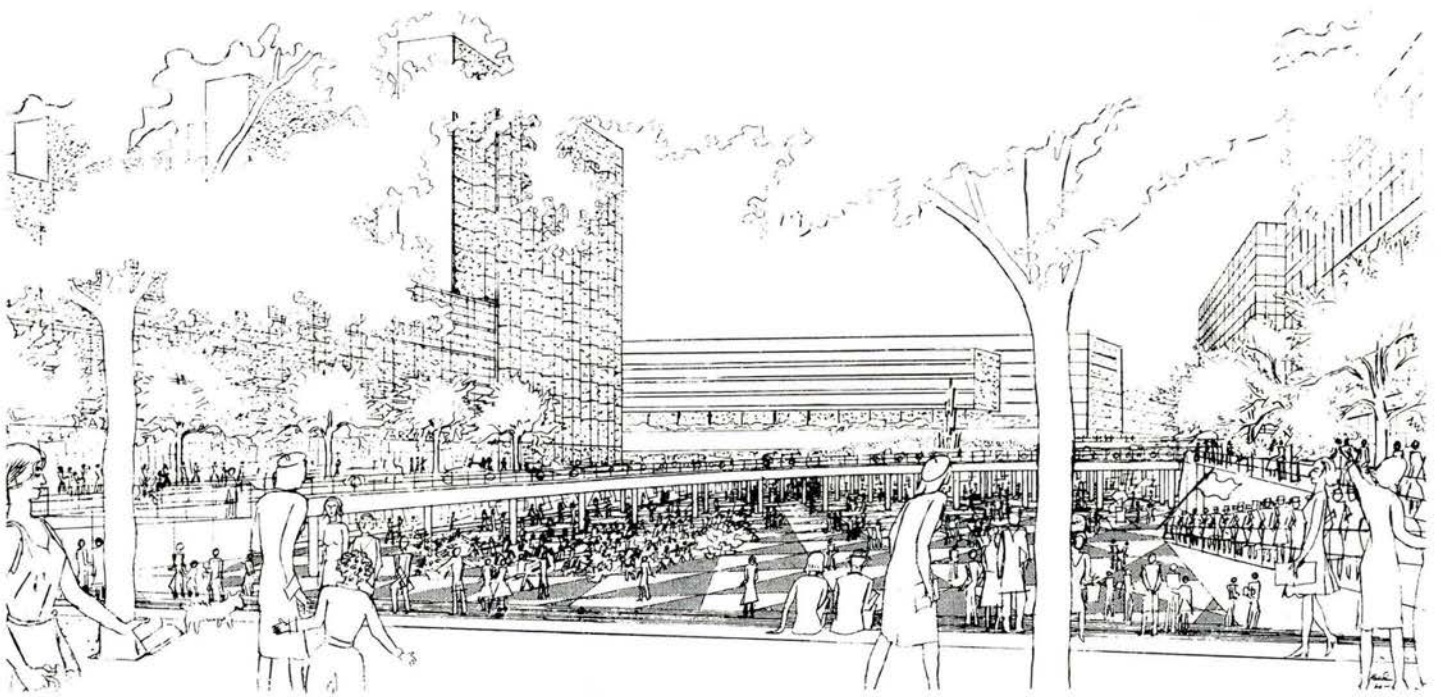
tinuously around the circle governed by carefully timed traffic lights, while the pedestrians coming out of the underground transit station can move freely through the large paved space at the lower level with its shops and restaurant. Movement between the two levels is by a broad staircase, ramps and escalators. The centre of the traffic circle will be completely flooded with water to form a large pool with a fountain, lighted from below by 250 plastic copulas.

One-storey below street level at Hötorget (the square in front of the Concert Hall) the new market hall is located directly under the market square, and approached by escalators and ramps.

The first section of the new core was reaching completion when I was in Stockholm. A large section of the shopping street and two of the office blocks were reasonably complete, and the general pattern and character of development was beginning to emerge.

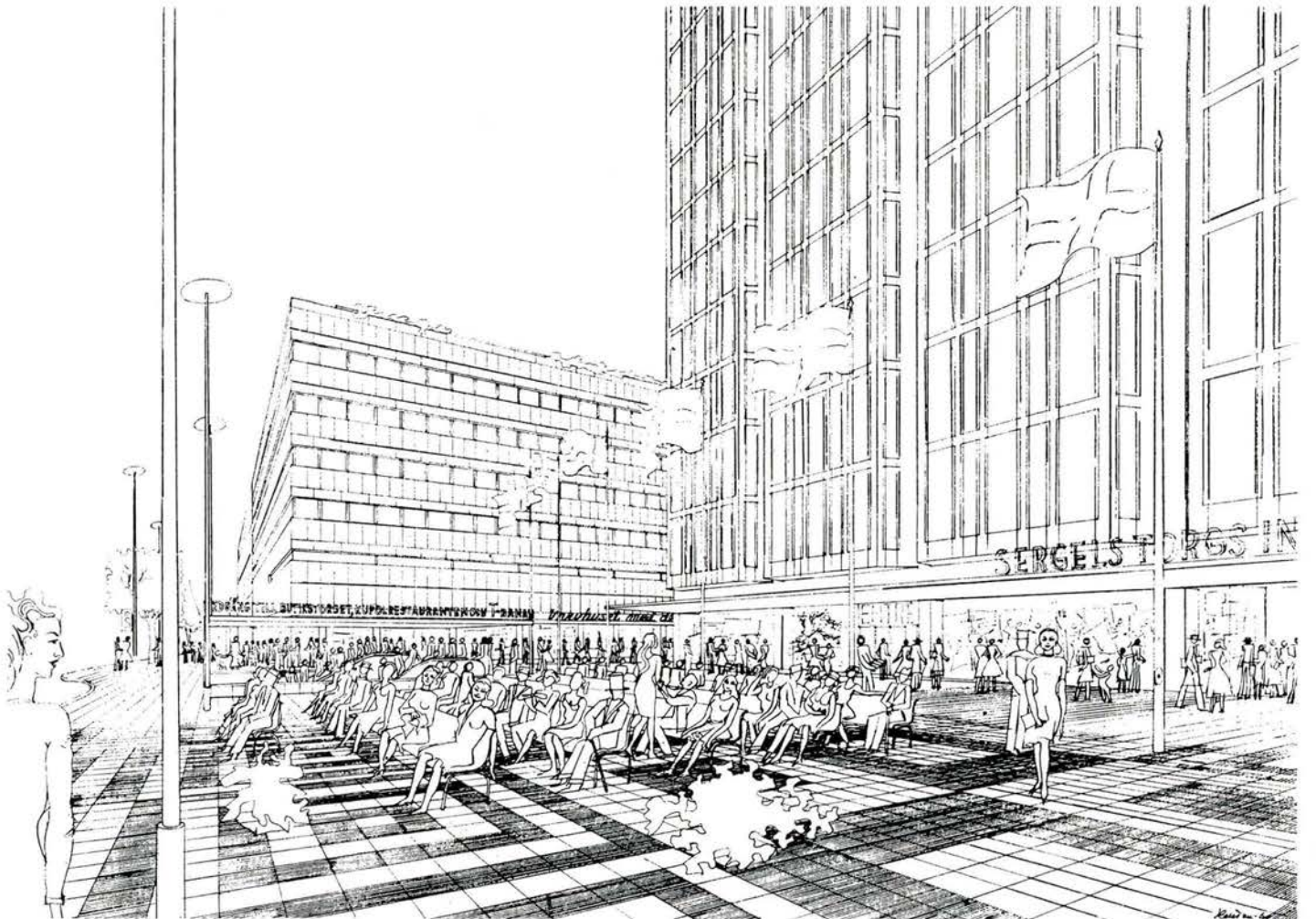
The new commercial core will provide not only great delight for the pedestrian but also an attractive link between the market square and the Hamngatan, a major shopping street. The newly constructed pedestrian street, the Sergelgatan, recreates, in a modern way, the narrow shopping streets of Stockholm and by the widening and opening up of the street provides pleasant spacial contrasts and open spaces for relaxation and outdoor eating. The second pedestrian level, two storeys up, was only





Above: view of Beridarbanan showing lower pedestrian span with elevated road leading to traffic circle

Below: pedestrian space located below the last office block overlooking the traffic circle



“THE ARCHITECT AND THE BUILDING COMMUNITY”

The four distinguished representatives of the construction industry who will participate in the seminar at Quebec in June have been invited to discuss their views on the subject in the four issues of the *Journal* preceding the assembly.

NO. 2 “THE CONSULTING ENGINEER’S POINT OF VIEW”

By P. M. Butler, MEIC, P.Eng,
General Manager and Vice President,
Angus, Butler & Associates, Edmonton
Member, Architect-Engineer Joint Board of Practice

IT IS VERY GRATIFYING to see the vibrant resurgence of enthusiasm that the RAIC has unleashed. The present trend to betterment of public relations with a positive approach to community affairs and planning, etc is excellent. The architect is a very real factor in our culture; and his position carries with it real responsibilities.

I welcome this opportunity to express an engineer’s views. Having worked with so many of your members across Canada I feel that I can speak frankly. This seems to be the age of commissions — what with commissions on planning, commissions on government, commissions on taxes, etc. It has suddenly occurred to me that perhaps what our two professions need most would be a commission on “professionalism” and the proper operation of our two societies.

We are now entering the 1960’s and there is no reason why we could not make it a golden one for architecture and engineering.

To me, a lot of the present day architecture and engineering has suffered from being a copy of what we see in the United States. As we extend mass production

facilities into our buildings, schools, etc, they are becoming too stereotyped and commercialized. I do not say this is all the architect’s fault; I feel there is as much blame to be placed on the engineer as well. It is time that there was more imaginative and bold thinking on the part of engineers. I believe it would be opportune for the two professions to give a lot of study to developing what could be easily recognized as Canadian architecture and engineering. We have many basic climatic and environmental conditions in this country that are vastly different than most and to copy construction techniques that are being used elsewhere is not practical. This could be the work of a joint commission on design, research and education.

I liken the role of the engineer to more that of a co-ordinator. Just as an architect is a co-ordinator of the various building sub-trades for the client, the engineer must be the co-ordinator of the engineering sub-contractors, suppliers and general contractor for the architect.

With the complexity of modern day structures it is virtually impossible for an architect to be familiar with all the details pertaining to the engineering systems incorporated into the design, let alone advise the client on their operation and cost. In earlier days few problems were encountered, since the structure usually consisted of a shell into which the client added a light or two and a “Quebec Heater” as he needed, and ventilation consisted of opening windows. Now we have innumerable systems to confuse everyone concerned. Such terms as “low velocity”, “high velocity”, “induction system” and “fan coil system” are getting commonplace. It is a must that team work be evidenced right from the first day an architect is commissioned. All must realize the importance of the clients requirements both building and budget. Many studies must be made separately and jointly not only architectural layouts but structural, mechanical and electrical before final ones can be selected. With the rapid development of new materials and equipment it is essential that all parties keep abreast of them.

Most architects realize that if they hire competent consultants they more than earn their modest fees. I personally recommend the early commissioning of engineers through to their full supervision of the project, and, in



the case of the mechanical trades, this includes construction and guidance of owners' personnel on the operation of the completed project.

I believe the most important issues that face us to-day in architect-engineer relations are "The Package Deal"; Fields of Practice; and Public Relations.

1. The Package Deal: This is not new; it has been practiced in various forms for several years. However, it has of recent times, as we all too well know, become increasingly popular. I believe the time is ripe for our professions to jointly make an unbiased study of this practice and devise some ground rules. Whether we like it or not, I am firmly convinced it is here to stay.

I believe the following observations are important.

(a) From the client's viewpoint, he is able to know in advance the ultimate cost of his building and/or the lease-back cost. He is saved the frustrating experience of dealing with city planners, inspectors and designers, but more important he does not need to put up any capital and is able to devote his own capital and time to his own business, which is probably more rewarding.

(b) I believe we as designers have been partly responsible — in all too many cases the cost estimates have been inaccurate, with the result that buildings have not been as efficient or as economical as required.

However, I feel the changing financial situation, and not the idea of eliminating professional fees, is the main factor. I believe it is up to us professionally to extend our services — that is, not only must we be giving our client consulting advice on the building design and construction, but we must be in a position to advise on financing and economic planning.

I am convinced there is a role for the professional architect and engineer to play in the "package deal" and that with due consideration the role would not be an unethical one. Why should there be a promoter? Is there any reason why he could not be a "management consultant" — and be a respectable professional person, architect, engineer, accountant or lawyer?

2. Fields of Practice: I subscribe to the theory that this is the age of the "specialist". Whereas there are some very large integrated architectural-engineering firms practising in this country; "largeness" does not necessarily imply efficiency or better design. Having spent the last 15 years in the mechanical and electrical fields, I find that, with the complexity of modern buildings, this field is indeed too large, and serious consideration is being given to specializing, primarily in the field of air conditioning. Certainly I would not recommend an integrated firm being considered under thirty persons. This is primarily because it would be difficult to obtain sufficient personnel adequately familiar with all phases of design. There would be more occasion to compromise good design for expediency, particularly with respect to engineering. In my opinion the "engineering would be only as good as the architectural principles understood and appreciated engineering design".

Who should take the overall commission and responsibility, I suggest, is of little overall consequence. I subscribe to the theory that whoever is best qualified should assume this role. Normally, I would think there should be no question that the architect would be the logical one.

The architect, by training and subsequent experience, has the diplomacy and "savoir-faire" to properly deal with clients. However, this relationship will only be tolerable if the architect keeps abreast of the times and professionally treats his engineering colleagues as "equals"! When wrangling between our professions develops, we create a condition that is opportune for "the package dealer".

3. Public Relations: This is as important to our professions as to any political or industrial concern. At this point it would be opportune to congratulate the RAIC on its recent successes. The Institute's Committee of Inquiry into Design of the Residential Environment was most commendable. In a like manner the architects in Alberta have gained immeasurably in their recent public presentation of a brief to the Edmonton Planning Advisory Commission, as well as in the local chapter's preparation of a scale model of the proposed downtown area.

An indication of the closer liaison of our two professions is the establishment on a national scale of the Joint Architect-Engineer Committee — "To maintain and further develop proper relations between Architects and Engineers."

In Alberta, we have established the Joint Board of Practice on a continuing basis and their main endeavour at the present is the preparation of a guide to the Joint Rules of Practice.

I would like to close with the summary of the Banff 1960 session as reported in the April, 1960 *Journal*.

"If we are to continue to hold (or should we say regain?) the respect of the public and of our friends in the allied professions, we must put our own house in order. This will demand far greater discipline and responsibility in the fields of design and building technology with, as a necessary corollary, considerably improved educational standards; a firmer adherence to ethical values; and a greater awareness of public responsibility.

"We must not pretend to be men of vision, but be men of vision if we are not to lose ground to those who would seek to assume leadership in the broad field of environmental design".

Finally, the Gordon Commission has forecast that Canada will rebuild itself in the next forty years! This job must be done by the engineers and architects working as a team; there is simply no one else to do it. That is why our two professions must continue to bend every effort, both on the national and local levels, to promote good ethical practice through strong registration laws, logical local building codes, and sensible regulations. With continued competence in our separate fields, we must strive to work together in harmony and mutual respect.

VIEWPOINT

“Does the practice of city building departments correcting architectural drawings submitted for building permits and advising on suitable mechanical and structural solutions to building problems constitute an infringement of professional practice?”

(continued from last month)

We had not been aware that Building Departments advised on mechanical and structural solutions to construction problems. This certainly would constitute an infringement on the rights of the designer, whether he be architect or engineer

Making corrections to these and architectural drawings is another matter. The point is not whether a Building Department has the right to make such changes: rather it is whether it is a good thing to make architects conform with rigid codes, regulations, and the inevitable whims of their interpretation. Unfortunately the trend seems to be towards an increasing number of authorities, not only Building Departments, having jurisdiction over some aspect of building, and an increasing array of specific requirements to be met.

The problem is that each such body initially established a set of rules as guides to be applied to the wide variety of building problems. So often these seem to have become a set of rigid rules, with deviations either impossible or made with great difficulty. There even are situations where these requirements are known only to the authority concerned: unwritten rules of office policy or regulations not available to the public in published form.

The total situation now seems to render it almost impossible for an architect to know precisely what is required of him by all of the people having jurisdiction over construction. Assimilating the published literature itself would be a fulltime occupation; a crystal ball would be necessary to know the unwritten requirements.

Aside from knowing the rules, what recourse does he have against implementation of some official request which he considers purely arbitrary? Examples of these strange policies occur in every practice. Too, this year for us were a fire chief wanting a paved road to each hydrant on a hospital lawn, and a junior in the Building Department wanting tensile reinforcement of a concrete dome. The thing which we think has been forgotten is that when dealing with architects and engineers, these bureaus are talking not to laymen towards which most of the regulations are slanted, but to professionals whose aim is the same as theirs: to eliminate hazard and to produce sound construction. We do not need to be rigidly controlled: intelligent guidance however is desirable, since these governmental bodies should be the ultimate experts in their individual fields.

We are quite capable of understanding, and do know, the bulk of the various codes extant. As professionals what we need is not to be told exactly what must be done, but instead have existing regulations applied intelligently to the problem in hand, and varied from the written word if good sense so indicates. Presumably all of us would be

delighted to discuss our plans at an early stage with any number of authorities, provided we could expect this considered treatment and the arrival at policies which would be unchanged through the duration of the job. Too often these meetings occur with a junior member of the authority concerned, and we later find changes of policy or implementation of minutia required when application is made for official approval of the final documents.

To now answer the original question, changed to read “authorities” instead of “building departments” changing architects plans. We believe that there is an infringement on professional practice at present, not so much by correcting the drawings, as by insufficient consideration being given to alternatives in the regulations and codes. Whether this can be rectified obviously rests within the authorities themselves. We can only hope.

Herbert Agnew, Toronto

LEGAL NOTES

EDITED BY D. C. HALDENBY

The Architect's Role in a Building Contract

BY JACK BATTEN

“Legal Notes” was introduced in the Journal in the issue of January 1961. The first two articles have been written by Mr Batten, a member of the Toronto firm of McLaughlin, Macaulay, May & Soward. The Journal would like the reaction of the readers to this column, and would appreciate receiving any suggestions regarding subjects for future articles. As the object is to cover a broad field of legal subjects, I am of the opinion that the column would benefit considerably if the members of the various provincial associations would discuss future articles with their legal advisors and have these legal advisors submit articles which they feel would be of general interest to the architects throughout Canada.

D.C.H.

ALMOST FIFTY YEARS AGO, in an English House of Lords case called *Hickman & Co v. Roberts*, Lord Shaw of Dunfermline described “the position of an architect in a building contract” as “one of great delicacy”. And the delicacy, according to his Lordship, lies in the peculiar duality of the role the architect must take as an arbiter between the owner-builder, who has hired him, and the contractors, who depend on him for certificate approving their work. “He is placed in that position to act judicially,” wrote Lord Shaw, “when, to the knowledge of both parties, the person who is his master and his paymaster is one of the parties to the contract.”

Certainly, few arbitrators are called on to perform their duties under this kind of pressure, and an architect, when he assumes this function, must act, and appear to act, with impeccable impartiality. Naturally enough, in a few instances in England and Canada, one or other of the parties to the building contract has doubted the architect's complete lack of bias, and this has given the courts an opportunity to consider, in legal terms, the precise standards which an architect must satisfy.

In one of the most quoted cases, the decision in *Hickman v. Roberts*, an architect, on whose certificate all payments were to be made, refused to approve a final certificate on the instructions of the owners, who were

having financial troubles. The evidence in the case revealed a series of letters in which the architect insisted to the owner that the certificate must be issued while the owners equally insisted that the architect "must reduce the account as much as possible". This correspondence caused Lord Loreburn in the House of Lords to comment that "— the real error of Mr Hobden (the architect) was that he mistook his position; that he meant to act as a mediator; that he had not the firmness to recognize that his true position was that of an arbitrator and to repel unworthy communications made to him by the owner." Above all, said Lord Loreburn in awarding judgement to the contractors, an architect in the position of an arbitrator must demonstrate "judicial independence."

In a later Canadian case, *Brennan v. City of Hamilton*, an arbitrator demonstrated all kinds of "judicial independence", but it hardly did him very much good. This case involved a claim for extras on a sewer job, and under the contract, the City Engineer's decision on all work and materials was to be final. When he approved the additional work and submitted the bill to the City's Board of Control for payment, the Board opposed his decision and, while the Engineer "allowed the contractor all the extras I could fight through the Board," in the end he refused to grant the final certificate in full. The court declared that the Board's "improper" methods forced the engineer into a position where he was no longer "an impartial and indifferent arbiter between the parties", and judgment was given to the contractor for the extra amount claimed.

These cases should not be taken to imply that the owner is forbidden from taking any part in the architect's decisions, or that the architect, in turn, must righteously ignore any ideas that the owner may suggest. It is true that undue pressure on the architect may invalidate his decisions; still, as the court in an Ontario case, *Wallace v. Northern Ontario Railway Company*, pointed out: "The employer has the right to direct the attention of the certifying official, before he certifies, to alleged defects of performance, and to ask for care and diligence in the discharge of his duty."

The cases shouldn't be interpreted, either, as indicating that the owner always represents the damaging influence. In a fairly recent case, *Kerr v. Harrington*, the owner was instead the victim of some rather hastily considered decisions by an architect. The contractor on this job, which involved renovations to an apartment building, had done a great deal of work for the architect in the past, and he apparently allowed his confidence in the contractor to overrule his own best judgment. The owner's most serious objection was that the architect had approved a superintendent's wages for seven weeks on the job, which only required three or four other workmen. The court substantiated all of the owner's complaints, and found, in reviewing the architect's conduct, that "— he approved the (contractor's) charges mechanically, and — it cannot be said that he acted impartially because in effect he was allowing the contractor whatever he charged without considering the rights of the owner."

Another recent case, *Brennan Paving Company Limited v. The City of Oshawa*, a judgment of Chief Justice McRuer of the Ontario High Court, will probably become an important authority in this field because of its

detailed examination of the earlier English and Canadian decisions. The case was concerned directly with the duties of a supervising engineer under a contract for road repairs, although, in his Lordship's words, "what I say applies equally to an architect". The contract provided in the usual terms that no money was to be payable for work done until the engineer had issued his certificates, and there was, furthermore, specific provision in the contract for the basis on which payments for the various phases of the work was to be calculated. The engineer, however, chose to make his calculations on another, extra-contractual, basis — partly, one gathers, in an effort to cut down costs which had begun to run over the city's budget. Instead of computing the quantity of gravel and asphaltic wearing surface that went into the road on a net weight basis, as called for by the contract, he made his own computation based on the area covered, and in doing so, said the Court, "in putting another interpretation on the plans and specifications — he was acting arbitrarily and not judicially, and that is beyond his powers". The contractor was therefore held not to be bound by the engineer's certificate, and he was awarded judgment for an amount calculated according to the contract provisions.

These few cases at least begin to suggest the heavy responsibility that the architect must assume when he acts, however briefly, as an arbitrator. It is probably only human that both parties, owner and contractor, should attempt to influence the architect, who is certainly the man in the middle, but if their suggestions take on an element of undue persuasion, then the courts are entitled to set aside or revise his certificates on the grounds of his partiality.

INSTITUTE NEWS

RAIC Executive and Council Meet in Toronto

Members of the Executive Committee and the Council of the RAIC met on consecutive days at Toronto on Friday and Saturday, January 20 and 21, to review Institute progress made during 1960, and to assess the program of activities for 1961. The January 21st meeting of 23 Council members, representing all Provinces except Newfoundland, was the first session in several years, apart from those held in conjunction with RAIC Annual Assemblies.

The Council received an up-to-date report on measures being taken by the Royal Institute to implement the 1960 Report of the Committee of Inquiry into the Design of the Residential Environment.

The next meeting of the RAIC Executive Committee will be held in Ottawa on Friday and Saturday, April 7 and 8.

CBC TV Series on Architecture in March

A series of three half hour television programs in the CBC "Explorations" series dealing with three aspects of architecture will be seen on the national network in March.

"Architecture for Worship" will be seen Wednesday evening, March 1st; "Architecture for Learning", March 8th and "Architecture for Recreation", March 15th.

The programs were prepared in consultation with Dr Thomas Howarth, Director of the School of Architecture, University of Toronto, who also acts as commentator. The producer is Vincent Tovell; the scripts were written by Ronald Hambleton; and the art director is Leo Rampen.

RAIC members are especially invited to view the programs and individual comments will be welcomed.

RAIC and AIA Senior Officers Meet

The annual exchange visit of senior American and Canadian Institute officers, inaugurated last winter in New York when Canadian officials met their US counterparts, continued this year when AIA President Phil Will (F) of Chicago, Vice President Henry L. Wright of Los Angeles, and Executive Director Edmund Purves of Washington visited Toronto January 20th and 21st for discussions with RAIC heads on mutual programs and problems. The visitors were met by President Harland Steele (F), Vice President John L. Davies (F), Honorary Secretary Dr F. Bruce Brown (F), and Executive Director Robbins Elliott.

The officers were guests at the annual dinner of the Canadian Construction Association in Toronto on the evening of January 21st. The following morning they visited the offices of John B. Parkin Associates and were taken on a tour by Mr Parkin before leaving on their return journey.

PHOTO BY ERIC TRUSSLER



Left to right: President Harland Steele; Philip Will, Chicago, AIA President; John Lovatt Davies, RAIC Vice-President; Robbins Elliott, RAIC Executive Director; Henry L. Wright, Los Angeles, AIA First Vice-President; Edmund Purves, Washington, AIA Executive Director; and Dr F. Bruce Brown, RAIC Hon Secretary.

UK Summer School for Study of English Architecture 700-1540 AD

The Courtauld Institute of Art of London University announces that a Summer School for the study of English Architecture during the period 700-1540 AD will be held in Bath, England from July 22nd to August 5th, 1961. The school provides an opportunity for those wishing to make a detailed study of English architecture and sculpture of the period, and is primarily intended for students and specialists.

The course will include visits to the great cathedrals of the West Country, to major abbey churches, and to castles and medieval manor houses. Students will stay at Somerset Place, one of the Georgian crescents for which Bath is famous. The number of students is limited to thirty. The all-inclusive fee is 45 guineas (\$135). Members desiring further information should apply immediately to Charles J. Robertson, Hon Treasurer, Combe Hay Manor, Bath, England.

Journal Assistant Editor for Maritimes

Lester J. Page of Halifax has been appointed *Journal* Assistant Editor for the Maritime Provinces. He succeeds W. W. Alward of Saint John, NB. Mr Page, who recently assumed the position of Municipal Architect for the Municipality of the County of Halifax, was born in Saskatchewan, but has lived most of his life in Halifax.

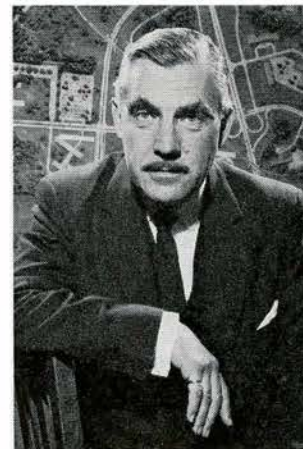


Lester J. Page

Mr Page is honorary secretary of the Nova Scotia Association of Architects, and a member of the Ontario Association. He is active in RAIC affairs, being an NSAA representative to Council, and he is also the Province's representative on the RAIC Canada Centennial 1967 Planning Committee. He resides at 22 Glenn Drive, Wedgewood Park, Halifax County.

National Capital Commission Appoints General Manager

Eric W. Thrift, Director of the Metropolitan Planning Commission of Greater Winnipeg for 15 years, has been appointed general manager of the National Capital Commission in Ottawa. He is succeeded by S. George Rich, former chief planner on the Winnipeg staff.



Eric W. Thrift

Mr Rich, after wartime service with the Royal Artillery, completed his architectural training in England, and was a member of the planning staff of Crawley New Town before coming to Canada in 1952. He practised architecture in Toronto and Winnipeg before joining the Winnipeg planning staff in 1954. With the recent establishment of metropolitan government in Winnipeg, Mr Rich's appointment now carries the title of Director of Planning, Metropolitan Corporation of Greater Winnipeg.

Mr Thrift is a graduate of the School of Architecture of the University of Manitoba, where he was awarded the Manitoba Travelling Fellowship in engineering and architecture. He later obtained his M.Arch degree at MIT, where he also won a graduate scholarship. He was technical adviser on planning for the Post-War Planning Committee of the Government of Manitoba.



WEATHER AND BUILDING

by D. W. Boyd

UDC 699.83

Why do you live in a house? The primary purpose of most houses and other buildings is to shelter their occupants and contents from inclement weather. It is true that locks are fitted on doors to discourage thieves or vandals or even persons who might intrude on our privacy, and screens are put on windows to keep out insects, but few buildings in Canada were designed as a protection against people or animals.

Keeping warm and dry are probably the primary aims in constructing most buildings. The roof and walls should keep rain (even wind-driven rain) from entering the enclosed space. They should also be reasonably resistant to heat transfer. Having excluded the rain and conserved heat in winter we have also excluded the unwelcome heat of the mid-summer sun and the dust and fog and snow that are carried by the wind in different seasons. We have even excluded the light of day and the fresh air, so we must now cut holes in the walls and fit them with glass and blinds or drapes so that we can control the amount of solar radiation and wind that is allowed into our building. Snow will fall on this building and the wind will blow against it. We must ensure that it is strong enough to withstand these forces imposed by the weather.

Let us consider some of these weather elements in more detail.

Temperature

The resistance of the walls of a building to heat transfer and the capacity of the heating system will depend to a large extent on the temperature difference that must be main-

tained between the inside and outside of the building. The inside temperature that is to be considered comfortable can be arbitrarily set at, say 70°F. The determination of an appropriate value of outside temperature for purposes of design is not so simple. The use of the average temperature during one or more months in the winter would not be satisfactory since the outside temperature would be below the average about half the time. The lowest temperature ever recorded is unsatisfactory for two reasons. In the first place a meteorological station with a short record may reach a much lower temperature in the next few years than it has in the last few. In the second place there is usually no need to design a building so that the inside temperature will never drop below the design value.

The results are not catastrophic if a home or office or shop is uncomfortable for a few hours, or in extreme cases, even for a day or two. This suggests basing the outside design temperature on the average of the temperatures for the coldest day in each year, or on the tenth or fifteenth coldest hour in an average winter month. The choice depends to some extent on the records which are available and on the techniques to be employed in the analysis.

In Canada the hourly temperature readings in January for ten years have been sorted by machine for a number of stations and tables have been drawn up showing the number of hours at each temperature for each station. From these tables a "1% design temperature" can be selected such that one per cent of the hourly temperature readings

lie at or below this value.* This means that in an average January seven or eight hours out of the total of 744 would have temperatures at or below the 1% design value. Temperatures selected in this way agree reasonably well with the design temperatures arrived at by experience in many localities in Canada and the United States. For dwellings this value is probably unnecessarily low and the corresponding 2½% design temperature is a more reasonable value for general use. This means that in an average January there would be 18 or 19 hours with outdoor temperature at or below the design temperature. If these hours are distributed over a few nights they will result at worst in a few hours slightly below 70°F within the building, most likely in the early mornings.

The problem of keeping a building comfortably cool in summer is similar but, at least in Canada, is less critical. Outside air temperatures rarely reach 100°F. This is only thirty degrees above the arbitrary comfort temperature of 70°F, but heat from the sun can raise building surface temperatures from 20 to 60 degrees above this. Direct sun effects as well as air temperature must be taken into account in determining cooling loads.

Warm summer air can, and usually does, hold much more moisture than cold air and this moisture also has a complex influence on the design and capacity of cooling systems. The most convenient way of obtaining the humidity of the outside air for this purpose is to measure its wet-bulb temperature. Summer design temperatures and summer design wet-bulb temperatures can be obtained in exactly the same way as winter design temperatures. In Canada the hourly temperatures in July are generally used, since July is the warmest month in most parts of the country. The analysis is simplified and the results more easily tabulated if the temperature and wet-bulb temperature can be treated separately. This cannot be done in all countries but over most of Canada the correlation between these temperatures is close enough to give reasonably accurate results. This means that if a cooling system is designed using the 2½% summer

design temperature and the 2½% summer wet-bulb design temperature then for about 18 hours in an average July the combination of temperature and wet-bulb temperature will be more severe than the design conditions.

The cost of operating a heating or cooling system for an average season or for a particular season can be estimated by using observed temperatures in a different way. The energy required will depend on the indoor to outdoor temperature difference and also on the length of time that it persists. The sum of the hourly or daily temperature differences will give the required number of degree-hours or degree-days.

The average temperature inside an unheated building is normally higher than the outside temperature because of direct heating by the sun and heat sources within the building such as persons and machines. For this reason 65°F is commonly used as the base temperature for computing degree-days. Daily mean temperature is usually used in making the calculation, the difference between this value and 65°F being taken as the degree-days of heating required for the day.

There is much more difficulty in estimating energy requirements for a cooling system for a season, because of the complication introduced by the humidity and by solar and other effects. Degree-days above, say, 70°F could be computed just as easily as those below 65°F but a much more complex analysis including wet-bulb temperature and probably wind and sun effects would be needed to give a useful estimate for an average building. Accordingly, total degree days below 65°F for the winter are generally used as a guide to the heating requirements for buildings, but no simple expression is available for estimating the energy required for cooling.

Precipitation

Precipitation affects the design of buildings in several different ways. One of the primary requirements for any building is that it should keep the interior space dry. All roofs and walls must therefore shed rainwater and design requirements are the same everywhere in this respect. Walls that fail to keep moisture out under severe conditions of wind-driven rain may still be considered satisfactory in areas where these conditions are rare. This problem in the case of masonry walls was discussed in CBD 6.

* Values for these and other climatological records for all of Canada are presented in the maps which make up "The Climatological Atlas of Canada". Copies are available from the Division of Building Research, National Research Council at \$1.00 per copy.

The rainwater collected by a sloping roof is concentrated along a line under the eaves. Since this is frequently undesirable it is common to design gutters and down spouts to carry this water away to a drain. The capacity of the drainage system should depend on the maximum rainfall rate. As in the case of design temperatures, however, a failure of the system will not be catastrophic. A rate can be chosen which will be exceeded, on the average, once in two years or once in ten years. In the case of a flat roof draining into the same system as the plumbing fixtures in a building, a failure would be more serious and the maximum rainfall rate expected once in 30 or 100 years might be used.

Rainfall rates must be measured over short periods of time, and the period chosen affects the maximum rate observed. For most roofs the most desirable period would be something less than five minutes but since five minutes is the shortest period for which rainfall is usually reported, it is the best basis for design.

Unfortunately, rainfall intensities for such short periods (five minutes) and for small frequencies (say once in 30 years) have not been available until recently. Roof drainage design is still based on the maximum fifteen-minute rainfall once in ten years. This gives a reasonable value for the design of external leaders. To insure against the possibility of flooding inside a building, an internal vertical stack is made several times the size of an external vertical leader designed to carry the same flow of rainwater.

If the drain from a horizontal roof becomes plugged with leaves or snow then rainwater may accumulate on the roof to such a depth as to add considerably to the required strength of the roof. To estimate the probable maximum of this extra load it is necessary to make some assumption about how long the drain might be allowed to remain plugged. One day is a convenient period to consider because one-day rainfalls are readily available. If the rainwater remains where it falls, then each inch of rain will add 5.2 pounds to the load carried by each square foot of roof. Even six inches of rain (which for most parts of Canada is unlikely in one day) will add only 31 pounds per square foot to the load. If the roof has even a slight slope, however, or if adjacent roofs or walls are likely to drain to the flat roof then more serious loads may accumulate.

Unlike rainwater, snow may accumulate for several days, or even for several weeks or months in the colder parts of Canada. The snow may look fluffy and light while it is falling but within a few days it will have settled and become much denser. How much denser is a question that is difficult to answer satisfactorily, because its density may range from about 0.2 to 0.5 while new snow averages about 0.1 (compared to 1.0 for water). Snow densities are not ordinarily measured when snow depths are measured and hence the design snow load must be based on the measured maximum depth of snow on the ground. These maximum depths will usually occur at the end of major snowfalls while a part of the snow is still new and light. It is assumed that the average density of the snow is about 0.2 but it has to be realized that this value may be inaccurate in many cases.

From the annual maximum depths of snow on the ground for fifteen or twenty years, it is possible to estimate the maximum depth for somewhat longer periods. Since an inch of snow represents a load of about one pound per square foot, the depth in inches is numerically equal to the load in pounds per square foot. A number of roof failures have occurred in Canada when rain has fallen into a heavy snow load and increased it. Heavy rains are not uncommon in the late winter and early spring when loads due to snow are at or near their maximum. Since one-day rainfall amounts are readily available, it seems reasonable to add to the snow the weight of the maximum one-day rainfall that might occur at that time of year.

These basic snow loads may have to be adjusted for various reasons. Greater loads are likely to accumulate where snow can drift off one roof onto a lower one, or where a trough occurs. Loads may be reduced on roofs where the snow accumulates less rapidly than on the ground as, for example, on sloped roofs.

Wind

The amount of warm air that escapes through cracks around doors and windows and the amount of cold air or dust that gets in depends partly on the wind speed. Wind speed also affects the relationship between degree-days and the energy required for heating. The relative importance of temperature and wind, however, is largely dependent on the tightness of a building and hence no general formula can be given.

The most important point concerning the effects of wind on building design is that the structure must be strong enough to withstand the strongest winds that might occur. Unlike the failure of a heating system or a roof gutter, the failure of a building to withstand the wind may be catastrophic. The risk must therefore be negligible. The strongest wind that is likely to occur once in thirty years is commonly used but a much less frequent wind would be more logical if it could be estimated reliably.

The strong wind that damages or destroys a building may last for only a few seconds. These strong, brief winds or gusts are only measured at a very few stations and hence, in general they have to be estimated from average wind speeds over longer periods. In Canada the only available wind speeds are averages for one hour. An extensive analysis has been carried out to find the relationship between these hourly averages and the strongest gust speeds. The use of this gust speed may result in the overdesign of large buildings because the time required for the pressure on a building to reach its peak depends on the size of the building.

There is another question to which it is difficult to give a satisfactory answer. How strong are the gust speeds a few hundred feet above the ground? Measurements of gust speeds at these higher levels are much more scarce than those near the ground and hence estimates are correspondingly less reliable. It is generally agreed that average wind speeds over flat and level terrain increase with height approximately in proportion to the one-seventh power of the heights. It is also known that the

gustiness, or the ratio of gust speed to average speed, decreases with height, so that gust speeds increase with height in proportion to perhaps the one-tenth or one-eleventh power of the heights. Over rougher terrain the increase of average wind speeds with height is more rapid, or, looking at it from a more logical point of view, the decrease in average wind speed is more rapid as one approaches the ground. The gustiness over rough ground is also greater. The net effect of these two factors on peak gust speeds aloft is hard to judge. It is safe to say, however, that rough terrain, in general, will not increase gust speeds. It is also safe to say that gust speeds will not increase with height as rapidly as average wind speeds. Therefore, if gust speeds are computed for higher levels in proportion to the one-seventh power of the height, the results may not be very accurate but they should be safe, perhaps unnecessarily safe.

Buildings must be designed to exclude certain weather elements such as rain and extreme temperatures and to resist the loads imposed by certain others such as snow and wind. Buildings should also be built of materials that can resist the deteriorating effects of the weather, but that is another story.

Mr. Boyd is a climatologist on the staff of the Meteorological Branch of the Department of Transport, seconded for full time duty with DBR, in view of the importance of climate in building research. Inquiries about meteorological information should be addressed directly to the Director, Meteorological Branch, Department of Transport, 315 Bloor Street West, Toronto 5.

This is one of a series of publications being produced by the Division of Building Research of the National Research Council as a contribution toward better building in Canada. The Division has issued many publications describing the work carried out in the several fields of research for which it is responsible. A list of these publications and additional copies of this Building Digest can be obtained by writing to the Publications Section, Division of Building Research, National Research Council, Ottawa, Canada.

Conference in Winnipeg on Implementation Of Environment Report in Western Canada

On Friday, January 13th, a regional conference was held in Winnipeg on implementation of the residential environment report. Delegates to the conference included E. D. Fox, Ottawa, representing the RAIC; Glen Parsons, Calgary, and Garth Fleet, of Edmonton, both representing the Alberta Association; Allan Smith, Regina, representing the Saskatchewan Architectural Association; Morley Blankstein, K. Featherstone, Boyle Schaeffer, Ken Bacon, James P. Lewis, K. R. D. Pratt, all from the Winnipeg area and representing the Manitoba Association of Architects.

The purpose of the conference was to explain to the Provincial Associations represented what action was being taken by the Institute and other component societies to carry out the recommendations in the report, to examine in some detail the implications of the 13 recommendations referred to Provincial Associations, to discuss steps to be taken to implement the report provincially and locally, and to make available advice and direction on the matter of developing regional implementation programs.

At the conference consideration was given to such matters as urban renewal, the need for provincial leadership in regional planning, the preservation of historic structures, the impact of major roads on adjoining private properties and other problems bearing on urban and residential design. Also discussed was whether a major effort should be made to create a public awareness of the problems being faced in providing a better residential environment. The architectural and other professions were aware of these problems but in order to achieve substantial progress in overcoming or solving them, some considerable measure of public understanding and support was essential.

A question was raised as to the extent of publicity being given to the efforts of the RAIC and Provincial Associations in implementing the residential environment report. It was explained that a number of articles had been written for the *RAIC Journal* and other publications. Press releases had been issued by the PQAA, the OAA and the Institute on measures undertaken to date on these matters. Reference was made to the series of talks which had been given and are scheduled for Rotary, Canadian and other service clubs.

Competitions

All-Electric Home for Ontario Hydro

A competition for the design of an all-electric home has been announced by the Ontario Hydro Electric Commission. The competition is open to members of the Ontario Association of Architects, resident in Ontario. First prize is \$2,000, with \$1,000 and \$500 for the second and third place designs. The Chairman is George D. Gibson (F), who is also Chairman of the Jury. Other members of the Jury are K. H. Camby (M); Mrs Pamela Cluff (M); W. L. Scott (PEng.); and J. I. Thompson, MIES. Competitors must complete the notice of intent and send it with a deposit of \$5.00 to the Sponsor, Ontario Hydro, 620 University Avenue, Toronto 2, before March 15th, 1961. Last date for request for program is February 15th; last date for registration is March 15th; last date for questions is May 1st; questions to be answered before May 15th; last date for receipt of entries delivered by hand, June 30th; last date for receipt of entries delivered by parcel post or express, July 3rd. The results will be announced before July 15th. The



Delegates to the Conference, left to right: Glen Parsons, Calgary; Allan Smith, Regina; Boyle Schaeffer, Winnipeg; James Lewis, Winnipeg; Garth Fleet, Edmonton; Ken Pratt, Winnipeg; Ken Bacon, Winnipeg; Ken Featherstone, Winnipeg; Morley Blankstein, Winnipeg; E. D. Fox, Ottawa

The efforts being made to include discussions on the residential environment report as part of programs for annual meetings of business and professional groups was also mentioned.

In regard to magazine articles, a suggestion was put forth that it would be of greater value to have this kind of publicity in publications of more general interest and not limited to those of particular concern to the architectural profession. It was recognized that a fair measure of public support would be required to achieve positive results in acting on the recommendations, and this support could be better maintained if articles were written for those magazines having a wider circulation and more general appeal.

No specific conclusions were reached as to particular steps to be taken by the associations represented, as it was accepted that methods devised to act on recommendations would be dictated to a great extent by local and regional circumstances. It was agreed, however, that knowledge of measures being taken by other associations was a valuable guide.

Mr Fox, Chairman of the conference, said that the discussions which took place during the day were very fruitful. "In order to assure the success of the national program for implementation now under way, it is essential that Provincial Associations take active measures to deal positively with the recommendations referred to them. I have no doubt, following this successful meeting, that real progress will be recorded by the associations represented at the conference."

winning designs will be on display to the public at the 1961 Canadian National Exhibition, in the Ontario Hydro building.

PAHO Headquarters Building, Washington

The Pan American Health Organization has announced the opening on February 15th of an international architectural competition for a new \$4,500,000 PAHO headquarters building in Washington, DC. The competition will be limited to architects of the Western Hemisphere.

The architect whose design wins the international competition will be awarded the building contract. Second prize will be \$2,500 and third prize \$1,000.

The jury is composed of Hector Mardones-Restat of Chile, President of the International Union of Architects; Luis Gonzales Aparicio of Mexico, Past President of the Society of Mexican Architects; Augusto Guzman Robles, one of Peru's leading architects; and Samuel Inman Cooper FAIA of Atlanta, President of the Pan

American Congress of Architects, and Dr Abraham Horwitz of Chile, Director of the Pan American Sanitary Bureau.

Further information may be obtained from the professional adviser, Leon Chatelain Jr, FAIA, 1632 K Street NW, Washington 6, DC. Registration for the competition closes May 8th. The conditions of competition have already been approved by the International Union of Architects, the AIA and the RAIC.

Architectural Competition included in Sao Paulo VI Biennial Exhibition

The VI Biennial of Sao Paulo, Brazil, an international exhibition of plastic arts, organized and managed by the Sao Paulo Museum of Modern Art, will take place from September to December, 1961. It will include an exhibition of painting, sculpture, engraving and drawing, an exhibition of architecture, a contest for schools of architecture, and an exhibition of plastic arts of the theatre.

RAIC members may participate in the Exhibition of Architecture, individually or in teams, but entries will be made direct to the RAIC, for judging and selection by a jury to be appointed by the Institute and forwarding to Sao Paulo. Each national entry is restricted to three works. Submissions must be sent in photographic form in black and white or color. It is a condition that the buildings entered "should represent expressions of modern architecture".

Members interested should advise the RAIC Secretary as soon as possible. The final date to receive entries is April 15, 1961. The RAIC will be responsible for sending identity forms of architects selected to the Secretary of the Biennial in Sao Paulo by April 30.

Architects receiving a Diploma or Medal for works in any of the ten categories of buildings are eligible to compete for the **PRESIDENT OF THE REPUBLIC PRIZE** of \$4,750 for the best work presented in the competition. The second prize, offered by the Museum, is for \$1,425. Details of the competition and instructions regarding entries may be obtained from the RAIC Secretary.

Announcements

John N. Shaw, Robert L. Greig and William E. Carruthers have entered into partnership and will practise under the firm name of Shaw, Greig and Carruthers, Architects, at 745 Mt Pleasant Road, Toronto 7, Ontario. Each partner graduated from the University of Toronto and was formerly employed at Page & Steele, Architects, Toronto.

Positions Wanted

Bachelor of Architecture, 1959, University of the Witwatersrand, South Africa, age 24, seeks position in office in any part of Canada. Institute of South Architects first prize in final year, distinction in Thesis. Election as ARIBA on 14 March, 1961. Employed at present in Johannesburg and attending post graduate course in Town Planning. L. C. Archer, 10 Commissioner Street, Johannesburg, Union of South Africa.

Graduate of High Architectural Branch, Academy of Fine Arts, Istanbul, 1956, presently employed on State Water Works, city planning, seeks position in Canada. Orhan Cezmi Tuncer, Y. Mimar Diyarbakir, Turkey.

ROBERT REID MOFFAT, partner in the firm of Shore and Moffat, Toronto, passed away at his home in December at the age of fifty-four. Almost all of his early life was spent at Bradwell, Saskatchewan.

He received his Bachelor of Science Degree from the University of Saskatchewan in 1926 following which he spent a year in the office of Webster and Gilbert in Saskatoon. During this period he was so impressed with the ability of the architects to come to grips with, and solve practical problems that he decided to become a member of the profession, and having done so, enrolled at Massachusetts Institute of Technology where, in 1931, he was granted the degree of Bachelor of Science in Architecture.

He then took up residence in Toronto, being employed successively in the offices of Darling and Pearson and Wickson and Gregg. He was for four years assistant superintendent of buildings at the University of Toronto, following which he established himself in private practice. This phase was short-lived because of his wartime service, but his reputation for good design was quickly established. One remembers particularly the residence for Dr Wm Gardiner in Forest Hill Village.

In 1941 he served as a member of the Executive of the Toronto Chapter of the OAA, until he moved to Ottawa where he became Assistant Director of Works and Buildings, Department of Naval Service.

In 1945 he and Leonard E. Shore became partners in the firm that bears their names, which firm in the intervening years has played an important role in the development of Canadian architecture. Among the buildings for which Mr Moffat was responsible are the Union Carbide Canada Limited and the William Lyon Mackenzie Building, both in Toronto, and the Arts Building and Memorial Union Building at the University of Saskatchewan.

As Chairman of the Toronto Chapter Advisory Committee on Civic Design in 1951-55 he played an important part in the re-design of street furniture and lighting for lower Yonge Street after completion of the subway, for which we shall always be thankful. He was a member of the OAA School Planning Committee since its inception in 1951 and served on the RAIC Committee on Standard Practices from 1949 to 1952.

Excelling in everything he attempted, in golf he regularly shot in the low 80's. Only two days before his death his curling team beat that of the well known Alfey Phillips, the Tankard Skip. He constantly endeavoured to upgrade any sport in which he took part; not least of which were his efforts to improve the design of trophies which he believed to be unbelievably bad.

Always the student, participating in gardening and landscape design, he referred to the plants by their botanical names.

He approached every architectural problem from the scientific point of view, and was adept at reducing problems to their barest fundamentals. Though his prime interest lay in finding a functional solution to any archi-

tectural problem he was nevertheless keenly interested in and competent in color work.

In practice he was most ethical and expected the same from his fellow architects. To him, the honor of the profession was terribly important and this became even more apparent in the recent years. In all matters his approach was direct and one knew exactly where he stood. Those who knew his father, the late Mr R. J. Moffat, a former Director of the Saskatchewan Wheat Pool and the CNR, recognized in 'Bob' many of his father's excellent traits. Both shared a deep respect for higher education and sought to make it more readily available. Robert Moffat will be sorely missed.

Gordon S. Adamson

Program of Urban Development

Proposals for a national program of urban development which formed part of a submission by the Canadian Federation of Mayors and Municipalities to the Government of Canada on November 8 last, are outlined in a booklet "There is Work for Canadians in the Improvement of Our Cities", published by the Federation and available upon request to the National Office, Sheraton-Mount Royal Hotel, Montreal.

DBR Report on 1958/59 Activities

A report recording the activities of the Division of Building Research of the National Research Council, Ottawa, during the years 1958 and 1959, has been published and is available from the Division at \$1.00 per copy.

PROVINCIAL NEWS

MAA Annual Meeting

The 46th Annual meeting of the Manitoba Association of Architects was held January 14th at the Fort Garry Hotel. H. H. G. Moody was elected President for 1961. Gerald McDonald was elected to Council for a one year term, and Isadore Coop, Stewart Lindgren and Norman Russell were elected for three year terms. Continuing members on the Council are Ernest J. Smith, immediate Past President; David Thordarson, N. M. Zunic, Harry Tod and R. D. Gillmor, the University Appointee.

A report on the joint lectureship fund, established by the MAA to assist, in conjunction with the Students' Architectural Society, in the presentation of visiting lecturers, had received during the year a grant of \$1,000 from the MAA and \$600 from the Society. This made it possible to bring to Manitoba during the year Dean John E. Burchard, of MIT; Professor Serge Chermayeff, of Harvard University; and Garrett Eckbo, landscape architect of Pasadena, California.

The 48th annual report of the School of Architecture at the University of Manitoba showed a total enrolment of 238, of which 91 were first year enrolments; 51 second year; 40 third year; 32 fourth year and 24 fifth year. Interior design enrolments numbered 128; post graduate study and community planning, four, and post graduate study in architecture, one. New members of the staff are Rubin Clarke, Gustavo da Roza and Radoslav Zuk. It was noted that in addition to the \$1,000 lectureship contribution, the MAA assists the School with scholarships

to the value of \$300 and book prizes of \$300. The report noted that new admission requirements to the School of Architecture include 60% in senior matriculation, with a minimum of 60% in English, Mathematics and Physics.

The report of the Committee on Architectural Fees noted that the Committee is approaching this problem from several angles, including architectural fees on an hourly basis, partial fee arrangement, architectural fee structure for identical buildings, and architectural fee structure working in conjunction with real estate developers. The Committee has not yet arrived at a recommendation to Council or the general membership on these matters.

The Report of the Joint Committee with the Winnipeg Builders' Exchange recommended the appointment of a permanent standing committee to resolve differences as they occur in the fields of break down of cost changes, and break down of building contracts. The use of prime sum allowances also was discussed.

The annual dinner in the evening was addressed by Mr R. H. G. Bonnycastle, Chairman of Metro, on "Metro in Greater Winnipeg".

The day prior to the annual meeting representatives from the three western provinces held a conference with Mr Fox, special assistant at RAIC headquarters, Ottawa, on the implementation of the Report of the Committee of Inquiry into the Design of the Residential Environment. At the end of the conference a resolution was adopted that "the Manitoba Association of Architects, recognizing that, because of new industries, power sources, transportation facilities, schools, hospitals, etc, a provincial master plan is needed." It was recommended that a representative group of the Association's members, meeting with other interested organizations within the province, study the provincial planning act and evaluate the services offered by the planning branch of the provincial government, and prepare and submit a brief to the provincial government with a view to extending its authority and services.

PQAA Officers for 1961



J. R. VENNE

Newly elected officers of the Province of Quebec Association of Architects were photographed at the annual meeting of the Association at Lac Beauport Inn, Quebec, on January 27-28. Left to right: Edouard W. Tremblay, Honorary Secretary; Paul-O. Trépanier, First Vice President; Richard E. Bolton, President; Francis J. Nobbs, Honorary Treasurer; Henri Mercier, Immediate Past President; and C. Davis Goodman, Second Vice President.

Du Secrétariat de l'A.A.P.Q.

Ce fut l'éclipse quasi totale: l'étude a enfin passé l'administration. Voilà en résumé le congrès de 1961.

Si l'on se reporte à l'Assemblée annuelle de Sherbrooke, Jean-Louis Lalonde avait alors exprimé le vœu "que l'on essaie de donner aux assemblées un caractère plus artistique, plus architectural, moins "affaires". Il avait également suggéré que les affaires se règlent dans le plus court délai possible". On peut déclarer sans ambages que son vœu a été exaucé.

La 1ère séance d'affaires a subi le 3^e degré. En quatre-vingt-dix minutes l'assemblée avait expédié tous les Rapports annuels: Comités à demeure, Comités spéciaux, rapports des vérificateurs. Il a fallu l'intervention à deux reprises du président de l'assemblée pour briser la monotonie des résolutions qui tombaient dru sans discussion aucune. Il a demandé à deux présidents de comité d'ajouter à leur écrit, manière de susciter un peu d'intérêt autour d'un document qui est en passe de devenir un annuaire démodé. Quelques points soulevés par des participants plus enthousiastes que les autres ont été reportés aux affaires nouvelles. Et ce fut tout.

Après avoir assisté à l'élimination plus qu'expéditive d'un cahier de quelque 22 ou 23 pages de texte dense, une question surgit inévitable au sujet du système actuel. Que valent ces rapports modelés d'année en année sur les précédents? Une formule qui a perdu l'heur de susciter même les moindres commentaires a-t-elle encore sa place? On peut se poser la question. Une première réaction c'est que les rapports annuels constituent un recueil de recommandations et de suggestions faites au Conseil. Seules, à toutes fins pratiques, les décisions et résolutions prises par ce dernier devraient faire l'objet d'un rapport aux membres. Un message du président sortant de charge ou du secrétaire honoraire servirait beaucoup mieux comme résumé des activités de l'année. D'autant plus que dans leur forme présente les rapports annuels ne relatent nullement le travail imposant de l'Exécutif et donnent un pâle aperçu de la besogne abattue par le Conseil.

A la 2^e séance d'affaires ce problème devait revenir à la surface. Même si l'on a un peu trop insisté sur la publication des présences au Conseil comme critère de travail accompli, on s'est vite rendu compte que dans le fond ce qu'on réclamait, c'est une communication régulière et plus complète entre élus et électeurs. Aux deux dernières assemblées, on a prôné l'envoi de bulletins mensuels, trimestriels ou tout simplement périodiques. Un pas dans ce sens a été tenté l'an dernier: si faible toutefois que très peu ont pensé qu'il s'agissait là d'un bulletin. Mais cette fois, c'est pour de bon: le Conseil devra cette année par la plume de son secrétaire honoraire rendre compte de son mandat, et ceci à chaque mois.

Une autre suggestion intéressante apportée à l'enseignement des affaires nouvelles a été de transformer le Comité actuel d'urbanisme en un Comité conjoint qui grouperait les disciplines concernées. Tout le monde semble piqué de la mouche de l'urbanisme, ces années-ci. Les plus obscurs organismes se mêlent de pondre des

mémoires ou de philosopher sur la question. Il est impérieux et urgent que les groupements professionnels les plus sérieux et les mieux avertis se concertent pour prendre les devants et s'imposer à l'attention des administrateurs publics à tous les échelons, avant que les sans-oeuvres et les sans-titres influencent en mauvaise part les gens en autorité. Ce sera sans doute le but visé par le nouveau Comité.

Dans le monde des spectacles refroidissants (excuse pour se réchauffer après?), l'équipe de curling de Québec a de nouveau remporté le Trophée Meadowcroft. On peut difficilement se payer le luxe de perdre quand on dispose d'un surplus de "skips". N'étant pas de la famille, j'ignore le sens de ce langage, mais je me suis laissé dire que ça sonne très fort, à qui veut l'entendre.

Les dames pour leur part ont connu un magnifique tour de diligence . . . dans le lobby du Château Frontenac! Les hôtes de Québec ont sans doute voulu leur épargner un rhume. Souhaitons que la prochaine fois on n'oublie pas de retenir la diligence. . .

Le clou du congrès restait à venir. Les deux séances d'études, le film, les colloques, les résolutions adoptées à l'issue de ces rencontres et les conversations qui ont prolongé le congrès dans les semaines suivantes suffisent amplement à démontrer que l'aile rajeunissante de l'Association en avait soupé de ces réunions où l'on parle administration, routine et budget. Le Comité d'organisation avait senti ce besoin. Dès le printemps de 1960, le plan d'ensemble était tracé. On voulait coûte que coûte faire de l'Assemblée un véritable Congrès, comprimer les discussions purement administratives, intéresser les congressistes à des problèmes plus élevés et, de ce fait, placer l'architecte devant le public comme un homme de recherches au service de la collectivité. Le Cercle d'études de la Société de Montréal a consacré l'an dernier toutes ses agapes mensuelles à bâtir une partie du programme du congrès. Nous discernons tout de suite l'utilité indiscutable des sociétés régionales et l'urgence qu'il y avait d'en créer. Cette année, Montréal et Québec ont alimenté les séances d'études. L'an prochain, les Cantons de l'Est et le Saguenay-Lac-St-Jean voudront certes emboîter le pas.

Les membres qui n'ont pu se retremper dans l'atmosphère intellectuelle du rendez-vous annuel ont été à même de vérifier de visu, à la télévision et dans les journaux, que la publicité était de la partie. Les services d'un agent spécial de relations extérieures s'avèrent de nécessité absolue en semblable occasion. Les manchettes de journaux, les apparitions à Carrefour et les nombreux articles échelonnés sur une semaine ont valu plusieurs fois à l'Association le cachet versé à Jacques Hébert.

Au terme de ce 1^{er} congrès, l'équipe Jean-Louis Lalonde — Claude Longpré — Noël Mainguy — Gilles Marchand mérite les félicitations les plus chaleureuses pour le magnifique succès remporté. Pour un coup d'essai, ce fut de toute évidence un coup de maîtres. Au moment de rédiger ce message, on m'apprend qu'il tarde à la même équipe de se remettre à l'oeuvre pour organiser le prochain congrès qui, incidemment, se tiendra à Montréal, probablement au Reine Elizabeth, du 8 au 10 février 1962.

Jacques Tisseur

COMING EVENTS

March 31-April 8, 1961
National Home Show
Exhibition Grounds, Toronto

Spring of 1961
Celebration in Honor of Founders
of Modern Architecture,
Gropius, Le Corbusier,
van der Rohe, Wright
Columbia School of Architecture
New York

April 5-6-7, 1961
1961 Building Officials' Conference
Building Research Centre
NRC, Ottawa

April 9-15, 1961
23rd Annual Convention
National Association of
Architectural Metal Manufacturers,
Plaza Hotel, New York

April 18-19, 1961
Conference on Muskeg in Relation
to Northern Development
McMaster University, Hamilton.
Interested persons are invited to
attend. Address enquiries to
I. C. MacFarlane, DBR, NRC, Ottawa

May 14-16, 1961
17th Canadian Regional Conference
Illuminating Engineering Society
Queen Elizabeth Hotel, Montreal

May 17-20, 1961
RAIC 54th Annual Assembly
Chateau Frontenac, Quebec

July 3-7, 1961
VIth Congress
International Union of Architects
London, Eng. (Registrations, RIBA)

August 30-September 2, 1961
Conference on Shell Structures
Civil Engineering Dept,
Technical University,
Delft, Netherlands



It's no fun — when your town's investment in concrete swimming pools, parking areas and playgrounds heave, settle and crack under the constant strain of weather changes. To insure that investments in community life — are lifelong investments — reinforce with Electroweld sinews of steel.

Be sure it's "Reinforced" — Specify Electroweld on every concrete job.

Manufacturers of:

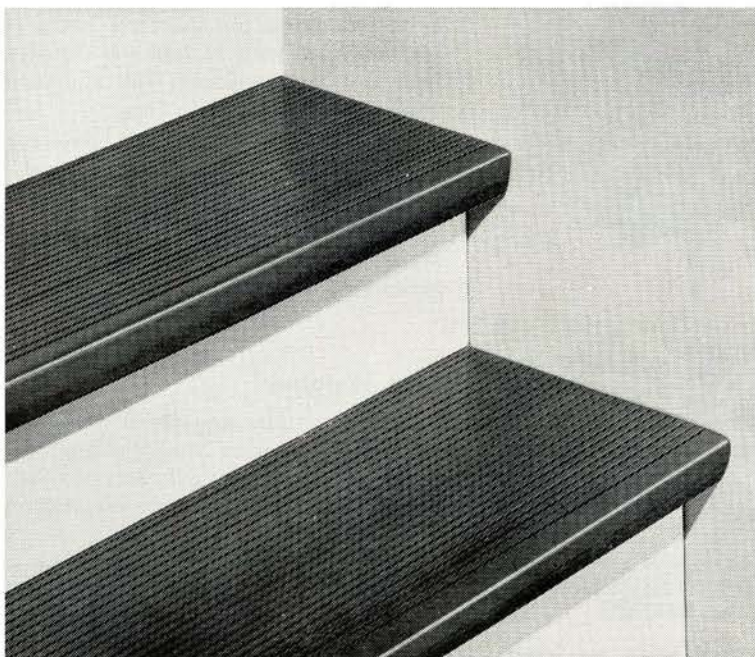
CON TIE WIRE
BLOC - WELD
block reinforcing "



"ANCHOR" BRAND NAILS
ELECTROWELD WIRE FABRIC
STEEL PENCIL ROD

IRVING WIRE PRODUCTS
CALGARY, ALBERTA

66th AVENUE AND CENTRE ST. S. PHONE: CH. 3-3114 IWT-3



SPECIFY

Smith **VINYL STAIR TREAD**

- Safer under foot
- Gives better traction
- Quieter—cushions shock
- Scratch-proof—retains new look
- Age won't change texture

Write for complete technical data and samples

SMITH MANUFACTURING LIMITED
Weston, Canada

Also makers of Smith Stair Nosing, Carpet Undercushion and Binder Bars.

the beauty of wood

ENDURA

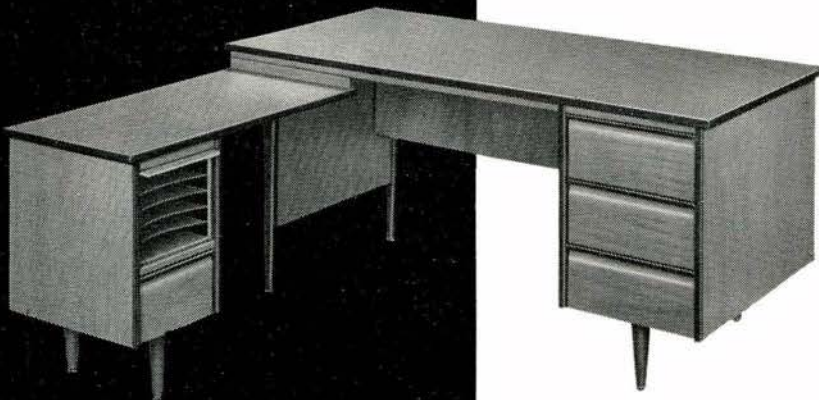
the strength of steel

Here's the last word — the best word — in modern furniture for the general office . . . combining the pleasing warmth and colour of choice hardwood veneers with the perfection of mar-proof FIBERESIN work-surfaces . . . For first-cost and long-run economy, for greater efficiency and a happier staff — choose ENDURA office furniture. It offers you so much more, for so much less!



ENDURA DESKS are available in every size to meet the needs at every level of your office operations.

ENDURA SECRETARIAL and CLERICAL WORK STATIONS combine greater prestige with space-saving economy.



ENGINEERED TO COMPARE
WITH THE BEST . . .
PRICED TO COMPETE WITH
THE LOWEST IN COST!

the beauty of wood

ENDURA

the strength of steel



ENDURA 60" x 30" Double Pedestal Desk: \$149.
(Price may vary slightly in some areas, depending on terms, delivery or local taxes.)

franchised dealers all across Canada.
STANDARD DESK MANUFACTURERS LIMITED • MONTREAL

INDUSTRY

Glass Blocks & Sculptured Glass

A new 20-page catalogue, "PC Glass Blocks and Sculptured Glass Modules," has been published by the Pittsburgh Corning Corporation.

The design flexibility and functional advantages of Glass Blocks and Modules are discussed, along with a full-color spectrum showing the eleven colors in which Color Glass Blocks and Sculptured Glass Modules are available. Also included is technical data on light transmission, insulation value, physical performance and proper selection of Block. Information on "how to install" Glass Blocks is included, along with application specifications and accessory materials.

The catalogue is available upon request from Pittsburgh Corning Corporation, One Gateway Center, Pittsburgh 22, Pa. Ask for Booklet GB-115.



Anaconda American Brass

Publication B-1 "Anaconda Pipe & Tube Products", a 58-page booklet containing information relative to copper and brass tube for plumbing, heating, air conditioning and refrigeration lines, may be obtained from Anaconda American Brass Limited, New Toronto, Toronto 14, Ontario.



Recessing Light Fixture

The Holophane Company Ltd, announces a series of 150W to 300W fixtures for recessing in concrete.

The fixtures are particularly suitable for use in reform schools, jails, psychiatric wards and all applications where concrete ceilings are specified. Fixtures are equipped with Holophane Controls and are available with standard Hi-Stress or Bu-Ti-Glo lens.

The fixtures are made of 16 gauge banderized steel; white on the inside, black asphalt paint on the outside and can be supplied with tamper proof screws and special outdoor weather-proof zinc finish on the faceplate.



Stud Welding

Technical data and applications are available on Omark Stud Welding Systems for use in the attachment of architectural panels and sandwich curtain wall.

For copies, write to Omark Industries Ltd, 165 York Road, Guelph, Ontario.

ON-A-WALL Waste Receptacle

G. H. Wood & Company Limited announce a unique streamlined space saving waste receptacle to be known as Wood's #3750W "ON-A-WALL" waste receptacle.

Very easily and securely installed on the wall, leaving the floor completely unobstructed, the large silent-action, self-closing waste receiver door invites immediate disposal of used paper towels and other refuse. Receptacle is constructed from heavy gauge furniture steel — bonderized for longer life.

The durable heavy duty vinyl plastic receptacle liner is easily removable for emptying.

The dimensions of this receptacle are: Height 37½", Width 17½", Depth 8½". It is available in baked-on enamel or satin chrome finish. Additional information can be secured from G. H. Wood & Company — Head Office, Box 34, Toronto 18.



General Steel Wares X-Ray Protective Materials

Under an agreement just concluded, arrangements have been made for the manufacture and sale of Ray Proof X-Ray Protective materials in Canada, through General Steel Wares Limited.

Among the many products which will be available to the Canadian building industry will be, lead lined lath, lead lined cement blocks, lead lined doors and frames, ray proof control windows; and screens and light proof shades. Applications apply primarily to X-Ray protection in hospitals, medical and dental clinics, laboratories and universities — with further applications for light proof shades in schools, etc.



DOSCO Handbook

Dominion Steel and Coal have made available a handbook containing tables of conversion factors for weights and measures.

Write, Dominion Steel and Coal Corp. Ltd, Montreal, Canada.



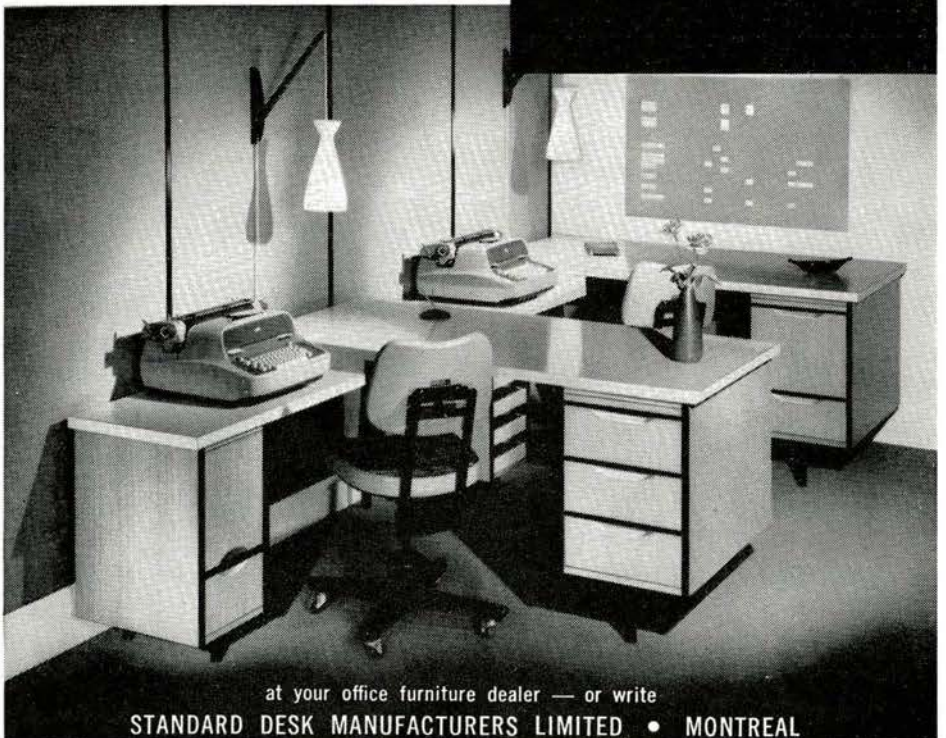
Jas. H. Matthews Brochure

A brochure illustrating memorial and commemorative plaques and tablets together with a catalogue of lettering and signs, is available upon application to Jas. H. Matthews & Co. Canada (1959) Ltd, Box 5, Nipissing Road, Milton, Ontario.

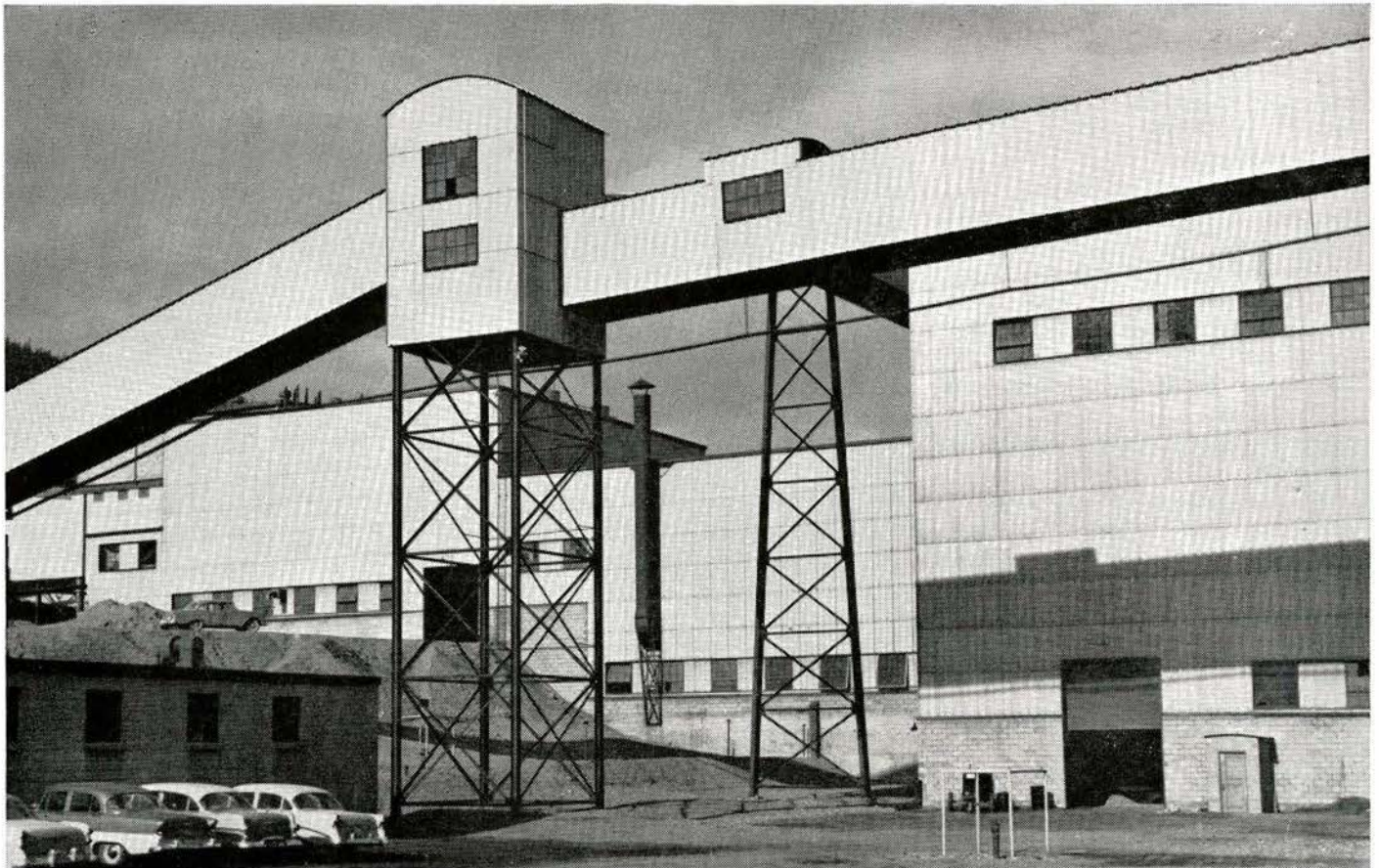


Tempo

the "family group" of sensibly priced furniture elements that offers you "tailor-made" office arrangements of advanced design, in a limitless variety, to suit every level from top executive to general office.



at your office furniture dealer — or write
STANDARD DESK MANUFACTURERS LIMITED • MONTREAL



General Contractor: Foundation Company of Canada Limited.

it's **TURNALL** ASBESTOS-CEMENT
(T. M. Reg'd.)

Trafford Tile

on the
Gaspé Copper Mines Limited buildings
at Murdochville, P.Q.

“TURNALL” TRAFFORD TILE is Canada's number one asbestos-cement material for mine buildings and industrial plants. TRAFFORD TILE permits large areas to be quickly and easily covered — is designed for maximum structural strength.

TRAFFORD TILE becomes tougher with age — weathers well in any climate — never needs painting. It is fire-resistant, and vermin and moisture proof.

Note the TRAFFORD TILE curved sheets on the roofs of the Conveyor Galleries and Transfer Houses.

This eliminated the need for ridge cappings — added to the general appearance of the buildings.

Material supplied and erected by Atlas Asbestos Company, Limited.

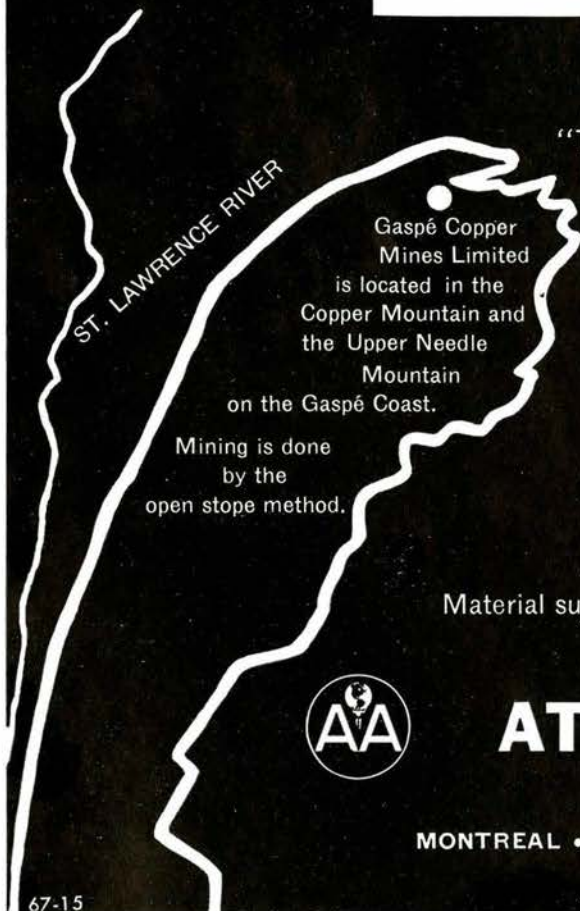
For further information contact the nearest Atlas office.



ATLAS ASBESTOS COMPANY LIMITED

MONTREAL • TORONTO • WINNIPEG • EDMONTON • VANCOUVER

A member of the Turner & Newall Organization



ST. LAWRENCE RIVER

Gaspé Copper Mines Limited is located in the Copper Mountain and the Upper Needle Mountain on the Gaspé Coast.

Mining is done by the open stope method.