

ROYAL ARCHITECTURAL INSTITUTE OF CANADA JOURNAL



JULY 1961

**ROYAL ARCHITECTURAL INSTITUTE OF CANADA
INSTITUT ROYAL D'ARCHITECTURE DU CANADA**



NOW! MANUFACTURED IN CANADA FOR THE CANADIAN MARKET...

Canadian production of Dur-o-wal Masonry Wall Reinforcement is in full swing, ready for the prompt, efficient, economical service Canadian architects, builders and dealers so richly deserve. For details, you are cordially invited to contact Dur-o-wal Ltd., 789 Woodward Ave., Hamilton, Ont. Phone Liberty 7-1441.

Impartial tests by university research engineers prove **Dur-o-wal** adds 71% flexural strength to masonry walls

We sent Dur-o-wal masonry wall reinforcement to school—where its effectiveness was scientifically measured by strictly impartial university research engineers. Here are the facts:

When Standard Weight Dur-o-wal is used every second course, the flexural strength of a masonry wall increases 71 per cent. This can be further increased, in the good cause of permanent wall construction. When Extra Heavy Dur-o-wal is used every

course, with Class A mortar, the flexural strength of a masonry wall increases 261 per cent!

Dur-o-wal, you see, is engineered—according to the fundamental truss principle which uses all of the steel in tension and working together. Make sure you get the masonry wall reinforcement that does the job. Always look for Dur-o-wal's exclusive trussed design Stocked by over 8,000 Canadian and U.S. dealers. See us in Sweet's!

DUR-O-WAL® LTD.

Masonry Wall Reinforcement and Rapid Control Joint

789 Woodward Avenue, Hamilton, Ontario

U.S. DUR-O-WAL MANUFACTURING PLANTS

- Dur-O-wal Div., Cedar Rapids Block Co., CEDAR RAPIDS, IA.
- Dur-O-wal Div., Inc., Box 628, SYRACUSE, N. Y.
- Dur-O-wal Div., Frontier Mfg. Co., Box 49, PHOENIX, ARIZ.
- Dur-O-wal Div., Inc., 4500 E. Lombard St., BALTIMORE, MD
- Dur-O-wal of Ill., 260 S. Highland Ave., AURORA, ILL.
- Dur-O-wal Prod. of Ala., Inc., Box 5446, BIRMINGHAM, ALA.
- Dur-O-wal of Colorado, 29th and Court St., PUEBLO, COLO.
- Dur-O-wal Inc., 1678 Norwood Ave., TOLEDO, OHIO



RAPID CONTROL JOINT

...another product engineered for the job by the makers of Dur-o-wal. Wide, weatherproof Neoprene rubber flanges expand and contract with the joint, keep it sealed tight with little or no caulking.

TOUGHER



CSA G40.8 STEEL

STRONGER

AVAILABLE FROM

ALGOMA

New CSA G40.8 is tougher, stronger and easier to weld than other structural grades such as CSA G40.4 (ASTM A-7) and ASTM A-36. Because it has higher yield strength, use of CSA G40.8 can result in net weight savings of up to 12% in typical structures, with resulting economy in transportation, handling and actual material costs. CSA G40.8 is available from Algoma in plates, bars and structural shapes.

UP TO 21% HIGHER YIELD STRENGTH
SUPERIOR WELDABILITY
IMPROVED NOTCH TOUGHNESS

Further information, and copies of CSA G40.8 specification gladly supplied on request.



THE ALGOMA STEEL
CORPORATION, LIMITED

Sault Ste. Marie, Ontario

DISTRICT SALES OFFICES: MONTREAL • TORONTO • WINDSOR • HAMILTON • WINNIPEG

Have window coverings kept pace with architectural trends?

More glass. More daring, dramatic use of glass. This certainly is the trend in commercial building. The Flexalum people have matched new building trends with new window covering designs and innovations. Among them — “fixed-tilt” blinds adjusted to open only at pre-set angles in order to maintain uniform exterior appearance . . . fixed position blinds which open or close to specially

chosen heights . . . “between glass” blinds for special installations . . . elegant Stellair traversing screens . . . Sun Vertikal louvres . . . and others. Choosing a permanent, window covering that’s different, good-looking *and* practical presents no problem when you have the Flexalum story at your fingertips. Write for the Flexalum window covering reference library of literature . . .

Hunter Douglas Ltd., P.O. Box 90, Youville Station, Montreal, P.Q.

Makers of Flexalum window coverings, aluminum awnings and siding, and Klad Koil coated metals.

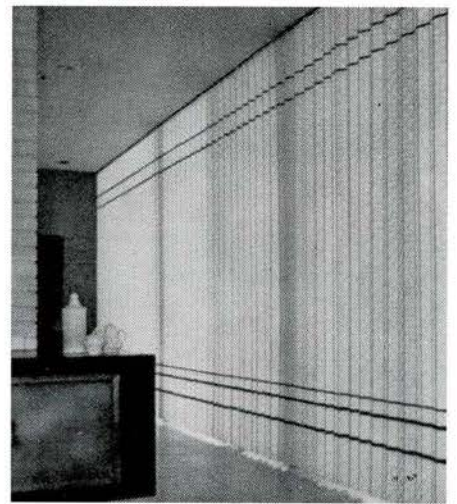
Flexalum



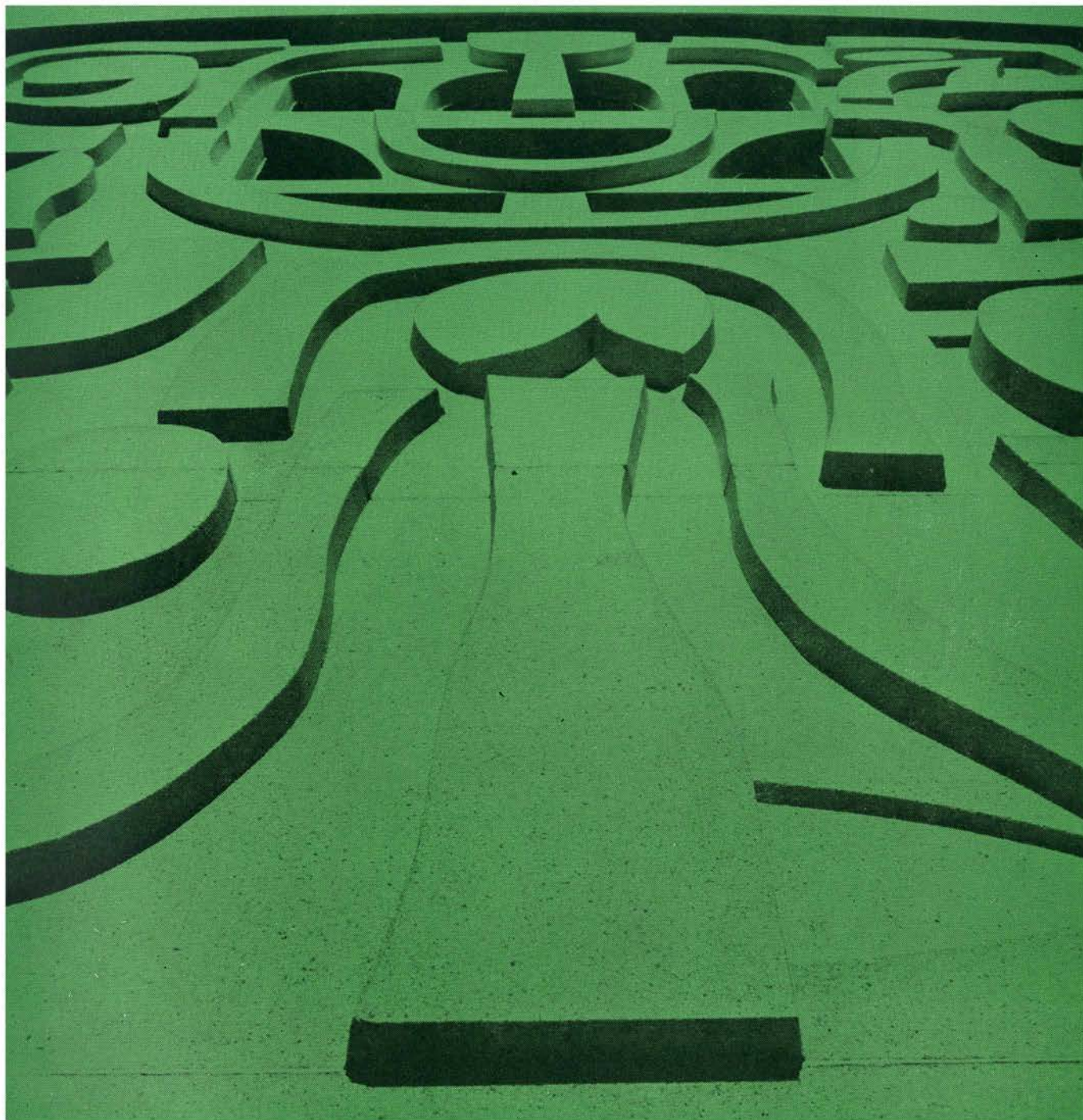
Sun Vertikals . . . window louvres of fabric or aluminum rotate to give the effect — and effectiveness — of a vertical design sun shield. Cool and crisp-looking inside; decisive, striking from the outside. Ideal for lobbies, street level openings.



Flexalum verticals . . . louvre-like blinds to provide infinite range of light control, ventilation without drafts. Draw like drapes . . . to give classic vertical lines suited equally to contemporary and traditional architecture.

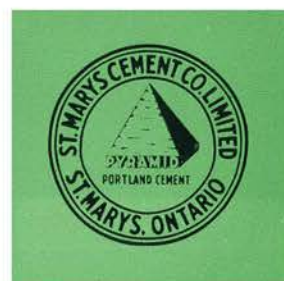


Flexalum Stellair . . . permanent window covering with a flair. Custom assembled of 3-inch translucent, fade-proof plastic modules. Admits light, air. Rejects glare. Most compact folding ratio available . . . one foot folds back into one inch!



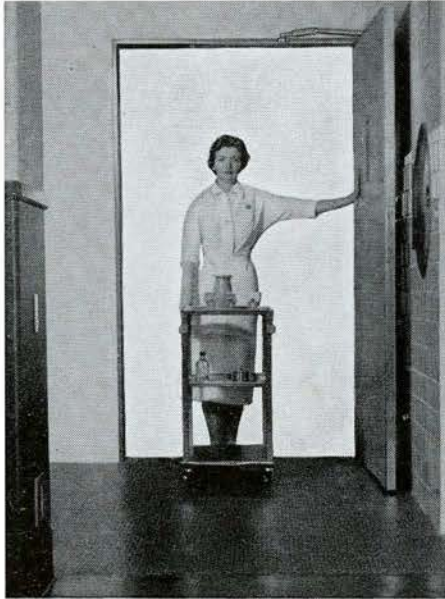
Architect: Irving Grossman • Consulting Engineers: M. S. Yolles & Associates • Precast: Toronto Cast Stone

CONCRETE MOLDS THE MODERN LOOK. Intricate wall designs of the modern Beth David Synagogue are molded from concrete. They typify the use today's builders and designers have found for versatile concrete and cement. Concrete has stepped out of the ordinary to become an ever-increasing part of the Modern Look. Since 1912, St. Mary's Cement has made Canada's best quality cement. You'll see St. Mary's famous Pyramid Brand in use wherever men want the best. **ST. MARY'S CEMENT CO. LIMITED** 2221 Yonge Street, Toronto HU 5-4411

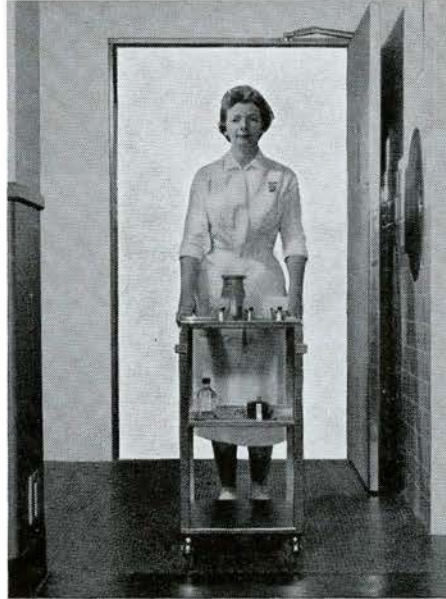


Look! a door closer that "thinks"!

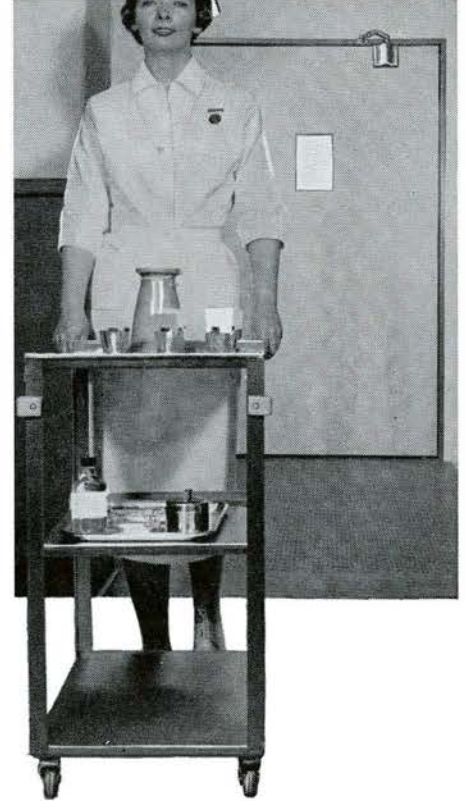
door opens...



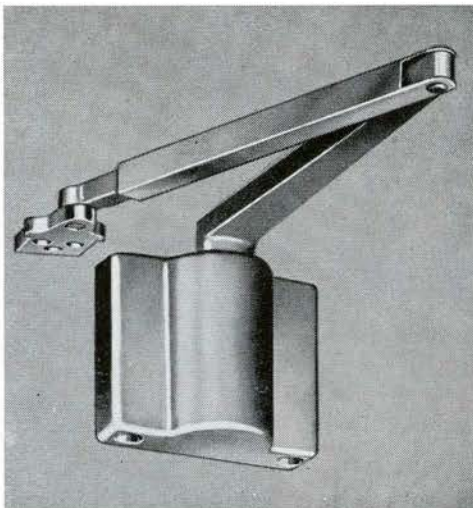
waits...



then closes!



The Russwin 400 door closer with delayed action!



A door closer with "brains"! An adjustable delayed action control in the Russwin 400 holds doors open for up to five minutes . . . then closes them. No bumps, no spills. No scarred doors. Closing and latching speeds can be controlled for draft or traffic conditions. "Silence adjustment" insures hushed contact with the door stop. Truly, the ultimate in door closers — in function, and every detail of its heavy-duty life-time construction. See your Russwin supplier. Or write for literature to . . . Russwin Belleville Lock Division, International Hardware Company of Canada Limited, Belleville, Ontario.

Modern design — Trim, attractive. The Russwin 400 Door Closer can be mortised in for semi-concealed installation, or surface mounted with smartly designed cover.



GH Wood's

WATER COOLERS

REFRESH BEST FOR LESS!

*Cut Costs! Save Time!
Last Longer!*



G. H. WOOD & COMPANY LIMITED
PRESENTS THE BEAUTIFUL NEW
OASIS "ON-A-WALL" WATER COOLER
2 CAPACITIES, 7 AND 13 GALLONS PER HOUR

A beauty to behold is the New On-A-Wall Water Cooler. Rich vinyl clad steel is mar-resistant for beauty that lasts . . . stunning Silver Spice color adds warmth to surroundings. Brilliant anodized aluminum grille imparts new elegance.

Mounts flush to wall, up off-the-floor at any height for easy cleaning. Conceals all plumbing. Walls and woodwork protected by high anti-splash shield. Gleaming, hand polished, stainless steel top can't rust or discolor . . . whisks clean in seconds.

Proven superior in thousands of new buildings. Greater efficiency and better performance than central cooling systems. Precision engineered for trouble-free service and long life. Two capacities: 7 and 13 GPH.

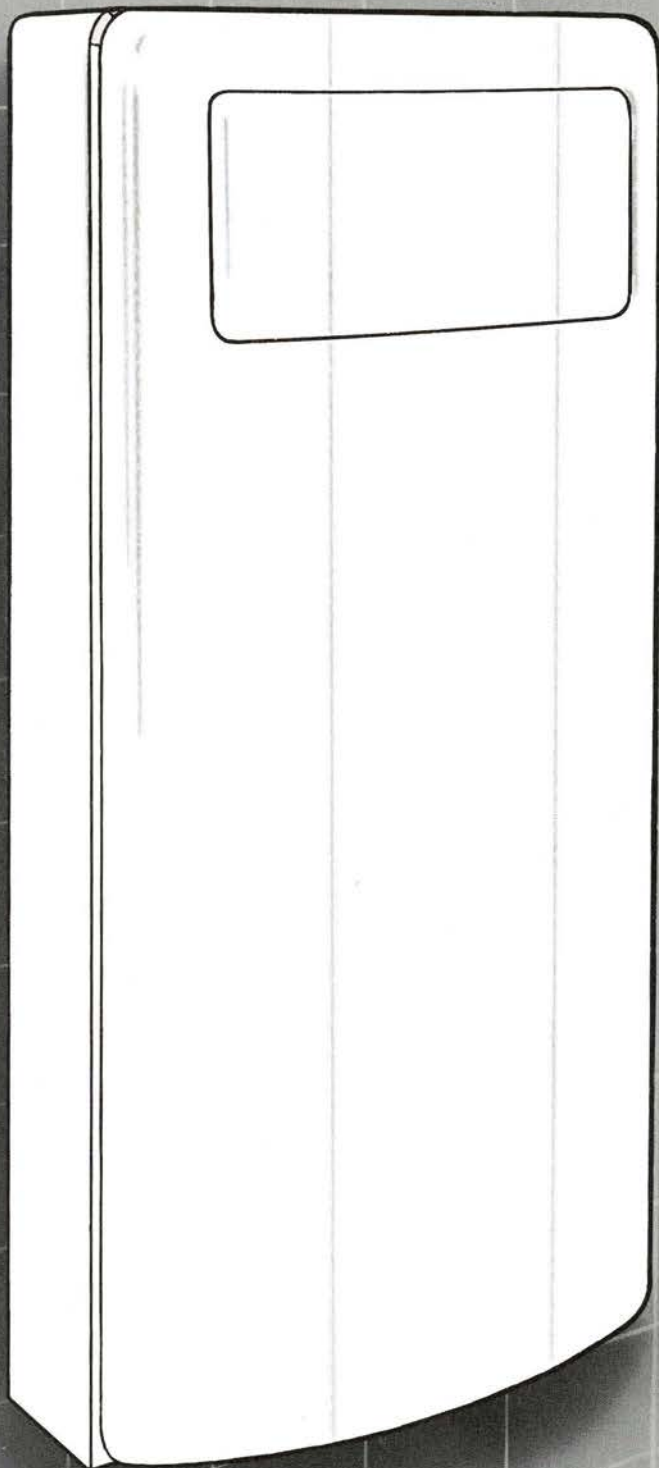
Full 5-year Oasis warranty covers entire refrigeration system and all components. Most complete warranty in the industry.

Oasis Water Coolers are available in many models, a size and design for all needs. They are built from the finest materials for longer, more dependable service. Write, wire or phone for prompt attention.

G. H. WOOD & COMPANY LTD.

'Sanitation for the Nation'

TORONTO • MONTREAL • VANCOUVER
Branches across Canada



GH Wood's

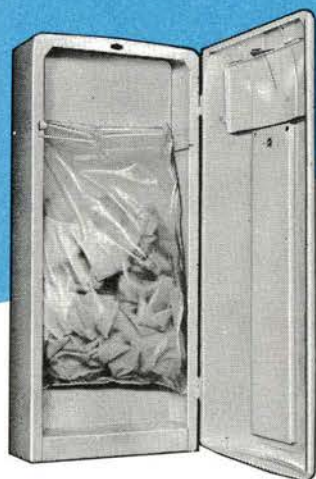
#3750-W

"ON-A-WALL" waste receptacle

Streamlined and space saving
with silent self-closing waste
receiver door.

Size: Height 37½",
width 17½",
depth 8½",

Includes durable vinyl plastic
removable bag; exclusive hidden
catch for easy, safe opening;
easily and securely installed
with lock-tight bolts; in
gleaming baked-on enamel or
satin chrome finish.



"Sanitation for the Nation"

G. H. WOOD & COMPANY, LIMITED
TORONTO • MONTREAL • VANCOUVER

BRANCHES ACROSS CANADA



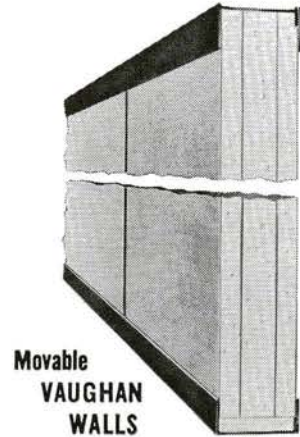
PLAN WITH NEW FREEDOM, NEW CONTROL

use Movable VAUGHAN WALLS*

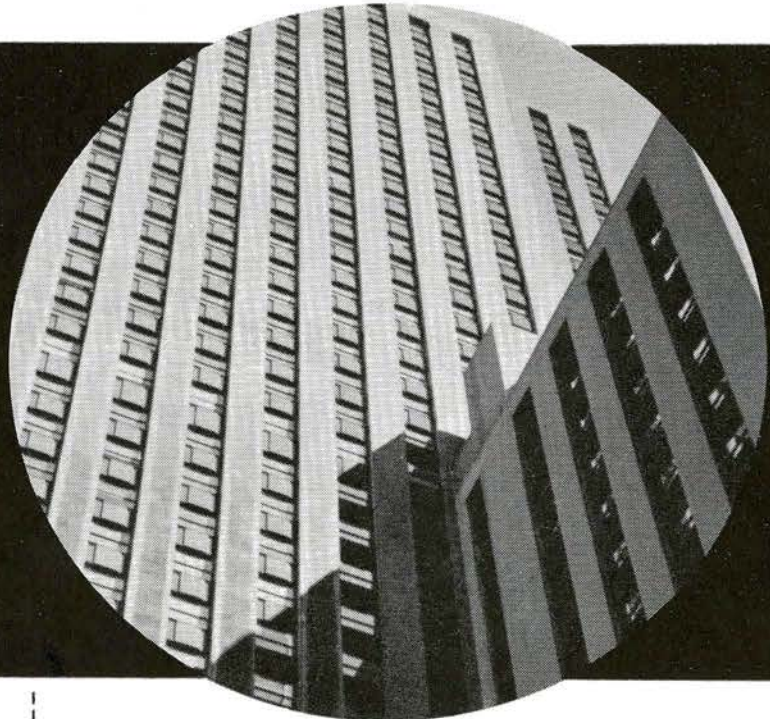
Now, you can take an entirely new view of office and other commercial building with C.G.C.'s "new perspectives," five new gypsum drywall interior partition systems.

One, Movable VAUGHAN WALL, offers everything you want in movable wall performance plus new flexibility, adaptability to decoration, structural durability, rugged resistance to sound and fire, and outstanding economy in material cost and construction time.

For the full story on this and other new C.G.C. Drywall Systems, we invite you to mail the coupon below!



*Trademark of Vaughan Interior Walls, Inc.



**CANADIAN
GYPSUM
COMPANY, LTD.**

the greatest name in building

Canadian Gypsum Company Ltd., Dept. RJ-1
790 Bay St., Toronto 2, Ont.

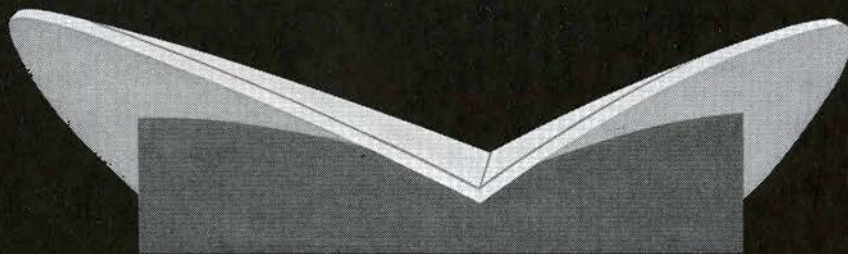
Please send complete architectural information and details on
the new Movable VAUGHAN WALL Partition System.

Name _____

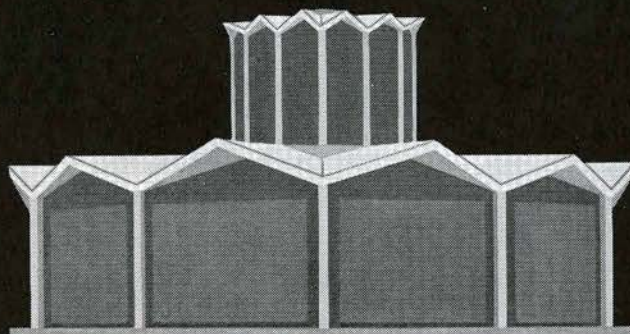
Company _____

Address _____

City _____ Province _____



**FOR
ROOFS
OF
UNUSUAL
GEOMETRY...**



Colorful Protective Coatings Based on HYPALON*

synthetic rubber

LONG-TERM PROTECTION. For roofs with varied shapes and pitches, HYPALON-based roof coatings have many advantages over other roofing materials. Most conventional roofing materials are hard, if not impossible, to adapt to steeply contoured roofs. And until the introduction of HYPALON-based roof coatings, departures from the conventional roofing materials too often led to continual repair, loss of protection and poor building appearance.

HYPALON-based coatings can be applied over all commonly used roof decks. HYPALON-based coatings cure into tough, elastic films, which permanently adhere to the roof deck. HYPALON coatings do not require plasticizers, which can migrate and cause local embrittlement. Inherently resilient, HYPALON coatings remain elastic; they stretch when the roof deck expands and recover when it contracts. And they neither soften in heat nor become brittle with cold.

HYPALON coatings have excellent resistance to

sun, ozone, flame, abrasion and strong oxidizing chemicals. In addition, they have a very slow rate of film erosion.

CHOICE OF COLOR. Architects may choose from a wide range of permanent colors—white, pastels and deep shades. This advantage permits color conditioning of the entire building. Too, the load on air conditioning equipment can be reduced by a reflective roof coating of white HYPALON.

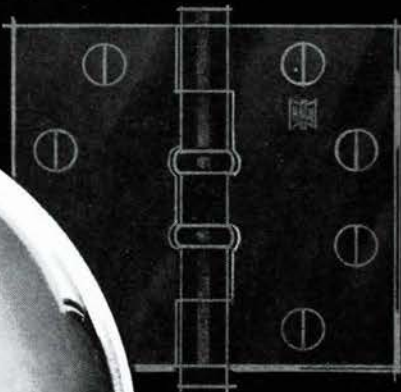
MORE INFORMATION. Du Pont manufactures only the raw material, HYPALON, and not the coatings themselves. We will be happy to send you our new booklet on elastomeric roof coatings as well as a list of qualified suppliers. Application information, performance data and costs are available from these suppliers. Please write to Du Pont of Canada Limited, Elastomers, 85 Eglinton Avenue East, Toronto 12, Ontario.

*Registered trademark of E. I. du Pont de Nemours & Co. (Inc.)



Better Things for Better Living . . . through Chemistry

H Y P A L O N*
S Y N T H E T I C R U B B E R



26* Jeweled movement

All 26 Keep Rolling Forever—not Part of the Time—in a Hager "Life-Time Bearing" Butt Hinge!

The bearings *stay there for life!* Upper and lower raceways ride *forever*—on the *full count* of ball bearings—in a Hager *Life-Time Bearing* Butt Hinge!

Tough case-hardened steel ball bearing raceways are press-fitted into direct contact with knuckle on Hager ball bearing butt hinges.

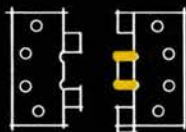
No soft brass retaining jacket (or crimped shell) lies between the knuckle and the raceway . . . nothing to eventually wear away and allow the bearings to slip out.

Both raceways and *all 26* ball bearings are hard at work in Hager Ball Bearing Butt Hinges—in fine jeweled movement—forever providing life-time trouble-free silent door operation.

You'd expect finer performance from *Hager* Ball Bearing Butt Hinges, naturally—and naturally, you have a right to!

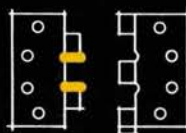
If it's expected to *stay for life*, then, of course
EVERYTHING HINGES ON HAGER!

*26 Balls in 4 1/2" x 4 1/2"
2-bearing Butt Hinges



NOT THIS . . .

One-knuckle-bored construction. Bearings anchored with wear-away brass bushings. (Bearings eventually fall out, when pin is removed.)



BUT THIS . . .

Hager TWO-knuckle-bored construction. Bearings anchored with case-hardened steel raceways.

Hager

®

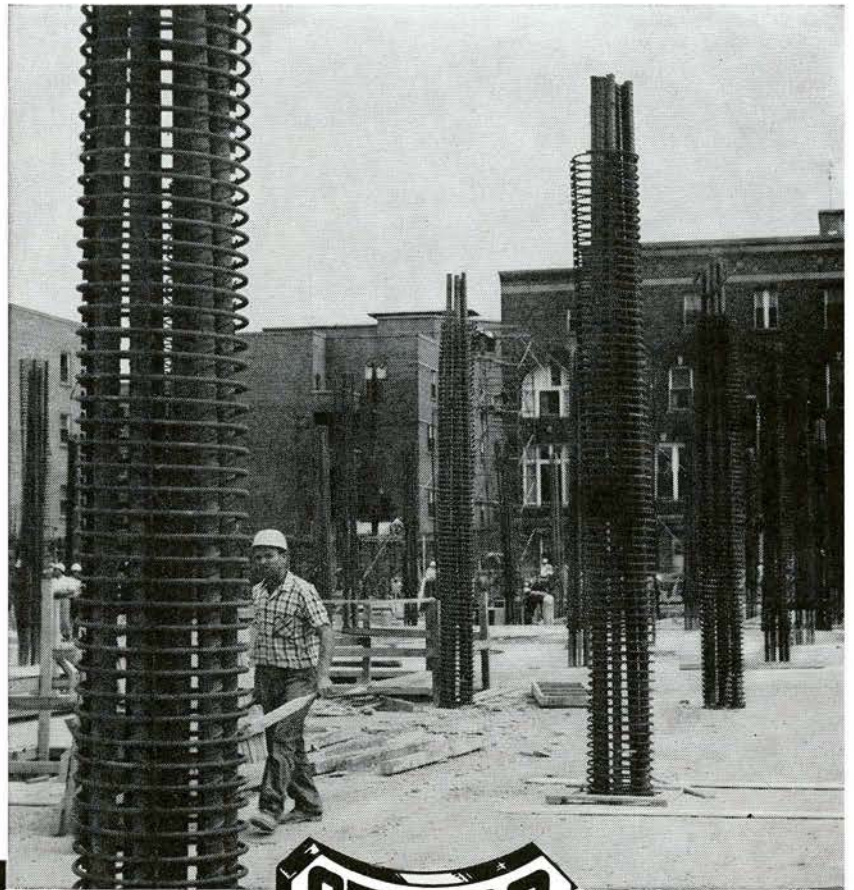
EVERYTHING HINGES ON *Hager!* • HAGER HINGE CANADA, LIMITED • 61 LAUREL STREET, EAST, WATERLOO, ONTARIO

Representatives: **QUEBEC**
LaLiberte & Wilcox Inc.
Montreal 28, Quebec

ONTARIO
J. M. T. Phillips
Toronto (Port Credit), Ontario

Continuous Steel with No Overlap!

a new design principle for columns, employing...



NO. 18 HI-BOND REINFORCING BARS

For butt-welding of the column bars, Stelco Iron Powder "Electrod" E-9018 was specified for its arc stability and its low hydrogen properties. Welding in this case eliminated 4-foot overlaps in the reinforcing bars.

St. Joseph's Hospital, Hamilton, Ontario.

OWNERS: The Sisters of St. Joseph, Hamilton.

ARCHITECTS: Prack & Prack, Hamilton.

GENERAL CONTRACTORS: Pigott Construction Company Ltd., Hamilton.

Continuous steel column reinforcement in the extension to St. Joseph's Hospital, Hamilton, Ontario, is provided by Stelco No. 18 (2" S.E.) Hi-Bond Bars welded end-to-end at two-storey intervals. Stelco also produces No. 14 (1½" S.E.) bars, which are equally well suited to this new technique.

The outstanding feature is the use of slimmer columns without sacrifice of design strength, which leads to the following advantages:

- Reduced column area with steel area maintained. (In this particular instance, eight No. 18 bars are equivalent to twenty-one No. 11 bars in each column.)

- With fewer column bars, the placing of beam bars is faster and easier.
- Good concrete coverage is maintained.
- Welding reduces erection time as compared with splicing. It also eliminates shop bending and bar overlaps.

Stelco Hi-Bond Reinforcing Bars are available in a complete range of sizes (¼" diameter, or No. 2 bar, up to 2" S.E., or No. 18 bar), conforming to C.S.A. Specifications G.30.1 and G.30.6-1954, and to A.S.T.M. Designation A.305-51. Full information, and details of on-site delivery service, are available from any Stelco Sales Office.



THE STEEL COMPANY OF CANADA, LIMITED

Executive Offices: Hamilton and Montreal

Sales Offices: Halifax, Saint John, Montreal, Ottawa, Toronto, Hamilton, London, Windsor, Sudbury, Winnipeg, Edmonton, Calgary, Vancouver. J. C. Pratt & Co. Limited, St. John's, Newfoundland.



A COMPLETELY DRY BASEMENT AREA

in the new Lions Gate Hospital has been aided by the use of NO-CO-RODE perforated drainage pipe

NO-CO-RODE Perforated Pipe laid along the outside bottom of the foundation footings, rapidly drains off ground water for the new Lions Gate Hospital. The long, lightweight lengths of pitch fibre pipe have two rows of $\frac{1}{2}$ " holes on 4-inch centres, 120° apart to assure uniform seepage. This pipe will not corrode or disintegrate nor crack with soil settlement. So specify NO-CO-RODE pipe with its quickly secured snap couplings. It's light

to handle, easy and fast to install. Simple fittings and cross joints ensure smooth, constant drainage with no clogging. The architects for the new Lions Gate Hospital were Underwood, McKinley, Cameron, the general contractor; Perini Pacific Ltd. **NO-CO-RODE is an all-Canadian product manufactured in Cornwall, Ont.** Write for full information to Murray-Brantford Limited, 1661 Sun Life Building, Montreal.

THE MARK OF LEADERSHIP



IN BUILDING MATERIALS

MURRAY-BRANTFORD LIMITED

MURRAY-BRANTFORD PRODUCTS: BUILT-UP ROOFING MATERIALS, ASPHALT SHINGLES, ROLL ROOFING & SIDING, K B SHEATHING, DONNACONA DECORATIVE WALLBOARDS, DONNACOUSTI CEILING TILES, HARDBOARDS, NO-CO-RODE PIPE, FIBERGLAS INSULATION, PROTECTIVE COATINGS, BUILDING PAPERS & VAPOUR BARRIERS (SCUTAN, FIBREEN, DUPONT POLYETHYLENE FILM). MURRAY-BRANTFORD IS A DIVISION OF DOMINION TAR & CHEMICAL COMPANY, LIMITED.



BEST TOPPER...

ASPHALT SHINGLES by Murray-Brantford
for dependability, protection and quality!

Available in a rich range of colours. Murray-Brantford Asphalt Shingles offer a wide choice of weights and types. Wind, weather and fire-resistant, they're another leading line from Murray-Brantford; specializing in new ideas, better service and improved products through research and development.

THE MARK OF LEADERSHIP



IN BUILDING MATERIALS

MURRAY-BRANTFORD LIMITED

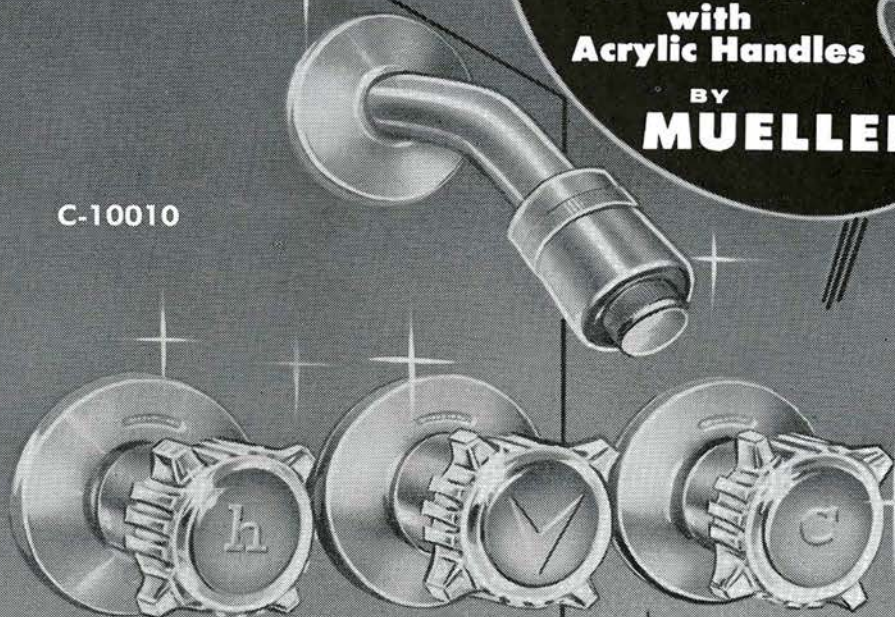
A DIVISION OF DOMINION TAR & CHEMICAL COMPANY, LIMITED

Another Distinctive Design in Plumbing Fixture Trim

Distinguished by
Acrylic handles
Beautycraft
"MARK IV" by
Mueller is the
new style
leader . . .
Complementary
to Beautycraft
"MARK III" it is
the perfect
plumbing fixture
trim for any
type of home
or building.

C-10010

Beautycraft
"MARK IV"
with
Acrylic Handles
BY
MUELLER



Now available from
Your Jobber

For complete data
Consult your Mueller
Representative or
Write us direct

MUELLER, LIMITED

S A R N I A C A N A D A



THE NEW IMPROVED WILSON

The "Best in Sight"

The new Wilson Lumilux II commercial fluorescent fixture is the most efficient and aesthetic unit available today—anywhere. It is so acceptable photometrically and visually that it fits perfectly into the modern concept of low brightness with high levels of illumination.

The new Wilson Lumilux II is designed for lighting schools, offices and all other areas where emphasis is placed on atmosphere and maximum visual comfort as well as on high level, glare-free lighting at reasonable cost.

Wide Choice of Louvres

White Plastic: A general purpose louvre that harmonizes superbly with any interior design. Provides soft, glare-free illumination. Extremely high efficiency of 88.4%.

Green Plastic: Uses the new Chromatic Louvre System with eye-rest factor. Tinted sea-mist shielding eliminates glare and creates restful lighting. Efficiency of 84.4%.

Silver Plastic: For handsome, decorative use in industrial and commercial applications. Provides extremely soft, diffused light and maximum visual comfort. Efficiency of 64%.

Diffusing louvres are also available in other light-stabilized colors, at additional cost.

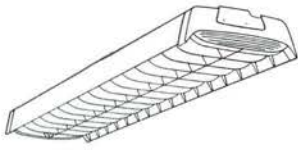


J. A. WILSON LIGHTING

280 LAKESHORE ROAD

Plants: Toronto, Ont., Medicine Hat, Alta. District offices: Montreal, Toronto, Winnipeg

OUTSTANDING FEATURES OF THE NEW lumilux II



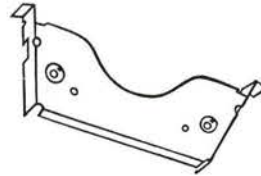
ONE-PIECE DIFFUSING LOUVRE

A 4 ft., one-piece Diffusing Louvre of injection-moulded, light-stabilized polystyrene for dimensional uniformity. Faultless continuous row lighting is assured by $\frac{1}{4}$ inch overlap for a "no-light-leak" joint of the louvres.



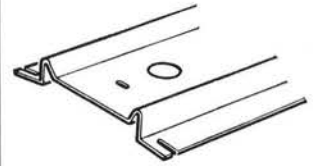
VERSATILITY IN HANGING

Complete versatility in hanging fixture is achieved by redesigning body to take a 2-piece Ice Tong Clamp. Ice Tong Clamp can be attached anywhere to fixture body and firmly engaged by manually tightening one wing nut.



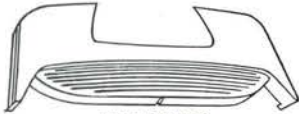
BODY ENDS RIGIDIZED

Body ends are rigidized by using End Support Brackets which also serve to accurately join fixtures. Lamp alignment and contact are maintained by a tab on Bracket end which locates and prevents lampholders from turning.



RIGID TIGHT JOINTS

Rigid tight joints and accurate fixture alignment in continuous row mounting are now simplified by use of a Joiner Plate.



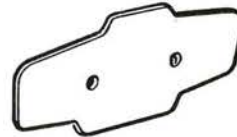
AESTHETIC PLASTIC END PLATE

Plastic End Plate promotes aesthetic appeal by providing over-all even fixture illumination at ends of individual or continuous fixture rows.



CEILING SPACER

Ceiling mounting of fixtures is simplified by use of ceiling Spacer, $1\frac{1}{2}$ inches deep to meet CSA requirements for air space between low density (cellulose) ceilings and fixture body... and $4\frac{1}{2}$ in. in diameter to cover 4-inch outlet box,



FIXTURE HARMONY

Fixture harmony with contemporary surroundings is achieved with a Metal End Trim of baked white enamel.



ADJUSTABLE LOUVRE BRACKETS

Perfectly level Diffusing Louvres are now possible as Louvre Support Brackets can be adjusted.

lumilux II

SIMPLIFIED Installation and Maintenance

- Lumilux II can be surface or pendant mounted, as individual fixtures or in continuous rows. Specially designed 2-piece Ice Tong Clamp makes for speed and economy in installation.
- Fixture, less Diffusing Louvre, may be used for lighting during the building completion. Diffusing Louvres are conveniently stored in separate cartons, clean and thoroughly destaticized for the finished installation.
- The Diffusing Louvre is easily and quickly installed, being securely held in position by rigid, die-cast support brackets... which allow the Louvre to hinge down from either side for relamping or removal.

LIGHTING LTD.

TORONTO 14, ONTARIO

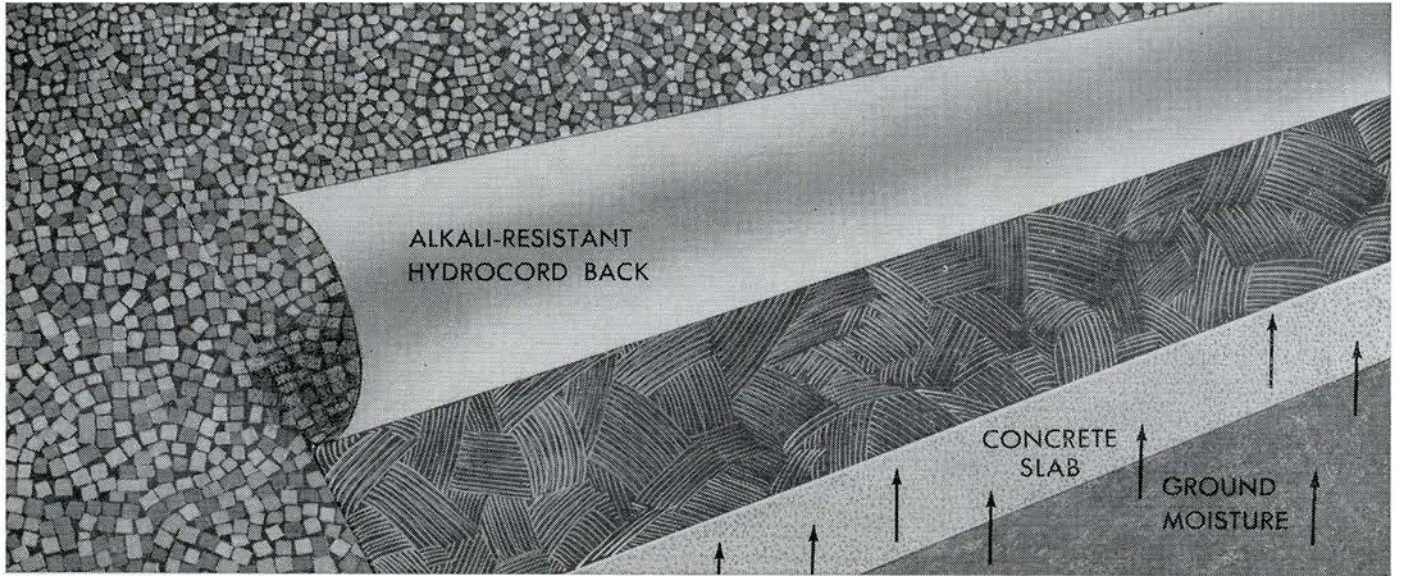
Agents: Eric Ackland & Associates Limited, Vancouver, Edmonton, Calgary

New lumilux II Catalogue

Provides full information on construction, methods of suspension, architectural specifications, photometric data, etc. Write for your free copy.

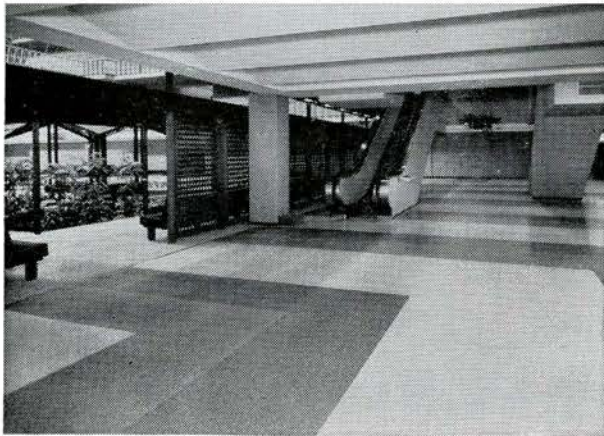


Armstrong **SHEET VINYL** FLOORING for commercial and residential use—above, on or below grade



With on- and below-grade concrete, ground moisture rises into the slab, forcing the alkalis in the concrete to the slab surface (as shown in the illustration above). The resulting alkaline

moisture damages wood and linoleum, limiting the use of these materials to above-grade areas. But Tessera Corlon with exclusive Hydrocord Back is completely resistant to alkaline moisture.



Armstrong Tessera Vinyl Corlon was installed in three colours in this modern building. Tessera was chosen for this on-grade installation because of its moisture-resistant Hydrocord Back.

Armstrong

SHEET VINYL CORLON

with Hydrocord Back

Armstrong Hydrocord Back is an exclusive moisture- and alkali-resistant backing applied directly, in the manufacturing process, to many stylings of sheet vinyl Corlon. Tessera Corlon meets the decorative and functional needs of any important interior—commercial or residential. Highly resistant to grease and alkalis, abrasion, and indentation, Tessera, with Hydrocord, solves your moisture problems and assures lasting, trouble-free service.

Technical data—(For samples and complete specifications, contact your Armstrong District Office.)

Tessera—Composition: tinted, opaque vinyl chips set in a bed of translucent vinyl; surface resistance: excellent for grease, alkalis; very good for solvents, detergents; ease of maintenance: excellent; static load limits: 75 psi; underfoot comfort and quiet: good; Over-all thickness: .090"; wearing-surface thickness: .058"; available in: 6' wide rolls.

Hydrocord Back—Composition: asbestos fiber with plastic binder; exclusive, alkali-resistant properties permit Tessera to be used over below- and on-grade subfloors, as well as above grade.

Armstrong
CORK CANADA LIMITED

Montreal • Halifax • Toronto • Winnipeg
Regina • Calgary • Vancouver

EXCELON TILE • VINYL CORLON • RUBBER TILE • CORK TILE
CLASSIC CORLON TILE • ASPHALT TILE • LINOLEUM

MAIL TODAY FOR YOUR
FREE Specification Booklet
and Sample of Tessera Corlon



Armstrong Cork Canada Limited,
P.O. Box 919, Montreal, Que.

Please send FREE Booklet and Sample of Tessera Corlon

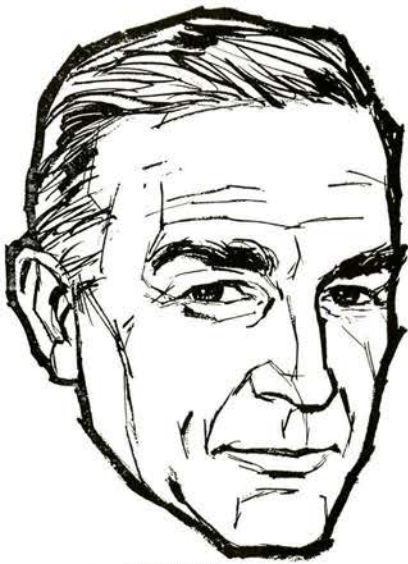
Name.....

No. and Street.....

City or Town..... Prov.....

RAIC-3

TO MEN WHO **PLAN** AND **DESIGN** BUILDINGS...



"Before writing your next locker specification, check and compare the features of this NEW flush door recessed handle locker."

... by any comparison the finest

PEDLAR ALL NEW...ALL STEEL LOCKER

Pedlar proudly presents their all new fully recessed steel locker and invites comparisons with any locker on today's market. Thorough workmanship with up-to-the-minute styling, this Pedlar locker will withstand continuous rough usage and still retain its neat clean appearance for many years of satisfactory service. Many months of design planning and testing, result in a locker containing all the most wanted features . . . quality materials throughout . . . tamper-proof sound dampened lock lifting mechanism with three point latching device . . . full length reinforcing pan on door for maximum rigidity . . . chrome plated and polished recessed lift handle which eliminates scratching of enamelled surface by padlock . . . recessed door louvres of superior strength . . . baked enamelled finish in a very wide range of exciting colours . . . three garment hooks . . . hat shelf . . . recessed and securely fastened number plates . . . and meticulous attention given to all other details.

Available in a multitude of sizes and options such as special ventilation features; master keyed cylinder locks; recessed bases; sloping tops; coat rods; extra shelves; dummy doors; and metal trim facings.



Write for free catalogue and prices now available at your nearest Pedlar Office.

THE PEDLAR PEOPLE LTD.

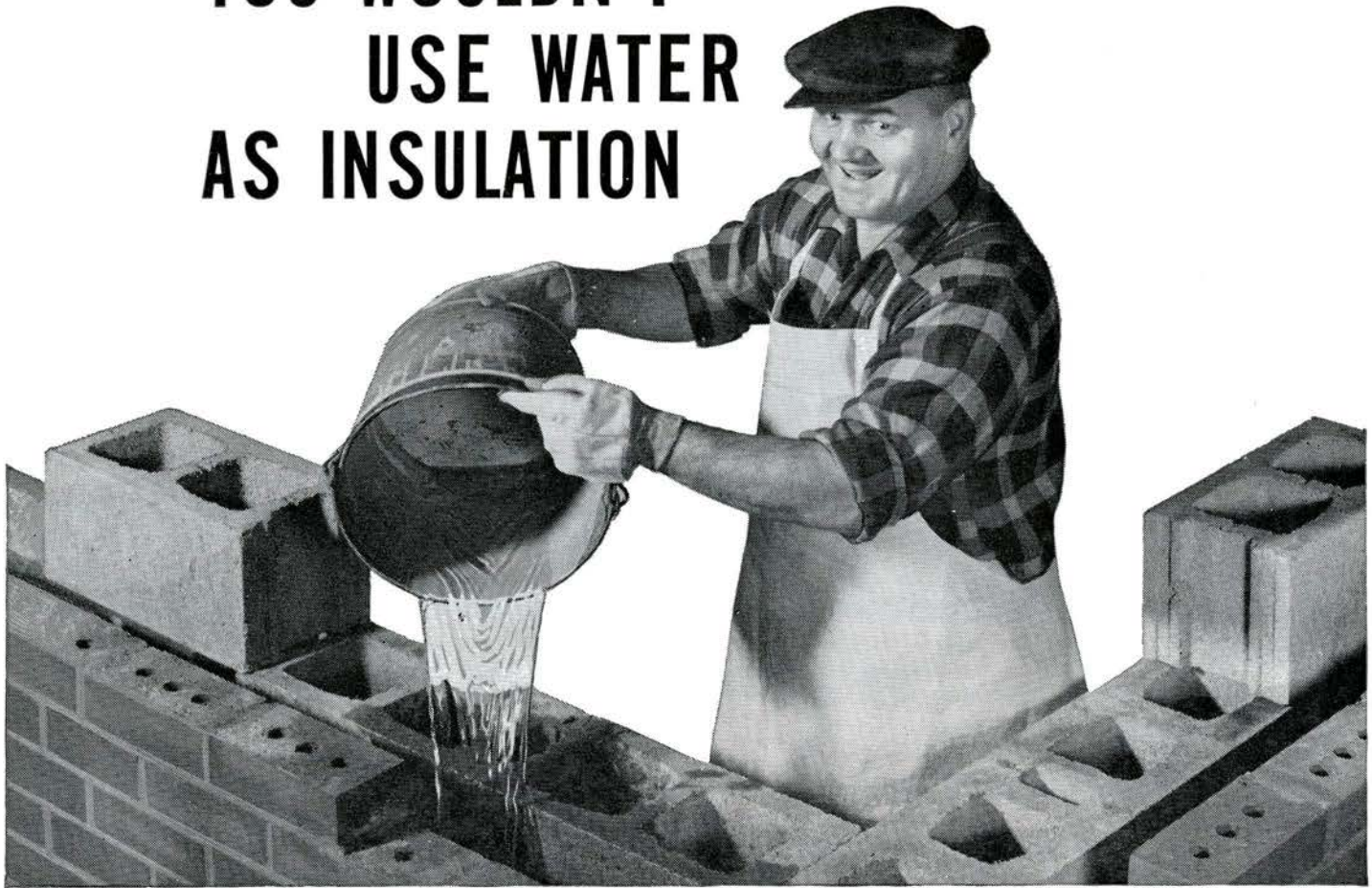
519 Simcoe St. South, Oshawa, Ontario



MONTREAL • OTTAWA • TORONTO • WINNIPEG • EDMONTON • CALGARY • VANCOUVER

L-61-1C

YOU WOULDN'T USE WATER AS INSULATION



... OR WOULD YOU?

We ask because some low temperature insulants do, in time, absorb water and gradually lose their effectiveness. Courtaulds Styrolite, on the other hand, is virtually impervious to moisture absorption. The K factor of Styrolite (a low 0.215 - 0.230) remains low permanently. Styrolite is a constant dependable insulant, available in convenient sizes and easy to install for perimeter insulation, walls, floors, and panels. Styrolite has been accepted by CMHC as conforming to standards for construction under the National Housing Act. For lasting client satisfaction specify and install Styrolite.

COURTAULDS

STYROLITE®

® Registered trade name of Courtaulds.

COURTAULDS PLASTICS CANADA LTD., CORNWALL, ONT.

MAIL THIS COUPON FOR FREE STYROLITE SPECIFICATION BROCHURE AND SAMPLES—

Courtaulds Plastics Canada Ltd.
Cornwall, Ontario

Please send by return mail your free Styrolite
specification brochure and samples.

NAME _____

ADDRESS _____

OUTSTANDING ELECTRICAL INSTALLATIONS

by

METROPOLE

Expert electrical installations under the supervision of professional engineers mean performance as specified.

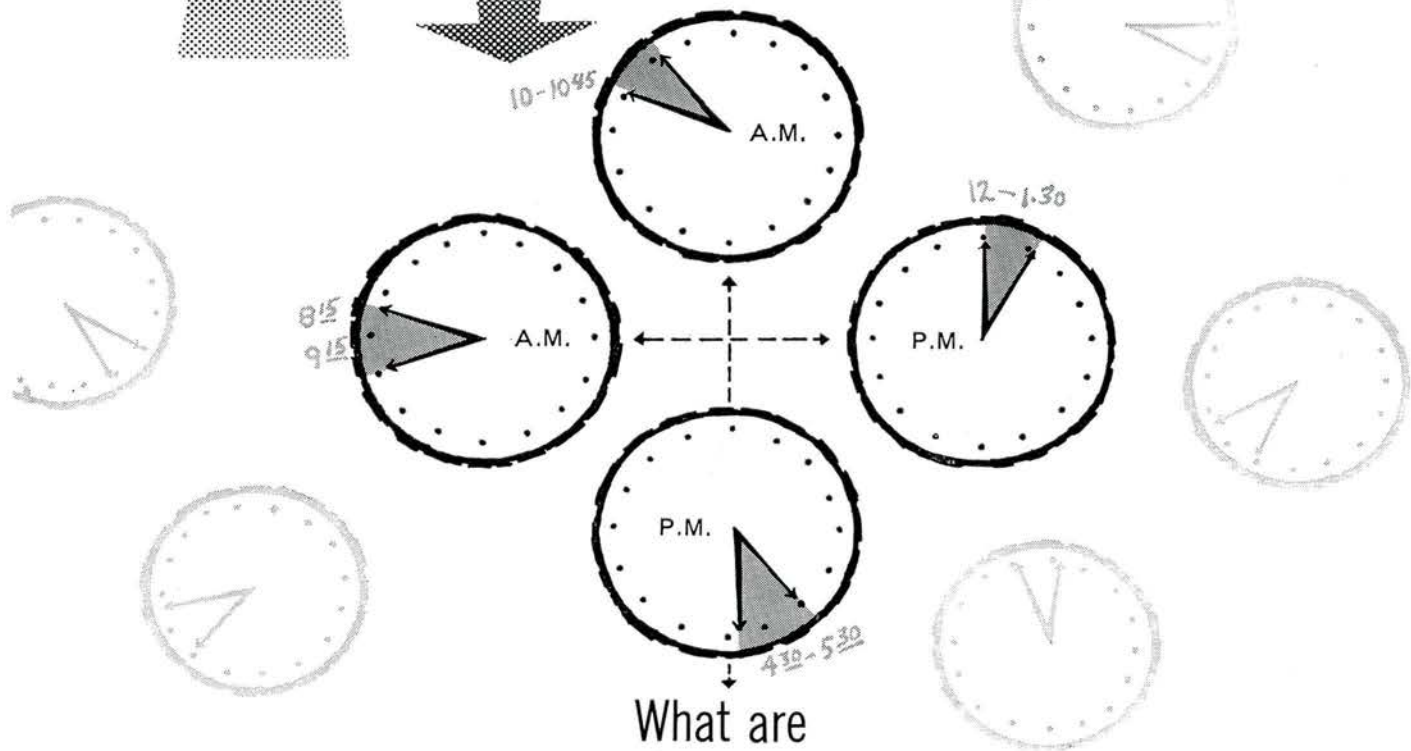


METROPOLE ELECTRIC INC

MONTREAL — QUEBEC — OTTAWA



TURNBULL ELEVATOR



What are
the
most
important
times in the
work day
of your
ELEVATORS?

Whatever your Elevator Traffic problems: starting or quitting times, coffee breaks, high percentage of clerical workers, casual traffic or whatever the problem: the time-wasting, costly traffic jams caused by these conditions can be smoothed out—through an efficient elevator operation by a Turnbull Elevator Trafloomatic programme.

Whether in the planning of a new building or the modernization of an older one, a Turnbull Elevator system assures the efficient service which goes far in helping to establish congenial tenant relations.



**TURNBULL ELEVATOR
OF CANADA LIMITED**
126 JOHN STREET, TORONTO, ONTARIO

A MEMBER OF THE COMBINED ENTERPRISES GROUP

This is the frame

Of chrome steel

fame That's part

of the chair

That Royal built!



This is the contour seat and

back That, with normal

use, won't chip or crack

That will not burn That will

not stain That's weather

proof That's fixed to the

frame That makes up

the chair that Royal built!



This is the Royal Wood Stacking

Chair That features qualities all

too rare That blends plastic

strength with natural wood That's

attached to a frame that's equally

good That comprises a contour

seat and back That, with normal

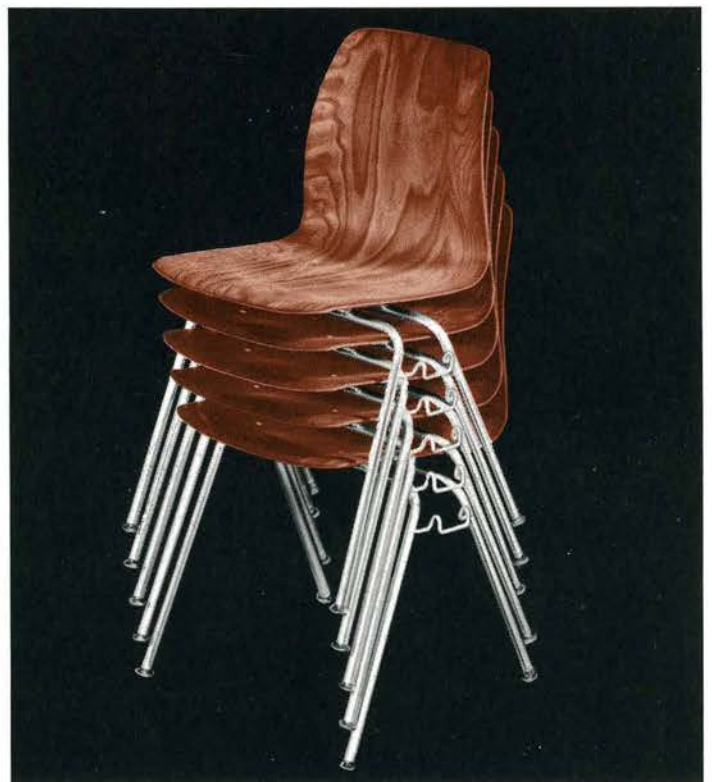
use, won't chip or crack That

will not burn That will not stain

That's weather proof That's

fixed to the frame That makes

up the chair that Royal built!



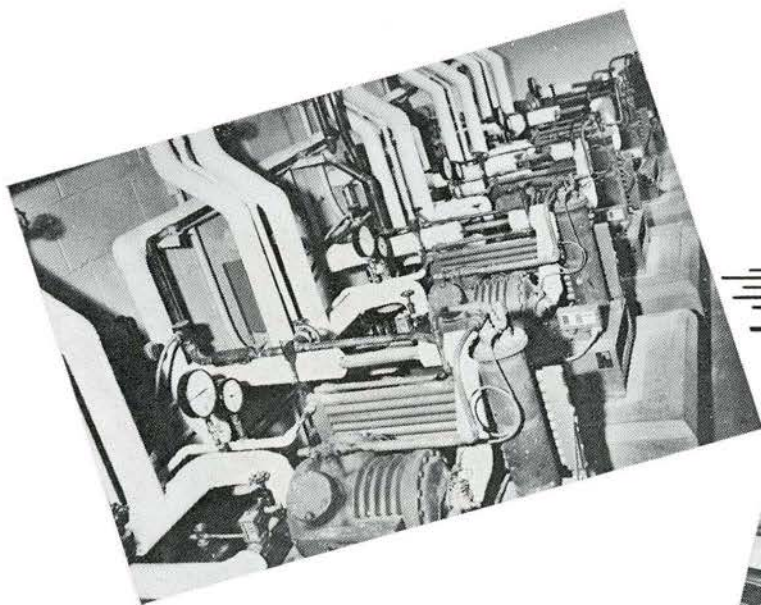
this is the chair that *Royal* built!

Write to: ROYAL METAL MANUFACTURING CO. LTD. GALT, CANADA

... for illustrated brochure and the address of your local Royal Dealer

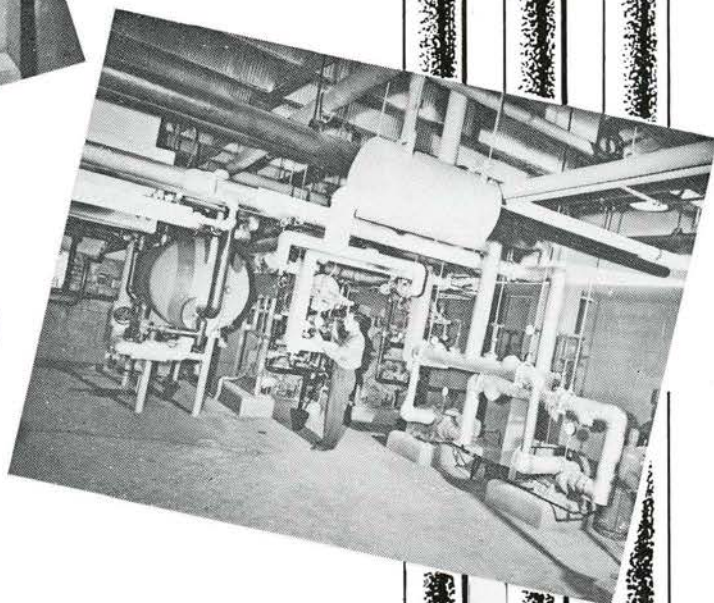
TROUBLE-FREE INSTALLATIONS

METRO



PLUMBING AND HEATING

Accurate plan interpretation, top quality materials and careful, expert installation under supervision by professional engineers result in heating and plumbing performance as specified.



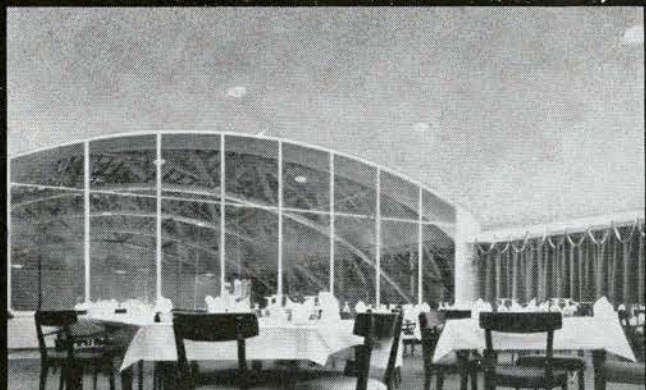
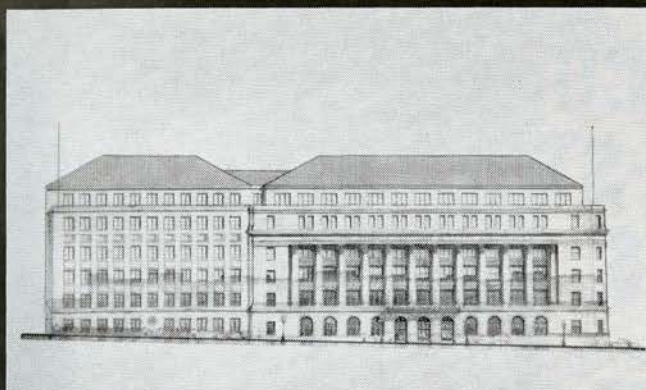
FOREST RESEARCH LABORATORY,
QUEBEC CITY, P.Q.

General Contractors: A. Janin & Co. Ltd.

... Let us quote on your next project.

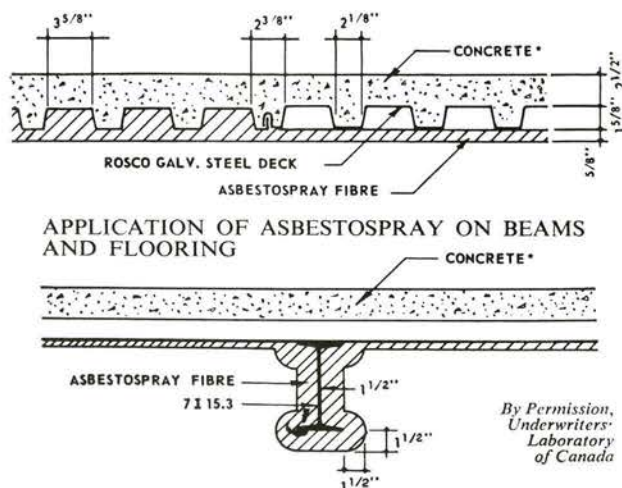
**METRO INDUSTRIES
LIMITED**
MONTREAL - QUEBEC - OTTAWA

FOR FIRE PROTECTION...
SOUND CORRECTION
ASBESTOSPRAY
SPRAY-ON FIBRE



Metropolitan Life's new Head Office in Ottawa uses Asbestospray for fire-proofing.
Architect: Marani Morris & Allan, Toronto.
General Contractor: Angus Robertson Ltd. Ottawa
Asbestospray by: David McFarlane & Assoc. Ltd. Toronto.

The dining room of a Toronto gentlemen's Club has an Asbestospray ceiling for acoustical correction.
Architect: Basil G. Ludlow, Toronto
General Contractor: W. B. Sullivan Construction Ltd. Toronto
Asbestospray by: David McFarlane & Assoc. Ltd. Toronto.



Here's the modern spray-on insulating material that's fire resistant and sound absorbing! Gives up to 4 hours of protection when exposed to fire . . . can be used to absorb sound over the entire frequency range. Asbestospray is applied directly to beams, floors and ceilings with one pass of the spray gun. No prime coat is needed!

THERMAL INSULATION
Asbestospray has a K-factor of 0.26.

CONDENSATION CONTROL
Prevents dripping in high humidity areas.

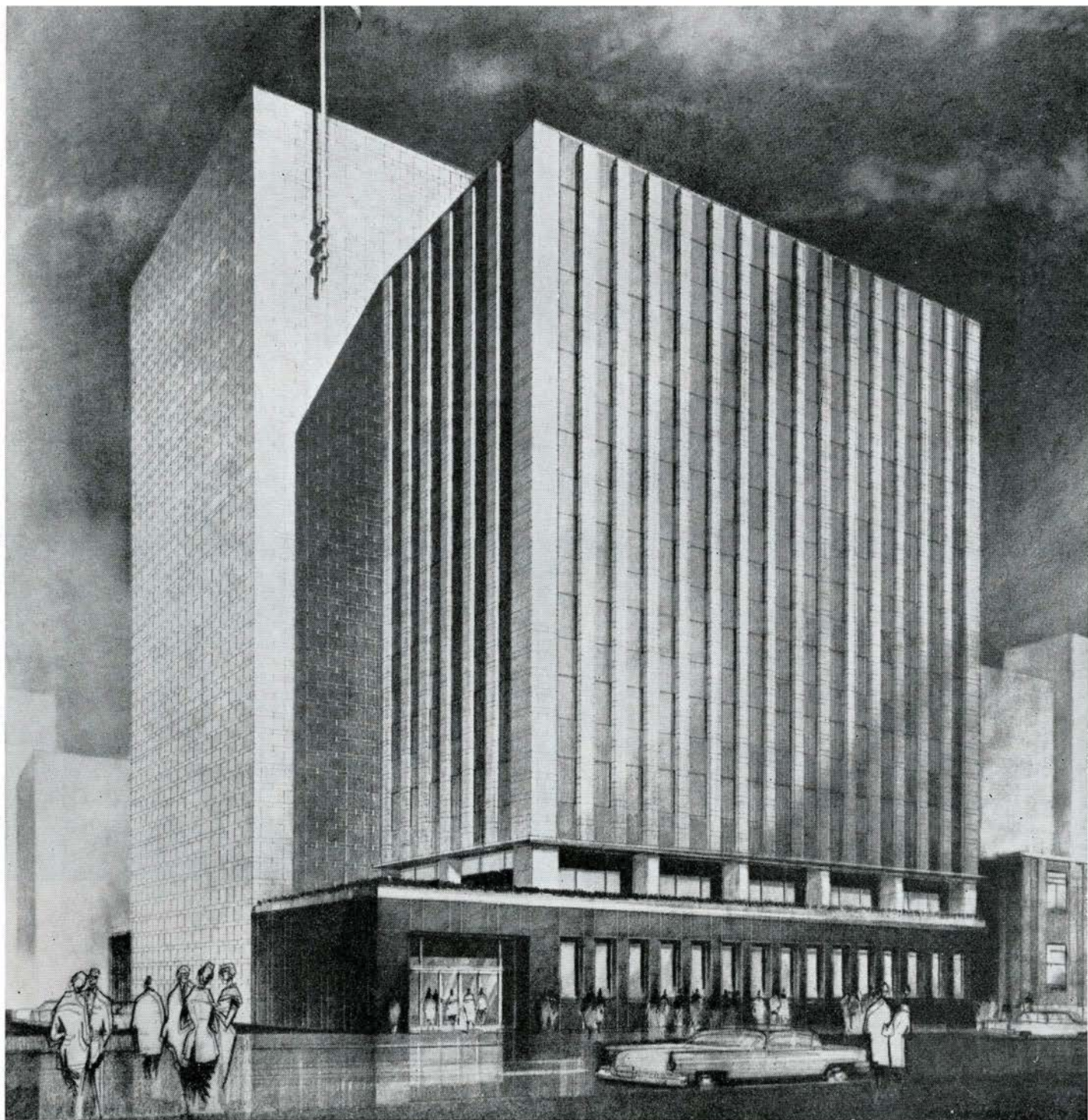
ONE PASS APPLICATION
Asbestospray can be built to any required thickness without mechanical support.

LIGHTWEIGHT
Less than one pound per board foot.

Canadian Made—Canadian Tested—For further information, contact:

 **BISHOP PRODUCTS LIMITED**
TORONTO, ONTARIO

 **SIDNEY ROOFING & PAPER CO. LTD.**
BURNABY 3, B.C.



Character and Dignity When prestige buildings are required by Canadian companies, **Queenston Limestone** provides the desired elements of distinctive Canadian character and dignity. The clean lines and long wearing qualities of **Queenston Limestone** are assets on which Canadian architects place a high value.

Head Office—North American Life Assurance Company, Toronto.
 Architects: Marani, Morris & Allan.
 General Contractor: Pigott Construction Company Limited
 Stone Fabricator: Martineau & Deschambault Quarries Inc., Montreal.

QUEENSTON QUARRIES LIMITED

Head Office: HAMILTON, ONTARIO

Quarries: Niagara Falls, Ontario



Three gymnasiums in one room

The new Don Mills Secondary School in Metropolitan Toronto has a good size gym and the architect put every square foot to work—*twice*.

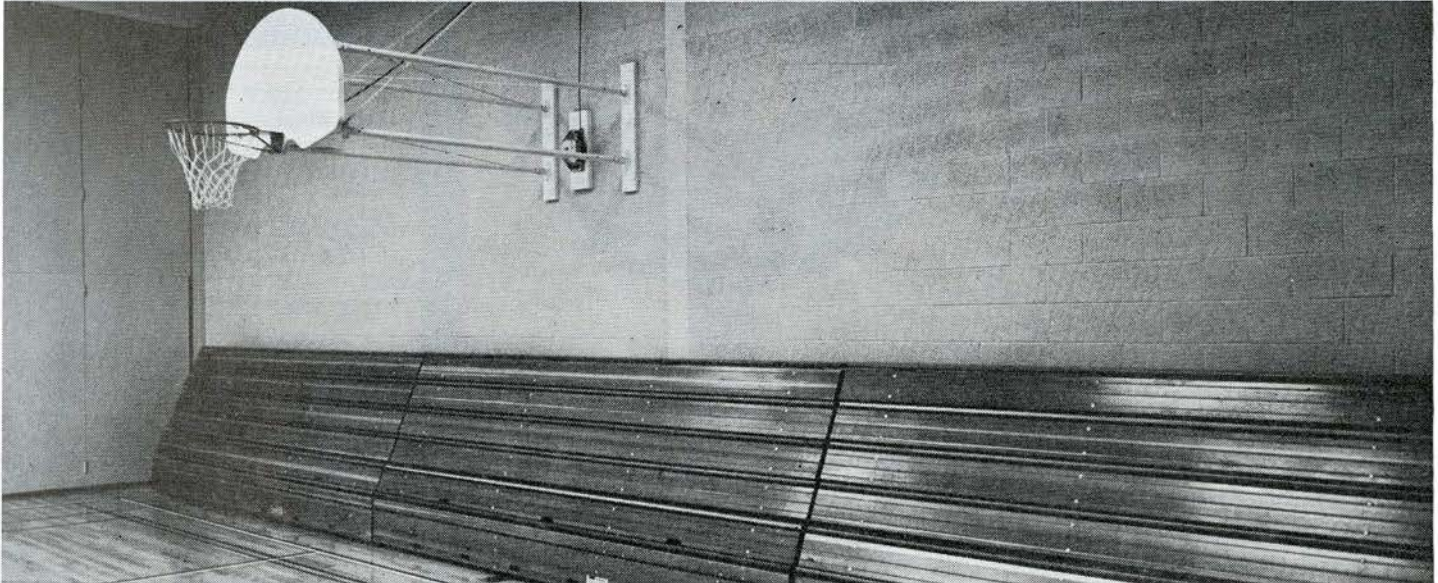
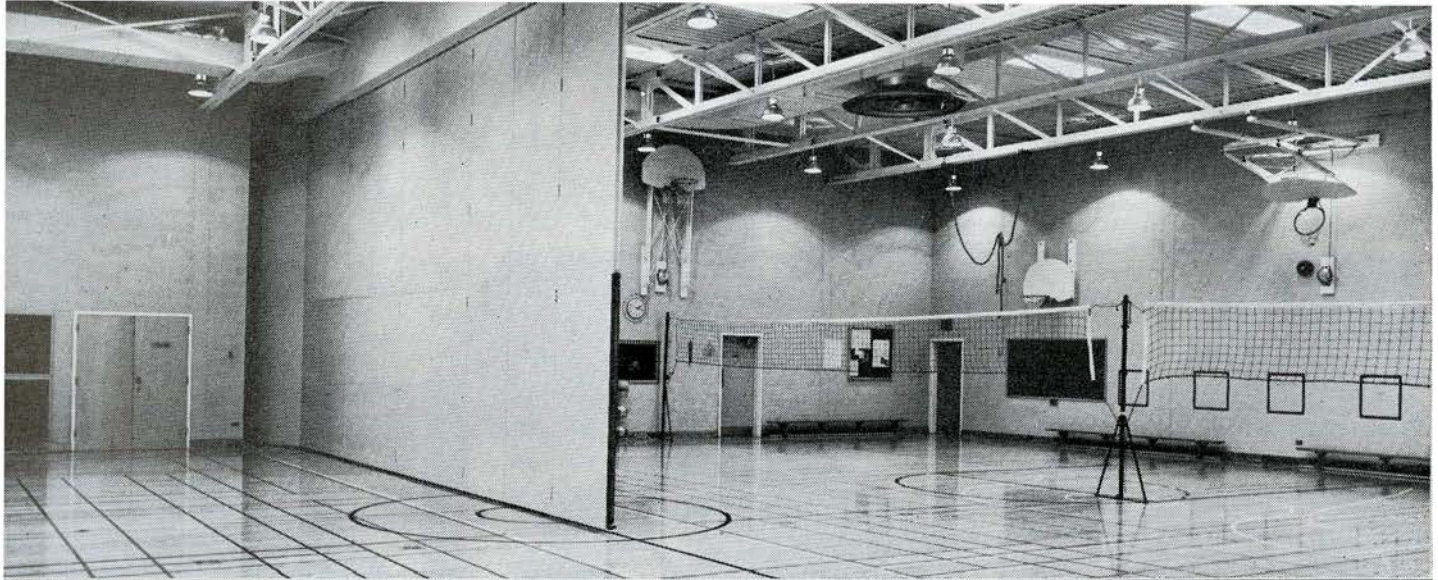
FOLDING PARTITIONS: At the turn of a key, Brunswick's Folding Partition slides into place and instantly one large school gymnasium becomes two distinct recreational areas.

FOLDING GYM SEATS: Convenience and economy—plus important extras: positive row locking and

single row operation; greater foot freedom; solid, even-load construction.

BASKETBALL BACKSTOPS: From the practical Wall-Braced design to elaborate, electrically operated units, Brunswick produces a complete line of fine-quality basketball backstops.

For detailed specifications on Brunswick Gymnasium Equipment, write or contact your nearest Brunswick branch.



Architect: John B. Parkin & Associates

BRUNSWICK

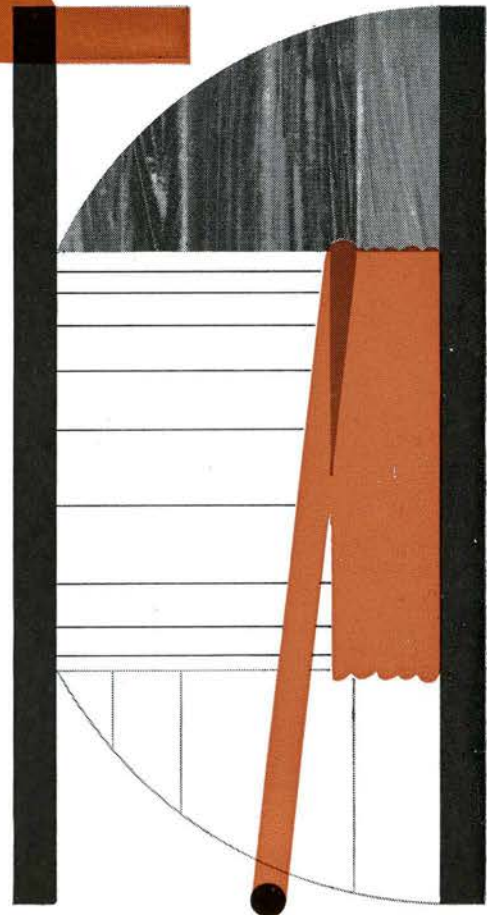
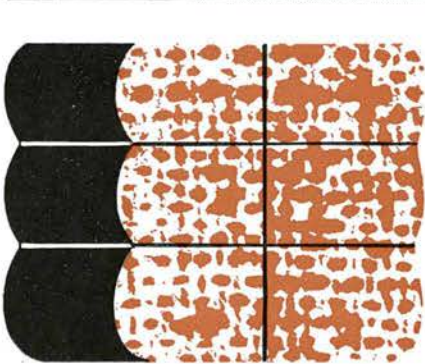
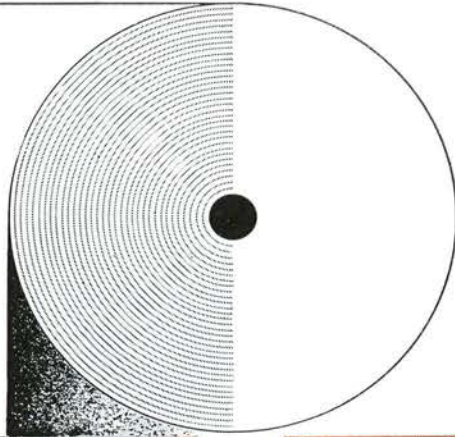
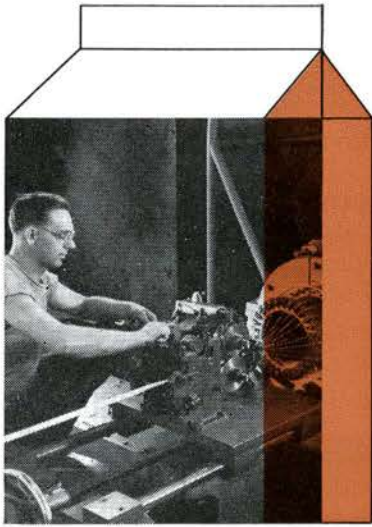


BRUNSWICK OF CANADA

School Equipment Division • Head Office & Factory: Box 60, Dixie, Ontario.

VANCOUVER • CALGARY • WINNIPEG • TORONTO • MONTREAL • QUEBEC CITY

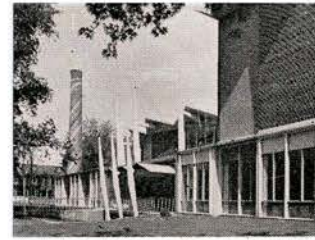
SERVING CANADA THE NORTHERN WAY



... from Canada's forests, mines and factories come raw materials, component parts and complete assemblies which go into the numerous products of Northern Electric. This Northern Electric policy to support Canadian industry is an ever-growing one. Northern Electric designs, manufactures and installs a large proportion of Canada's telephone communication systems and equipment. It includes the manufacture of electrical wires and cables for communications and power transmission, and the distribution of a complete line of electrical apparatus and supplies. At Northern Electric, product research and development never stop and continuing progress is made in the communication, electrical wire and cable fields.

Northern Electric
COMPANY LIMITED

SERIAL 431, VOLUME 38,
NUMBER 7, JULY, 1961



Lansdowne Public School,
Toronto
Architect: F. C. Etherington

ROYAL ARCHITECTURAL INSTITUTE OF CANADA JOURNAL

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

JOURNAL COMMITTEE

EARLE C. MORGAN (F), *Chairman*,
F. BRUCE BROWN (F), R. A. DICK, FORSEY PAGE (F),
D. E. KERTLAND (F), R. SCHOFIELD MORRIS (F),
Toronto; GERARD VENNE (F), *Quebec*.

EDITORIAL BOARD

Chairman, R. A. DICK, *Toronto*
Vice Chairman, LOREN A. OXLEY, *Toronto*
HOWARD D. CHAPMAN, *Toronto*
PETER COLLINS, *Montreal*
E. C. S. COX, *Toronto*
KEITH B. DAVISON (F), *Vancouver*
RONALD A. DICK, *Toronto*
HUGH ELLIS, *Hamilton*
H. A. DUNN, *Edmonton*
ROBERT C. FAIRFIELD, *Toronto*
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*
WM. J. RYAN, *St John's*
L. E. SHORE (F), *Toronto*
DENIS TREMBLAY (F), *Sherbrooke*
JOHN G. WASTENEYS, *Toronto*
G. EVERETT WILSON (F), *Toronto*
DONALD WOOKEY, *Winnipeg*

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	31
Project	32
Ecole Secondaire Regionale de Joliette, P.Q.	
<i>Architect: Gérard Notebaert</i>	
Schools	
Introduction	33
<i>by W. E. Fleury (F)</i>	
Lansdowne Public School, Toronto	41
<i>Architect: F. C. Etherington, Chief Architect, Toronto Board of Education</i>	
West Hill Secondary School, Owen Sound	43
<i>Architects & Engineers: Jackson, Yyes & Associates, Toronto</i>	
V. K. Greer Memorial School, Port Sydney, Ont.	44
The 1947 Experimental School Williamson Road School, Toronto	46
<i>Architect: F. C. Etherington, Chief Architect, Toronto Board of Education</i>	
McMurrich Public School, Toronto	48
<i>Architects: Pentland & Baker, Toronto</i>	
Parrsboro Regional High School, Halifax	50
<i>Architects & Structural Engineers: Keith L. Graham & Associates, Halifax</i>	
Kipling Collegiate Institute, Etobicoke, Ont.	51
<i>Architects: Gordon S. Adamson & Associates, Toronto</i>	
Windsor Park Collegiate, Winnipeg	52
<i>Architects & Engineers: Green Blankstein Russell Associates, Winnipeg</i>	
Ecole Samuel de Champlain Cité de Jacques Cartier, Que.	54
<i>Architecte: René Richard, Hull, Que. Architecte Associe: Maurice Gauthier, Montreal</i>	
Mabel McDowell School, Columbus, Indiana	56
<i>Architects: J. C. Warnecke & Associates, San Francisco</i>	
Columbus Elementary School, Columbus, Indiana	58
<i>Architects: The Architects Collaborative, Cambridge, Mass.</i>	
The 1961 Allied Arts Medallist:	60
<i>Miss Sylvia Daoust</i>	
Canadian Building Digest No. 19	65
Caulking Compounds	
<i>By E. V. Gibbons the July insert from the Division of Building Research NRC, Ottawa</i>	
Departments:	
Book Reviews	59
Letters to the Editor	59
Institute News	62
Coming Events	70
Industry	71
Index to Journal Advertisers	82

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 1961-62 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, M. C. HOLDHAM, MBE

COLLEGE OF FELLOWS CHANCELLOR, H. H. G. MOODY (F), *Winnipeg*
 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, H. L. BOUEY (F), J. A. CAWSTON (F).
 ARCHITECTURAL INSTITUTE OF BRITISH COLUMBIA —
 JOHN L. DAVIES (F), W. G. LEITHEAD (F), C. E. PRATT (F),
 P. M. THORNTON (F), J. H. WADE (F), R. W. SIDDALL.
 MANITOBA ASSOCIATION OF ARCHITECTS — J. E. SEARLE,
 G. A. STEWART, H. H. G. MOODY (F), S. LINDGREN.
 ARCHITECTS' ASSOCIATION OF NEW BRUNSWICK —
 N. M. STEWART (F), J. R. MYLES.
 NEWFOUNDLAND ASSOCIATION OF ARCHITECTS —
 W. J. RYAN, L. W. HOPKINS.
 NOVA SCOTIA ASSOCIATION OF ARCHITECTS —
 J. L. DARBY, L. J. PAGE, C. A. E. FOWLER (F).
 ONTARIO ASSOCIATION OF ARCHITECTS — F. B. BROWN (F),
 E. C. S. COX (F), G. D. GIBSON (F), C. H. GILLIN, G. Y. MASSON (F),
 N. H. McMURRICH, W. T. PENTLAND, A. R. PRACK (F),
 W. G. RAYMORE (F), H. STEELE (F), G. E. WILSON (F), J. W. STRUTT.
 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 —
 J. P. PETTICK, G. R. FORRESTER, G. BERRY.

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. A. DICK, *Toronto*
 EXHIBITION AND AWARDS, A. R. PRACK (F), *Hamilton*
 INTERNATIONAL RELATIONS COMMITTEE, JOSEPH PETTICK, *Regina*
 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, JOHN M. DAYTON, *Vancouver*
 PUBLIC INFORMATION, G. Y. MASSON (F), *Windsor*
 COMMITTEE ON HOUSING, JAMES A. MURRAY (F), *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*

THE ALLIED ARTS AND OUR EMBASSIES ABROAD

WE MAY HAVE WRITTEN ON THIS TOPIC BEFORE, but the construction of city halls and public buildings as important as the National Library in Ottawa and half a dozen embassies abroad tempt us to write again about the place of the painter and sculptor in our national culture. A decade ago we wrote an essay for the Royal Commission on the Arts, Letters and Sciences, in which we said, "Among the best examples in North America of the collaboration of architects, painters and sculptors are low-rental subsidized housing estates in the United States". The best (so far as collaboration is concerned) were built in 1936 and 1937 when WPA was able to spend funds for the assistance of artists. The result can hardly be measured in terms of happiness to tens of thousands of former slum dwellers, and of professional satisfaction to scores of sculptors and painters who had their 'start' on these 'depression measures'.

At the risk of being marked a low brow in artistic matters, we must admit that the art of the depression years was eminently suited to the needs of the "clients" in the housing estates. We remember gay, understandable murals, and happy children climbing over chubby elephants in the smoothest of white marble. If anything in those days was abstract, it took the form of hollowed out shapes through which children could crawl, blissfully unaware of prototypes by Barbara Hepworth and sculptors with like interests in Switzerland and elsewhere. Today, we know of sculpture of a high degree of artistic merit in shopping centres — surely one of the most remarkable phenomena of our times where shopping is carried on in the relaxed atmosphere of music, water playing, colorful gardens and art.

There is no doubt that, in the federal sphere, the influence of the recommendations of the Massey Commission will be apparent in many new buildings, but cultural matters seem, at the moment, to take second place to wars and rumors of wars and banking mysteries at the highest level. Silence, on the cultural front, is particularly inexplicable because the opportunities for carrying out some of the recommendations of the Commission have never been so great. Actually building, or about to be built, are the National Library (itself a monument to the Commission) and embassies in Ankara, Brazil, Canberra and New Delhi. It is in the missions abroad, if anywhere, that we can show our maturity as a nation in artistic matters, and we would give much to know what is being planned, which artists are being employed and how adequate are their commissions.

In the same essay of 1951, we wrote — "the visitor to the French Embassy in Ottawa is immediately aware that he is on the soil of a country that rates its artists highly; that portrays its civilization not only in stone and mortar, but in the integrated efforts of architects, painters and sculptors".

That is the supreme test for the architects doing our embassies abroad. We can assume fine buildings, but how far are our architects allowed to go in portraying our civilization through the joint efforts of themselves and our best artists? A good part of a *Journal* might be devoted to so eminently important a theme.

E.R.A.

ARTS CONNEXES ET AMBASSADES À L'ÉTRANGER

NOUS AVONS DÉJÀ TRAITÉ de la place du peintre et du sculpteur dans notre culture nationale mais la construction prochaine d'hôtels de ville et d'édifices de l'importance de la Bibliothèque nationale à Ottawa et d'une demi-douzaine d'ambassades à l'étranger nous porte à y revenir. Il y a dix ans, nous avons écrit dans un mémoire pour la Commission royale sur les arts, les lettres et les sciences: "En Amérique du Nord, les plus beaux exemples de collaboration entre architectes, peintres et sculpteurs sont les centres subventionnés d'habitations à bon marché aux États-Unis". Du point de vue de la collaboration, les meilleurs centres ont été construits en 1936 et 1937, alors que le WPA pouvait aider financièrement les artistes. Qui pourrait exprimer le contentement des dizaines de milliers d'anciens habitants de taudis et la satisfaction professionnelle de nombreux sculpteurs et peintres à qui ces "mesures de crise" ont permis de faire leurs "début"?

Au risque d'être mal cotés comme artistes, il faut dire que l'art de ces années de crise était bien adapté aux besoins des "clients" des centres d'habitations. Nous nous rappelons des peintures murales gaies, faciles à comprendre, et d'heureux enfants grimant sur des éléphants dodus en beau marbre blanc. Si l'art était abstrait il s'exprimait par des formes creuses laissant circuler les enfants sereinement ignorants des prototypes de Barbara Hepworth et de sculpteurs de même école en Suisse et ailleurs. Aujourd'hui, on trouve des sculptures de grande valeur artistique dans cette grande innovation de notre époque, ces centres commerciaux où les clients font leurs emplettes dans une atmosphère de détente faite de musique, de jeux d'eau, de beaux jardins et d'oeuvres d'art.

Sur le plan fédéral, il est certain que les recommandations de la Commission Massey influenceront sur la construction de nombreux édifices mais pour le moment les préoccupations culturelles semblent céder le pas à la guerre, aux rumeurs de guerre et aux grands mystères du régime bancaire. Ce silence sur le front culturel est d'autant plus inexplicable que jamais on n'a eu de telles occasions de donner suite aux vœux de la Commission. On construit, ou songe à construire, la Bibliothèque nationale (qui est un monument à la mémoire de la Commission) et des ambassades à Ankara, au Brésil, à Canberra et à New Delhi. C'est dans ces portes à l'étranger que nous devons prouver notre maturité artistique et nous aimerions connaître quels sont les projets, quels artistes sont employés et quelle est l'importance du travail qui leur a été confié.

Dans le mémoire de 1951, nous avons déclaré: "en arrivant à l'ambassade de France à Ottawa, le visiteur sent immédiatement qu'il met le pied sur le sol d'un pays qui apprécie ses artistes, qui exprime sa civilisation dans seulement dans la pierre et le mortier mais dans les efforts conjugués de ses architectes, de ses peintres et de ses sculpteurs".

Voilà à quoi doivent viser les architectes de nos ambassades à l'étranger. Nous pouvons construire de beaux édifices mais dans quelle mesure permet-on à nos architectes d'exprimer, avec le concours de nos meilleurs artistes, notre civilisation? Le sujet mériterait qu'on y consacre une bonne partie d'un numéro du *Journal*.

PROJECT

The architect is faced with a dual problem in the development of a secondary school: first, classroom space, and second, facility for common services.

Having 24 classrooms, the space question represented considerable volume. Our solution was the creation of separate areas for the two functions with a defined separation. Placing the classroom wing on stilts allowed a sheltered area below, where the students could play. The administration area is located in a one-storey, L-shaped structure, that frames the entrance garden. This location also affords a freedom from the noise usually generated in the recreation area.

Having established a solution to the problem of facility and space, we have attempted to incorporate this into an architectural flow of forms which, we believe, transcends the usual cubic structures which have unfortunately become the rule, not the exception.

Out of the extreme simplicity of the two materials used in this framework; glass, which is light and translucent and reflects the sky; and white plasticised concrete, which offers solids that are clear, strong and simple; we have tried to create an interplay through lines that emit an expression of simplicity and power.



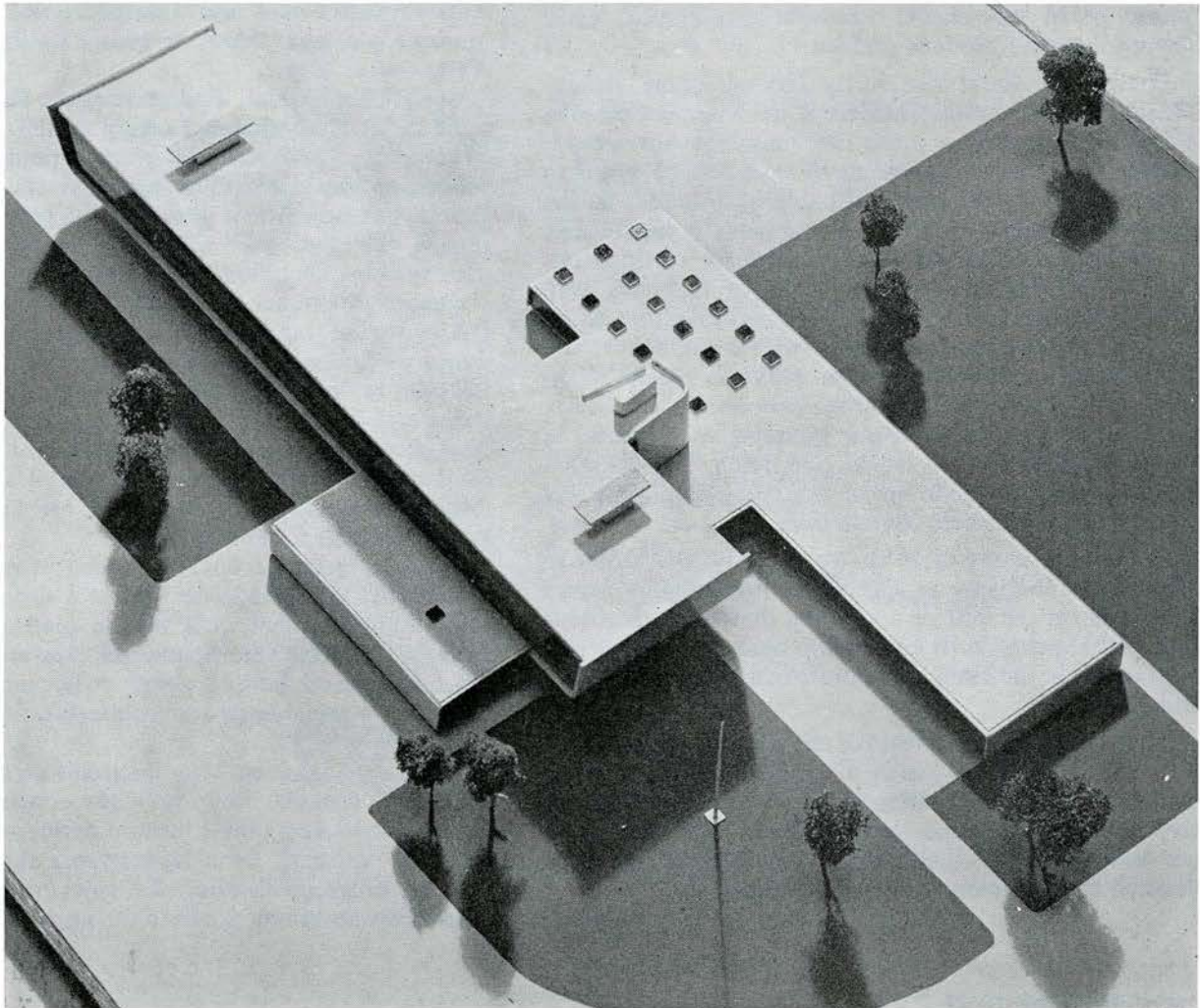
Ecole Secondaire Regionale de Joliette, P.Q.

ARCHITECT
Gérard Notebaert
Montreal

STRUCTURAL ENGINEERS
Mm. Houle & Cyr
Montreal

MECHANICAL & ELECTRICAL
Mm. Larocque & Samson
Montreal

GENERAL CONTRACTOR
M. Bernard Malo Inc.
Joliette



by W. E. Fleury (F)

Unless it be the hospital, surely no building type has gone through such revolutionary changes as the school. When we look back to Chicago in the eighties of the last century we see buildings that we recognize immediately as office or apartment towers. They have changed over the years in material and comfort, but the form remains.

Not so, the school. The modern school building bears no relation to the three and four storey Victorian and Edwardian walkups that are still a blot in our old residential districts. Many of them have gone unwept, unhonored and unsung even by the most enthusiastic historian of Edwardian taste, but some remain to remind us that, in some areas, civilization does move forward.

But the question is often asked — is the modern school now in a rut? The following article is the result of conversations with architects, teachers, school trustees and administrators, all of whom indicate a growing conviction that a revival of the interest in school design, such as prevailed after the war, is long overdue.

It would be easy to fill the *Journal* with Canadian schools of all sizes and types, but it was thought better to include examples of different approaches to design and some commentary in the hope that it would interest a wider audience than just those architects who are already dedicated to the improvement of schools.

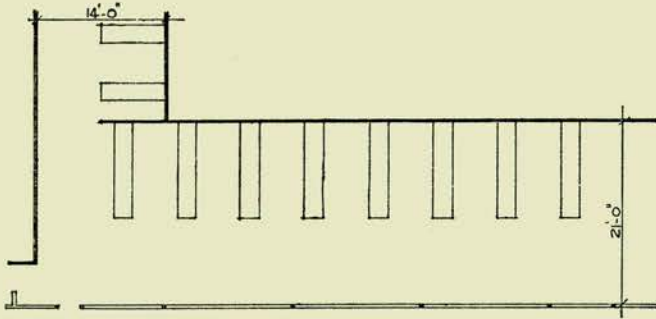
The Past: Very shortly after the last war a lively and widespread interest in teaching came to life. New methods were tried, the curriculum underwent changes, and the advent of audio-visual aids all made their contribution to the new approach. Men such as Dr Harmon carried out research on the effects of environment, from improvements in lighting to the exploration of color therapy. Directional glass blocks made their appearance, light colored laminates reduced the contrast of desk tops, and countless experiments were made in the control of natural light with baffles, skylighting and clerestories.

In Ontario, a committee was set up by the provincial government to study the design, construction and equipping of schools. This committee conducted inquiries in many areas where school design was treated as important, and, after much soul-searching, produced a report, the effects of which were far reaching in changing the stereotyped approach to school design which then prevailed almost from coast to coast. An experimental school was built by the Ontario Government to incorporate many of the innovations recommended in the report of this committee, and some observations upon it are set out elsewhere in this issue.

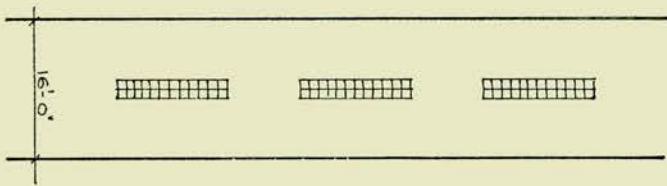
A year ago, in February, the *Journal* published questions and answers on some of the ideas of the 1947 committee's report, and they will be known to readers of that issue. It may be of interest however to summarize some of the observations, to show the modifications in thinking which have developed in the twelve year interval since the report was published.

Technically we have continued to make great strides. Fluorescent lighting, in its infancy in the forties, and too expensive then for many boards to consider, has improved immeasurably in quantity and quality, while diminishing in cost to the point where it is almost universally used today. It is largely this that has led to the abandonment of clerestory lighting, and discussions today are concerned rather with the pros and cons of eliminating daylight altogether. Light colored materials for floors and desks are now so widely used that the old bogey of too much contrast is scarcely known.

The disposition of clothing seems to remain a whim in elementary schools, but in high schools an interesting innovation is the trend in some schools to discard the locker-lined corridors, and to locate clothing and book storage in special areas.



Lockers and book storage



The size of classes remains a point to be considered. The solution to the problem, of course, is greater numbers of teachers. However, there is a new trend today, that of "team-teaching", and this may well affect both the size and shape of classrooms. Where team-teaching has been adopted, the school requires in addition to normal size classrooms, smaller rooms for seminars, and some larger rooms where 125 to 150 pupils may receive instruction together, often with audio-visual aids.

The Present

Designers of new schools in the late forties and early fifties were in most cases quite stimulating in their fresh approach to the problems of education environment, and schools rarely gave the impression of being only a modification of another one providing similar accommodation. In latter years, however (with the exception of schools designed by certain firms which always express their own "corporate image" in their buildings), there have been ever-increasing numbers of schools which bear so great a resemblance to one another that they are almost anonymous in personality. Unfortunately, in many cases too, they are hardly dis-

tinguishable from the buildings of light industry which dot the country; surely an uninspiring setting to stimulate the minds of tomorrow's adults.

Has dullness become the watchword?

Many people feel that efficiency need not go hand in hand with drabness, and that it should be the criterion of the good architect that his schools are at least as aesthetically attractive and appealing as any place in the community.

With this premise, then, this school issue is prefaced. At the least, a renaissance could not fail to bring a return of delight to pupil, teacher and community alike.

The Problem

When one begins to examine the design of schools, he is immediately confronted with the warning against indiscriminate criticism. This is a situation which will always exist, particularly when the location of the buildings being considered extends across the continent, or even farther, and the conditions controlling the design are unknown.

Perhaps at the outset one should set out some of the factors with which the designer has to contend:

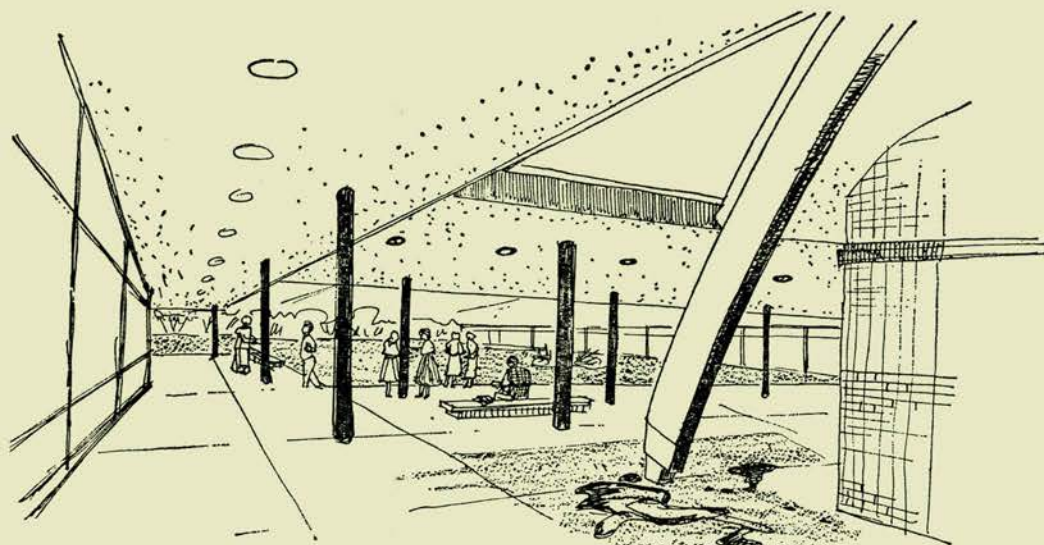
Always, of course, there arises the common denominator of cost — too often, perhaps, initial cost; but this is only one of many influences which make their impact on the final outcome.

Conditions can be so different—from the small elementary school in the country, via the district high school and on to the gargantuan urban school where the curriculum embraces technical as well as academic subjects, and the students are legion in number.

Climate, again, brings its own influence, with varied needs for shelter, be it from the hot sun or cold winds, rain or snow.

Cooling too is becoming of increasing importance today, and coupled with a sealed building its economics approach the break-even point.

There is a tremendous variation between the school boards of rural and urban communities; and between those of smaller, open towns and cities and highly developed and concentrated metropolitan areas. Their personnel may be drawn by a sense of public service and an interest in learning, or they may use the board as an expedient stepping-stone to municipal power. Their outlook will be colored accordingly. Teaching methods, too, are far from settled, and if these are to develop and improve, it must be possible for new methods to be tried, and adopted or discarded according to their value.



Climate brings its own influence

There are, as well, such non-academic requirements as the provision of meals for students. These may be called for because of distance from school to home, or even perhaps because of urban conditions where the school is called upon to supplement the nourishment of children today in order to avoid low standards of health tomorrow.

And does the school do double duty? Is it a school by day, and a community building by night?

Is it used for summer courses?

Financially, how are funds for building obtained? Is there a system of grants, which of necessity restrict the accommodation to certain elements? How is maintenance financed, and particularly that orphan, the cost of alterations and modifications to plants built yesteryear?

All these and others which many readers will no doubt call to mind, have their direct effect upon the design of schools, and one must note how few of them are under the influence, let alone the control, of the architect!

How then shall we go about achieving good design in schools, when we have almost ruled out even the possibility of informed criticism?

Where does the architect fit into the picture of progress?

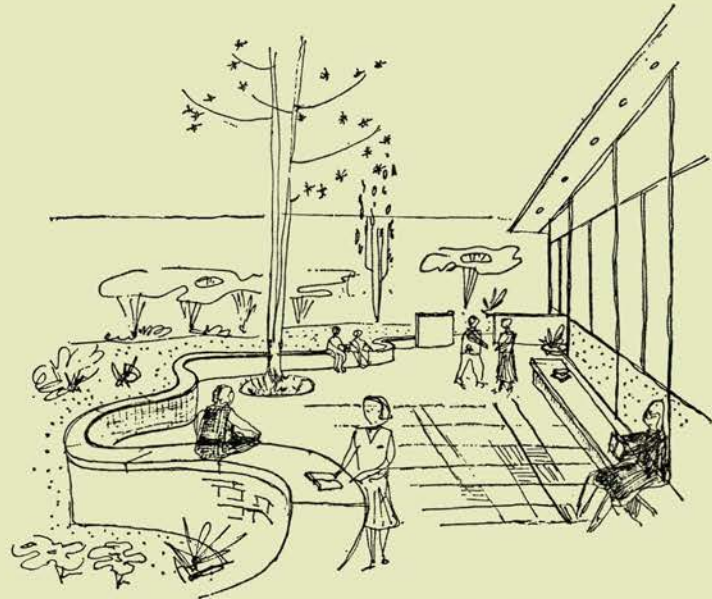
Some Possibilities

With the obvious purpose of simplification, one is impelled to ask whether it is possible to differentiate between types of schools in such a way that one can apply to certain types, at least, specific items and ideas of design.

To some extent the answer would seem to be in the affirmative.

The elementary school has a fundamental difference from the higher grades, in that the class remains the fixed unit, and the teacher the variable one.

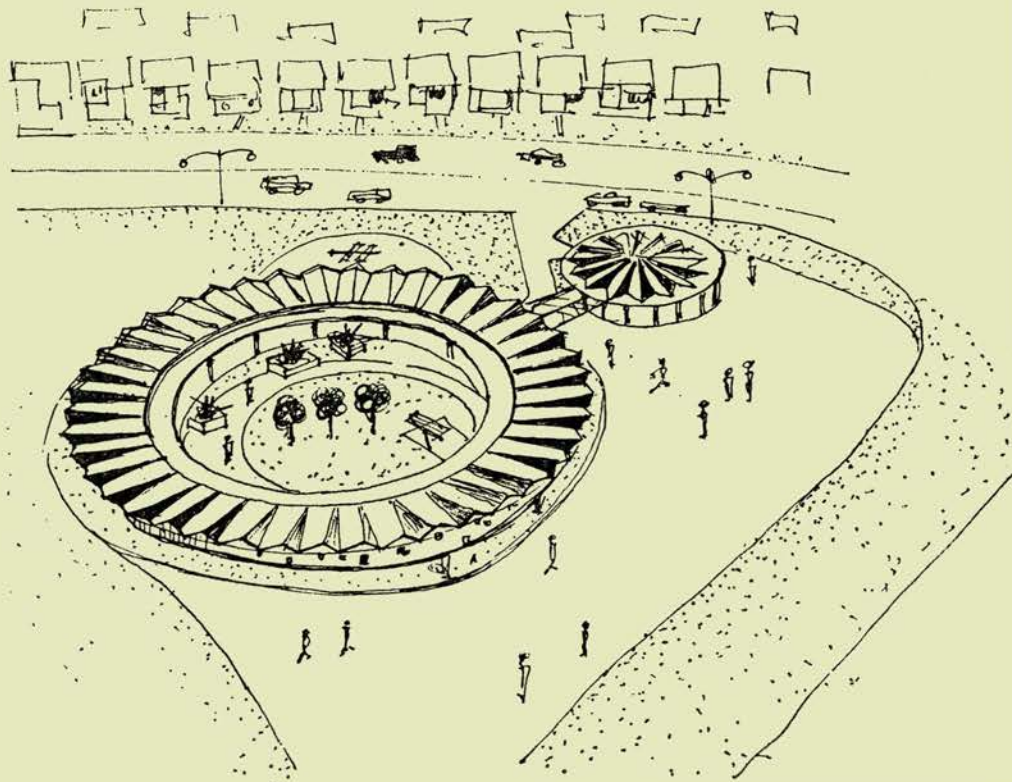
The immediate effect is to make the classroom the "home" of the children, with local storage of their clothing and equipment a definite characteristic. The constant familiarity of the surroundings throughout the year is an important



The classroom and an adjoining garden

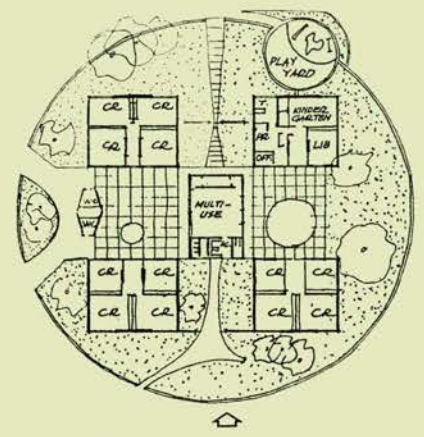
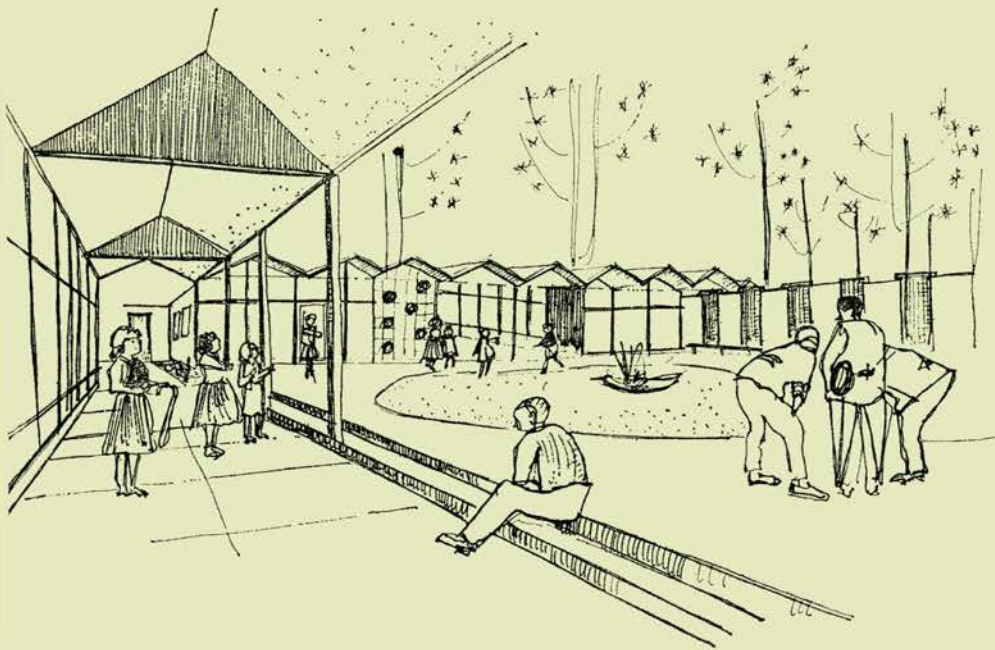
factor in building up the confidence of the child, especially in the lower grades when so many new adjustments are being required of him. This has long been recognized in many places, especially in Europe. In Switzerland, for example, one finds the classroom and an adjoining garden and playground deliberately geared to the youngster. In Canada, in post-war schools, this has often been overlooked or discounted, with the factory-like results that one sees on all sides.

It is interesting to note a return, in some areas, to the recognition of the scale of the young child's world, and some boards are providing surroundings which must almost certainly assist in increasing his confidence as he moves away from home to less familiar and secure surroundings.



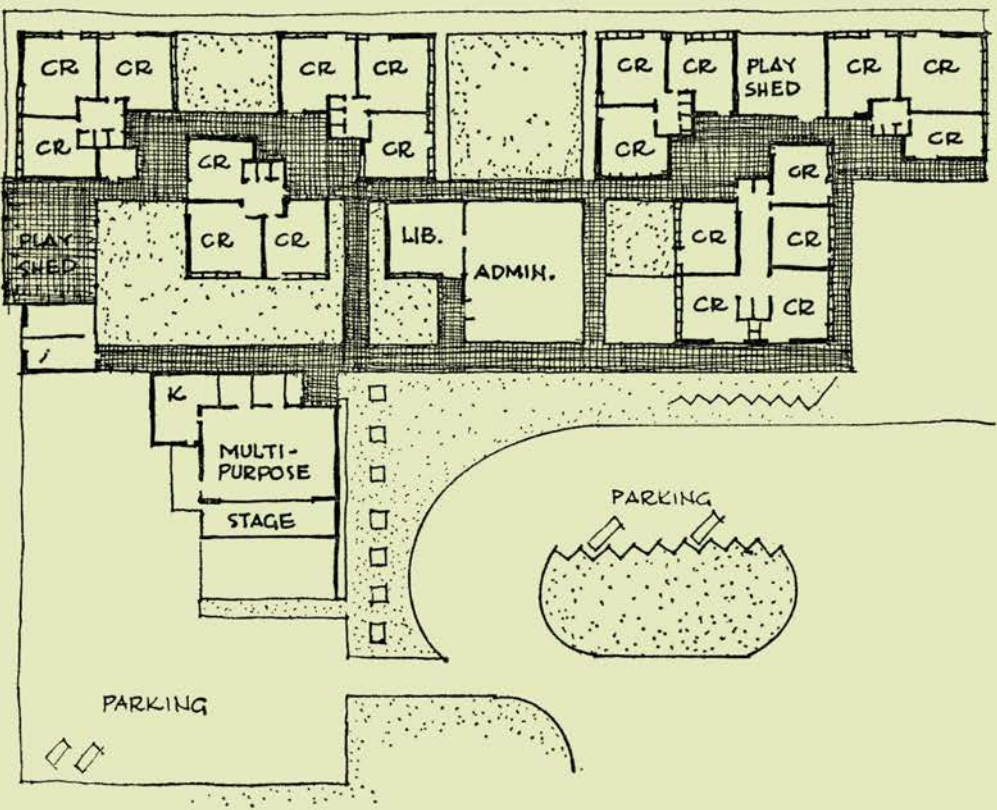
*The scale of the young child's world:
Vista Mar Elementary School,
Daly City, Cal,*

Architect, Mario J. Ciampi



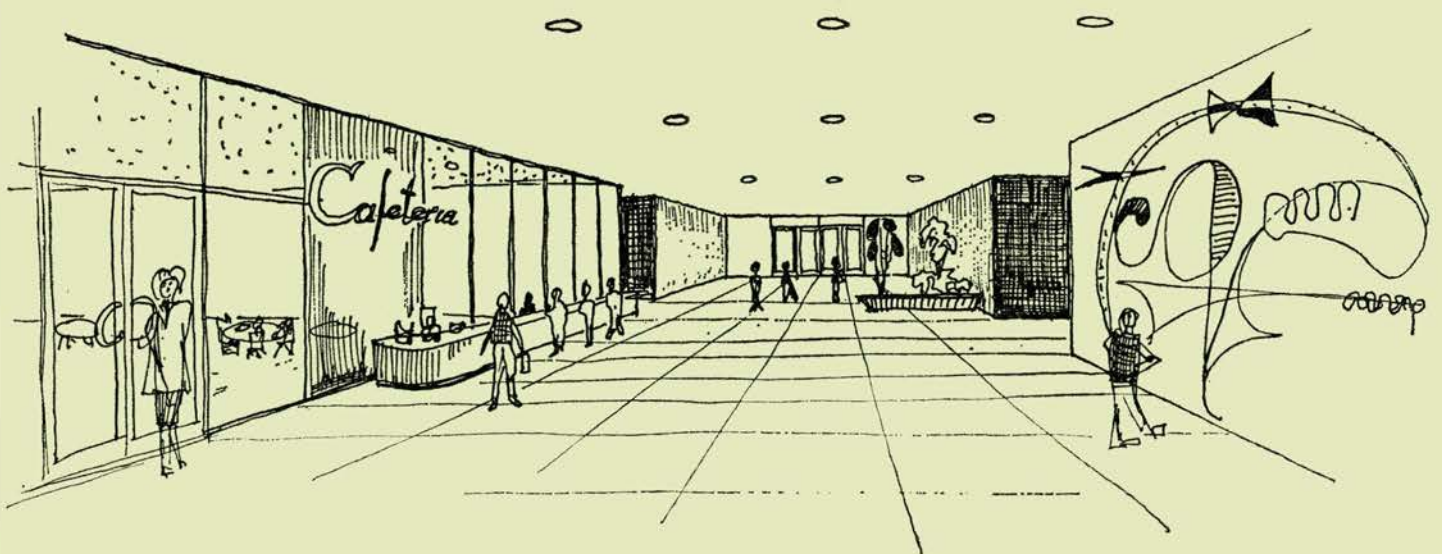
◊ Shelter and Scale

Fernando Rivera Elementary School, Daly City, Cal, Architect, Mario J. Ciampi...the kind of child scale which is really welcoming and encouraging for children; and surrounding them with textures, colors, exhibits and other visual experiences to help them grow faster...
 (Architectural Forum, March, 1961)



◊ Westgate Elementary School, Edmonds, Washington
 Architect, Dan Miller

◊ Corridor: Design with imagination



Changes in teaching methods in the elementary grades are probably not too likely to alter spatial needs.

Sizes of schools of course vary considerably, and the ability to create the ultimate in pleasant surroundings undoubtedly occurs more frequently with the smaller one. Where the numbers of pupils approach 800 (a number considered optimum in some urban centres) there still remains the challenge to avoid the forbidding aspect of the institution or the factory, and to achieve the appropriate scale for the school's young inhabitants.

Perhaps there may be need to review the ultimate sizes of elementary schools. Efficiency gained in "plant" and in staff in the large ones may possibly decline in less easily measured criteria, such as the depressive effect on the pupil of the "barrack" as against the "friendly" school.

When one is dealing with high schools and technical schools, the problems are much less easy of solution. (Schools for deaf or retarded children, etc, are special cases and are not considered here).

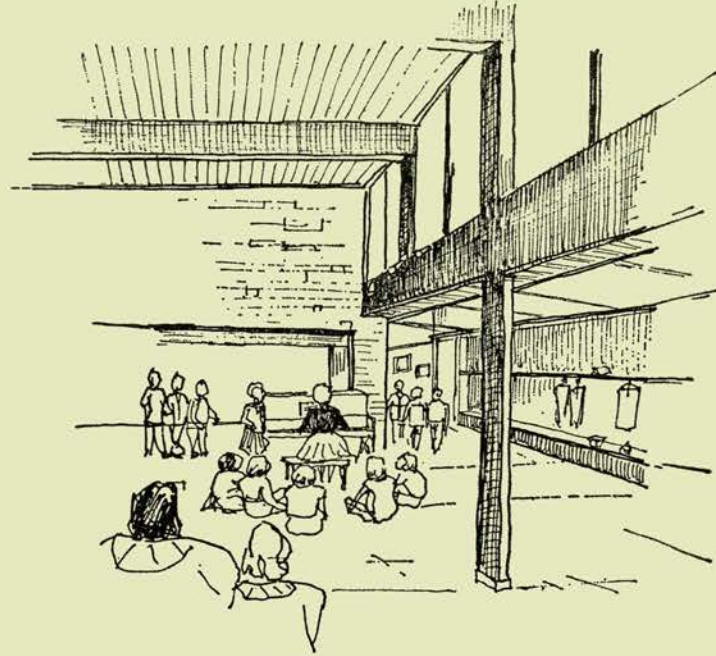
Flexibility: There is the problem of the students' belongings, for example. Since time immemorial this has been solved by providing lockers in corridors — a practical solution. But even here there are innovations, and instances exist where the corridor has been at least partially regained by the classroom or incorporated into lounging areas — an arrangement calculated to delight the contributor to school building funds.

Teaching methods tend to vary much more than in elementary schools, and the advent of "team" teaching with the need for perhaps two lecture rooms to accommodate 150 or so, as well as a number of seminar rooms, points up the importance of flexibility, at least in parts of high school buildings. It is obvious that movable end walls in classrooms simplify the provision of seminar rooms, but no grouping of classrooms end to end can produce an efficient lecture room.

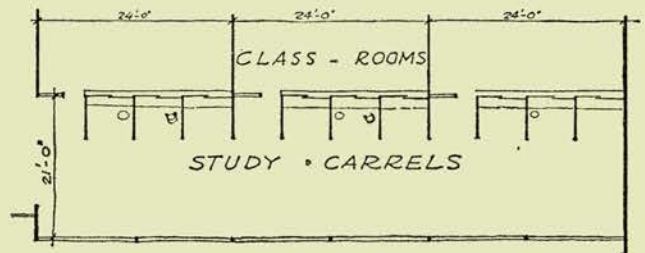
T.V. and the use of audio-visual aids seem to be increasing in favor in many areas, and they must impose their own influence on design in the requirement for easily darkened classrooms, as well as perhaps on sizes of rooms where all can effectively see a screen of small size.

Subjects: The curriculum has probably a greater influence on the school plan than any other single factor, and it is the subject of endless discussion by laymen and teachers alike.

As an illustration of the effect of circumstances, it is interesting to learn, in one urban area with a high propor-



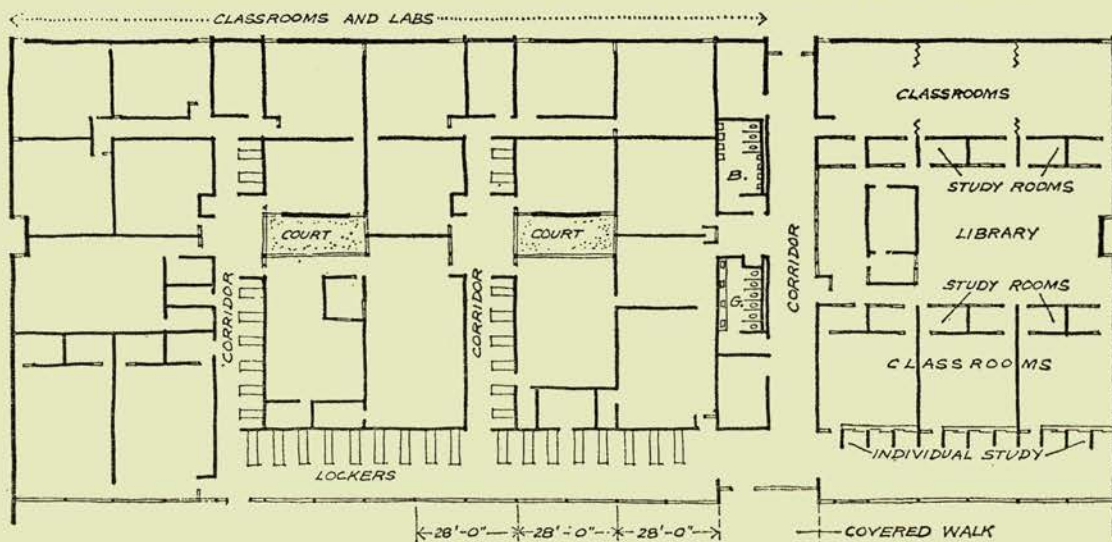
Corridor: multi use



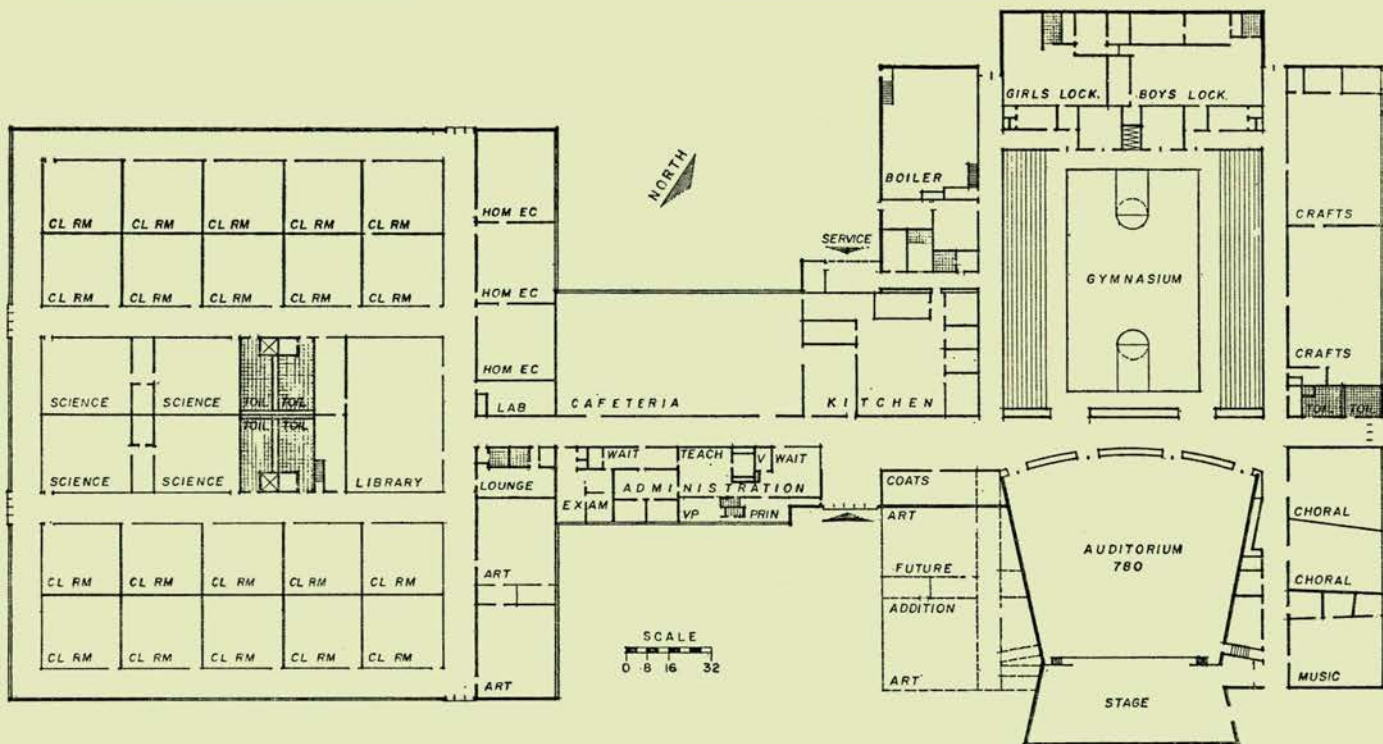
tion of new Canadians, that the teaching of home economics has greatly raised the local standard of health. There are other communities with different conditions where school boards have felt that the teaching of home economics and the attendant high cost of the necessary facilities was an unnecessary extravagance. The same pros and cons may be made for many practical and technical subjects according to the type of community from which the pupils are drawn.

Food: The provision of a hot meal for students is hardly part of the curriculum, but the policy of many school boards to provide this calls for cafeteria or lunch room facilities, and a system of catering dependent upon the situation. In rural areas, students are usually distant from their homes, and in urban centres it is sometimes the case that the noon meal is the only properly balanced meal eaten by the child. In either case, the board's decision affects design and cost.

Stillwater High School, Oklahoma, Architects, Caudill, Rowlett & Scott and Philip A. Wilber.



Classrooms of various (and flexible) sizes, seminar rooms, library with loud and quiet rooms, and a set of study carrels where individuals or pairs of students can work by themselves. A combination of economical, loft-type plan, with interior classrooms and small court yards for visual relief. (Courtesy Architectural Forum, November, 1960)



F. WARE CLARY JUNIOR HIGH SCHOOL
SYRACUSE NEW YORK

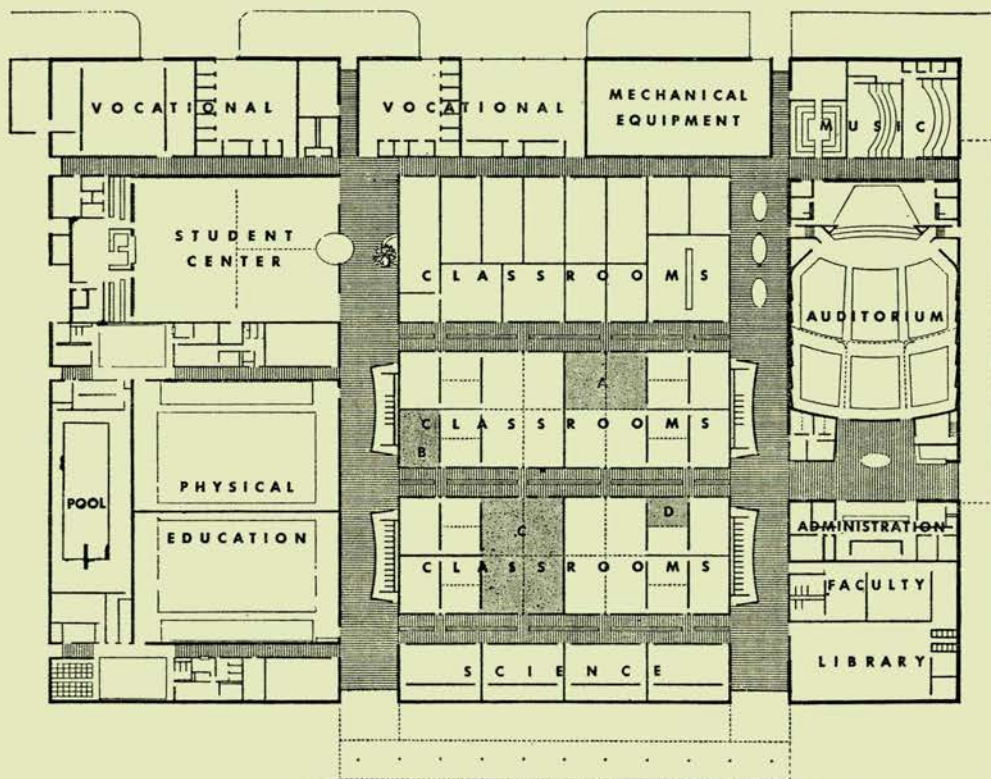
PEDERSON, HUEBER & HARES ARCHITECTS
GLAVIN LANDSCAPE ARCHITECT

Parking: Parking for staff cars is frequently a "must" in urban areas, and it is recognized that the expense of such land, though high, is essential to assure a choice of highly qualified teachers. In Canada few boards consider it necessary to provide expensive parking areas for students.

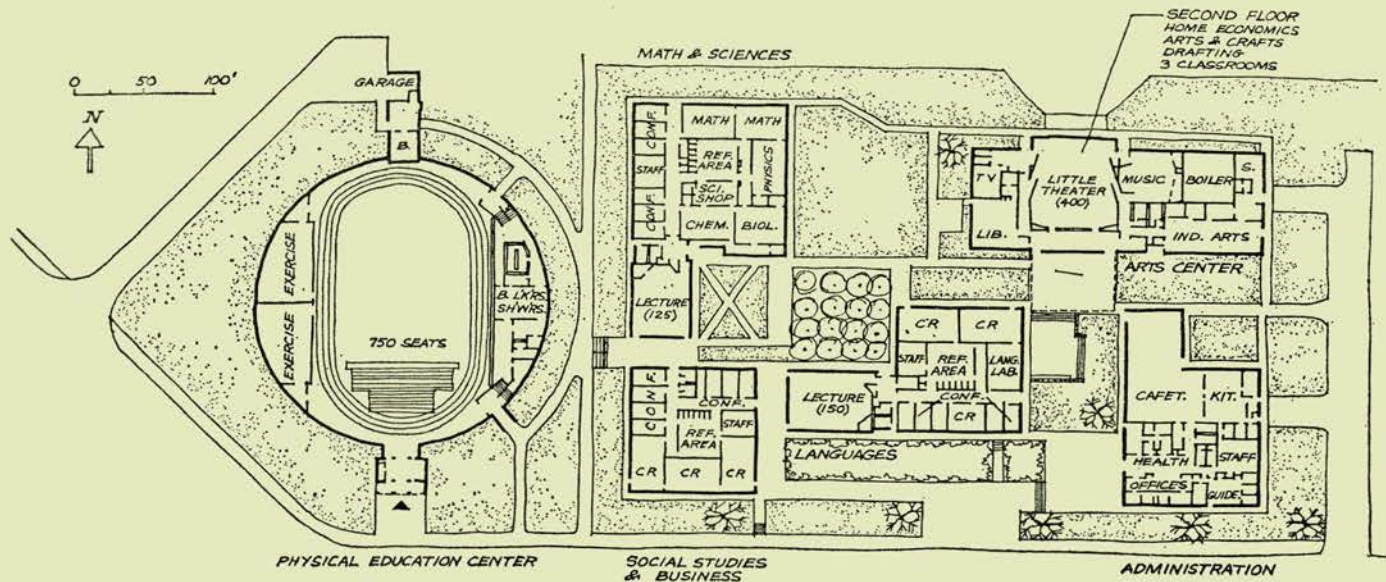
Technique: Technical improvements in building have made themselves felt in the design of many types of building, industrial, commercial and domestic. It was not long ago that the most up to date office building was lighted to 15 fc, and the only means of ventilation was the opening of windows.

Now with vast strides in the equipment manufactured for the mechanical and electrical trades, we have almost unlimited flexibility.

Some schools today, in a climate not unlike that of southern Ontario, are completely air conditioned, and claims are made that the savings in initial cost made possible by more compact planning, and in upkeep through reduced cleaning and re-painting, offset the added cost of the air conditioning equipment and its operation.



From
"Environment for Learning"
(Carrier Corporation)



Wayland Senior High School, Wayland, Mass. Architects, The Architects Collaborative.
(Courtesy Architectural Forum, November, 1960)

Where summer school programs for extra courses and advanced study are undertaken, air conditioning may very well become essential, particularly with the increasing numbers of people who have come to expect it in their offices and houses.

Some Solutions

Loft: In some new schools, almost unlimited flexibility has been achieved by the so-called "loft" building, which permits partition walls to be re-arranged practically at will. But there are inevitable disadvantages, if one considers the view of the outdoors to be important; and the usual one-storey loft building is of course a hungry land occupier in expensive urban areas.

Campus: Where land is not a problem, the so-called "campus" type of school, with courts, changes in levels, and

other characteristics of the good university layout, has made its appearance. Except for possible increase in unit cost, this arrangement would seem to provide the ultimate in delight, and where the library has been made a central feature, its prominence may greatly influence the study habits of the pupils.

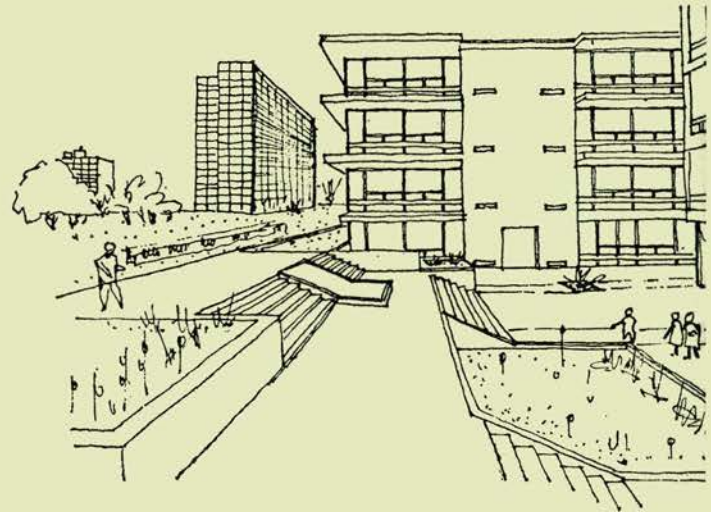
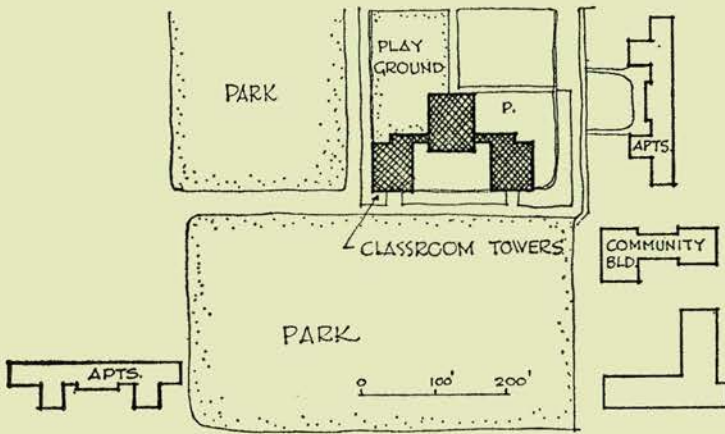
High Rise: In urban areas the high-rise building is a possibility, where land is not only expensive but difficult to obtain.

There are comparatively few schools built in this way, the principal obstacle being apparently the complications attending elevator and escalator travel, as well as their cost. Undoubtedly with improvements in controls, their use will bring about new concepts of urban school design in the future.



Multi-Storey: The older three-storey schools with the high floor to floor dimensions, were rightly held to be undesirable. Today, in dense urban communities where any addition to

playground space is a boon, the two and three-storey school is reappearing, and with lower ceilings made possible through forced ventilation, they are an acceptable arrangement.



Richard E. Byrd School, Chicago. Architects, Perkins and Will. (Courtesy Architectural Forum, November, 1960)

Commentary

We have recalled the past briefly and reviewed the present. We are aware of the problems, and we have seen some of the efforts to resolve them. What then of the future?

It would seem apparent that a number of problems which were grappled with 15 years ago and more, remain with us, but it is surely reasonable to feel that we are nearer than ever before to finding solutions to them. With technical advances, principally in the fields of mechanical and electrical equipment, it is difficult to discount the possible future of the "loft" type of building, whether it embraces an entire school or takes care of only a part of it.

Experimental developments in this "idiom" should be looked forward to with great interest.

It may be that loft type schools of more than one storey may be produced, in which the roof space of the second storey can accommodate services, which will make that floor as flexible as the first floor is above a crawl space. Such a building may be a boon to urban boards.

Surely one thing is certain though. If the "loft" type building, even with its control of artificial light and with its air conditioning, is going to be successful, it must be designed with very great imagination.

We have today too many students who are subject to breakdowns under the stress of work and especially at examination time. Whether surroundings which instil delight can more than partially mitigate this situation is doubtful, but it is certain that if our buildings become claustrophobic and depressing to either teachers or students, we shall surely have failed dismally, regardless of increased efficiency of plant, or decreased unit costs.

The dullness of a building (which was referred to earlier), seems perhaps to be the greatest condemnation of its design.

We know the necessity of contrast, of change, and of rest to the health of the human being. It is unlikely that the student can thrive and produce his best without some delight, some change of pace, and some quiet in his daily environment.

There have always been such devices available to the designer of interiors: the vista (or, if your idiom prefers it—"the interpenetration of space"); the climax, when one moves from one enclosure to another of contrasting shape, size and character; the highlight — sculpture, pictures, color and light against a neutral background; and not least, the garden — be it a cloister, or a Japanese garden.

When it comes to the exterior, reference may be made again to the criterion of one school board which required that their buildings be "at least as aesthetically attractive and appealing as any place in the community". We should certainly avoid the indictment "some communities still build nothing but high schools, even for kindergarten children".

Someone recently, in extolling some of the older cities of the past, commented that they provided surroundings where people could meet and chat, where lovers could stroll hand in hand, and where the fatigued could rest, while others carried on business. Perhaps the provision of lovers' lanes is not a need for school grounds, but surely the school deserves otherwise to be as humane as the city.

By no stretch of the imagination has it been the intention of this commentary to provide answers to the school problems of tomorrow. It is hoped, though, that examination and analysis of the isolated examples that a few designers have conceived to resolve the problems, may suggest new solutions. One is always conscious that a brilliant arrangement in one set of cultural or climatic circumstances may not be capable of transplanting. Often, though, study may enable one to extract the gem of inspiration so that it can be happily applied in new surroundings.

A native of Toronto, Mr Fleury graduated from the School of Architecture, University of Toronto, in 1937, and since then he has been a partner in the firm of Fleury, Arthur and Barclay in Toronto. He was elected to the College of Fellows of the RAIC in 1958.



Lansdowne Public School, Toronto, Ontario

Z. S. Phimister
DIRECTOR OF EDUCATION

R. H. Self
COMPTROLLER OF BUILDINGS & PLANT

F. C. Ethington
CHIEF ARCHITECT

H. G. Facey
CHIEF ENGINEER

GENERAL CONTRACTOR
Bennett-Pratt Limited

Photography by Metropolitan Photos



The concept of this school was based on several factors. Firstly, the site was small for the pupil capacity of the required school. Secondly, the buildings constructed in 1887 and 1909 had to remain in occupation until the new buildings were complete.

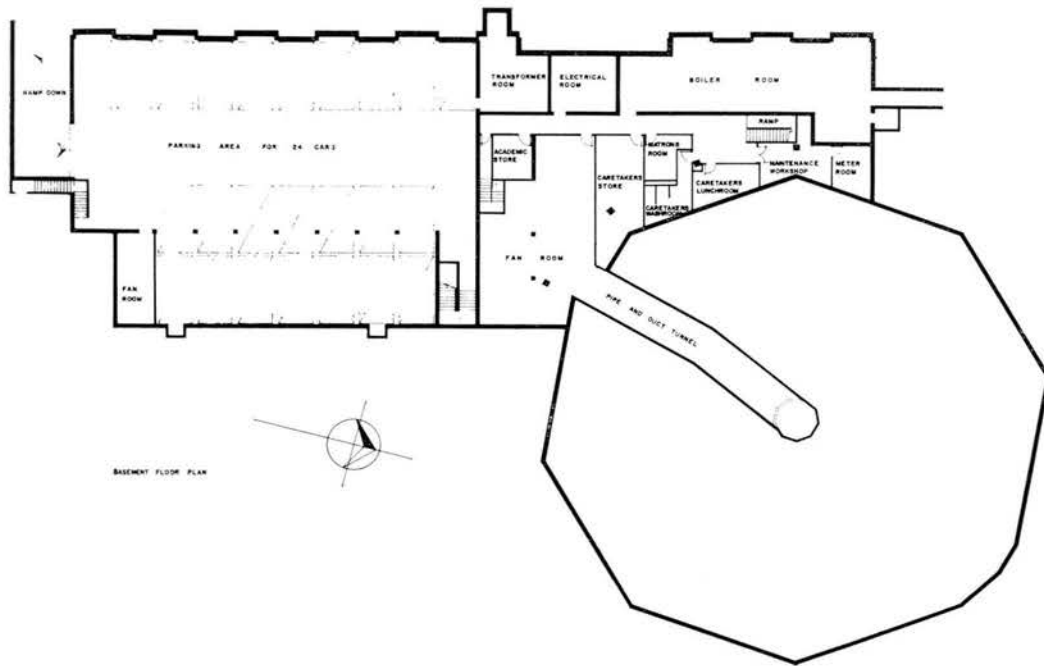
In order to keep the square footage of building per pupil at an absolute minimum, the circular plan for the classroom teaching unit was evolved. The basic sections of this unit are academic class rooms on the perimeter, circulating corridor, and ancillary facilities towards the centre.

The core of the circular unit is a nine-sided shaft of lattice steel construction approximately ten feet in diameter, containing all plumbing, ventilating and electrical services. This shaft goes from the basement to above the roof line and is capped. Radiating from this shaft are steel beams supported on pylons at the perimeter of the school.

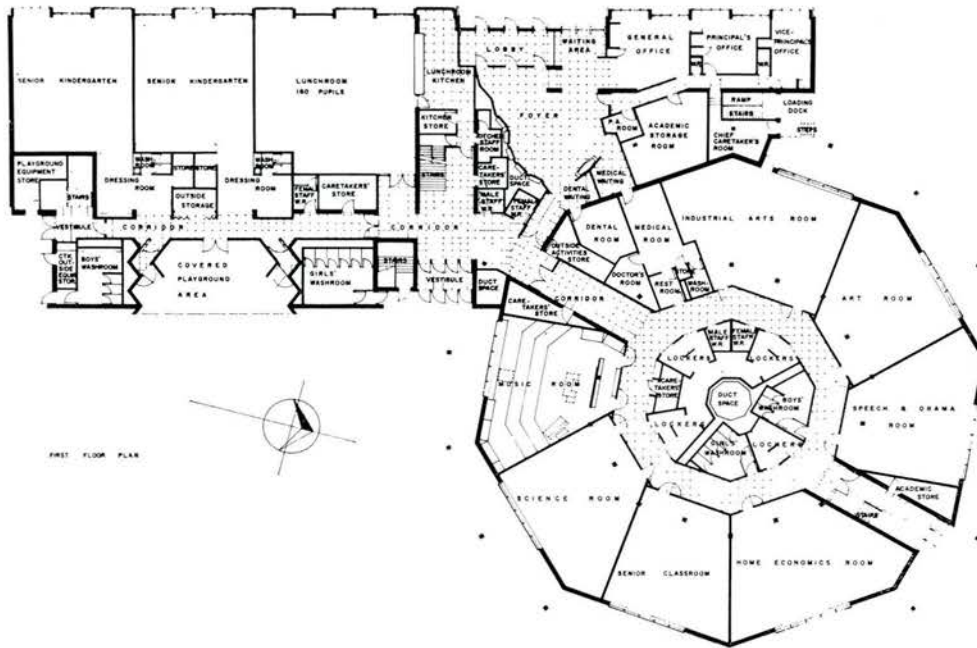
The circular unit is composed of nine segments, eight full segments being classrooms, and a half segment on either side of the unit for stair well purposes. The layout of the classrooms gives three walls at 90° and the rear wall splayed. This splayed wall is utilised for the pupils' wardrobe, project counter and teachers' wardrobe and confines the circulation outside these areas to the rear of the room.

The other main unit of the building is a double gymnasium, sixty feet by eighty feet, with two kindergartens and a lunch room beneath it. These are housed in a rectangle linked to the circular unit by the administration section which also contains a second floor connecting corridor.

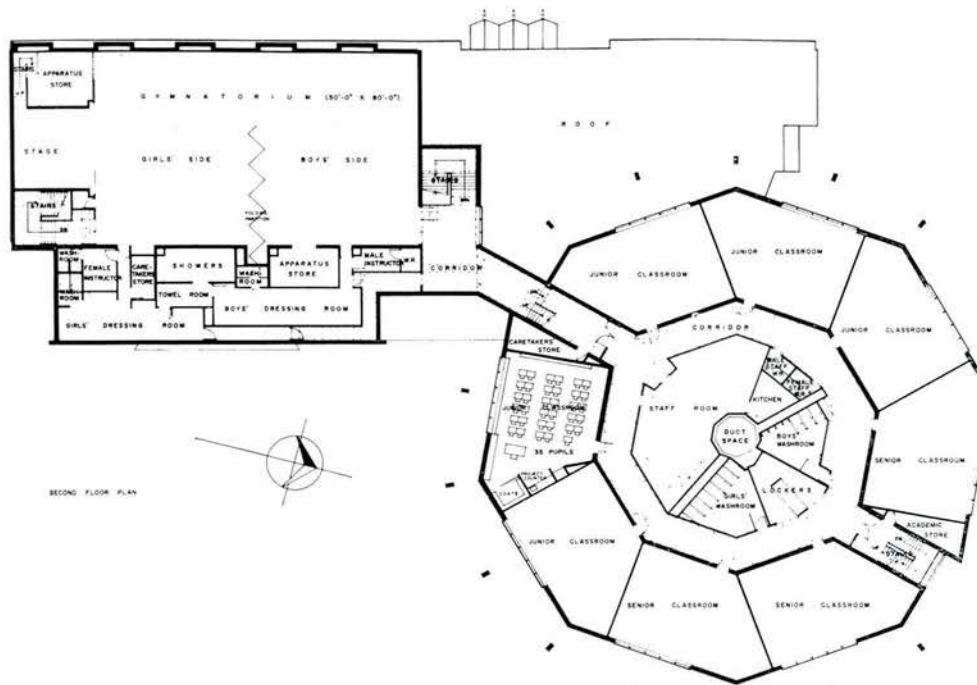




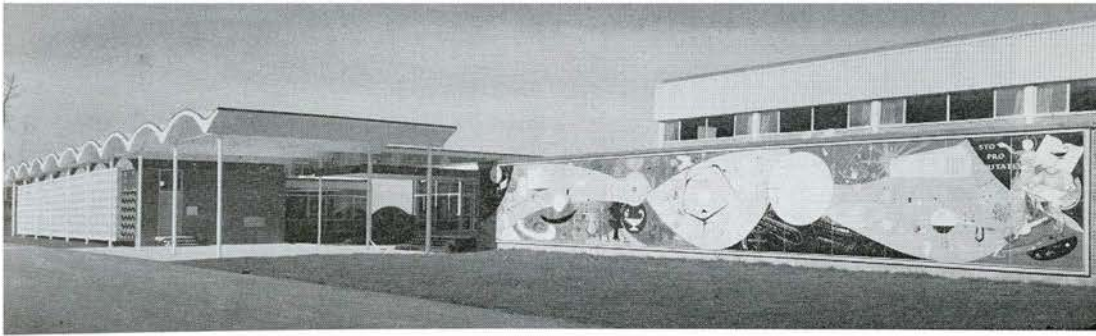
BASEMENT PLAN



FIRST FLOOR PLAN

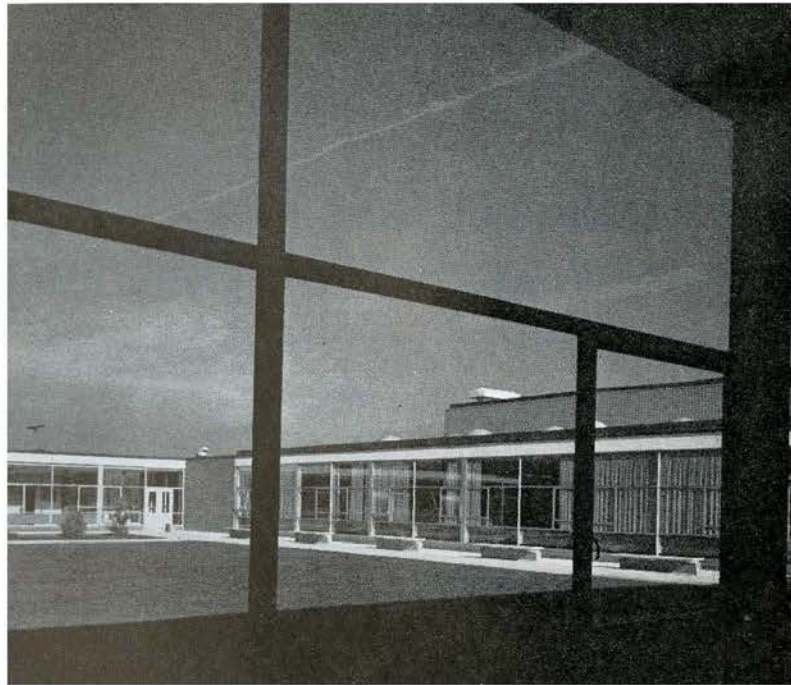


SECOND FLOOR PLAN



The Mural in Porcelain on Steel by Karl Rix

West Hill Secondary School, Owen Sound, Ontario

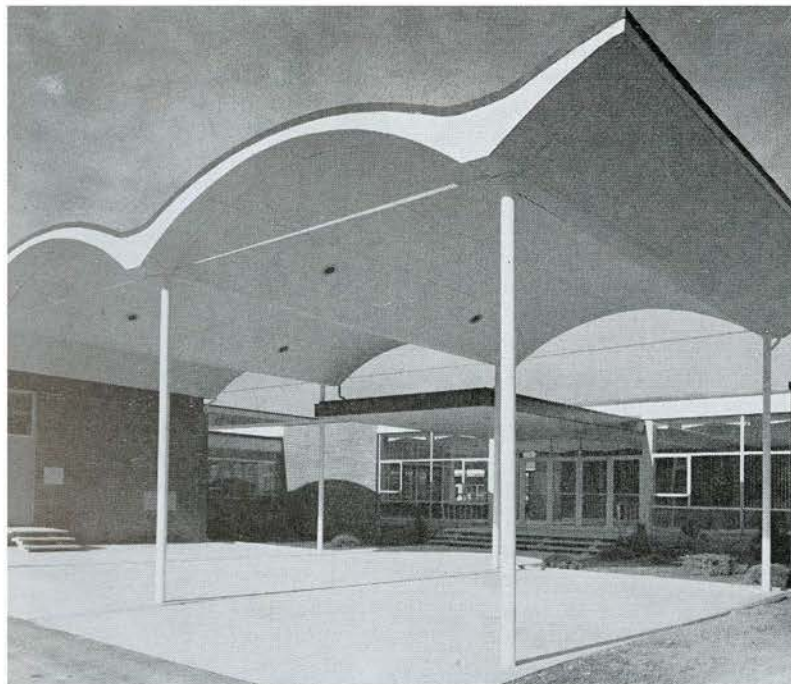


ARCHITECTS & ENGINEERS
Jackson, Ypes & Associates, Toronto

MURALIST
Karl Rix

GENERAL CONTRACTOR
Ellis Don Ltd

Photographs by Neil Newton



The functions of a secondary school lend themselves to three natural divisions; the academic wing; shops, home economics, gymnasium; and the administration area. At West Hill the two storey academic wing contains eleven classrooms, a library, a physics laboratory, a chemistry laboratory, a student workroom, and storage rooms. It is located on the west side of the property away from playing fields and other disturbing factors.

The second major component of this building is the double gymnasium, stage, dressing rooms, etc., the home economics room, shop and music room.

The administration wing containing the offices of the principal and vice principal, a general office, teacher's room and health rooms is necessarily located near the main entrance.

The exterior brick is a warm light brown colour accented by the primary colours on panels and doors. The character of this colour scheme has been carried to the interior where the panelling of the foyer and cafeteria presents a warmth possible only by the use of wood.

The school accommodates 510 students, although designed to provide for the final enrollment of 1,100 by the addition of a home economics room and one shop, together with a two storey extension of the academic wing.



V. K. Greer Memorial School, Port Sydney, Ontario

The Greer School at Port Sydney in Muskoka grew out of the work of the Committee on the Planning, Construction and Equipment of Schools in Ontario set up by Hon Mr George Drew who was, in 1947, Minister of Education in Ontario.

The Committee was made up of architects, engineers and a contractor, and all were fired by an almost religious fervour in their endeavour to improve the lot of teachers and children in the schools of Ontario. Funds for the needs of the Committee were adequate, and groups were able to visit schools and architects wherever a new prophet was to be found. Quite the best known of these was Dr Hamon in Texas, whose highly publicized articles demonstrated all too vividly the awful consequences of shiney blackboards, insufficient daylight and the project space in the wrong place. Pictures showed the hapless children exposed to these hazards, and the thought of a generation growing up with permanent squints and twisted spines did much to hasten the printing of the Committee report.

The school at Port Sydney was the visible expression of the Committee's theories, and its design (carried out by Mr Page who was a member of the Committee) was the product of innumerable meetings that went on far into the night.

Of particular interest to us at the time were chalk boards and chalks of various colors, reflective wall surfaces gauged to the second decimal point, light colored reflective floors, alternative methods of hanging coats and placing rubbers (should this area be specially heated and ventilated was a burning question), desks in serried rows or skilfully haphazard, toilets and footcandles.

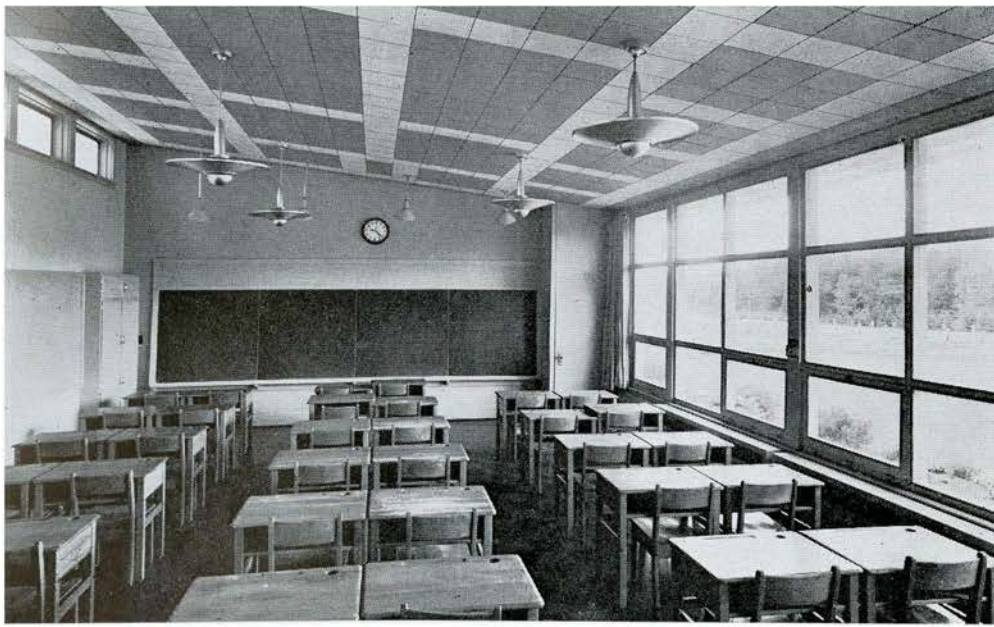
Footcandles were later thought to be a pretty primitive method of calculating daylight, and were superseded by a method understood by only Prof Dodington on the Committee, but light was an everpresent subject of conversation and study. The great thing was daylight, and how to project it to those miserable little sufferers at the row of desks furthest from the window. In the old-fashioned school we knew that they enjoyed only 1:7 footcandles, where 30 would add appreciably to their life expectancy. The solution, first tried in Chicago, was the clerestory window (not, of course, unknown to the ancient Egyptians), and, expensive though it was, and inclined to leak, it was employed all over North America with ever-increasing ingenuity and footcandles.

A great argument raged, of which murmurs can still be heard, about the important matter of axis. Should the building be on a north-south axis with east and west light in the classrooms, or an east-west axis with north and south light? Preference was for the former in spite of the objectionable west light. It was while the clerestory was at its greatest vogue that someone produced the light directional glass block, and, while it is no longer used, its arrival spelt the decline of the clerestory. — E.R.A.

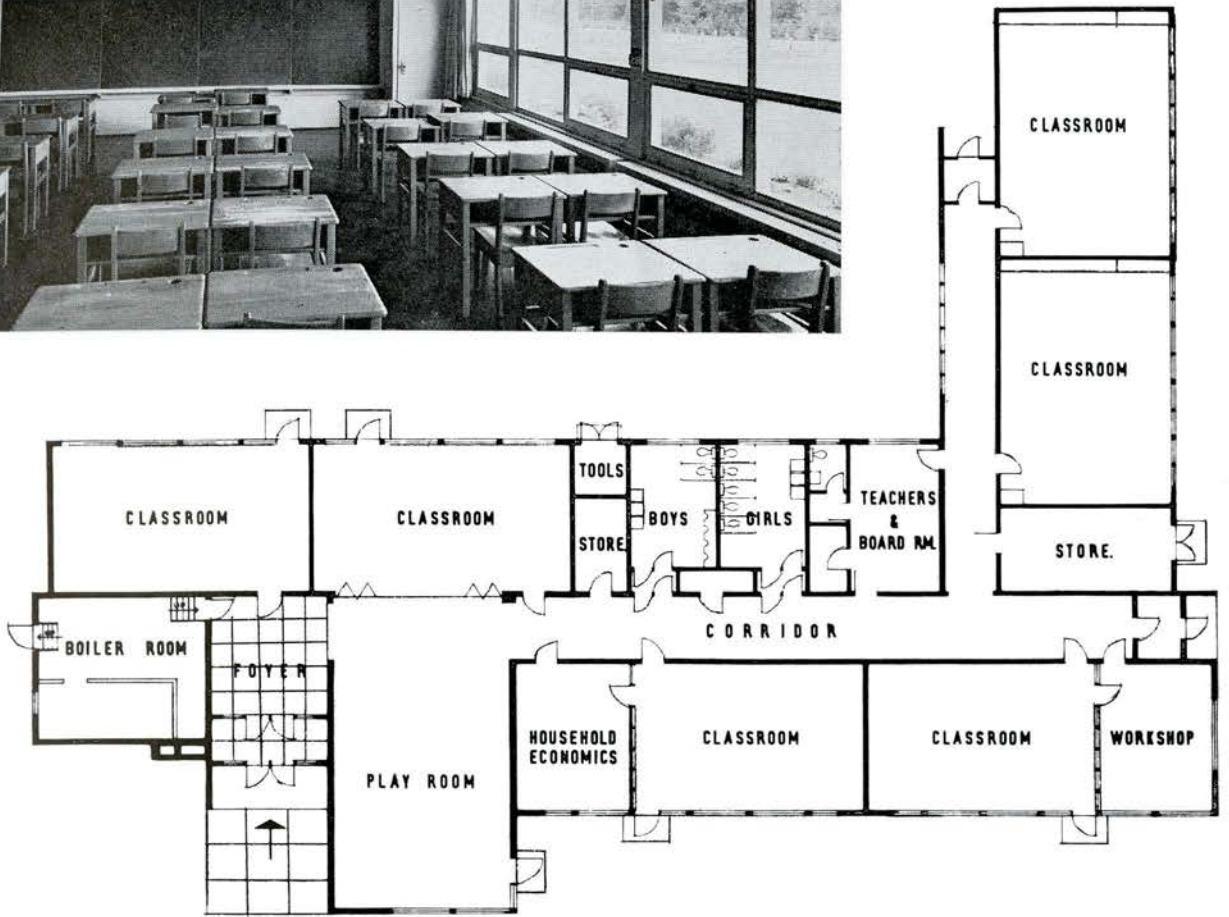
ARCHITECTS
Page & Steele
Toronto

STRUCTURAL ENGINEERS
C. D. Wallace & Carruthers

Photography by Panda



Left: Typical Classroom



Left: Household Economics



Williamson Road Senior Public School, Toronto, Ontario

Z. S. Phimister
DIRECTOR OF EDUCATION

R. H. Self
COMPTROLLER OF BUILDINGS & PLANT

F. C. Ethington
CHIEF ARCHITECT

H. G. Facey
CHIEF ENGINEER

GENERAL CONTRACTOR
Varamae Construction Limited

Photography by Metropolitan Photos

This project was a senior school addition to an existing building which was completely renovated into a junior school.

The facilities in the new addition are two home economics rooms, music rooms, and industrial arts rooms, one science room, speech and drama room, library, art room, and seven standard classrooms. In addition, there are guidance rooms, staff rooms, administration offices, lunch room, a double gymnasium 60' x 80' complete with stage, and a swimming pool 36' x 75'.

One feature of the flush deck swimming pool is the manner in which the acoustics are treated. This is always a problem and on this occasion each side wall of the pool is a series of splays placed at an angle of approximately 30°. This permits natural light to enter the floor to ceiling glazing between the splayed walls. All walls are glazed tile up to 6', except for the splayed walls, which are glazed tile up to the ceiling. In this manner, any sound created within the pool is reflected to the rear wall, which has a highly acoustic absorbent surface. The whole ceiling surface of the pool and gallery is similarly treated and in this way the reverberation period has been theoretically calculated to be 1.2 seconds.

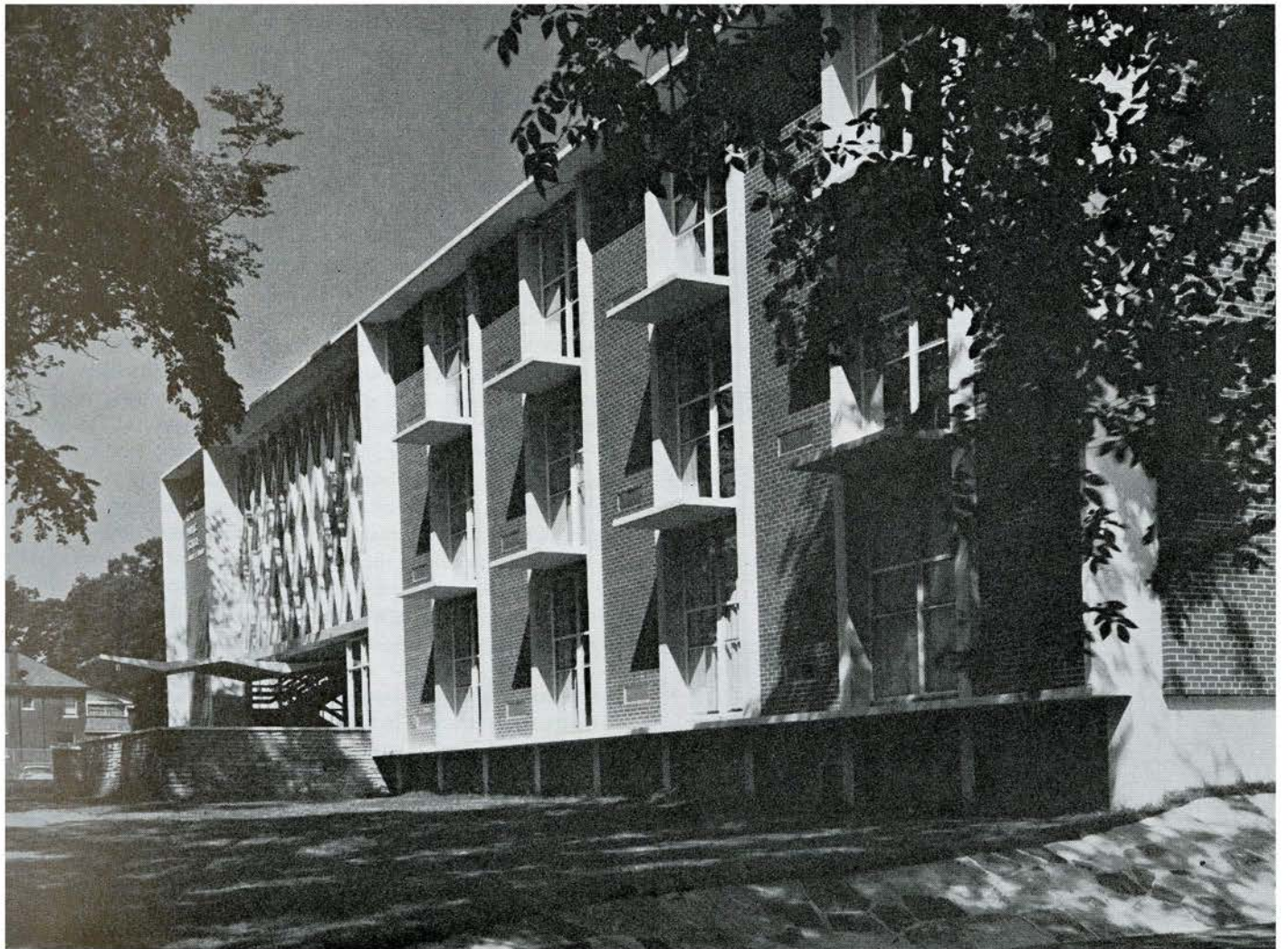
The planning around the pool dressing rooms is such that the swimming facilities may be used independently by authorized organizations.

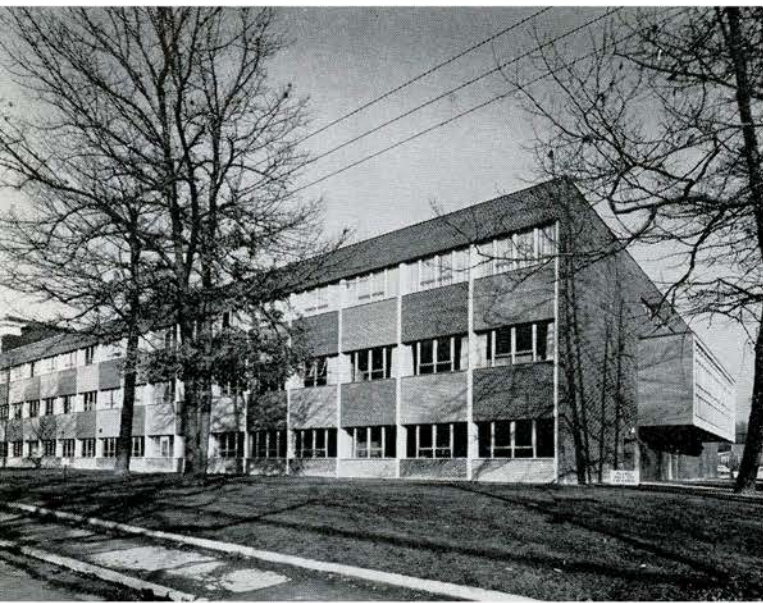
Above the swimming pool is the double gymnasium, which is also used as an auditorium, the floor of which is an in situ boxed girder, and the roof is a folded concrete plate 10" thick.

The staff room in this school is on two levels; the lower of which is used for dining by both junior and senior school teachers whilst the upper level is a rest area. One feature of the staff room is the exterior wall which is a steel latticed girder spanning 48' with glazing located between the lattices.

Seating approximately 220, the pupils' lunch room has a stairwell leading to an exterior grassed area so that pupils may purchase refreshments and enjoy lunches outside instead of remaining in the cafeteria for a complete meal.







ARCHITECTS

Pentland & Baker, Toronto

STRUCTURAL ENGINEERS

Carruthers & Wallace

MECHANICAL & ELECTRICAL ENGINEERS

Leah & Kobayashi

GENERAL CONTRACTORS

Bennett-Pratt Ltd, Toronto

Photography by Max Fleet

McMurrich Senior Public School, Toronto, Ontario



In October of 1958 work started on the alterations to McMurrich school and also on the new addition to this building. Less than a year later, in September 1959, students were admitted to classes.

The new addition is linked to the north building by a foyer which serves as the main entrance to both buildings.

The site, measuring approximately 476' x 496', provides for playing areas to the east which include courts for outdoor volleyball, basketball, softball diamonds, hockey area and protected kindergarten play area. To occupy the minimum of ground area, the new building was designed with a central core containing the swimming pool below and the gymnasium above. Surrounding this on three levels are the classrooms, shops, music rooms, laboratories located on the north, west and south sides of the building; on the east, the changing and shower rooms.

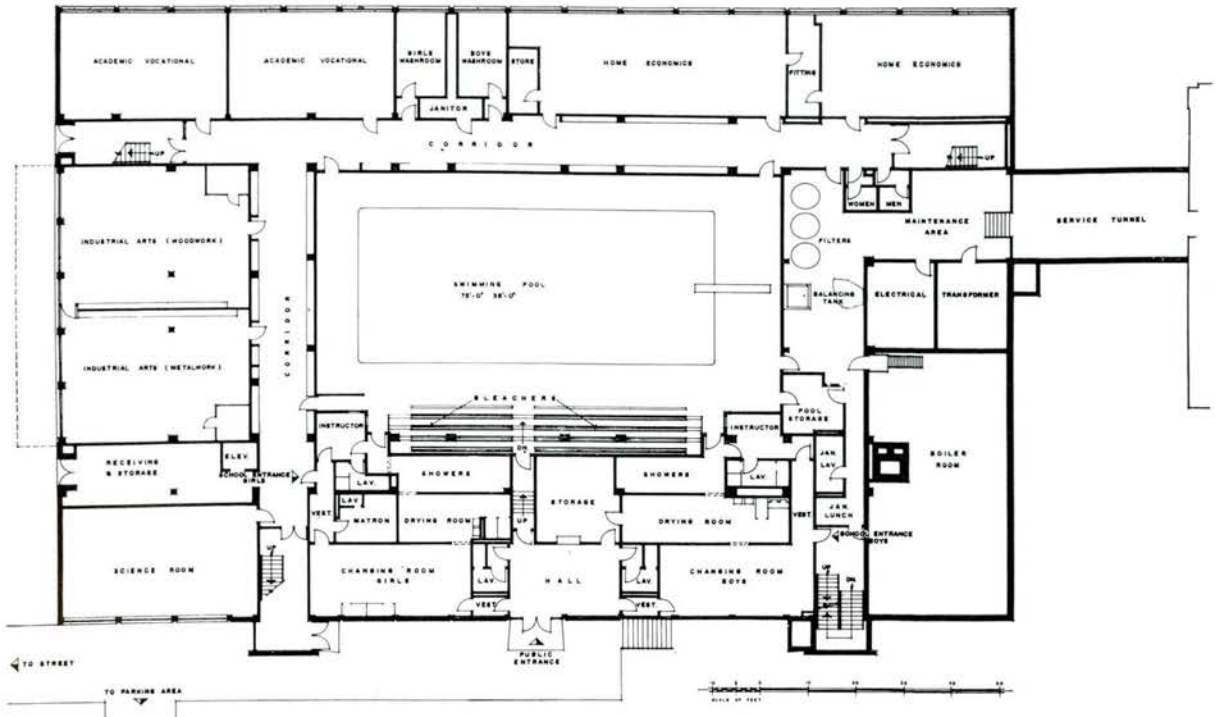
The new addition provides, on the lower floor, for home economics, sewing room, academic vocational rooms, wood-working shop, metal shop, science room, washrooms; boiler, mechanical and electrical rooms; the swimming pool and the boys' and girls' changing and shower rooms. The pool is 75' long by 36' wide, providing six racing lanes. On the second level are five standard classrooms, lunch room for 300, kitchen area, staff lunch room and lounge, guidance classrooms, administration offices, and washrooms.

On the upper floor there are five standard classrooms, two music rooms (vocal and instrumental), speech and drama classroom, library, artroom, double gymnasium and stage with changing rooms, and instructors' rooms.

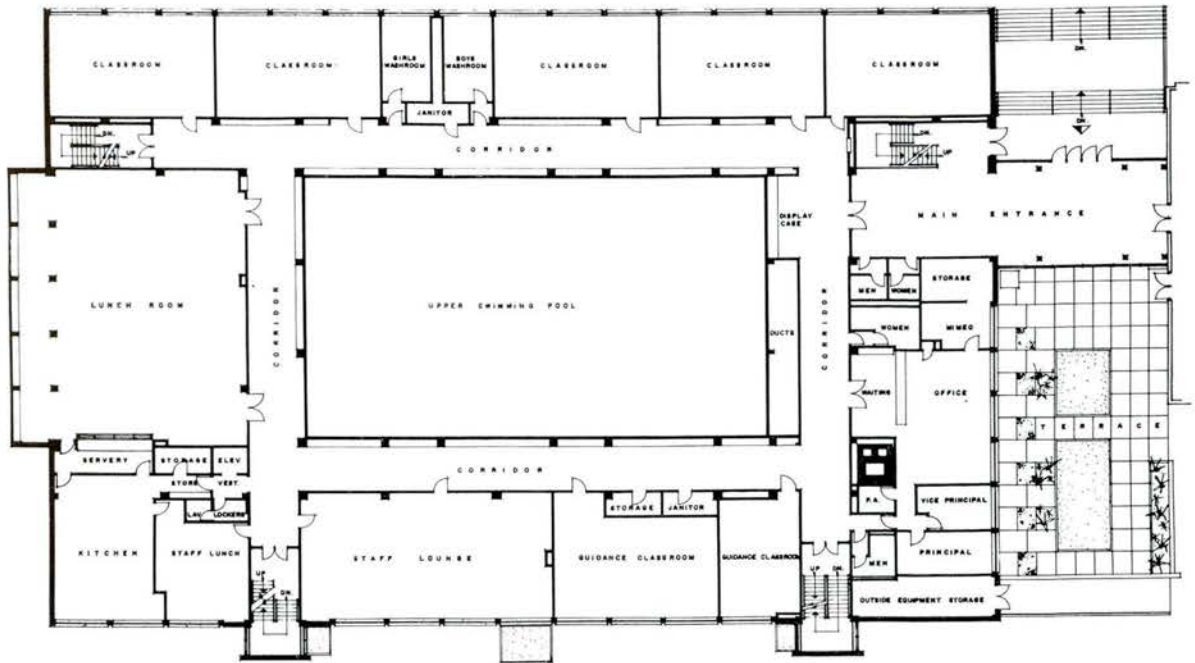
Generally, the new addition is of structural steel frame, fireproofed and with open web steel joists and concrete slabs. The exterior brick is in two shades, particularly noticeable in the checker board pattern of the spandrels on the west face of the building. Some exposed concrete and panels of coloured glass add to the crisp exterior. Windows are aluminum and have been reduced in height to minimise sun glare in the classrooms. All stairs are steel with terrazzo treads, and floor finishes are terrazzo, vinyl asbestos and linoleum tile. Walls in the building, where they are not painted plaster, are block, treated with Epon based paints.



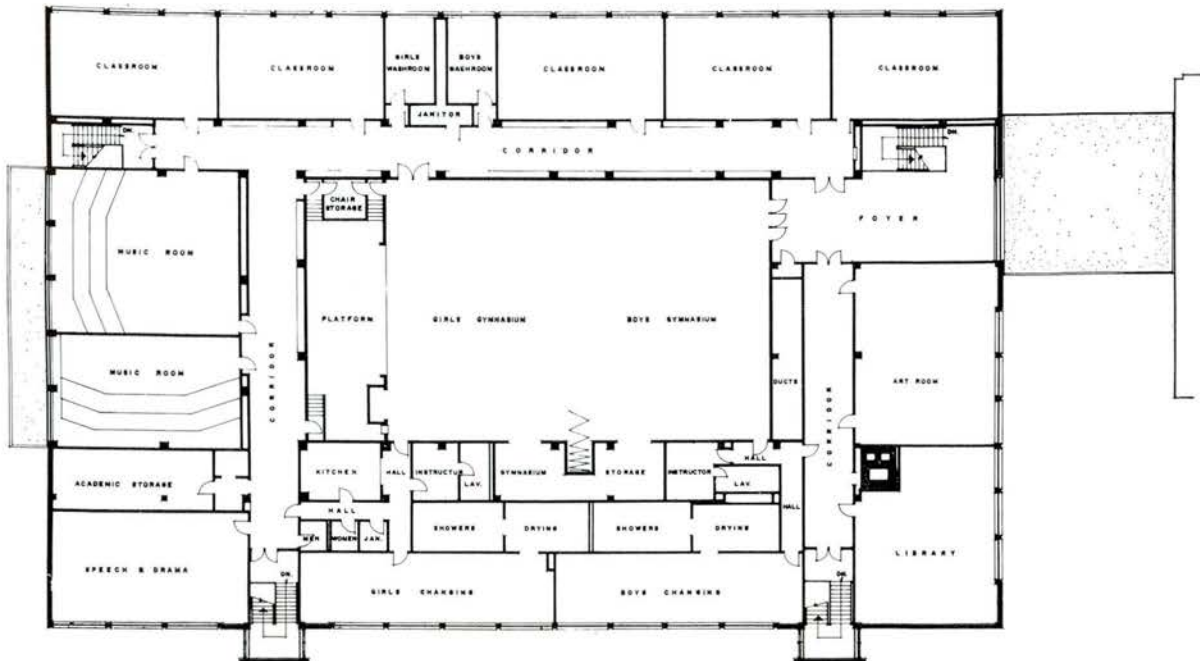
FIRST FLOOR



SECOND FLOOR

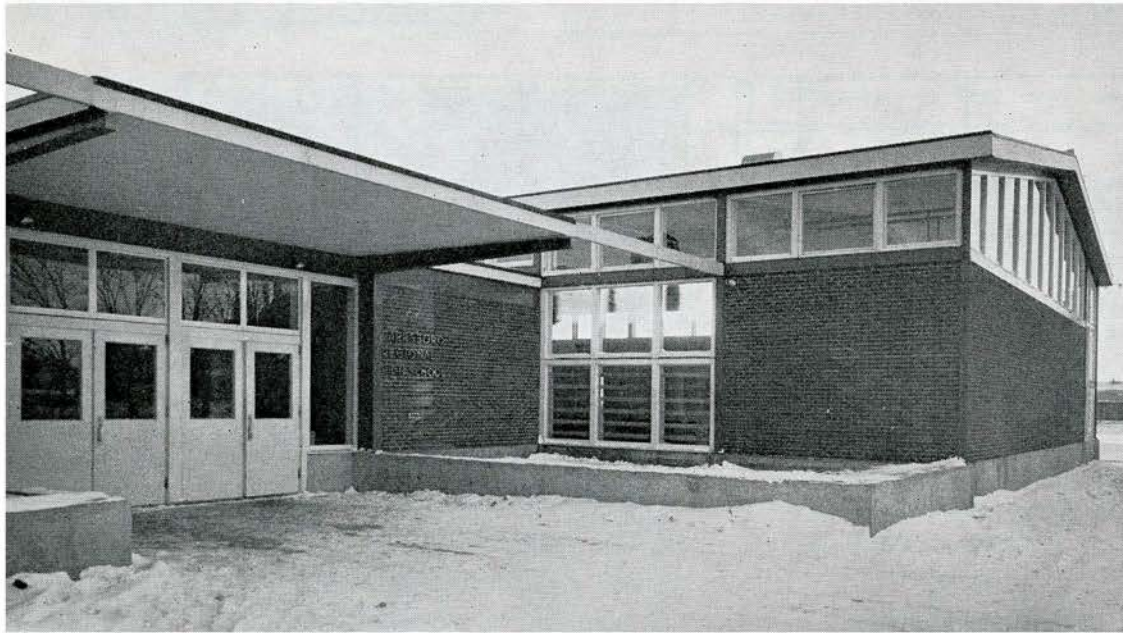


THIRD FLOOR





Parrsboro Regional High School, Halifax, N.S.



ARCHITECTS &
STRUCTURAL ENGINEERS

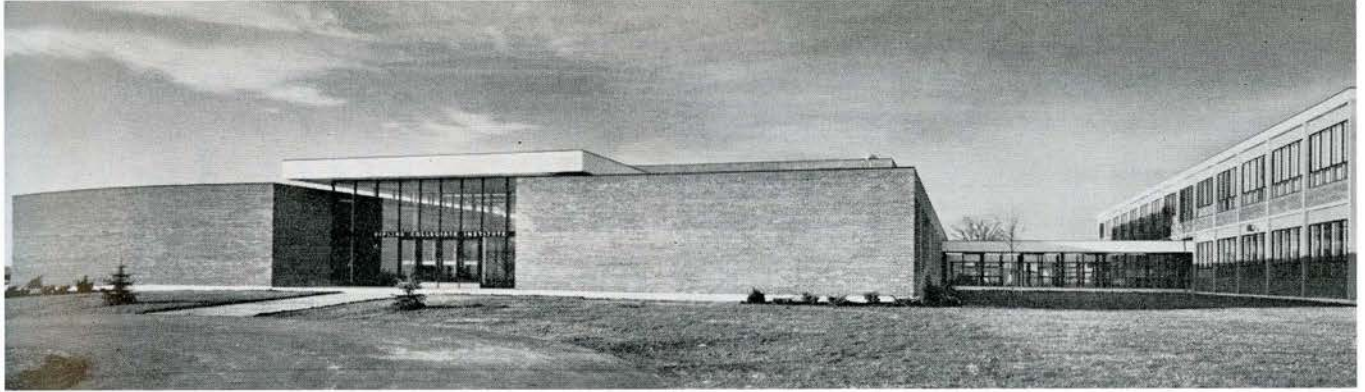
Keith L. Grabam & Associates, Halifax

GENERAL CONTRACTOR

Halverson & Smith

Photography by Wright, Halifax





Kipling Collegiate Institute, Etobicoke Township, Ontario



FIRST FLOOR PLAN

SECOND FLOOR PLAN

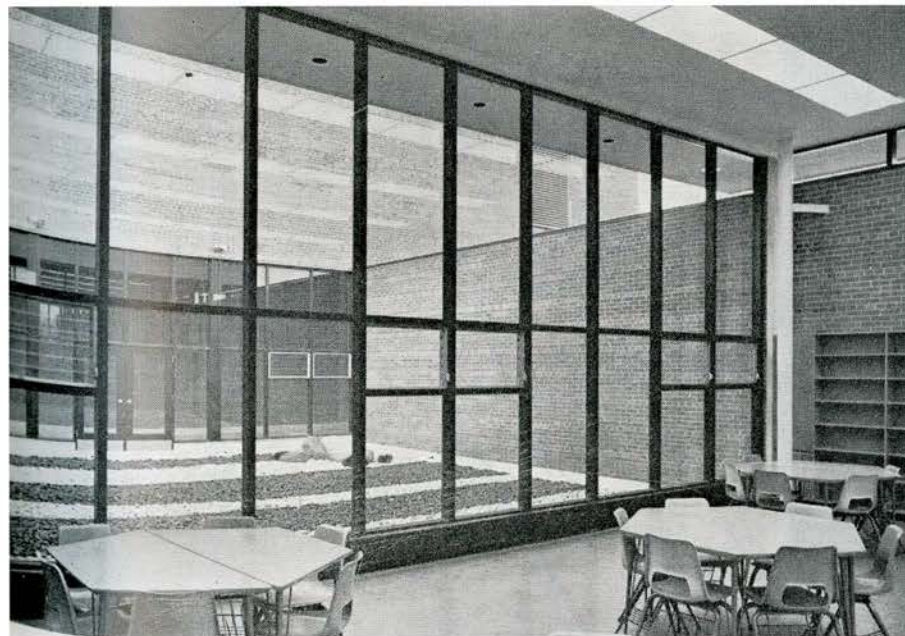
ARCHITECTS
Gordon S. Adamson & Associates
Toronto

MECHANICAL & ELECTRICAL ENGINEER
N. Fowler

STRUCTURAL ENGINEERS
C. D. Carruthers & Wallace

GENERAL CONTRACTOR
Varamae Construction Ltd

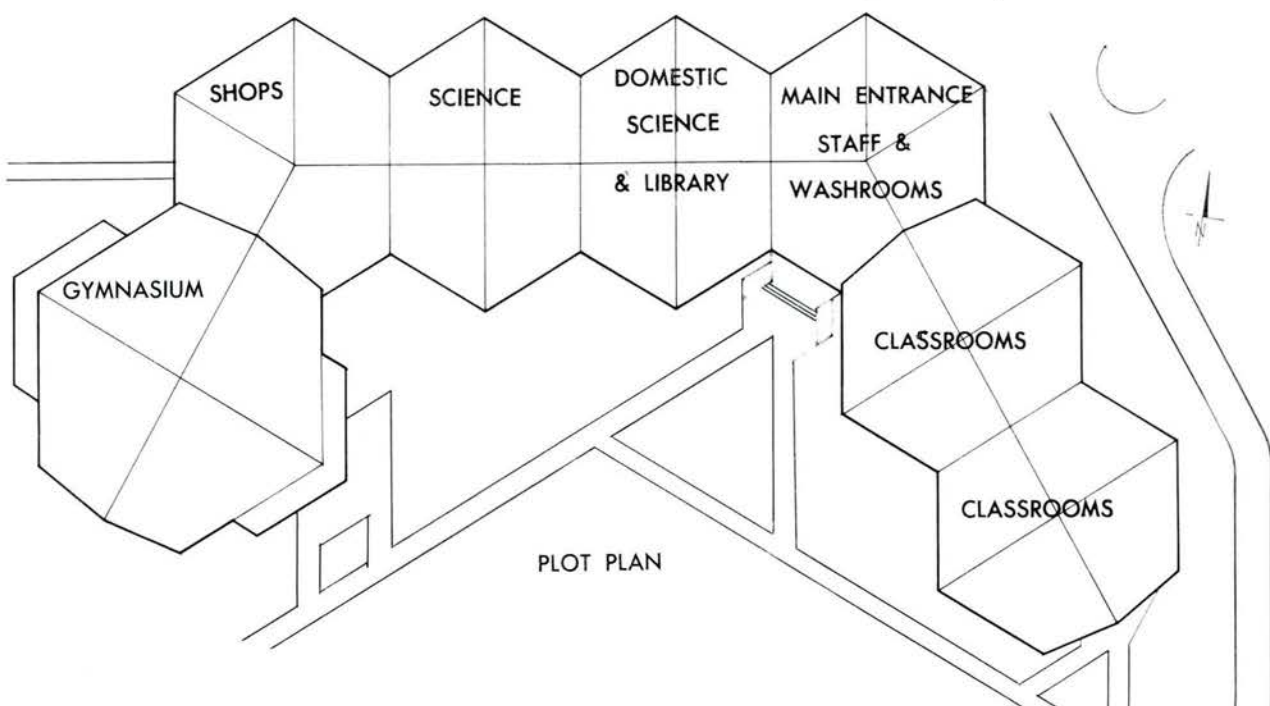
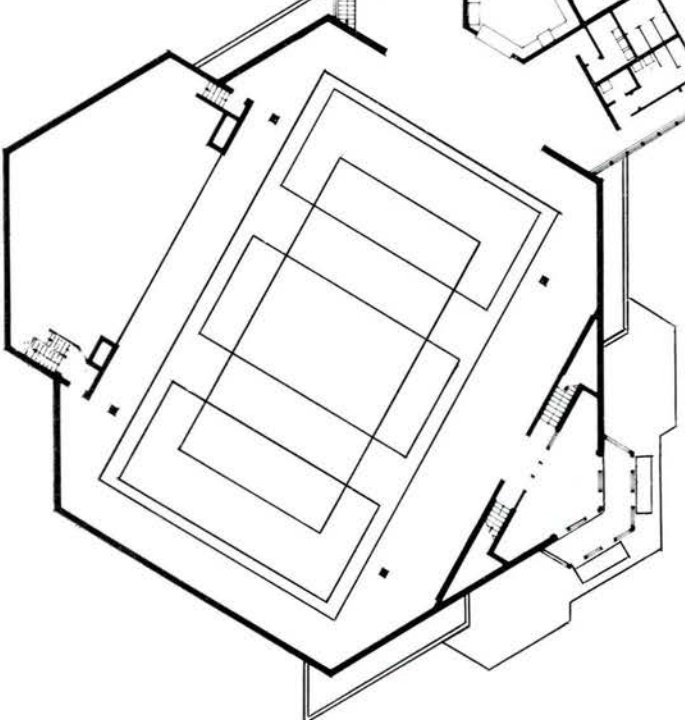
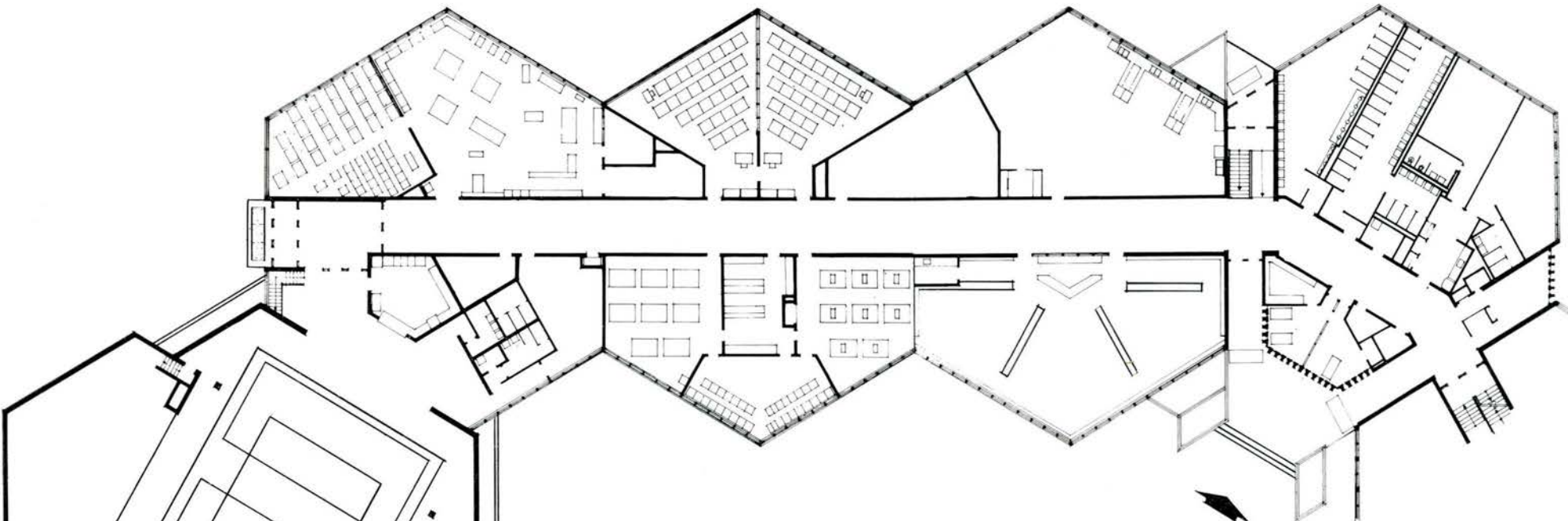
Photography by Panda



The classroom wing, containing 14 standard rooms, is connected to the gymnasium wing by two glass-enclosed corridors.

The classroom wing consists of precast concrete columns and beams, brown brick and wood window frames with jalousie openers. The classrooms are finished with asphalt tile floors, plaster walls and ceilings, with acoustic treatment on the upper part of the walls. The corridors have terrazzo floors, brick walls and acoustic tile ceilings.

The gymnasium wing also contains administration, cafeteria, special rooms and the library. This wing is a combination of bare masonry walls and steel columns and beams. Interior finishes are similar to the classroom wing. The gymnasium is lighted naturally by plastic domes. The roof over the main entrance is higher than and separated from the main roof by a clerestory window. The library overlooks a small interior court.



Windsor Park Collegiate, St. Boniface, Manitoba

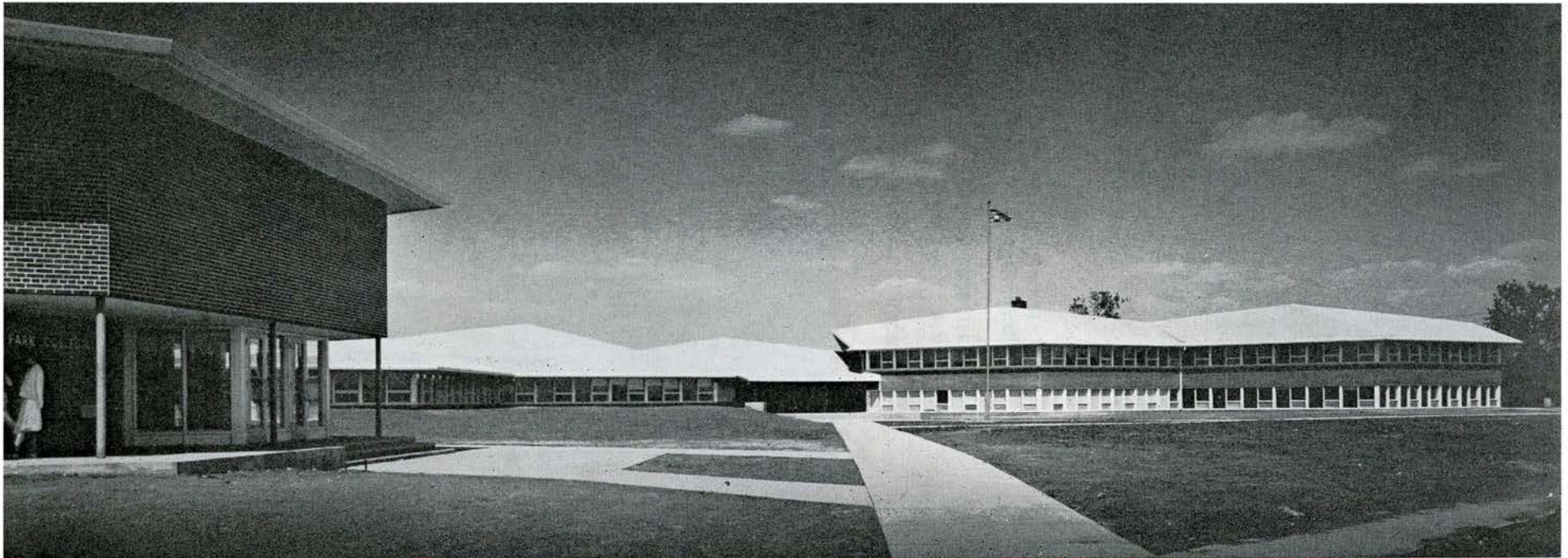
ARCHITECTS & ENGINEERS

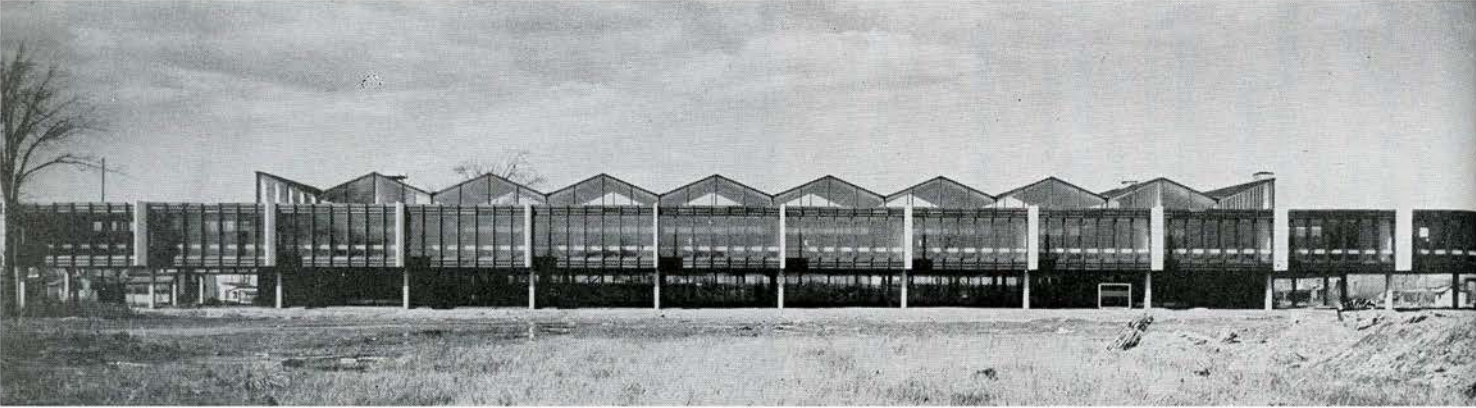
Green Blankstein Russell Associates, Winnipeg

One factor behind this design was the limited size of the site. The location is contiguous to a community playground so there is room for active recreation, but the actual building site was very small. The Superintendent of Schools wanted a plan that made for easy supervision of the corridors. We did not wish to have a high building as the site is in a new housing development consisting mostly of one-storey houses.

The result is a series of hexagonal forms providing all the required facilities within one building and with a minimum of corridor space. Although the rooms have no two walls parallel, nor the ceiling parallel with the floor, the apparent disorganization is not nearly as objectionable in use as it would seem from the plan.

The users report that they are very pleased with the school and have found that the move away from a rigid frame has given a sense of community and warmth to the building, particularly noticeable within any one hexagon where all the facilities necessary for one group are distributed around a central core.





École Samuel de Champlain, à Cité de Jacques-Cartier

ARCHITECTE
René Richard

ARCHITECTE ASSOCIE
Maurice Gauthier

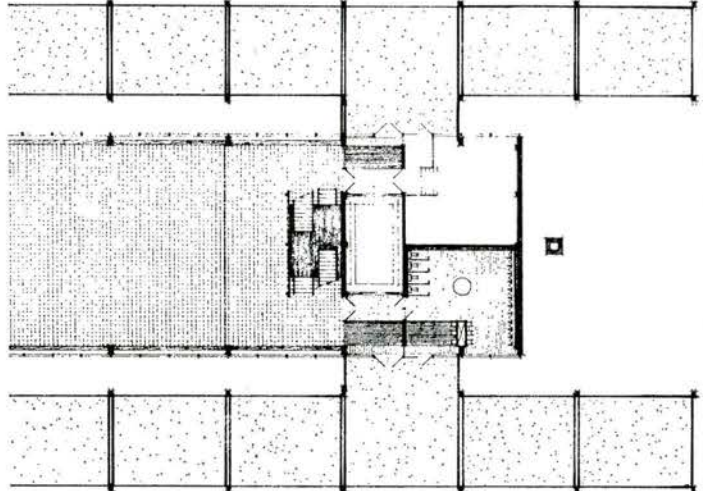
INGENIEURS-CONSEILS
(STRUCT)
Bourgeois et Martineau

(MEC)
Guy Belanger

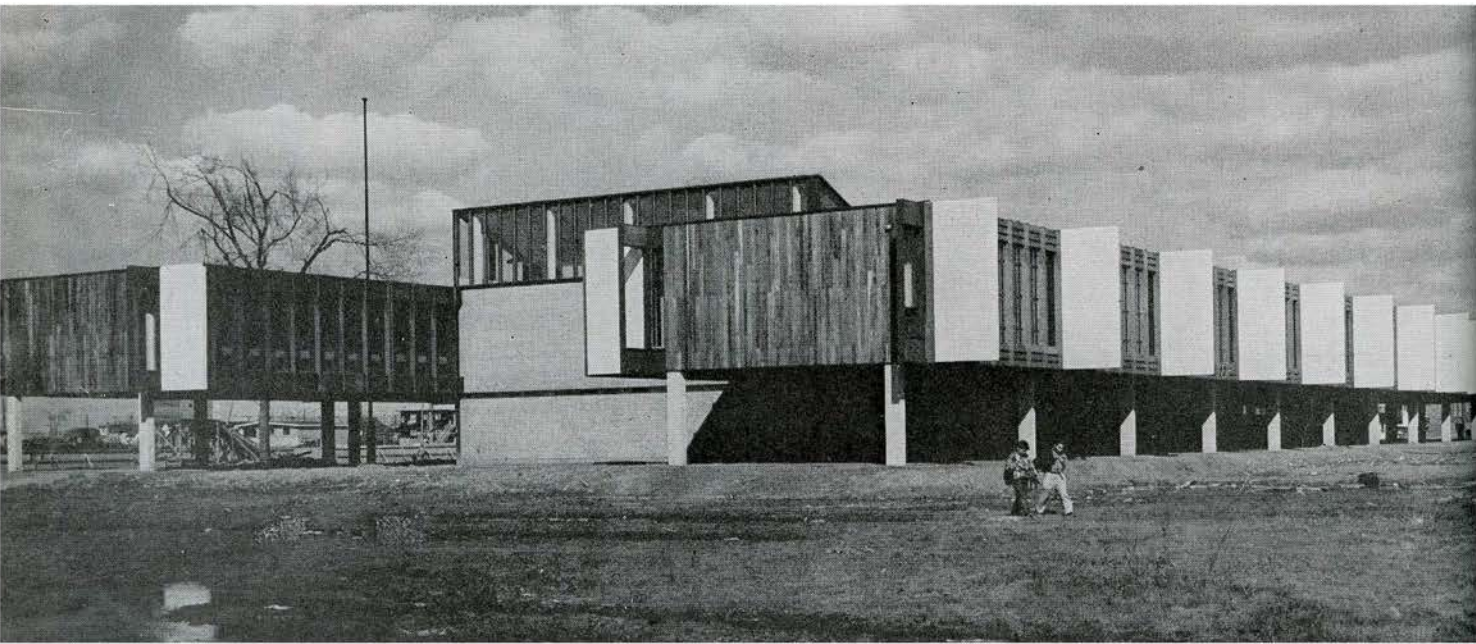
ENTREPRENEUR
Conrad Forget

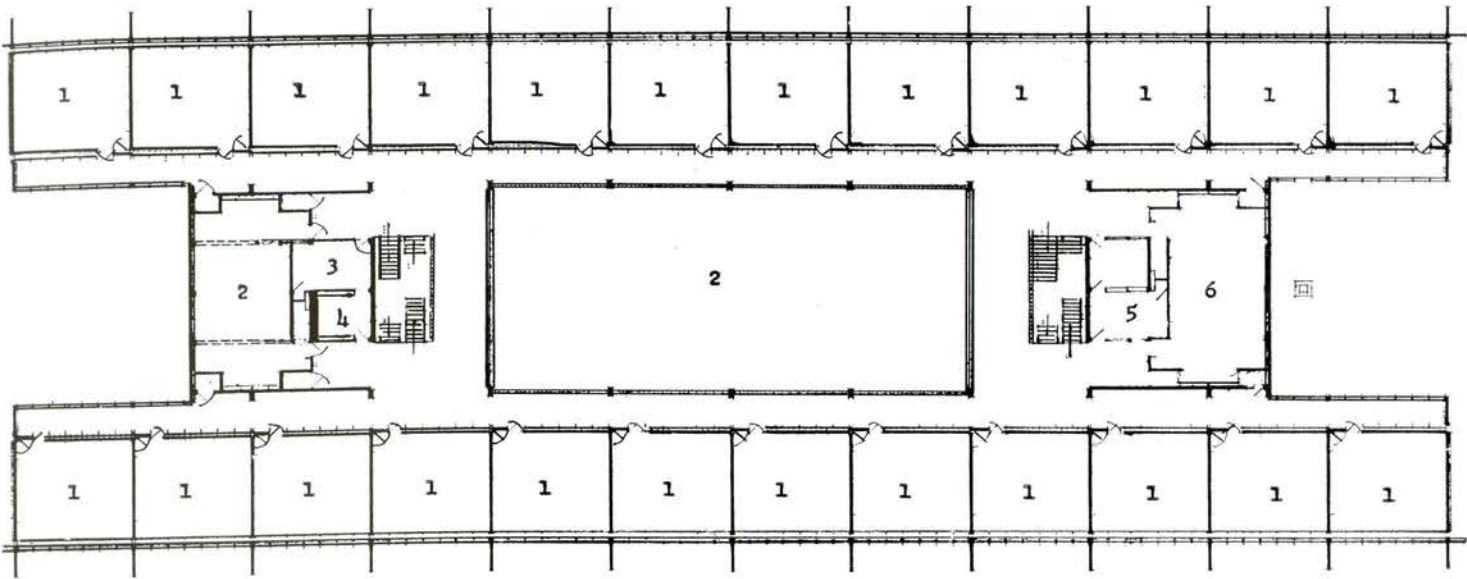
Photographs courtesy Architecture-Bâtiment-Construction

Ci-dessus: Elévation principale; les classes sont construites sur pilotis et forment mezzanine; au-dessus du toit des classes sont les fenêtres dent de scie du gymnase.



Ci-dessous: Vue oblique de l'école; espaces entre les pilotis sont utilisés comme promenade ou préaux. Remarquer les paravents protégeant le mur de séparation des classes et les fausses fenêtres extérieures, dans l'alignement de la fenestration.

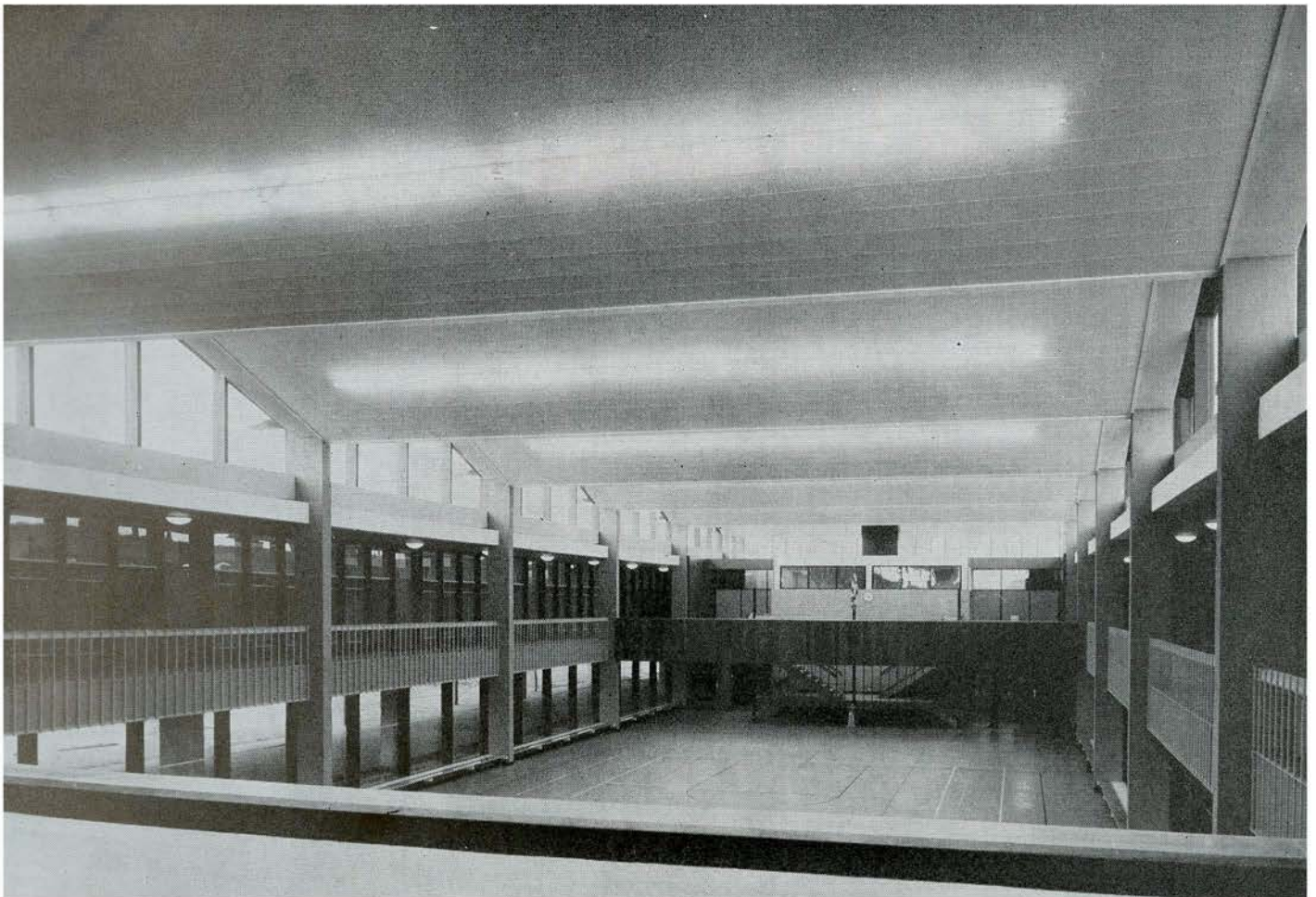




Plan de l'etage

- | | |
|-----------------------|----------------------------|
| 1 CLASSES | 4 BIBLIOTHEQUE |
| 2 GYMNASE | 5 BUREAU |
| 3 BUREAU DU DIRECTEUR | 6 SALLE DE TRAVAUX MANUELS |

Ci-dessous: Vue d'ensemble de l'interieur, prise de la mezzanine.





Mabel McDowell School, Columbus, Indiana

ARCHITECTS

J. C. Warnecke & Associates

San Francisco, California

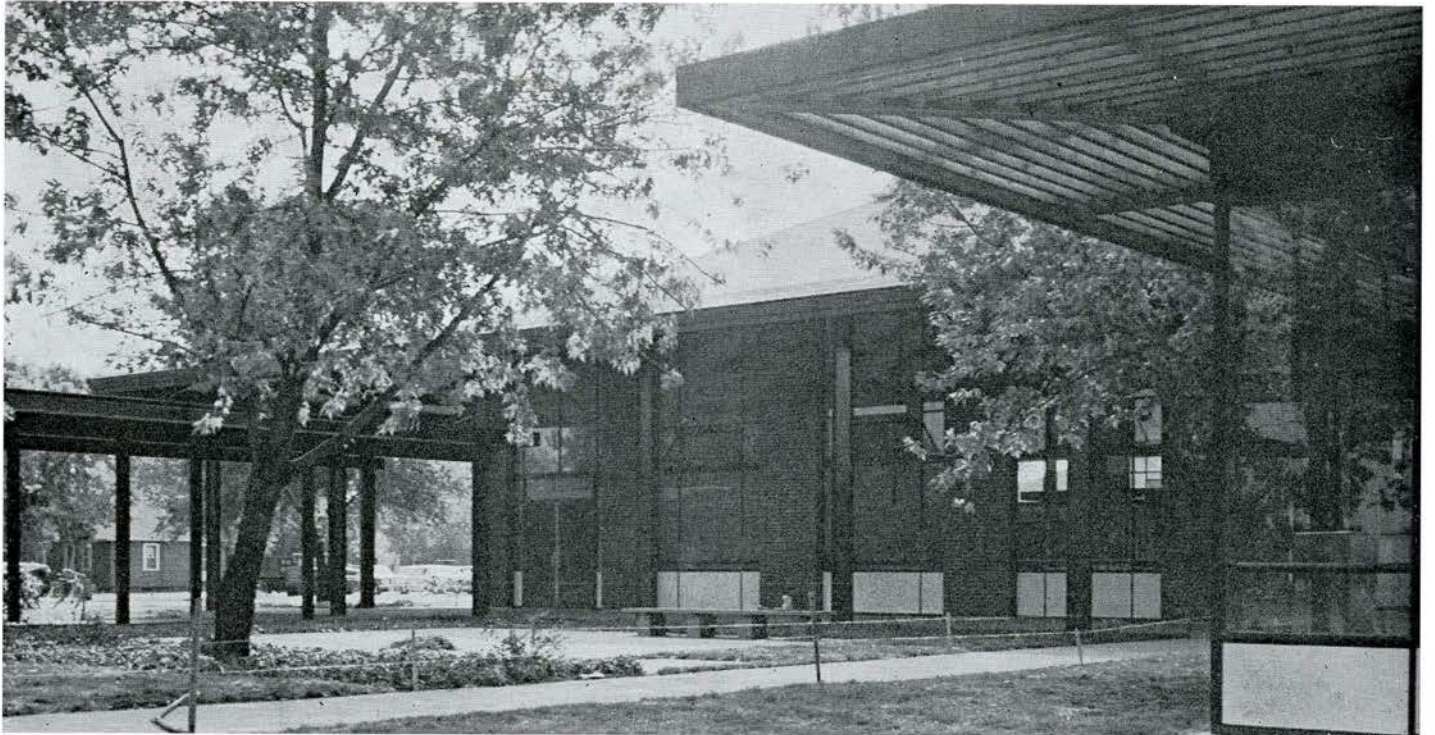
Photography by Bill Engdahl

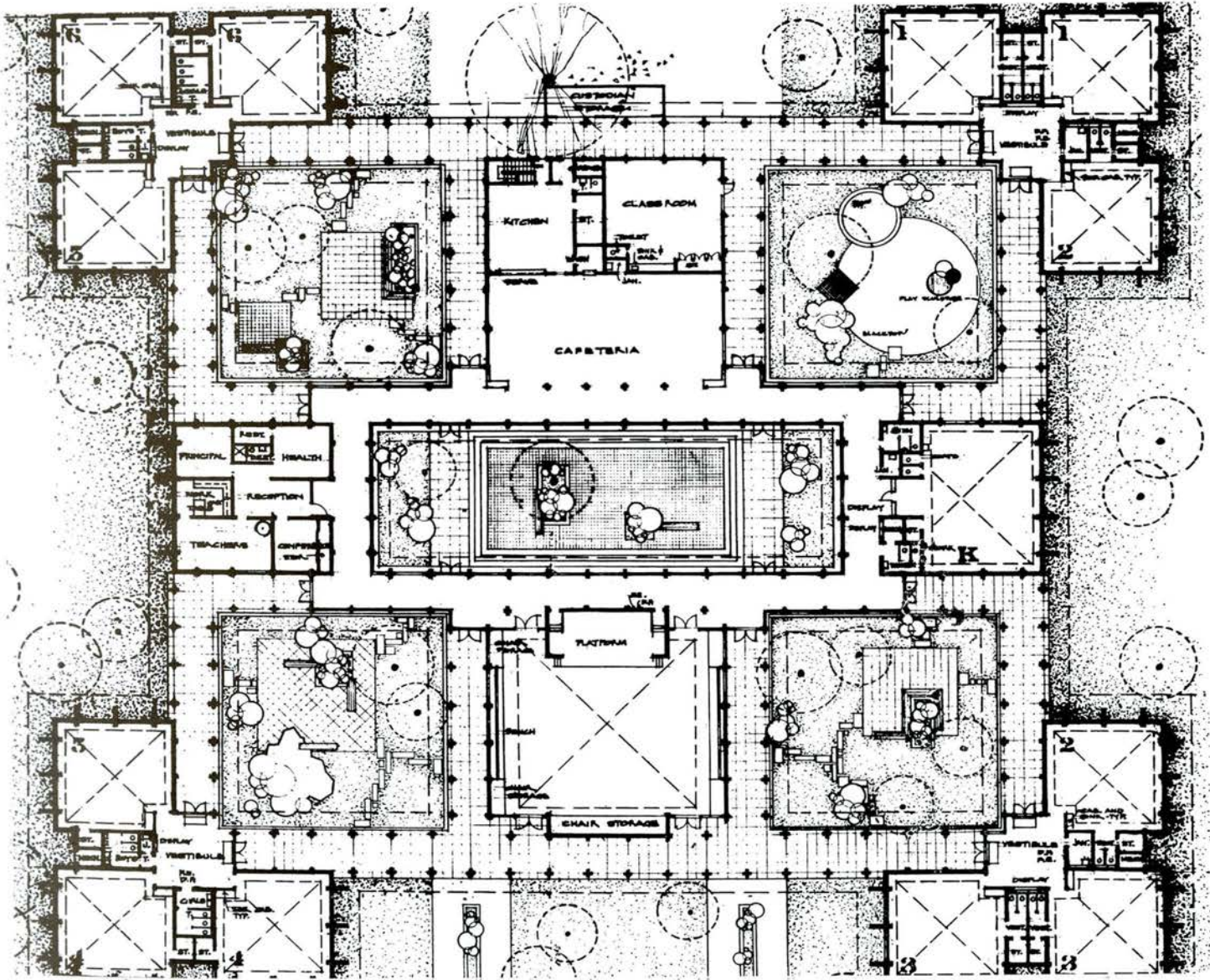
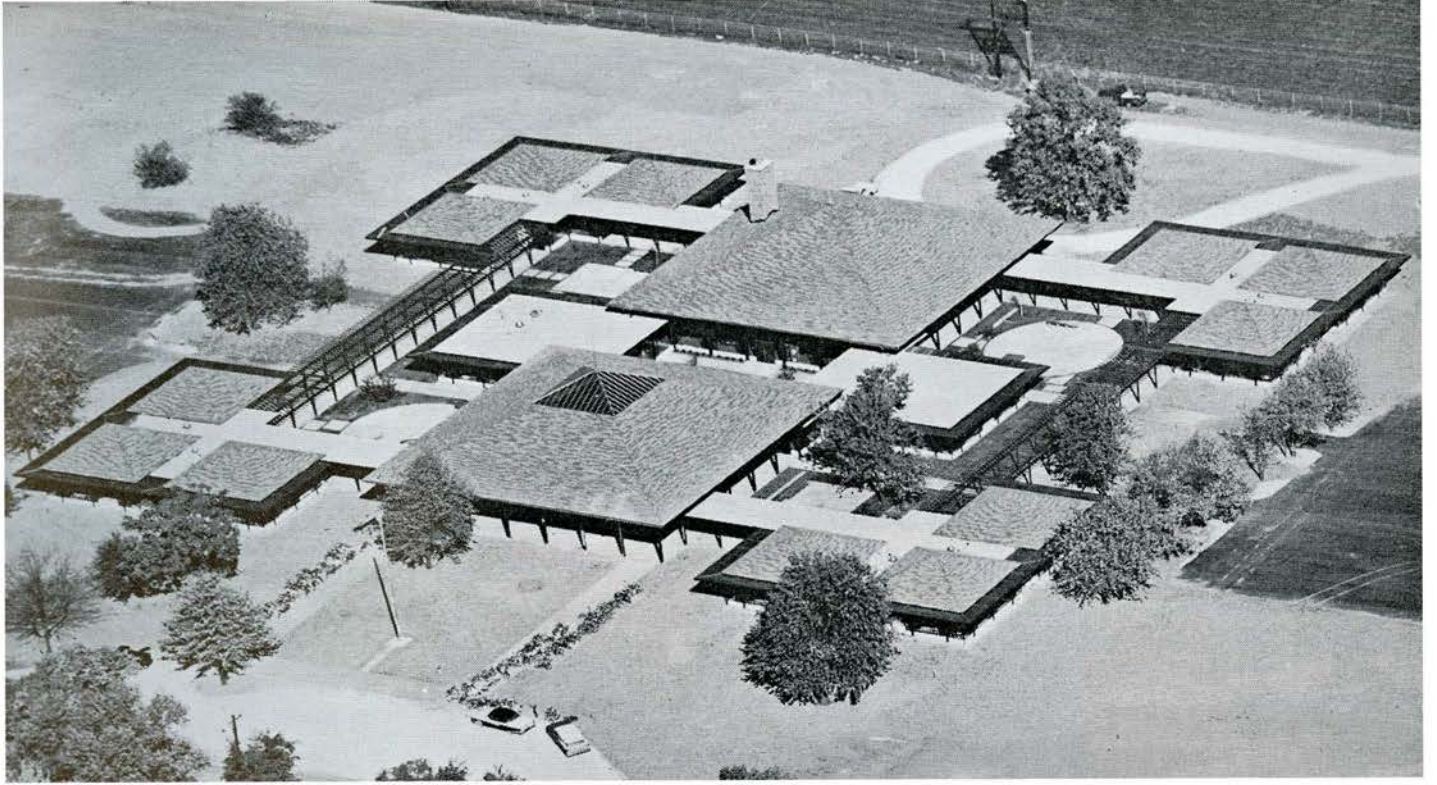
The 11-acre site is bordered on three sides by residential streets and on the fourth by the open land of a cemetery reserve. Several fine trees are already well established and every effort has been made to preserve them in the planning of the new building.

All buildings are placed near the centre of the site, giving a pleasant and residential, as well as park-like, setting. The building separates the play fields of the younger and older children located at the ends of the site, leaving large open areas for development of a future park and play fields.

The school consists of four classroom buildings, each connected by covered walkways to the central multi-use building that extends across the middle of the site. The individual classroom buildings consist of a cluster of three classrooms. The primary classroom buildings on the east side of the site, and the principal grade classrooms on the west, open directly to the playgrounds.

The structure is of steel frame with brick exterior walls, shingled roof and concrete block interior walls. Floors are of asphalt tile, and the ceiling is exposed roof planks.

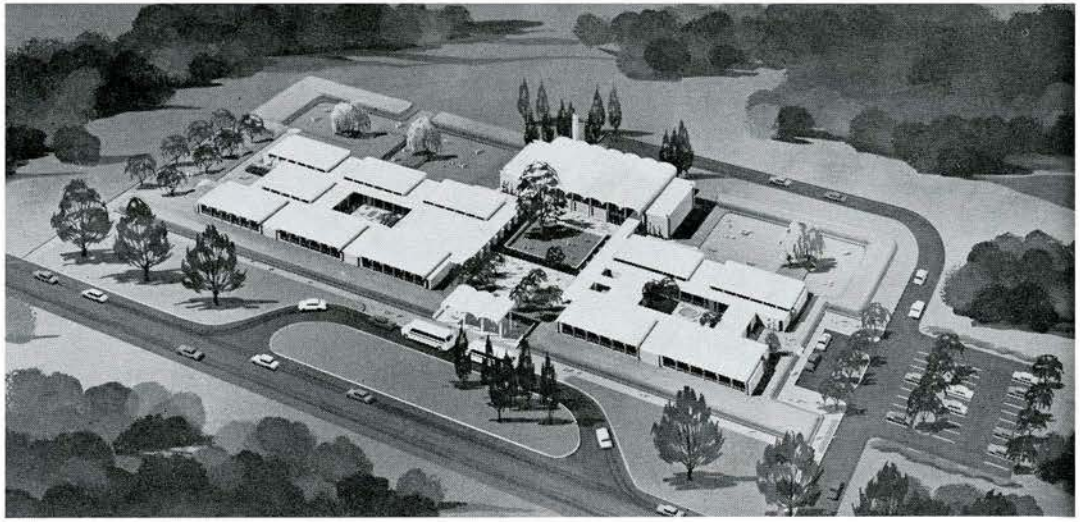




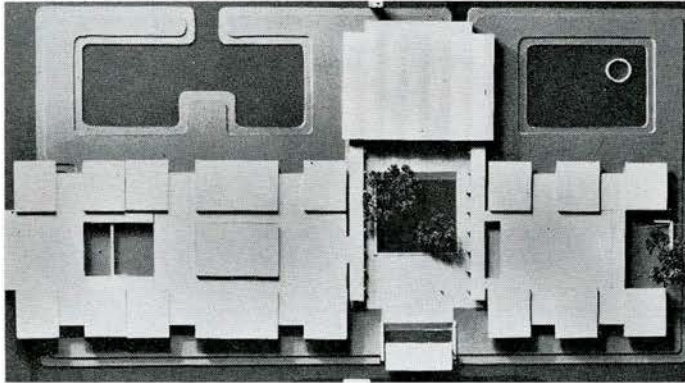
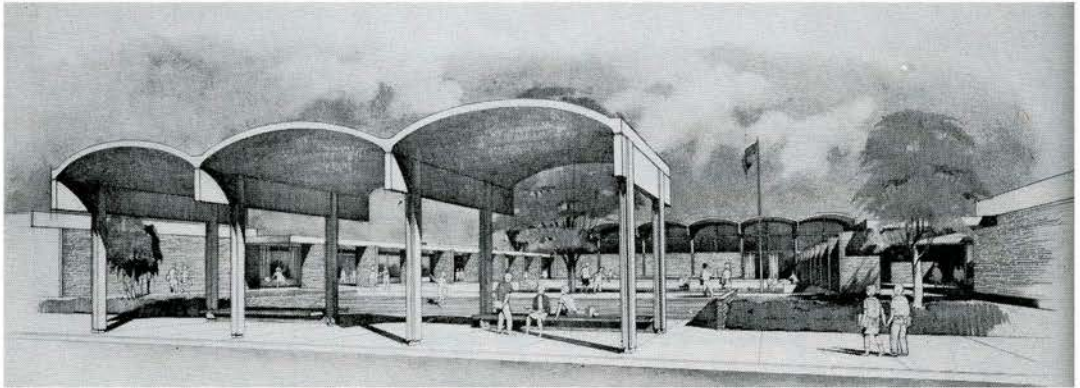
ARCHITECTS

*The Architects
Collaborative*

Cambridge, Mass.

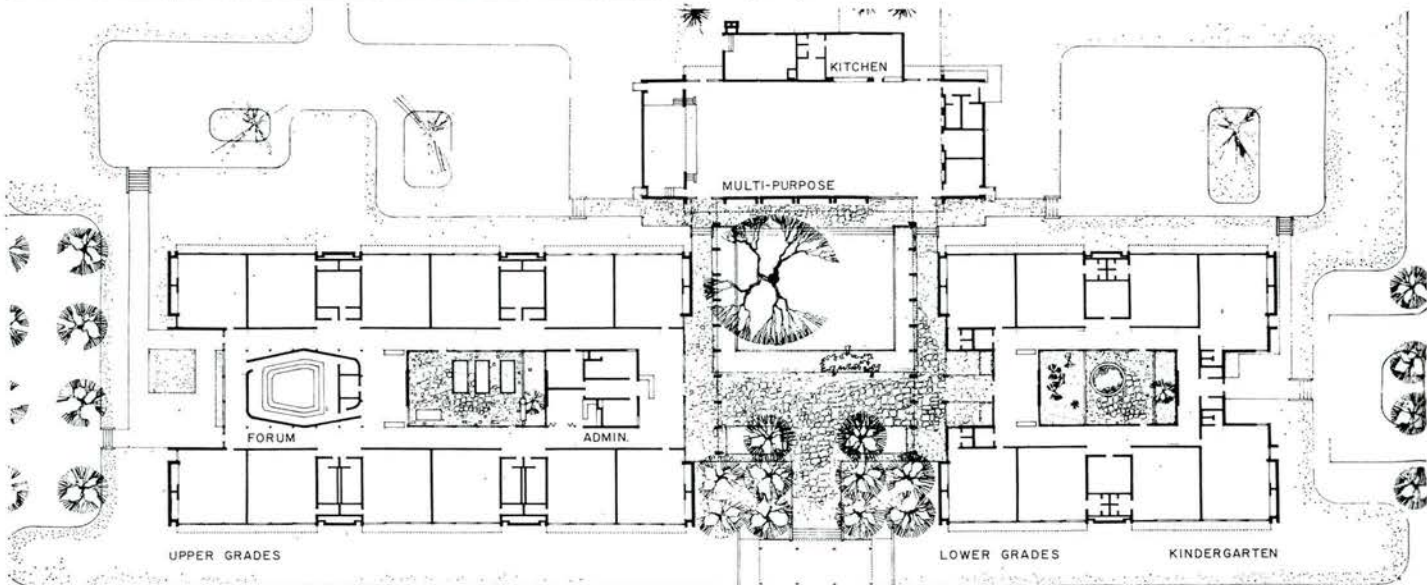


Columbus Elementary School, Columbus, Indiana



Presently under construction, this new elementary school sits upon an earth podium in which are carved the main sunken courtyard and two paved play areas.

To provide identification within age levels, the upper and lower grades are housed in separate units, each with its own inner courtyard for outdoor learning. Adjacent to each courtyard is an open arts and crafts and library center. A small theater-type area for group teaching and educational television viewing is in the upper grade unit. The multi-purpose room is contained in a third unit, which, with the other two, encloses the central courtyard. The sunken portion of the court is grassed and is intended for informal group use.



LETTERS TO THE EDITOR

Editor, RAIC *Journal*:

We wish to congratulate you on the June 1961 issue featuring "Hospital Design". Most hospital publications concentrate on the larger projects and therefore your examples of the smaller hospitals were extremely interesting.

Mr Keenleyside's introductory remarks were very pertinent particularly with regard to the need for expansion of the building. We have done a considerable amount of research in our office regarding hospital planning and agree very heartily with Mr Keenleyside that a committee should be formed to develop theories and techniques which anticipate future requirements.

We would be very happy to assist in forming a committee to compile information on hospital design. Should a committee be formed we would certainly be ready to co-operate with them regarding any information we have or any research we have done. *James S. Craig, Craig and Zeidler*

Editor, RAIC *Journal*:

I understand that your Institute has produced a brochure intended to advise manufacturers on the production of informative advertising and trade literature. Major Watson of the RIBA has shown me a copy of this excellent document and, since we are concerned with the improvement of standards of advertisements, it would be most helpful if you would let us have one or more copies. It would also be helpful to us to know of the reactions by manufacturers and advertising agencies to your campaign.

Your assistance in this matter would be greatly appreciated. *M. Rostron, The Architects' Journal, Westminster S.W.1.*

BOOK REVIEWS

"DESIGN OF STEEL STRUCTURES" by Boris Bresler and T. Y. Lin: John Wiley and Sons, Inc. 710 pages. \$9.75.

A quick look at the construction picture in Canada and the US today is sufficient to indicate that steel is still our most used structural framing material. This is true despite the recent tendency of architectural journals and student designs to emphasize the new and novel developments in other structural materials. But steel design too, has not been static. Over the years there have been many developments and improvements in its design and construction, but being more evolutionary than revolutionary, relatively little publicity has accompanied their introduction to practice.

It would seem to be in recognition of these developments that Professors Bresler and Lin have written "Design of Steel Structures". The authors are both teachers of Civil Engineering at the University of California and their experiences have undoubtedly had a good influence on the way that this book has been written and the material organized. "Design of Steel Structures" is essentially a text book on the selection, detailing and handling of structural steel for buildings and bridges and is directed towards use by students of this subject. The chapters of the book are so arranged as to enable its convenient use as an elementary text as well as a reference for an advanced course in steel design. It is to the credit of the authors that they have been able to bring steel design up to date as well as combine into one volume, material which previously, in my own experience, could only be found in several different ones.

Readers are expected to have a knowledge of the general principles of statics, dynamics, mechanics of materials and structural theory. Good and plentiful use is made of dia-

grams and sketches to illustrate details, while many design examples are worked out to demonstrate methods and calculations. As an elementary text, I believe the book might have been improved had it contained more photographs of actual structures under construction to better illustrate the important relationships between the details, so often considered in books in isolation, and the total structure.

Nevertheless, the book is a good and comprehensive one and the architects will be particularly interested in the chapter devoted to the design of buildings, while designers who are especially concerned with the fundamentals of some of the more recent developments in the use of steel, will appreciate the sections on Plastic Theory, Tension Members for Hung Structures and Light Gauge Elements.

I highly recommend this book to students of structural steel design and would not be surprised if it became the main reference text on this subject at Canadian and American Schools of Architecture and Civil Engineering. I also think that it should prove to be of considerable interest and value to anyone in industry who is concerned with the design, fabrication or erection of structural steel.

Douglas H. Lee

A FIFTEEN YEAR PROGRAM FOR THE URBAN RENEWAL OF THE CITY OF WINDSOR AND ITS METROPOLITAN AREA. E. G. Faludi and Associates, 1959. Published by The City of Windsor Planning Board. 224 pages, \$4.00 (*abridged version of 20 pages free upon request*).

This well-presented 224 page report which follows the Master Plan of 1946, deals with the present condition and future proposals for the City of Windsor and its nine suburban municipalities, an area of 100 square miles and 185,865 population.

The report sets out the basic problems: future size and nature of the metro area, the containment of sprawl, the need to recreate central and residential areas, the incompatibility of existing municipal boundaries with social and economic aspects of the area; and puts forward as objectives (1) the "adoption and implementation of a community development programme" over the whole area and (2) the saving of the city and its fringe areas from further deterioration by an urban renewal programme.

The recommendations offered to realize these objectives are (1) for the City, a redevelopment program embracing the acquisition, clearing and resale of 134 acres of the downtown area by the public at a cost of nearly \$14 million, shared between Windsor, Federal and Provincial government. This would be supplemented by a \$900,000 and 1,350 acre rehabilitation programme — also a public project — and by the adoption of conservation policies in the private sector; (2) a similar three-pronged attack on the suburban areas.

Although industry in Windsor is becoming more diversified, there is still too heavy a reliance on the automobile industry, a weakness which has caused inflated growth in the past and to which the planners again draw attention. This, together with the disadvantageous position of the Windsor downtown area in relation to the general anatomy of the metro area, points up very sharply the difficulties with which a planner is faced in trying to assess the long term economic viability of renewal areas and raises problems associated with the allocation, on a priority basis, of Federal and Provincial financial assistance to towns undertaking renewal programmes.

John Dakin

1961

RAIC

Allied Arts Medallist

Miss Daoust was guest of honor at the 54th Annual Assembly Dinner at the Chateau Frontenac, Quebec, on May 20th, 1961



"IMMACULEE CONCEPTION"
(pine, 4'4", with color)

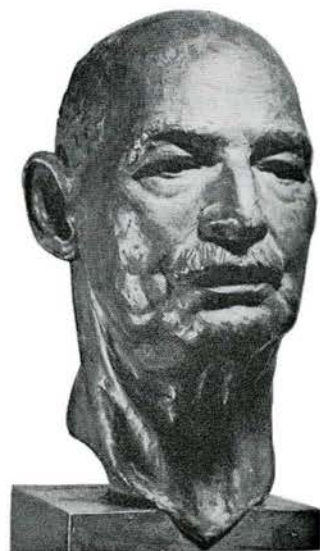
*Noviciat des F.F. des Ecoles Chritiennes,
St Foy, Quebec*



"LUCIE" (bronze)
National Gallery, Ottawa



"MON GRAND PERE" (bronze)



Miss Sylvia Daoust, RCA, SSC, of Dorval, Quebec, the 1961 Allied Arts Medallist, was born in Montreal. She studied art at the Ecole des Beaux Arts in that city, receiving her teacher's diploma in 1929. She taught art, modelling and anatomy at the Ecole des Beaux Arts in Quebec from 1930 to 1943, then returned to Montreal where she has since taught sculpture in wood at the Ecole des Beaux Arts. In 1929 she won first prize ex aequo in sculpture in the Willingdon Competition, and in the same year was awarded a Quebec Provincial Government Scholarship to study in France. In 1955-56 she was awarded a Royal Society of Canada scholarship, also for study in France. Miss Daoust, whose works include busts, medallions of the Lieutenant Governors of Quebec, religious art and sculpture in wood, has participated in exhibitions of the Royal Canadian Academy and the Sculptors' Society of Canada in Montreal, Quebec, Ottawa and Toronto; and exhibitions in Montreal and Quebec, Rome and in the Tate Gallery, London.



Above:
 "MERE ET ENFANT"
 (reconstructed stone, 12" x 18")

Above left:
 "MADONE" (mahogany, height 22")
 Property of Dr G. Cousineau

Below left:
 "MATER SALVATORIS"
 (mahogany, 5' high)
 Chapelle du Noviciat des
 C.S.V. Joliette



Mlle Sylvia Daoust, RCA, SSC, de Dorval (P.Q.), titulaire de la Médaille des arts connexes de 1961, est née à Montréal où elle a étudié à l'École des Beaux-Arts et obtenu le diplôme de professeur en 1929. De 1930 à 1943, elle a enseigné le dessin, le modelage et l'anatomie à l'École des Beaux-Arts de Québec, puis elle est revenue à l'École des Beaux-Arts de Montréal où elle enseigne encore la sculpture sur bois. En 1929, elle a mérité ex-aequo le premier prix de sculpture au Concours Willingdon et a obtenu du gouvernement de la province de Québec une bourse pour des études en France. En 1955-1956, elle a fait d'autres études en France comme boursière de la Société royale du Canada. Mlle Daoust, dont les œuvres comprennent des bustes, des médailles des lieutenants-gouverneurs de la province de Québec, des travaux d'art religieux et des sculptures sur bois, a participé à diverses expositions de la Royal Canadian Academy of Arts et de la Société des Sculpteurs du Canada à Montréal, Québec, Ottawa et Toronto ainsi qu'à d'autres expositions à Montréal et à Québec ainsi qu'à Rome et à la Tate Gallery de Londres.

RAIC Appoints Secretary

Maurice G. Holdham, MBE, 51, of Ottawa, has been appointed Secretary of the Royal Architectural Institute of Canada. He succeeds Leonard Fallis who died suddenly in April. Mr Holdham joins the staff of the Institute in Ottawa after thirty-three years of service with the RCAF, during which he served as administrative officer, Canadian General Staff, Washington; secretary for Canada of the Combined Committee on Air Training in North America; staff officer, Personnel, No. 1 Air Division in Metz, France; and later performed similar duties at Air Material Command, Ottawa. Prior to his appointment to the Institute staff, he was senior staff officer, Directorate of Personnel Administration, AFHQ, Ottawa, with the rank of Wing Commander.



D. Shadbolt Heads NS School

Prof Douglas Shadbolt, BArch, of Montreal has been appointed Director of the new School of Architecture at the Nova Scotia Technical College. The school opens on September 14. A native of Victoria, BC, Prof Shadbolt graduated from the School of Architecture, University of Oregon, where he afterwards taught, and later had extensive experience in practice in Vancouver, Victoria and Boston. He has also acted as consultant to the Capital Region Planning Board of Greater Victoria. For the past three years he has been on the Faculty of the School of Architecture at McGill University.



CMHC Ottawa Competition Results

Fraser Watts of Toronto has been awarded first prize of \$15,000 in the CMHC Smythe Road Development Competition in Ottawa. W. M. Schacter and N. H. Schoendur of Montreal were awarded the second prize of \$3,000; and third prize of \$2,000 was won by H. A. Swanson of Toronto.

The winning designs and report of

the jury will be published in the August issue of the *Journal*.

Details of Fathers of Confederation Memorial Building Competition Announced

Arrangements for the national competition for the design of the Fathers of Confederation Memorial Centre in Charlottetown, PEI, announced in the June issue of the *Journal*, have been completed.

First prize will be \$7,500; second \$5,000 and third \$2,500. Eric R. Arthur is professional adviser and chairman of the jury, and members of the jury are Eric L. Harvie, QC, Calgary; Dr W. Kaye Lamb, Ottawa, Dominion Archivist; Dr Frank MacKinnon, Principal of Prince of Wales College, Charlottetown; Prof John Russell, Winnipeg; Sir Basil Spence, PPRIBA, London, England; and Charles Trudeau, Montreal.

Conditions may be obtained from Dr Arthur at the School of Architecture, University of Toronto, by August 15th, upon payment of a fee of \$5.00. Closing date for registrations is October 10; last date for questions is October 12; closing date is January 10, 1962; and last day for entries is January 19. The jury will meet on or about January 24. The building is to be erected in 1964.

Notices

John A Ware has resigned his post as Senior Architect-Planner with the Wichita, Kansas, Metropolitan Planning Department, and has accepted the position of Director of Planning, Muniz-Nunez, Sargent, Webster, Crenshaw and Folley, Architects, Engineers, Planners, 220 Garcia Commercial, Labra 800, Santurce, Puerto Rico.

The Division of Building Research of the National Research Council in Ottawa has added two architects to its staff. Maxwell C. Baker, a native of Newfoundland, graduated from the McGill School of Architecture in 1950; and George K. Garden, a native of Alberta, graduated in 1951 from the Manitoba School of Architecture. Both will work in the building practice field at DBR.

Wallace E. Sherriff, who graduated from the University of Toronto School of Architecture in 1955 and was subsequently awarded a School of Art and Architecture scholarship at Yale University, has been awarded his Master's degree in architecture and has recently re-joined the firm of John B. Parkin Associates in Toronto as a senior project designer.

Positions Vacant

The Department of Architectural Technology, Ryerson Institute, Toronto,

requires an instructor in architectural subjects for permanent staff. Applicants must be members of the Royal Architectural Institute of Canada, with a minimum of two year's experience in Canada. Interested persons are asked to write immediately to the Vice-Principal, Technology Division, Ryerson Institute of Technology, 50 Gould Street, Toronto, Ontario.

Architect or senior draughtsman of at least five years experience required by small Toronto office. Box 105, *Journal*.

Position Wanted

Position in Canada wanted by graduate in architecture from Institute of Technology, Wroclaw, with the degree of Master of Engineering and subsequent post-graduate studies in town planning, etc. In public and private practice in Poznan, Poland, from 1948 to 1958; since 1959 employed at the Bauverwaltung in Hanover, Germany. Age 38. Languages: Polish, English, German and Russian. Mieczyslaw Skrzypczak-spak, Hanover-Constructa-Hochhaus, Hanover, Germany.

REGISTRATIONS

Ontario Assn. of Architects

April 18, 1961

Cleve Erwin C., Dip. Arch. (Tech. U. of Budapest); 26 Alexander Street, Ottawa 2, Ontario. (Central Mortgage & Housing Corporation, Head Office, Ottawa.

Jeruzalski, Tadeusz Piotr, Dipl. Ing. Arch. (Polish School of Arch. London U.); 73 St Lucie Dr, Weston, Ontario.

Torsney, Michael Joseph, MRAIA; 857 Shadeland Ave., Burlington, Ont. Wm. R. Souter & Associates, Hamilton, Ont.

Space for Rent

Air conditioned space, suitable for architect's or surveyor's office, 3,600 sq. ft., or 2,000 sq. ft., ample parking, reasonable, 68 Tycos Drive near Dufferin Street, Toronto. Telephone HOWard 1-3533.

Articles for Sale

For Sale: Vari-typer and Headliner Composing Machine. International Firearms Ltd., 1011 Bleury, Montreal, Quebec.

Erratum

Page 49 of the April issue: the statue in wood "Notre Dame du Travail" was attributed in error to Miss Sylvia Daoust.

Page 50, June issue: Picture Butte Municipal Hospital, Architects, Meech, Mitchell Robbins & Associates, is located in Picture Butte, Alberta, and not in British Columbia, as shown.

**University of Toronto
School of Architecture**
Graduates, May 1961

Bruno APOLLONIA
Fred W. BECK
Martin BIRKHANS
Joseph BRUNON
W. David BUTT
David R. COLLYER
James F. DUNCAN
Gordon F. GOURLAY
Victor J. HEINRICHS
John G. HRENO
Stephen V. E. IRWIN
Paul G. MARTEL
Charles D. MIDDLETON
Gunars MILICS
Paul L. NIGHTINGALE
George K. OKAMURA
Garnet H. QUIGLEY
Sheldon D. ROSEN
Murray R. ROSS
Jerry SILVERBERG

Medals and Prizes 1961 (graduates)
Royal Architectural Institute of
Canada Medal:

P. L. NIGHTINGALE

Toronto Architectural Guild
Bronze Medal:

S. V. IRWIN

Anaconda American Brass
Limited Scholarship:

M. R. ROSS

The Jules F. Wegman Fellowship:
P. L. NIGHTINGALE

The George T. Goulstone Fellowship
in Architecture:

M. R. ROSS

Murray Associates Scholarship:

J. G. HRENO

Undergraduate Scholarships,
Bursaries and Prizes

FOURTH YEAR:

American Standard Products
(Canada) Ltd. Scholarship:
C. HALL

Canadian Pittsburgh Industries
Ltd. Scholarships:

FIRST: C. HALL

SECOND: P. M. BARNARD

Argo Block Company Limited
Scholarship:

J. GARDONYI

THIRD YEAR:

Ontario Association of
Architects Prize:

G. A. SIERER

Toronto Brick Co. Scholarships:

FIRST: J. M. PLUMB

SECOND: I. STECURA

Queenston Quarries Ltd.
Scholarship:

J. M. PLUMB

SECOND YEAR:

Booth Brick Co. Prize:

W. G. MOHAUPT

Atlas Asbestos Co. Ltd. Prizes:

FIRST: R. H. GREENFIELD

SECOND: M. F. THOM

Ontario Association of
Architects Scholarship:

M. F. THOM

FIRST YEAR:

Turnbull Elevator Co. Ltd.
Scholarship:

C. A. VOISEY

**University of Manitoba
School of Architecture**

Graduates and Prize Winners, 1961
Bachelor of Architecture

Lloyd Rankin ATKINSON, (as at
February 2, 1961).

Albert Marcel BOULANGER.

Martin BUCHWALD.

George CHRISTOU, (as at October
6, 1960).

Eric George CLEMENS.

Preben Emilius ERIKSON.

Gary Eugene Dennis FILYK, B.A.
(Sask.)

Donald Gordon FOLSTAD.

Marshall Ernest HAID.

Lyle Blair HALLETT (as at Octo-
ber 6, 1960).

Maurice Karl Cohen HENRIQUES.

Kalevi Kai KANGAS.

Leonard James LANDY.

Alastair Stewart LORIMER, (as at
October 6, 1960).

Alan Noble MacGOWAN.

Murray MALKIN.

Robert Leslie MOFFAT (as at Octo-
ber 6, 1960).

Barry Leonard PADOLSKY.

John Joseph PATSULA.

Robert Ernest Hartley STINSON,
(as at October 6, 1960).

Hugh David TAYLOR.

John Mahan VENABLES.

Leo Raymond ZRUDLO.

Medals and Prizes 1961 (graduates)

*Royal Architectural Institute of
Canada Medal:*

Donald FOLSTAD.

Bachelor of Architecture Thesis Prize

Donald FOLSTAD.

Alpha Rho Chi Medal:

Maurice K. HENRIQUES.

Skidmore, Owings & Merrill Prizes:

Maurice K. HENRIQUES.

Donald FOLSTAD.

*Undergraduate Scholarships,
Bursaries and Prizes*

FOURTH YEAR:

*Manitoba Association of Architects
Scholarship:*

C. H. MAURICE.

Isbister Scholarship in Architecture:

C. H. MAURICE.

A. A. KENNEDY.

*Canadian Pittsburgh Industries Ltd.
Scholarships:*

Daniel LI.

C. H. MAURICE.

A. A. KENNEDY.

*W. Allan McKay Memorial Scholar-
ship:*

C. H. MAURICE.

Lighting Materials Ltd. Scholarship:

C. H. MAURICE.

Victor Boyd Memorial Bursary:

D. L. LUSSIER.

*Illuminating Engineering Society
Prizes:*

R. V. TACKABERRY.

A. O. COOPER.

Y. C. LEE.

THIRD YEAR:

Isbister Scholarship in Architecture:

J. HODGES.

Green Blankstein Russell Scholarship:

L. R. TAYLOR.

*Manitoba Association of Architects
Scholarship:*

J. HODGES.

Atlas Asbestos Co. Ltd. Scholarship:

J. HODGES.

J. M. Gilchrist Bursary:

W. D. PRIES.

Summer Essay Prize:

D. V. LINTULA.

Summer Construction Report Prize:

R. R. LEWIS.

Manitoba Urban School Trustees Prize:

N. HAMY.
N. MARCUS.

SECOND YEAR:

The W. G. McMahon Ltd. Scholarship:

J. V. BERGINS.
K. H. J. STEVENS.

Saskatchewan Association of Architects Scholarship:

G. A. HACK.

W. J. Dick & Company Bursary:

K. H. J. STEVENS.

Neil K. Brown Memorial Bursary:

G. W. J. MAKI.

Sidney Alexander Adams Memorial Bursary:

R. A. FULLER.

Super-Lite Bursary:

A. G. LOGOTHETIS.

Manitoba Architects' Wives' Association Prize:

P. D. ALLISON.

FIRST YEAR:

The T. Eaton Co. Ltd. Scholarship:

R. NATION.

Alsip Brick, Tile and Lumber Co. Ltd. Scholarship:

J. HRUDA.

Donald Spurgeon MacLean Memorial Bursary:

B. A. M. MILLAR.

David Lacey Cowan Memorial Bursary:

C. T. AASEN.

**McGill University —
School of Architecture**

Prizes and Scholarships, 1961

6TH YEAR

Lieutenant-Governor's Gold Medal
Moshe SAFDIE.

Lieutenant-Governor's Silver Medal
George POLLOWY.

RAIC Medal
Roger DESMARAIS.

McLennan Travelling Scholarship
Moshe SAFDIE.

Dunlop Travelling Scholarship

George POLLOWY.

Louis Robertson Prize

Moshe SAFDIE.

5TH YEAR

Canadian Pittsburgh Industries Scholarship

Derek DRUMMOND.
Morris CHARNEY.

CMHC Travelling Scholarship

Morris CHARNEY.

Interior Decorators Society of Quebec

5TH YEAR

Michael WERLEMAN.

4TH YEAR

E. A. MacDONALD.

3RD YEAR

Bruce ANDERSON.

2ND YEAR

D. G. STEEN.

Turnbull Elevator Prize

6TH YEAR

Moshe SAFDIE.

5TH YEAR

Morris CHARNEY.

4TH YEAR

Sheldon CHANDLER.

3RD YEAR

Melvin GLICKMAN.

Atlas Asbestos Prize

4TH YEAR

Pierre GUERTIN.
Michel LACROIX.
E. A. MacDONALD.
Pierre MARQUIS.

Anglin-Norcross Prize

4TH YEAR

Michel LACROIX.

2ND YEAR

D. G. STEEN.

Philip J. Turner Prize

3RD YEAR

G. B. CHALLIES.

Leonard Foundation Scholarship

2ND YEAR

David CAULFIELD.

University Scholarships

6TH YEAR

Moshe SAFDIE.

5TH YEAR

Arthur LAU.

3RD YEAR

Lada P. FALTA.
Ronald WILLIAMS.

2ND YEAR

Peter LUI.

J. W. McConnell Scholarships

4TH YEAR

E. A. MacDONALD.

2ND YEAR

Neil DOWNEY.
Harold KATZIN.
Douglas STEEN.

The following students have satisfied the conditions for the degree of Bachelor of Architecture:

David Arthur DeBELLE,
Athanasios DEMOPOULOS,
Jacques Henri DEROME,
Roger Gaston DESMARAIS,
John Frederick DuVERNET,
Akos FRICK,
Gerald Walter HOROVITCH,
Laurent JOYAL,
Colman KLEIN,
George POLLOWY,
Louis Cooper PRETTY,
Thomas Franklin RICHARDS,
Moshe SAFDIE,
Morty Melvin TARDER,
Max WEBERSPIEL.

**Ecole d'Architecture de Montreal
1961 Graduates and Prize Awards**

GRADUATES OF APRIL 27th, 1961:

Henri BRILLON, 1st Prize, RAIC Medal, candidate to the Pilkington Scholarship in Architecture.

Michel BARCELO, 2nd Prize, prize of the Provincial Government Minister of Youth.

Arcade ALBERT, 3rd Prize.

Yvon HEBERT, Candidate to the Pilkington Scholarship in Architecture; final thesis, Second Mention.

Jean MARSAN, final thesis, Third Mention.

Jacques RACICOT.

Pierre BRUNET.

André G. DIONNE.

Michel BAZINET.

Robert LEMIEUX.

Jacques LeROY.

4th YEAR CLASS AWARDS:

Michel BEGIN, 1st Prize ex-aequo.

André MERCIER, 1st Prize ex-aequo.

Georges E. LEGACE, 2nd Prize ex-aequo; American Standard Co. \$800 Travelling Scholarship.

Michel BIGUE, 2nd Prize ex-aequo.

Simon CAYOUCETTE, 3rd Prize.

Serge CARREAU, CMHC Travelling Scholarship.

3rd YEAR CLASS AWARDS:

Germain CASAVANT, 1st Prize.

Robert LEFEBVRE, 2nd Prize ex-aequo, Atlas Asbestos Co. architectural design prize award, \$200.

Marc DROUIN, 2nd Prize ex-aequo.



CAULKING COMPOUNDS

by E. V. Gibbons

UDC 691.5

Noah is reported to have used asphalt as a sealant in the construction of the Ark. The problem that he encountered of making structures watertight and weather resistant still requires careful consideration today.

Although asphalt caulking continues to play an important role, they are but one of a wide variety of this type of building material used extensively in present-day construction. Development of new materials, coupled with new methods of building, has increased the importance and reliance placed on caulking compounds in preventing entry of water. It is the purpose of this paper to describe the composition and properties of a number of these materials, the significance of tests used in their evaluation and to include recommendations for application that will prolong their usefulness in service.

It is difficult to divide caulking compounds into specific types either for particular applications or on a composition basis because of the range of properties that can be obtained from the many different materials that may be used in making them. It is usual to make two rather broad classifications — one, the mastic and less elastic types of caulking, and the other the more recently developed high molecular weight elastomers. A more meaningful distinction of the different types from the designer's point of view can be made on the basis of percentage elongation after weathering since it is this property that must be considered first in the selection of a caulking compound for a particular joint application.

The ability to remain in place and to provide a seal in a joint while subject to relatively large distortions is the primary characteristic

of caulking materials. It is the amount of movement to be taken up in a joint, in relation to the joint width, which will in the first instance determine the kinds of materials that may be considered for a particular application. Where little or no joint movement is expected, conventional raw linseed oil putties may even be satisfactory. The requirement for taking up moderate movement in a joint of substantial width, which has long been a common one in building, can usually be met by the mastics made from treated drying oils providing about 10 per cent elongation after weathering. Polybutenes, butyl and neoprene rubber types can provide usable elongations up to 50 per cent. Where extreme joint movement must be accommodated in narrow joints it may be necessary to use the highly elastic caulking materials such as those made from polysulphide polymers or silicone rubbers which can provide usable elongations of over 100 per cent after weathering.

When it is permissible to vary the width of the joint over a wide range, a choice may be made between the use of a caulking material of moderate or low elongation in a wide joint or of a highly elastic material in a narrow joint. More commonly, other considerations may influence the selection of joint width, and it then becomes necessary to select a material which will provide an appropriate minimum per cent elongation as fixed by the ratio of anticipated joint movement to width.

Properties Required

In addition to the elongation requirements mentioned there are a number of properties that must be inherent in a sealant to enable it

to fulfil its function properly. It should be cohesive and adhere well to the material to which it is applied. Workability over a range of temperatures is also essential to ensure proper filling of the joint and a smooth and uniform surface. After application and exposure to the atmosphere it should form a non-tacky, tough, elastic skin over a flexible interior mass. The skin prevents pick-up of dirt and enables paint to be applied. It is essential that in aging a sealant retain its flexible properties with a minimum of shrinkage. Frequently when these materials are applied to porous masonry, non-staining properties as well as alkali resistance must be present. First-grade caulking retain these properties and a serviceable life well in excess of 10 years may be expected.

Types

Although linseed-oil putties are used almost exclusively for glazing wooden sash, they qualify as caulking in the strict sense by serving as a sealant in preventing the entry of water. They have performed well for a long time and large quantities are still used. They are supplied in knife grade consistency only in contrast to a number of other caulking materials used for glazing which are available in a gun grade consistency. Putties are made by mixing thoroughly finely divided calcium carbonate (whiting) and raw linseed oil. They tend to harden with age and become quite brittle, but their useful life can be extended considerably by priming the sash prior to application and by following a good paint maintenance schedule.

The mastic types of caulking are composed of a vehicle, a solvent, driers and mineral stabilizers. If colour is a requirement the appropriate pigments must be included. It is the vehicle that provides the cohesion and sealing properties, usually in the form of drying oils, such as soya or linseed oil, which absorb oxygen from the atmosphere to produce a dry film. These oils have the property of increasing their viscosity upon heating under controlled conditions. It is usual to heat-treat the drying oils in making caulking, since with their heavier consistency greater control is afforded over the tendency to "bleed" into and stain porous surfaces. Non-drying oils are frequently included in the vehicle to plasticize and aid the sealant in retaining its flexibility with age. Driers are added to accelerate the rate of skin formation by oxidation of the drying oils. They

are metal salts of either naphthenates or linoleates.

Mineral spirit solvents are used to adjust the workability of a caulking by reducing the viscosity of the vehicle, and aid greatly in the ease of application. Although the addition of solvent on the job may be necessary when caulking is too stiff or when lower working temperatures prevail, an excess of solvent should be avoided. Thinning the oils too much can lead to staining, and later upon volatilization of the solvent to shrinkage and cracking. Mineral stabilizers such as asbestos fibres are added to hold caulking in position, particularly in vertical joints, immediately after application and prior to set. Fine limestone fillers add to stability by reducing shrinkage.

The above materials are oxidizing types of mastics and are used in exposed areas where painting over them may be desirable. They must be used with materials having low thermal coefficients of expansion that will not exert elongation in excess of 10 per cent on the caulking. They are ideal as general sealants in weather proofing around windows and doors and for sealing joints between wood and masonry.

The polybutenes and asphalt caulking compounds are of the non-oxidizing type. They set through evaporation of the solvent. Both may be obtained in a variety of consistencies. When compounded with fillers and stabilizers they give excellent performance where a skin is not required and retention of plastic consistency is highly desirable. Such applications include use as an underseal with metal flashings, lapped joints and in sealing hidden joints between wood and masonry. In semi-exposed locations and where their solvent can escape, these caulking harden with accompanying shrinkage. The asphalts may also be blended with semi-drying oils and pigmented to produce a good quality gun grade material and can be used when dark colours are acceptable. Caulking made with the medium molecular weight polybutenes have usable elongations of 50 per cent and remain soft indefinitely.

High molecular weight elastomeric caulking include polysulphide polymers, butyl, neoprene, hypalon and silicone rubbers. Of these the polysulphide type has been used most extensively over the longest period of time. It

is a two-component type of sealant consisting of a base compound and an accelerator. When thoroughly mixed just prior to use, chemical curing by polymerization begins; the rate of curing increases with increasing temperature and humidity. This material does not contain any solvent and sets as a soft rubber with no shrinkage. It adheres well to a wide variety of construction materials, and is used extensively in curtain wall construction for sealing critical areas where high elongations may be expected. With age it hardens slowly but has a service life in excess of 25 years. A one-part mastic type polysulphide is also available. It does not cure or harden and is used in locations where little elasticity is required.

Silicone caulking is a one-component type of sealant which cures upon application and exposure to the air. It has excellent adhesion qualities also and can be used where high elongation properties are required. This caulking is available in a number of different colours and is reported to have good resistance to weather with little shrinkage. The butyl, neoprene and hypalon caulking are solvent types made with fillers and pigments, and are thus available in a range of colours. Butyl and neoprene rubber compounds compare favourably with polysulphide materials despite much higher shrinkage properties. Hypalon materials have many of the desirable characteristics for caulking, but unfortunately little has yet been reported on their long-term performance.

Significance of Tests

Several test methods have been developed that are helpful guides in determining the quality of caulking materials and their suitability for different needs. It is intended at this time to refer only to those that have been accepted by specification organizations such as the Canadian Government Specifications Board as more or less standard methods. Details of various test requirements and methods used are contained in relevant C.G.S.B. specifications listed at the end of this paper. Unfortunately there are no short-term tests that can be used to predict long-term performance with certainty.

Working Quality: A general requirement to assure a uniform, homogeneous mass that can, in the case of a putty, be readily worked with a knife without crumbling or stringing and

hold its shape after application. Caulkings must be sufficiently fluid at the time of application to fill a void completely. As a protection, however, against materials that may be too fluid and have a tendency to sag or flow in vertical joints a slump test is used. This is made by placing the material under test in a ½- by ¾-in. channel and measuring any sag that may occur.

Flexibility: Flexing tests are included to determine any tendency of a caulking to lose its adhesion or rupture after exposure to alternate cycles of wetting and a range of drying temperatures. Its ability to retain elongation properties can also be measured and is of special significance in view of these same requirements in service. A test of the ability of caulking to withstand repeated flexing in service for the highly elastic types has also been developed. In this test the caulking is applied to glass and is flexed (100,000 times through ½ in.) over a range of temperatures. No loss of adhesion is permitted. The test simulates, in an accelerated way, the cyclic conditions in service of dimensional changes that occur in building materials imposed by changes in temperature and moisture content.

Bleeding: This test is included to measure the tendency of caulking oils to migrate when applied to porous surfaces. It is important that these oils be retained in the sealant in order to avoid premature hardening and loss of flexibility. Equally important in some instances is the effect that oil staining may have on exposed masonry.

Shrinkage: Shrinkages in caulking are associated with loss of oils by migration or volatilization, loss of solvent and evaporation of moisture; excessive shrinkage affects the appearance of exposed joints, adhesion and hardness of the sealant.

Hardness: All caulking compounds have a tendency to harden with time. Volatilization of solvents and light oils, polymerization of drying oils and chemical reactions between the different constituents are some of the factors that may affect hardness and ultimately adhesion. Good resistance to the effect of ultra-violet radiation is necessary to avoid hardening, and is particularly essential with the drying oil types and polysulphides. Improved resistance can be had by appropriate selection

of materials in compounding and maintenance after application. One standard method for determining hardness is by the use of a Shore A Durometer hardness gauge. It is usual for new materials, after application and curing, to be in the range of 20 to 35 units of the scale of this gauge. Normal rate of hardening is about one unit per year, so that after 30 years, unless acceleration has occurred, the material is still quite pliable for use.

Application Recommendations

Despite the emphasis that may be placed on obtaining good quality sealants, the value of good material is lost if application is faulty. There are no exceptions to the requirement that all surfaces to which these products are applied must be dry and clean. Their future performance will be directly related to their initial adhesion. In the design of openings to receive caulking it is not only essential that they be of adequate size and shape but also that they can be properly inspected for cleanliness.

With regard to the size of a joint, it is essential that movements likely to occur in it have been thoroughly considered. As it is not unusual for ranges of temperature well in excess of 100°F to occur in many areas of Canada, many examples have been reported of butt joints closing completely during a period of high temperature. The relative positions of metal sections forming a joint under the extremes of conditions likely to occur should therefore be determined. Rabbet dimensions to receive glass and caulking require careful design. The required thickness of caulking to take care of movement caused by temperature and pressure needs to be established to minimize strain and thus lengthen the useful life of the sealant. Many suppliers do not wish their materials to be compressed in excess of 50 per cent regardless of having elongations well in

excess of 100 per cent. This is understandable in view of the repetitive nature of joint movements.

With metals it is important that lacquers be completely removed from areas where caulking is to be placed. This is essential in the case of clear coatings applied to aluminum alloys. Porous masonry or wooden surfaces are improved by priming after cleaning. If more than one type of sealant is to be used in a joint it is essential that they be compatible, for reactions may occur that can seriously stain an exposed face if they are not. Since ultra-violet radiation promotes degradation of so many caulking materials, painting of their surfaces after application may often be desirable.

Conclusion

Caulking materials are required to seal and permit movement under many conditions. They are often the only line of defence against the entry of water and frequently the successful performance of other building materials depends on them. Although the quantities of caulking used in buildings are comparatively small, their importance is sufficient to warrant the most careful attention with respect to joint design, material selection, use, and maintenance.

Specifications of the Canadian Government Specifications Board that relate to caulking compounds are:

- 19-GP-1 Putty; Linseed-oil type, for Glazing.
- 19-GP-3 Compound; Caulking and Glazing, Elastomeric, Chemical Curing Type, Gun Grade.
- 19-GP-4 Compound; Caulking, Elastomeric, for Marine Use.
- 19-GP-6 Compound; Caulking, Oil Base, Gun Grade.
- 37-GP-5a Plastic; Asphalt Cut Back.

This is one of a series of publications being produced by the Division of Building Research of the National Research Council. It may be reproduced without amendment if credit acknowledgement is made. 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.

Jean-P. LAPOINTE, 2nd Prize ex-aequo.

Emery LESSARD, 3rd Prize.

2nd YEAR CLASS AWARDS:

Gilles LAVIGUEUR, 1st Prize.

M.-Louis FORTIN, 2nd Prize.

Jacques TRUDEL, 3rd Prize, Foundation Fernand Prefontaine, \$100 prize awarded for top achievements in scientific subjects (1st and 2nd year results).

1st YEAR CLASS AWARDS:

Emery MARCOUX, 1st Prize — Director Prize.

Guy DUBREUIL, 2nd Prize ex-aequo.

Cyril SIMARD, 2nd Prize ex-aequo.

Claude GAGNON, 3rd Prize ex-aequo.

Mathias KURNICKI, 3rd Prize ex-aequo.

Du Secrétariat de l'AAPQ

Aux termes de son testament passé en 1922, M. Fernand Préfontaine qui avait l'intention de contribuer à l'avancement de la profession d'architecte et de promouvoir l'esprit créateur des jeunes étudiants en architecture, a légué à l'AAPQ une somme de \$2000, "pour les intérêts de telle somme servir chaque année à l'attribution d'un prix de pas moins de cent dollars à l'étudiant âgé de pas plus de vingt-cinq ans qui



Jacques Trudel

sera sorti vainqueur d'un concours d'architecture à être organisé chaque année par ladite Association entre les seuls étudiants en architecture canadiens-français. Les conditions de tel concours seront établies une fois pour toutes par M. Ernest Cormier, architecte de Montréal, qui pourra seul y apporter des modifications de son vivant. "Monsieur Préfontaine est décédé le 6 octobre 1949 et le Conseil de l'AAPQ a accepté le legs à sa réunion du 7 janvier 1958. Monsieur Cormier, qui agit comme conseil et arbitre pour le choix du lauréat, a défini les conditions du concours en ces termes: "L'architecte de l'avenir, s'il veut maintenir son rôle de Créateur et de Maître d'Oeuvre, devra de plus en plus s'intéresser aux développements de la technologie et des sciences appliquées à l'architecture."

"La simple nouveauté architecturale, si elle n'est pas l'expression logique de la technique, n'a qu'un intérêt éphémère qui devient rapidement insupportable après une faveur passagère."

"Sur recommandation de ses professeurs, le prix sera décerné à l'élève qui aura montré un intérêt particulier aux mathématiques et aux sciences appliquées à l'architecture, ceci dans l'espoir que cet intérêt se maintiendra au cours de sa carrière."

Les deux premiers récipiendaires du Prix Fernand Préfontaine, furent Germain Casavant en 1960 et Jacques Trudel cette année.

Comme l'exemple entraîne, il est à prévoir que le geste posé par l'architecte Préfontaine il y a déjà près de quarante ans sera suivi très bientôt d'une longue liste de legs qui permettront d'instituer de nombreuses bourses d'études. Vous qui lisez ces lignes, avez-vous songé dans une clause de votre testament à léguer à votre Association une somme d'argent ou des volumes? Un appel vous sera adressé prochainement en vue de ressusciter la bibliothèque de l'AAPQ qui sommeille on ne peut plus profondément à l'heure actuelle. Y répondrez-vous?

Dans l'élaboration de son programme d'activités pour l'année, toute association professionnelle se doit de susciter, et même en certains cas, de multiplier les occasions de rencontres de ses membres de façon à promouvoir entre eux l'échange de leurs connaissances et de leurs expériences. Pour certaines professions, comme le droit et la médecine, un tel besoin de rapprochement s'avère moins nécessaire en vertu même de l'occupation exercée qui de par sa nature réunit les collègues de façon assez régulière. L'avocat croise ses confrères au Palais, sinon tous les jours, du moins à de fréquentes reprises tous les mois, de même le médecin a l'opportunité de discuter de ses cas avec d'autres savants du Collège dans les salles ou les couloirs de l'hôpital. Malheureusement, ou peut-être heureusement, s'attendent des malins, l'architecte ne rencontre pas l'architecte. Les visites qu'il reçoit à son bureau ne lui sont pas rendues généralement par d'autres hommes de l'art, mais bien plutôt le plus souvent par de tenaces et infatigables vendeurs de matériaux. Et ce n'est certes pas sur ses chantiers que l'architecte peut s'attendre à y rencontrer des confrères. D'aucuns peuvent alors se féliciter que l'AAPQ ait institué un Comité de pratique professionnelle. N'eût été l'existence de cet auguste tribunal, ils n'auraient pas eu la chance de faire la connaissance de certains

messieurs qui exercent la même profession! Tout ceci nous amène à conclure que les architectes n'abusent pas de la compagnie des autres membres de l'Association.

Aussi, le Conseil et ses Comités se doivent de remédier à la situation: ils ont un rôle primordial à jouer. En vue de suppléer à cette carence et pour nouer des liens plus étroits entre les membres, diverses mesures ont déjà été prises. Il ne fait pas de doute que la création récente de trois sociétés régionales, en plus de celle de Québec qui opère déjà depuis quelques années, est un pas dans la bonne direction. Les réunions mensuelles des Sociétés ne peuvent qu'apporter des résultats intéressants à la longue. Egalement, dressé dans le même but, l'ordre-du-jour des prochains mois comprend, entre autres, un tournoi de golf en août, une visite dans la région du Saguenay-Lac St-Jean en septembre, l'inauguration de nos nouveaux bureaux en octobre, le dîner des anciens présidents en novembre, peut-être une journée d'études en décembre et un congrès hors pair au début de l'an prochain.

Toutefois, la décision la plus importante qu'ait prise le Conseil ces dernières années en vue de rapprocher et de faire fraterniser architectes de toutes régions, c'est sûrement l'acquisition de notre propriété au 1825 ouest de la rue Dorchester, à Montréal. Poursuivant cette première initiative, le Comité de la propriété, sous la présidence de Michael Ellwood, a lancé et fait triompher l'idée d'avoir dans le nouveau local une pièce réservée aux membres, qui deviendra éventuellement un club privé d'architectes, où vous pourrez y prendre le déjeuner en compagnie de confrères, clients et amis. Vous pourrez même y déguster une consommation si, bien entendu, la Régie des alcools du Québec veut bien accorder sa bénédiction à la demande de permis que nous lui avons faite dernièrement. Entretemps, les travaux de rénovation vont leur train rue Dorchester. Des neuf entrepreneurs qui ont présenté des soumissions, c'est Wilfrid Bédard Inc. qui a obtenu le contrat au montant de \$23,750. L'architecte, comme vous le savez déjà, est Jean-Louis Lalonde qui, incidemment, vient de remporter le concours d'architecture des Trois-Rivières pour une maison canadienne-française. Pour peu qu'il ait autant de succès avec les bureaux de l'Association.

Jacques Tisseur

British Columbia

Bill Leithead, immediate past president of the AIBC, is in charge of arrangements for the 1962 Annual General Assembly of the RAIC. Bill has

informed the writer that preliminary planning is underway. A working committee is to be formed very soon and the first item of business is likely to be a decision regarding the central theme of the meeting "Architectural Education" has been proposed. Dates have been set and reservations made for the Convention at the Empress Hotel in Victoria, May 29th to June 3rd, 1962. Undoubtedly the Convention arrangements will allow for attendance at the Century '21 Exhibition in Seattle, which, we understand, is also the meeting place for the 1962 AIA Convention.

Completion of the new building for the School of Architecture at the University of BC, the first unit of a new Fine Arts Centre on the campus, is scheduled for the early spring and plans are underway for a summer-long "Festival of the Arts" to celebrate the opening of the new building.

The Vancouver Chapter recently recessed for the summer after a busy and productive fall and winter program of monthly meetings. Worthy of note in chapter activities has been the work of the Chapter Zoning Committee under Harald Weinreich as chairman, which recently completed a lengthy and detailed study of proposed revisions to the Vancouver Zoning By-Law regulations affecting apartment buildings. As a result of the work of this committee an impressive brief outlining the architects' appraisal of these regulations will shortly be submitted for consideration by city hall officials. A highlight of the chapter program of meetings was the visit of Mr Ernest J. Kump, AIA of Palo Alto, California, who was a guest of the chapter at its February meeting. Another successful meeting discussed the operation and accomplishments of Vancouver's Civic Design Panel. This panel was set up by the city some three years ago to advise the Technical Planning Board on matters of design of important city buildings where new development could be detrimental to the amenity of existing areas. So-called "design control" has been a controversial issue in the profession for a long time. Accordingly the chapter debate in appraising the operation of Vancouver's "design panel" was provocative and useful and concluded with a substantial majority of architects indicating their approval of the panel's performance, in spite of some strong opinions to the contrary. New chapter officers elected in March are as follows: chairman, Frank Russell; secretary, John Lishman; program chairman, Norman Jones. Fred Hollingsworth continues as vice chairman and Dick Gelhede as treasurer.

The AIBC Schools Committee under the chairmanship of Dave Lichtensteiger has been active in promoting the cause of better school design. Under the auspices of Timber Preservers Ltd, Dave recently acted as chairman of two successful meetings attended by architects and consulting engineers dealing with the theme: "Blueprint for Better Schools". Also, Bob Berwick as chairman of a committee dealing with fees and services and Ken Gardner representing Council are presently involved in a study of sketch plan fees and are expected to present Council in the near future with suggestions for reform. Fred Brodie and his Hospitals Committee have been active in recent months in promoting more active participation by the provincial government in the development of the program in the hospital design problem as a means of overcoming serious difficulties frequently encountered by architects in this field in commencing a commission.

Candidates who have recently been successful in passing their entrance examinations into the profession in BC are as follows: R. W. Boal, David H. Brockington, L. B. Kleyn, R. C. Mann, A. J. Mudry, B. T. H. Rice, C. F. Roberts, B. Swartz, J. W. Wallace.

C. A. Tiers

COMING EVENTS

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

September 25-28, 1961
1961 Industrial Building Exposition
New York Coliseum, New York

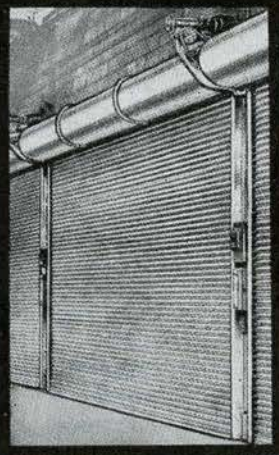
Sept 26 — Oct 6 1961
International Heating, Ventilation and
Air Conditioning Exhibition
London, England

October 20-21
1961
Provincial Symposium on Architecture
Regina, Sask.
Sponsors:
Saskatchewan Association of Architects
Saskatchewan Arts Board
Centre for Community Studies
Community Planning Association

Nov. 2-3, 1961
Interdenominational Conference
on Church Architecture
Diocesan Centre
Anglican Church of Canada
Church and Adelaide Streets
Toronto

PRESENTING THE NEWEST ADDITION TO A FAMOUS FAMILY . . .

ESP ROLLING STEEL DOORS



Featuring:

- Premium quality galvanized steel slats
- Ease of installation
- Smooth operation
- Underwriters approval
- Many other accessories are available — Service or Wicket Door — Vision Panels — Windlocks

. . . It will pay you to investigate the numerous advantages of E.S.P. Rolling Steel Doors, whether you are planning a new industrial building or a modernization programme.

Richards-Wilcox
CANADIAN CO. LIMITED
LONDON, CANADA

HALIFAX MONTREAL OTTAWA TORONTO HAMILTON LONDON WINNIPEG CALGARY EDMONTON VANCOUVER

F. P. Shand, Sales Manager of Eastern Steel Products Company of Preston, Ontario, and L. F. Pepino, Sales Manager of Richards-Wilcox Canadian Co. Limited, with head office at London, Ontario, have jointly announced that as of March 1st, Richards-Wilcox are exclusive Canadian sales, service and repair representatives for Rolling Steel Doors manufactured by the Eastern Steel Products Company.

INDUSTRY

New Clay Brick and Tile Organization

A new association, the Clay Brick and Tile Institute of Canada, has been organised to replace the old Brick and Tile Manufacturers' Association of Canada as the national organisation of the Canadian manufacturers of clay brick and tile. One aim of the new organisation is to co-ordinate and promote research and development of new products in the field. The president of the new organisation is J. J. Coffey, Toronto; and four regional vice presidents elected at the recently held organisational meeting were: Maritimes, L. Shaw, Halifax; Quebec, R. K. Robertson, Montreal; Ontario, J. W. Okam, Toronto; Western Canada, G. Sissons, Medicine Hat. For the present the new organisation is functioning through the Toronto office of the Brick and Tile Institute of Ontario, of which H. C. MacDonald is general manager, and R. A. Bradshaw assistant.



New Westeel Fire Door Catalogue

A new Fire Door Catalogue has been released by Westeel Products Limited. This Catalogue features Westeel's "Fyrlock" Fire Door, a fully-flush Hollow Metal Fire Door with up to Class "A" — 3 hour rating. The catalogue also contains full information on Westeel's "Impervia" Fire Door plus a Table of Underwriters' Requirements for Fire Doors, information on installation condition requirements for typical installations and other pertinent information.

Enquiries can be addressed to any Westeel office: Halifax, Saint John, Quebec, Montreal, Ottawa, Toronto, London, Winnipeg, Regina, Saskatoon, Calgary, Edmonton, Vancouver.



New Transom Units For Pella Wood Sliding Glass Doors

New transom sections are now available for installation above Pella wood sliding glass doors.

The new transom units are custom-cut at the factory to architect's or builder's specifications (including trapezoids), and are shipped knocked down ready to nail together on the job or assemble in Pella distributor shops. Single glass transom units are offered up to 10' 2" in length. They can be used above any standard door style up to and including an OXO with 33" glazing panels. For larger doors, multi-glass transom units are recommended.

Details are available from Pella distributors.



Wilson Lighting Introduces the Lumilux II

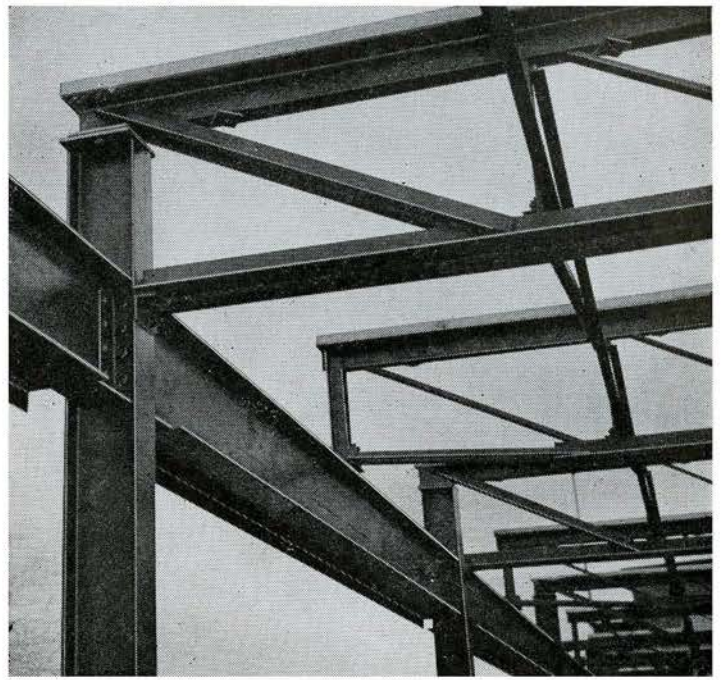
J. A. Wilson Lighting Ltd. announces the new Lumilux II commercial fluorescent lighting fixture designed for areas where the emphasis is placed on maximum visual comfort combined with modern aesthetic appeal.

Featuring a 4-foot, one-piece diffusing louvre of injection moulded, light-stabilized polystyrene the Lumilux II provides high level, glare free lighting at reasonable cost.

New features include versatile hanging arrangement, accurate alignment joiner, and a special spacer to simplify ceiling mounting. The redesigned body of the fixture allows the use of a two-piece ice tong clamp for easier, speedier installation.

Simple to install, easy to maintain the new Wilson Lumilux II offers an ideal solution to efficient, attractive lighting for schools and offices as well as other commercial applications.

Catalogue material is available on request from J. A. Wilson Lighting Ltd., 280 Lakeshore Road Toronto 14.



THE DB LONG SPAN JOIST...

freedom to meet
special conditions

A major feature of the D. B. Long Span Joist is the ease with which the details can be adjusted to meet special conditions. The illustration here shows joists of both top and bottom bearing design that have been altered from the standard to meet the builder's special needs.

Next time you have a tricky joist application problem let D. B. design engineers help. A complete range of standard D. B. joists is always available, and designs for special applications can be obtained at short notice. For details of all D. B. Long Span Joists ask for publication 58DD-118.

long span steel joists by

DOMINION BRIDGE

FIFTEEN PLANTS COAST-TO-COAST



the
cost
question...

A building lasts 40 years or more...why buy temperature controls that last only 10?

Temperature controls that wear out after 10 or 15 years represent a needless waste of valuable capital. Unusual? Not at all. What's more, it's just one of many examples of what may happen if you try to save money by selecting controls on the basis of price instead of the *lifetime cost* of buying, owning, and maintaining them.

With a Johnson Pneumatic Temperature Control System, your clients can count on dependable, trouble-free operation for the life of the building. They invest just once. A Johnson System assures important savings in other ways also, for pneumatic controls are simpler, cost less to operate, and require less supervision and upkeep than anything else you can use.

On your next building or air conditioning project, ask your Johnson representative to help you compare the performance and economy features of Johnson Control with others. You'll quickly discover, as have

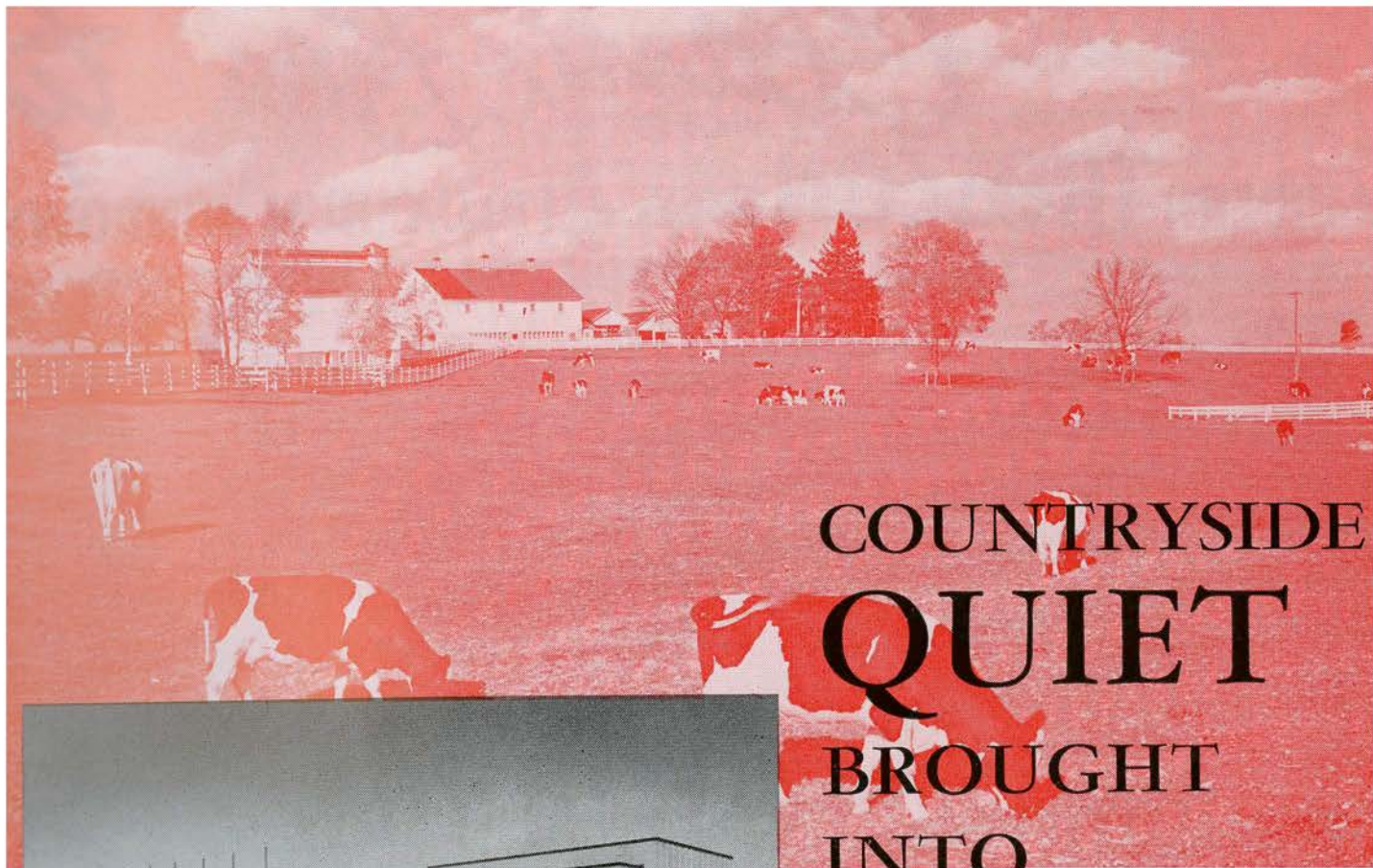
thrifty planners everywhere, that a specially planned Johnson System can provide the finest in modern comfort control at the lowest possible lifetime cost. Johnson Controls Ltd., Toronto 16, Ontario. Direct Branch Offices in Principal Cities across Canada.

**LOWEST
LIFETIME
COSTS**

JOHNSON CONTROL

PNEUMATIC  SYSTEMS

GROWING WITH CANADA SINCE 1912

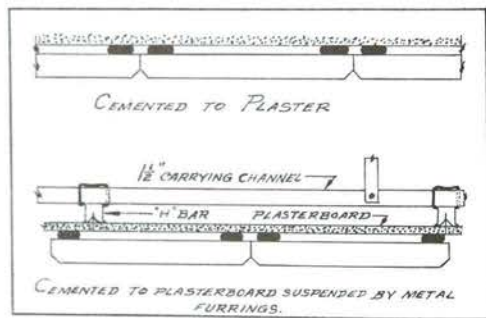


COUNTRYSIDE
QUIET
 BROUGHT
 INTO
 CITY
 BUILDINGS
 WITH
 CWECO
 ACOUSTICAL
 PRODUCTS



The Hockey Hall of Fame, Canadian National Exhibition, Toronto. Another fine building with interior beautified and sound-controlled with Cweco Acoustical Products.

Architects: Allward & Gouinlock, Toronto.



METHOD OF APPLICATION

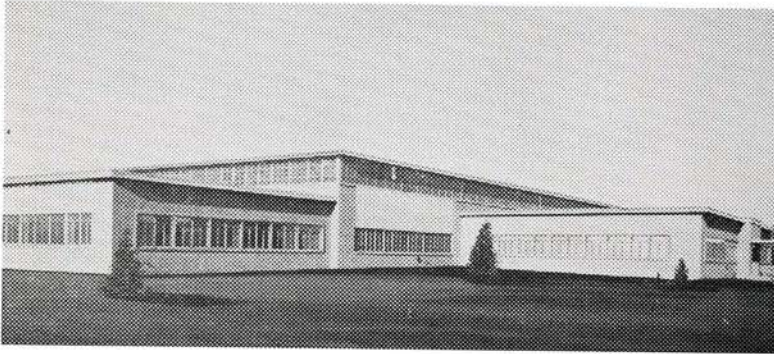


Established 1946 **CWECO** INDUSTRIES LIMITED

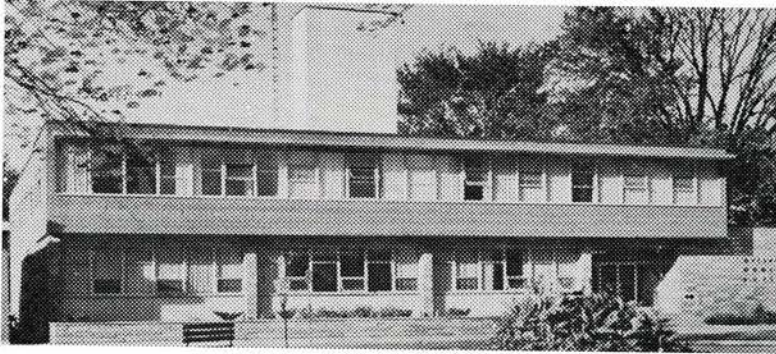
100 JUTLAND RD., TORONTO 18, ONT.
 Cliford 5-3407

Classic Beauty

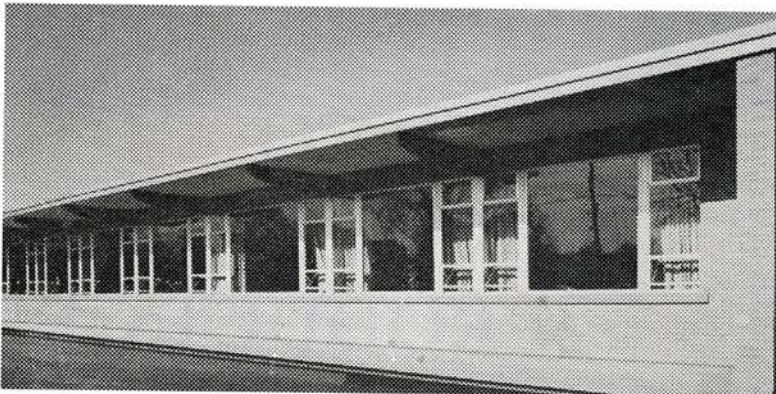
MODERN TRUSCON STEEL and ALUMINUM WINDOWS



Truscon Industrial Steel Windows, mechanically operated, installed in the Firestone Tire & Rubber Company plant at Calgary, Alta. General Contractors: Mannix Co. Ltd., Calgary.



Truscon Architectural Projected Steel Windows distinguish the Municipal Building in Wallaceburg, Ont. Architect: A. D. Hanley, Chatham. Contractor: Con. - Eng. Contractors, London.



Truscon Aluminum Weatherstripped Projected Windows also grace the Mt. Haven School, Hamilton, Ont. Architect: George T. Evans, Contractor: Barclay Construction Co. Ltd.

TRUSCON metal windows are designed and produced to preserve the beauty and dignity of modern institutional and industrial architecture . . . Attractive, strong, long-lasting, fire-resistant TRUSCON

Windows give depth and beauty to exterior horizontal and vertical building lines . . . In planning new structures, or remodeling, consult a TRUSCON representative or write direct.

Truscon makes:

- Aluminum Pivoted Windows with Thermal Barrier
- Aluminum Weatherstripped Projected Windows
- Industrial Steel Windows
- Steel Floretyle
- Welded Wire Mesh
- Metal Lath
- Casements
- Industrial Doors



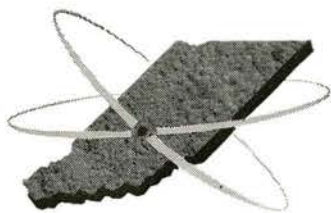
DOMINION STEEL AND COAL CORPORATION, LIMITED

TRUSCON STEEL WORKS

LA SALLE, QUEBEC

SALES OFFICES: WALKERVILLE - TORONTO - WINNIPEG - MONTREAL

REPRESENTATIVES: HALIFAX, ST. JOHN'S, Nfld., ST. JOHN, N.B., QUEBEC, OTTAWA, REGINA, CALGARY, EDMONTON, VANCOUVER

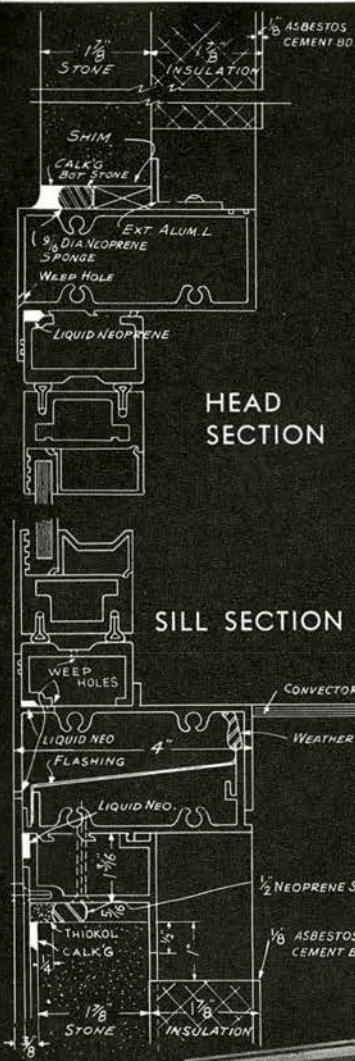


APPLICATIONS IN CONTEMPORARY ARCHITECTURE

INDIANA LIMESTONE INSULATED PANEL DETAILS

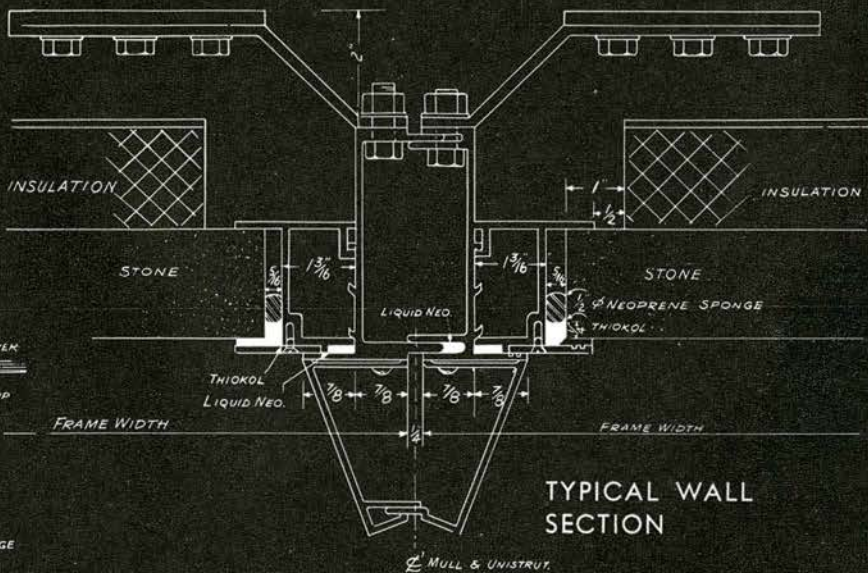
State of Indiana
EMPLOYMENT SECURITY BUILDING
Indianapolis, Indiana

Architects: Associated Indiana Architects
Contractor: Thomas A. Berling & Sons
Curtain Wall: Adams-Westlake



HEAD SECTION

SILL SECTION



TYPICAL WALL SECTION



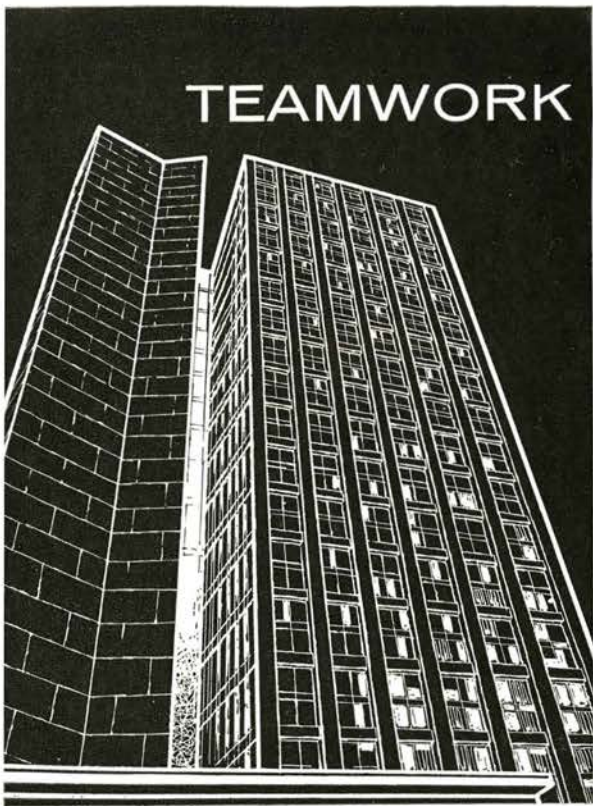
For Indiana A.I.A. File No. 8-B-2, mail coupon today.



INDIANA LIMESTONE COMPANY, INC.
Dept. JR-7, BEDFORD, INDIANA

NAME _____	FIRM NAME _____
ADDRESS _____	CITY & STATE _____

TEAMWORK RIGHT FROM THE START



TAYPLAN for swifter development

The new methods, new materials, and new machines in building today increase rather than diminish the need for teamwork, for the closest collaboration between your consultants and your contractor. The sooner the team is established, the more effective it can be. You have much to gain by Tayplanning — that is, by calling Taylor Woodrow into full collaboration with your consultants right from the start.

Tayplanning saves months of work and worry. Design problems can be studied by Taylor Woodrow specialists in the light of their world-wide experience of the newest and most advanced construction techniques. The project is streamlined into a single, perfectly co-ordinated master-plan to meet the standards all building owners require — highest quality construction, economy of design and execution and completion in the shortest possible time. A Tayplan is infinitely flexible — it will meet your requirements perfectly. We welcome an opportunity of discussing with you the many decisive advantages of Tayplanning.

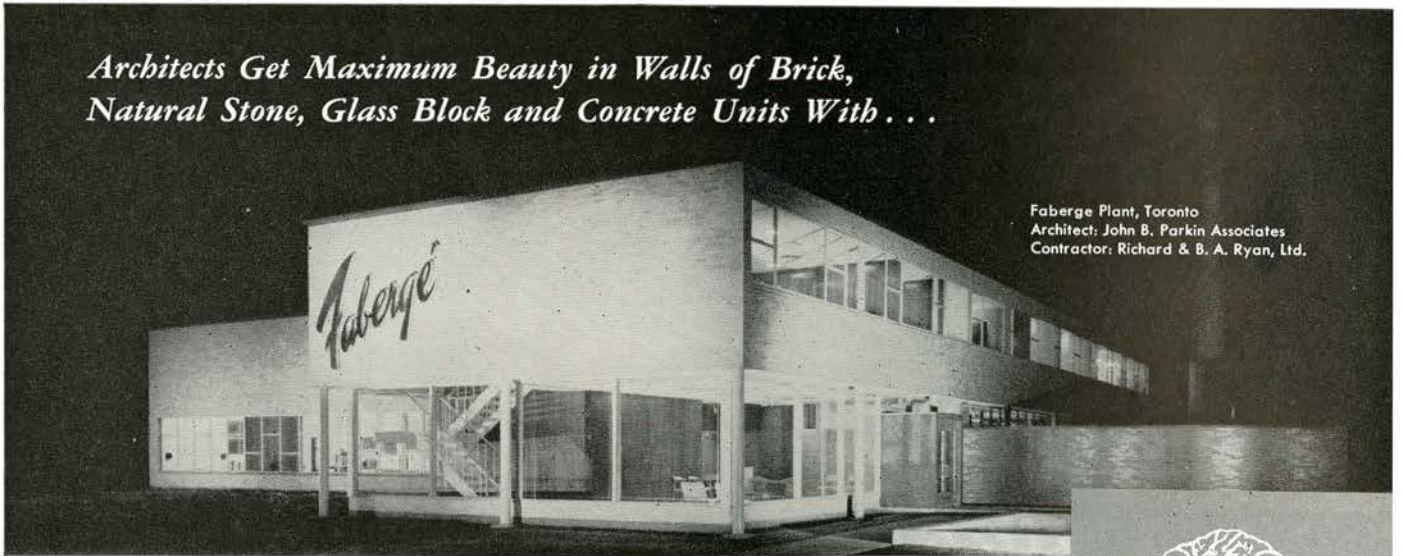


TAYLOR WOODROW
BUILD EVERYWHERE

**BUILDING AND CIVIL
ENGINEERING CONTRACTORS**

42-48 CHARLES STREET EAST · TORONTO 5 · ONTARIO · TELEPHONE WA 5-4441

*Architects Get Maximum Beauty in Walls of Brick,
Natural Stone, Glass Block and Concrete Units With . . .*



Faberge Plant, Toronto
Architect: John B. Parkin Associates
Contractor: Richard & B. A. Ryan, Ltd.

MEDUSA STONESET

WHITE NON-STAINING MASONRY CEMENT

Architects can have that distinctive look in all masonry construction by using Medusa Stoneset White Non-Staining Masonry Cement. Used white or tinted, Stoneset makes possible pleasing contrasts or subtle harmonizing colors in mortar. Stoneset never stains or ruins the wall beauty of your buildings, and since only sand need be added, a uniform joint color is assured throughout the job. Write for free mortar specification sheet today.

MEDUSA STONESET WHITE NON-STAINING MASONRY CEMENT



**MEDUSA PRODUCTS
COMPANY OF CANADA,
LTD.**

Paris, Ontario, Canada

OVER **65** YEARS
OF CONCRETE PROGRESS



MADE IN CANADA FOR CANADIANS



**BILCO
HORIZONTAL
DOORS
MAKE
VERTICAL
ACCESS
EASY!**

Bilco Special Service Doors are the architect's logical answer to access problems. He can choose from a wide range of standard units or call for doors custom-engineered for unusual situations.

Select Roof Scuttles for vertical ladder access, for ship's ladder, or for normal rise and run stairs . . .

Choose large special Roof Scuttles in double or single leaf design for replacement or removal of bulky machinery and equipment . . .

Specify Flush Floor Doors and Ceiling Access Doors that blend smoothly into their environment.

For access to basements and underground utility equipment, Bilco sidewalk-type doors have no equal.

All Bilco doors are watertight, feature long, trouble-free life and the exclusive Bilco "spring-lift" for easy operation year after year.



WRITE DEPT. A-47 FOR COMPLETE INFORMATION

THE BILCO COMPANY ■ NEW HAVEN 5, CONNECTICUT

NATIONAL CAPITAL COMMISSION

VACANCY FOR ARCHITECT

(\$6,840 — \$7,800)

This is a new position being set up in the Planning Branch of the National Capital Commission. The person appointed will be concerned with civic design in all its aspects and with the preparation of designs for structures on Commission land. Additionally, he will be engaged on schemes for the preservation and conservation of buildings of architectural or historical interest. A university degree, membership of a recognized architectural institute, and a minimum of at least two years post-graduate professional experience, are essential. Knowledge of both English and French an advantage.

Apply in writing to:

**D. L. McDonald, Director of Planning and Property, National Capital Commission,
291 Carling Avenue, Ottawa, Ontario.**

CITY OF VANCOUVER ARCHITECT

**Civic Design Section — Planning Dept.
(Competition No. 3638)**

To carry through central area civic design plans including civic square, civic centre, and comprehensive redevelopment. To assist on civic design improvements throughout the City; to act as Secretary of Civic Design Panel. Qualifications: Professional standing in architecture; preferably supplemented by post-graduate qualifications in City planning; and/or experience in City planning and design; first-class illustrator. Salary: \$557 to \$664 per month.

Application forms must be obtained from and, with examples of work, returned to the

Personnel Director

Room 206, City Hall, Vancouver, B.C.

as soon as possible.

Please quote competition number when applying.



A. FAUSTIN CO. LTD.

500 DAVIDSON ST., MONTREAL, QUEBEC

Specialists in fine work in bronze, stainless steel, aluminum, and wrought iron are happy to have been chosen by the architects Ross, Fish, Duchesne & Barrett, the general contractors Pigott Construction Limited, and by the Toronto-Dominion Bank to furnish and install all the architectural stainless steel in their new head office building.

THIS WORK INCLUDED:

- The entrances and revolving doors
- The large windows on the ground floor and third storey
- The ground floor work in stainless steel
- The ornamental ironwork of the entire building



WHY **THERM-O-BAR**® SHEATHING IS MORE PRACTICAL ON THE JOB...

“Therm-O-Bar” exterior insulating sheathing has completely weatherproofed asphalt coating on faces and edges . . . not affected by weather when piled outdoors during construction. Handles easily: light weight and aligning marks speed application. Laminated “Therm-O-Bar” sheathing adds firmness and bracing strength to frame. Both laminated and homogeneous types are effective breathers. Ask your Allied Barrett representative for more information.

Keep dust down with Brunner Mond Calcium Chloride! Roads, parking lots, tennis courts, driveways can be kept dust-free with periodic laying of Calcium Chloride . . . more effective than water or oil . . . keeps the surface hard, smooth. Ask your Allied Brunner Mond representative to help you set up a simple dust-laying program the next time he calls.



**Reg'd Trade Mark*

ALLIED CHEMICAL CANADA, LTD.
HEAD OFFICE: 1450 CITY COUNCILLORS STREET, MONTREAL 2, QUE.

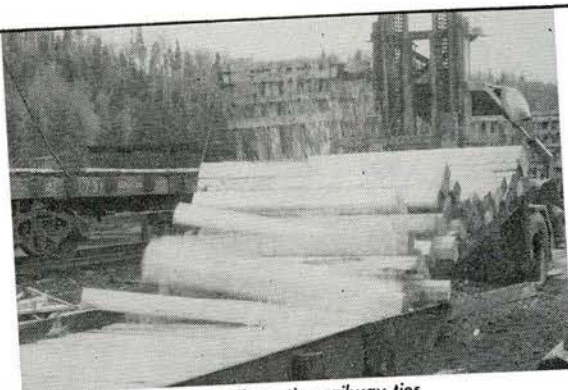


WILL THE WOOD IN YOUR JOBS STAND THE TEST OF TIME?

"Make wood last 3 to 5 times longer"

When the wood in your jobs is exposed to moisture of any kind, it is subject to decay and rot. Paint alone does not give positive protection. Ensure the life of wood with OSMOSE or PENTOX wood preservatives. File this handy guide for reference:

**For FIELD
TREATMENT of
GREEN WOOD
specify
OSMOSE**



"Osmose"-treating railway ties

"OSMOSE", applied in the field to green wood by mopping or dipping, has proven highly effective for poles, posts, flumes, bridge timbers, ties, barges, dams, etc.

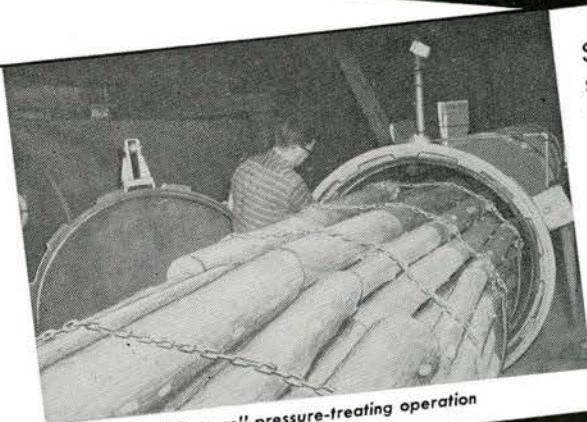
**For
FIELD or PLANT
TREATMENT of
DRY WOOD
specify
PENTOX**



"Pentox" sash-dip operation

A penetrating toxic wood preservative sealer for dry wood. Dip or brush on, or obtain treated wood from lumber dealers. For laminated structures, wood siding, fences, platforms, pole cross arms, millwork, etc. and all exterior wood around house and farm. Meets CSA Specification 0132.1.

**For PRESSURE-
TREATED WOOD
specify
OSMOSE
"PRESSURE
TREATED"**



"Osmose" pressure-treating operation

Specify wherever pressure-treated lumber appears justified. Conventional sizes of treated lumber now stocked by many dealers. "OSMOSE" Pressure-Treated Lumber is clean, paintable, and fire-retardant. Meets CSA specifications.

25 YEARS OF SERVICE IN
WOOD PRESERVATION

OSMOSE
WOOD PRESERVING COMPANY

OF CANADA LTD.

1080 PRATT AVENUE, MONTREAL, P.Q.
TRURO • TORONTO • WINNIPEG • EDMONTON • VANCOUVER



Now today's best, least expensive moisture vapour barrier costs less than ever to install

NEW "J FOLD" MILROL POLYTHENE FILM SAVES 40% ON LABOUR—ONE MAN CAN INSTALL IT

Thanks to an exclusive new feature—an uneven fold providing a flange that permits the film to be stapled *before* it is unfolded—one man can easily install a moisture vapour barrier of "J Fold" MILROL* polythene film. Saves 40% on labour costs over centre fold film.

New "J Fold" MILROL polythene film surpasses new government specifications CGSB 70/GP/1 for type 1 vapour barrier . . . CMHC acceptance No. 3662. Full details and a sample are yours for the asking by writing: Mastex Industries, 134 Kennedy Road, Brampton, Ontario.

*registered trade name

WHY MILROL POLYTHENE FILM MAKES TODAY'S BEST MOISTURE VAPOUR BARRIER

- Costs up to 50% less than other moisture vapour barrier materials
- Is 150% more efficient after aging than CMHC requirements
- Eliminates vapour transmission that causes paint peeling, stains and cracks, for the lifetime of the structure
- Stops drafts, cutting fuel costs
- Though light and easy to handle, it resists tears and punctures
- Maintains its flexibility in sub-zero weather

C-I-L Polythene

PLASTICS DIVISION OF CANADIAN INDUSTRIES LIMITED MANUFACTURES AND SELLS POLYTHENE RESINS AND COMPOUNDS. MASTEX INDUSTRIES, A UNIT OF THE PLASTICS DIVISION, SUPPLIES POLYTHENE FILM AND BAGS FOR PACKAGING, AGRICULTURAL AND INDUSTRIAL APPLICATIONS.

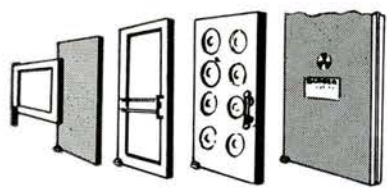
you can be *REALLY* specific when you specify from the

81



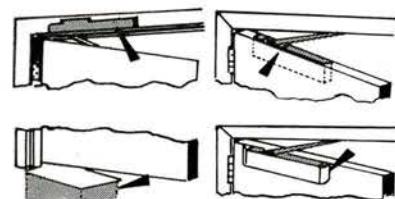
DOOR CLOSER
styles and variations

to meet every requirement and preference



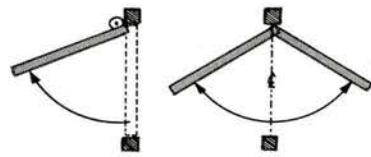
DOOR WEIGHT requirements

styles for doors, 12 lbs. to 1200 lbs.—light office rail gates to extra heavy lead-lined doors.



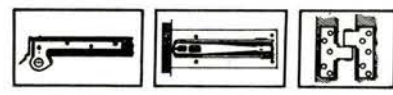
CLOSER MOUNTING requirements

styles for mounting in the floor, in the jamb, in the door, on the door.



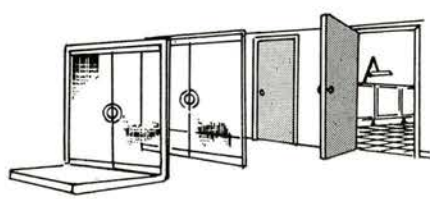
DOOR ACTION requirements

styles for single acting and double acting—both light and heavy doors.



DOOR HANGING preference

styles for offset hung doors, center hung doors and butt hung doors.



DOOR LOCATION requirements

styles for entrance, vestibule, corridor, all interior doors, toilet stall doors and office rail gates,

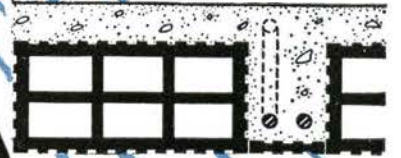
send for your copy of catalog 18e

THE OSCAR C. RIXSON CO. (CANADA) LTD.
43 Racine Rd. (Rexdale P.O.) Toronto, Ontario

INDEX TO JOURNAL ADVERTISERS

	Page
Algoma Steel Corporation Limited, The	3
Allied Chemical Canada, Ltd.	79
Armstrong Cork Canada Limited	18
Bilco Company, The	77
Bishop Products Limited	25
Brick and Tile Institute of Ontario	83
Brunswick of Canada	27
Canadian Gypsum Company, Ltd.	9
Canadian Industries Limited, Plastics Division	81
City of Vancouver	78
Courtaulds Plastics Canada Ltd.	20
Cweco Industries Limited	73
Dominion Bridge Company Limited	71
Du Pont of Canada Limited	10
Dur-O-wal	Second Cover
Faustin, A., Co. Ltd.	78
Hager Hinge Canada Ltd.	11
Hunter Douglas Ltd.	4
Indiana Limestone Company Inc.	75
Johnson Controls Ltd.	72
Master Builders Company Ltd., The	Third Cover
Medusa Products Company of Canada Ltd.	76
Metro Industries Limited	24
Metropole Electric Inc.	21
Mueller Limited	15
Murray-Brantford Limited	13-14
National Capital Commission	78
Northern Electric Company Limited	28
Osmose Wood Preserving Company of Canada Ltd.	80
Pedlar People Limited, The	19
Queenston Quarries Limited	26
Richards-Wilcox Canadian Co. Limited	70
Rixson, The Oscar C., Co. (Canada) Ltd.	82
Royal Metal Manufacturing Ltd.	23
Russell, The F. C., Company of Canada Limited	Back Cover
Russwin-Belleville Lock Division, International Hardware Company of Canada Limited	6
Steel Company of Canada, The	12
St. Mary's Cement Limited	5
Sydney Roofing & Paper Co. Ltd.	25
Taylor Woodrow (Canada) Limited	76
Truscon Steel Works	74
Turnbull Elevator of Canada Limited	22
Westeel Products Limited	84
Wilson, J. A., Lighting Ltd.	16-17
Wood, G. H., & Company Ltd.	7-8

YOU GET A SOUND DIFFERENCE



WITH CLAY TILE FLOORS

Cutting deadweight is always desirable—provided it can be done safely... and especially if additional benefits can be gained.

Structural Clay Floor Tile actually reduces dead load by 37%—without reduction of load-bearing safety factor. At the same time, Floor Tile deadens sound—gives a ready-made plastering surface for ceilings—speeds erection—and is fire resistant.

No wonder the *best* floor plans include Structural Clay Floor Tile. Do yours?

**BRICK AND TILE
INSTITUTE
OF ONTARIO**



4824 YONGE ST., WILLOWDALE, ONTARIO

WESTEEL "FYRLOCK" Hollow Metal **FIRE DOORS**

... LOOK LIKE regular doors

UNDERWRITERS'



LABELLED

up to class "A" 3 hour rating

Now, you can provide desirable uniformity in a building by specifying Westeel "FYRLOCK" Fire Doors along with matching Westeel Hollow Metal Doors. Gone are all vertical lines . . . all cumbersome looking hardware. The handsome, flush surface of the "FYRLOCK" can be prime coated or finished in baked enamel to compliment the building's decor.

"FYRLOCK" Fire Doors are available
Single Swing, Swing in Pairs

For complete information ask
for Catalogue No. 82.

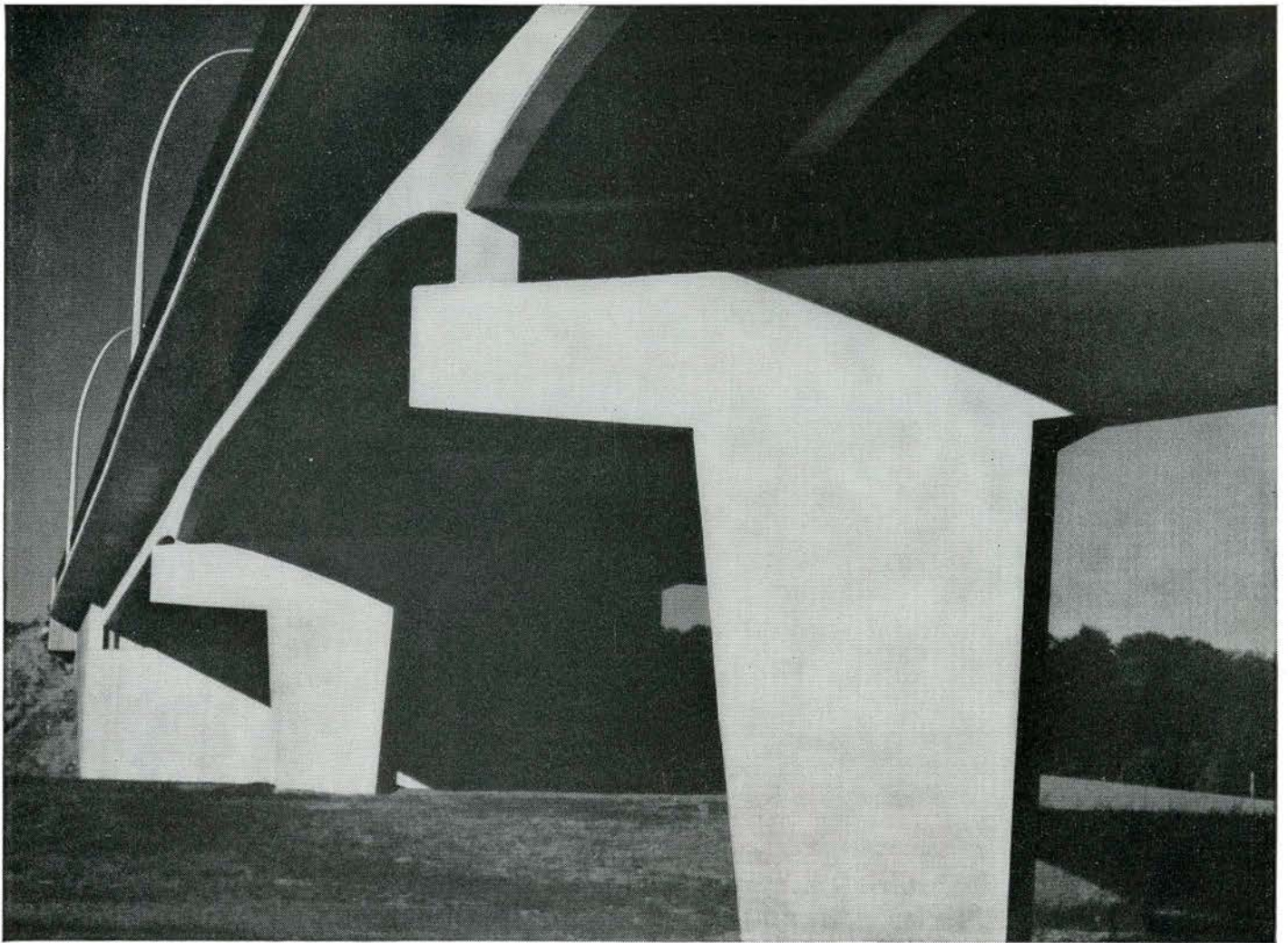


WESTEEL

PRODUCTS LIMITED

An all-Canadian, Canada-wide organization

MONTREAL, TORONTO, WINNIPEG, REGINA, SASKATOON,
CALGARY, EDMONTON, VANCOUVER. Sales Offices also at:
LONDON, OTTAWA, QUEBEC, SAINT JOHN, HALIFAX



One of the 46 reinforced concrete bridges and overpasses on the Montreal-Laurentian Autoroute.

POZZOLITH INCREASES DURABILITY, LENGTHENS LIFE OF MONTREAL-LAURENTIAN AUTOROUTE BRIDGES

Spaced along the 30-mile, 6-lane Montreal-Laurentian Autoroute . . . Quebec's greatest highway . . . are 46 heavily traveled reinforced concrete bridges and overpasses, each individually designed to blend harmoniously with the picturesque Laurentian landscape.

As in so many other bridges and overpasses built for Canadian provinces and municipalities during

the past 20 years, POZZOLITH contributes vitally to durability and increased service life. POZZOLITH provides:

- Increased strength: up to 20%**
- Reduced permeability: 40 to 80%**
- Greater resistance to freezing and thawing.**
- Increased bond-to-steel: up to 40%**
- Reduced shrinkage**
- Greater resistance to scaling**

MC-6112

POZZOLITH *
A Product of
MASTER BUILDERS®

MASTER BUILDERS Field Service

Benefit by the competent, job-proven experience of your MASTER BUILDERS field man. Through him you get maximum value from the use of modern technical products. General Office and Factory—Toronto 15, Ontario. Branch offices: Vancouver, Edmonton, Winnipeg, London, Ottawa, Montreal and Saint John.



*POZZOLITH, registered trade mark of The Master Builders Company, Ltd., for its concrete ingredient that provides maximum water reduction, controls setting time and increases durability.

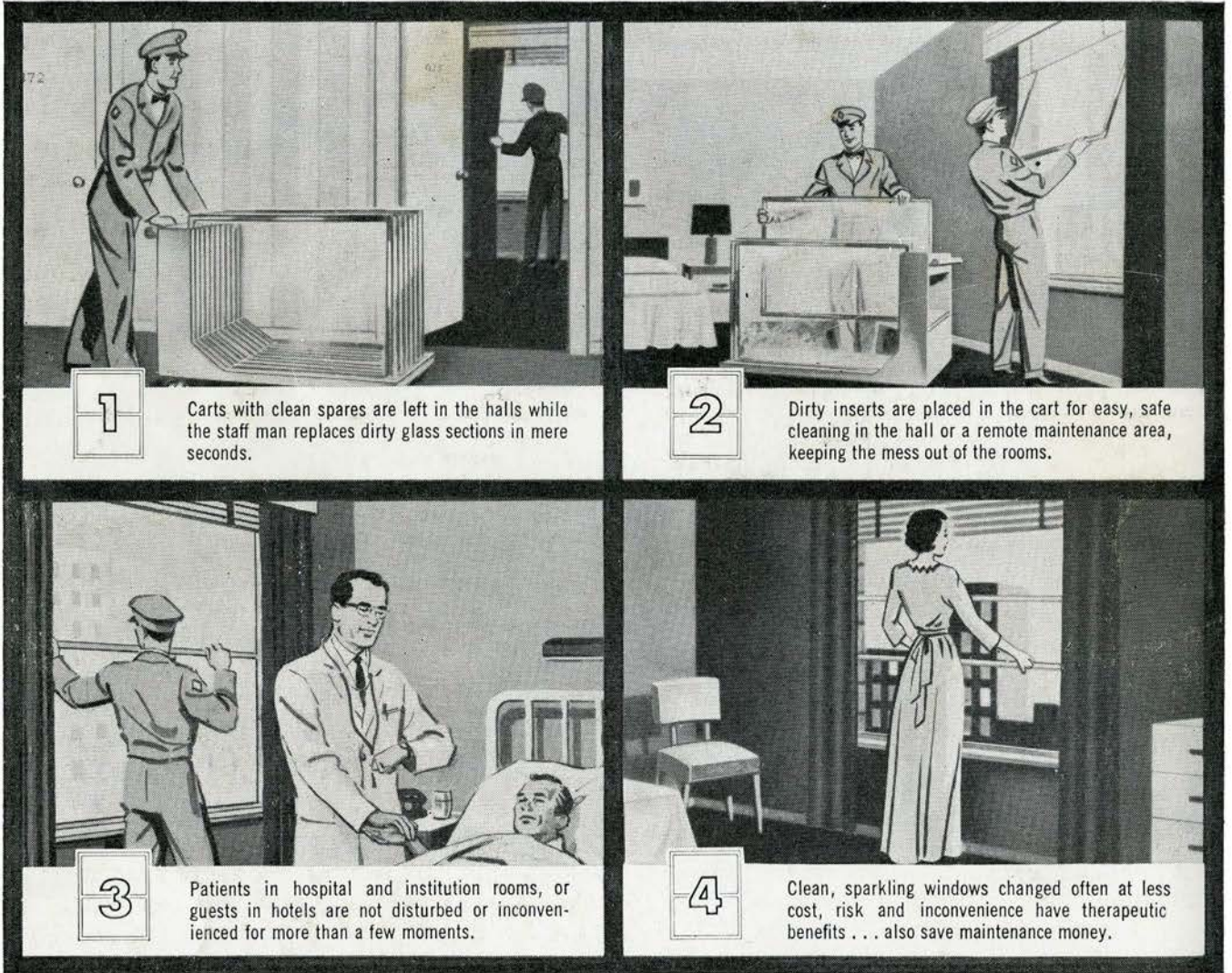
You **ONLY** save . . .

MUSS, FUSS and MONEY

... when you specify **RUSCO STEEL WINDOWS**
for hospitals, institutions, hotels . . .

Window cleaning and replacement of glass need never be done in the room when you install Rusco Steel Windows. With spare sashes the cleaners are only in any room a couple of minutes. There is no

splashing of walls, frames, floors or drapes . . . no dangerous outside cleaning. Get all the facts about Rusco Steel Windows from your nearest distributor.



1

Carts with clean spares are left in the halls while the staff man replaces dirty glass sections in mere seconds.

2

Dirty inserts are placed in the cart for easy, safe cleaning in the hall or a remote maintenance area, keeping the mess out of the rooms.

3

Patients in hospital and institution rooms, or guests in hotels are not disturbed or inconvenienced for more than a few moments.

4

Clean, sparkling windows changed often at less cost, risk and inconvenience have therapeutic benefits . . . also save maintenance money.



A Product of Canada

Call or write your nearest Rusco Office about

RUSCO WINDOWS AND DOORS

THE F. C. RUSSELL COMPANY OF CANADA LIMITED

750 Warden Avenue, Scarborough, Ontario



St. John's, Nfld.
Halifax, N.S.
Charlottetown, P.E.I.
Moncton, N.B.
St. John, N.B.
Fredericton, N.B.

Quebec City, P.Q.
Three Rivers, P.Q.
Joliette, P.Q.
Drummondville, P.Q.
Granby, P.Q.
Sorel, P.Q.
St. Jean, P.Q.

RUSCO SALES OFFICES

St. Jerome, P.Q.
Montreal, P.Q.
Valleyfield, P.Q.
Val d'Or, P.Q.
Ottawa, Ont.
Kenora, Ont.
Kingston, Ont.
Toronto, Ont.
Hamilton, Ont.
London, Ont.
Kitchener, Ont.
Chatham, Ont.

Sarnia, Ont.
Windsor, Ont.
Sudbury, Ont.
Sault Ste. Marie, Ont.
St. Catharines, Ont.
Fort William, Ont.
Winnipeg, Man.

Brandon, Man.
Regina, Sask.
Saskatoon, Sask.
Calgary, Alta.
Edmonton, Alta.
Vancouver, B.C.