

new england

Architect

December
1972

& N.H. ARCHITECTURAL REVIEW

LIBRARY
AMERICAN INSTITUTE OF ARCHITECTS
1735 NEW YORK AVE NW
WASHINGTON D C 20006

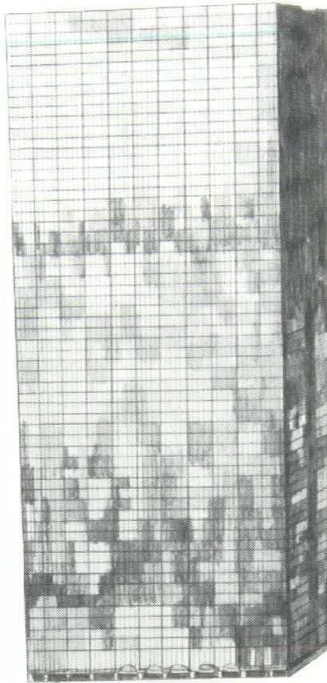
AMERICAN INSTITUTE
OF
ARCHITECTS

DEC 29 1972

LIBRARY, 2



We're going to take 7000 people for a ride.



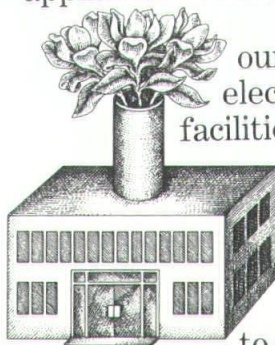
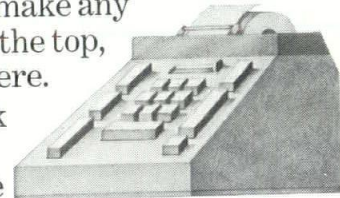
When the John Hancock Tower Building opens, it's going to open up a lot of new opportunities.

Of course, it won't make any difference if there's room at the top, if there's no way to get there.

But there will be, aboard the 30 double-deck elevators. Elevators powered by electricity.

And electric power will not only take people for a ride, it will also give them light, and heat, and energy to run their typewriters, copying machines and other electric office equipment.

Progress and power go hand in hand. We need power to help industry produce new products and power to provide energy for the many electric appliances we use at home.



And that's not all we need power for. As we enhance our efforts to save our environment, we're going to need electric power for recycling plants, sewage conversion facilities, and other ecological projects.

All this adds up to a lot of work. That's why electric companies are already planning for the 1980's; working to provide the power we all need, while maintaining the clean atmosphere we all want.

Yet, some people continue to ask, "Who uses all this electricity?"

Why do we need all these new power plants?"

Maybe people on the way up don't realize how much electricity they need to get there.



Boston Edison Company
Mass. Electric
Eastern Utilities Associates and Subsidiaries
New England Gas and Electric System Companies.



ready-to-wear **SPAN-DECK** Walls

**Altered to fit -
Delivered as needed**

Span-Deck is the exciting new hollow core concrete panel manufactured by Bancroft & Martin.

Eight feet wide, eight or twelve inches thick, precision sawed to ready-to-install lengths, these wall, roof or floor and ceiling panels are fast to install winter or summer.

They are ready to paint, carpet or decorate or can be left as is. For more information write or call today.



BANCROFT & MARTIN INC.

SOUTH PORTLAND, MAINE 04106
207-799-8571

NOTES & COMMENTS

BSA Officers Named For '73

The Boston Society of Architects has announced election of the following officers for 1973:

President: John C. Harkness, FAIA.

Vice President: Joseph L. Eldredge, AIA.

Secretary: Hermann H. Field.

Treasurer: James C. Hopkins, Jr.

Harkness, who assumed the presidency during the Annual Meeting of the BSA, was born in New York City in 1916, and he received both his Bachelor and Master of Architecture degrees from the Harvard Graduate School of Design. A member of the AIA for 25 years, his national committee activities have included participation on the Hospital Construction and Professional Practice committees. He was elected to the AIA College of Fellows in 1969.

In 1947, he became a member of the Boston Society of Architects.



J.C. Harkness

He has also been active in civic and academic affairs, participating in the Boston Arts Festival and serving as former Director of the Harvard Alumni Association and former President of the Harvard Graduate School of Design Alumni Association.

A principal and Director since 1945 in the firm of The Architects Collaborative in Cambridge, Mr. Harkness' work has been primarily devoted to educational and medical projects. His major buildings include the Children's Hospital Medical Center, the Hoffman Laboratory at Harvard University, New Trier High School in Winnetka, Illinois, and the Hanley Educational Center in Providence (which was the result of a competition).

He numbers among his awards seven citations from the American Association of School Administrators honoring completed school projects plus a Boston Arts Festival award and a Progressive Architecture Design Award for the Hoffman Laboratory. A frequent contributor to professional journals, he has written several articles on campus planning.

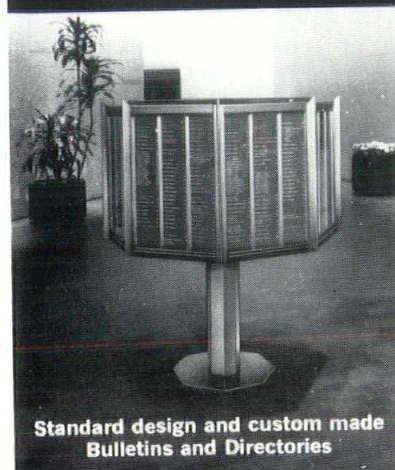
Washington Firm Wins Louis Sullivan Award

"Distinctive, functional and beautiful buildings in masonry which enhance the visual unity of their neighborhoods" have won for the young Washington, D.C., architectural partnership of Hartman-Cox the first "Louis Sullivan Award for Architecture."

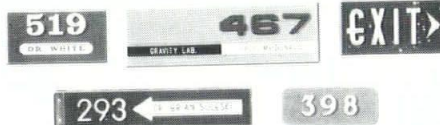
The award, created by the Bricklayers, Masons & Plasterers International Union (BM&PUI) and accompanied by a \$5,000 prize, memorializes architect Louis H. Sullivan.

(Continued on page 4)

DIRECTORIES & GRAPHICS



Framed and un-framed Room Identification Signs. Standard and custom designs.



Plus a complete line of Cast Bronze Plaques.



Specify product line of interest — catalog will be sent.
LYNN BULLETIN & DIRECTORY BOARD MFG. CO.
230 ALBANY ST., CAMBRIDGE, MASS. 02139 (617) 864-8050

SPAULDING BRICK COMPANY, INC.

Distributors of Brick and Structural Tile



120 MIDDLESEX AVENUE, SOMERVILLE, MASSACHUSETTS

WINTER HILL STATION
BOSTON, MASSACHUSETTS 02145
666-3200

CHARTER MEMBER

National Association of Distributors and Dealers of Structural Clay Products

new england

Architect

INCLUDING N.H. ARCHITECTURAL REVIEW

December 1972 Volume 3 Number 6

features

Middleborough High School	
Middleborough, Mass.	5
Huygens Chalet	
Sorenberg, Switzerland	10
Pittsfield Service Center	
Pittsfield, Mass.	14
Grafton County Courthouse	
Haverhill, N.H.	18
Notes & Comments	2
New Products:	
Sound-Seal & Xpan-Seal Gasketing ...	24

departments

Notes & Comments	2
Index to Advertisers	28

Photo Credits: Steve Rosenthal, Cover and pages 18-23 (Grafton County Courthouse); Samuel Robbins, 5-9 (Middleborough High School); O. Pfeifer, 10-13 (Huygens Chalet).

Editorial & Sales Office:

Three Sheafe Street
Portsmouth, N.H. 03801
Telephone: 603-436-4503

Published monthly by the
Walsh Publishing Corporation,
Three Sheafe Street Ports-
mouth, N.H. 03801. No article
appearing in this issue may be
reprinted in whole or in part
without permission of the
publisher.

Controlled circulation postage paid
at Portland, Maine. Postmaster:
Please send Form 3579 to
NEW ENGLAND ARCHITECT,
P.O. Box 900, Portsmouth, N.H.
Fifty Cents A Copy
Subscription: Five Dollars Per Year.

Publisher

James F. Walsh

Editor

James Bolquerin

Assistant Editor

Mary H. Arnett

Editorial Staff

Peter Randall

Richard Livingstone

General Manager

Herbert F. Georges

Advertising Sales:

Ruth & Carll Downs

Advertising Production

Anne Cullen

Art Director

Herb Rauh

Circulation Manager

Marjorie Henderson

(Continued from page 2)

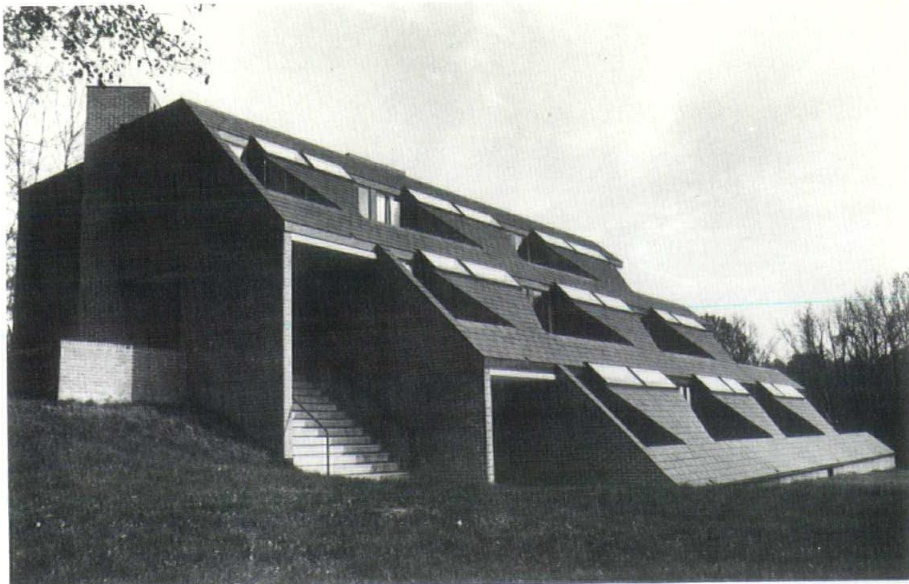
van, whose late 19th century buildings in Chicago and other major cities are recognized as landmarks in American architecture.

The award is administered by The American Institute of Architects (AIA), and is decided by a five-man jury, three members of which are appointed by AIA. Chairman of this year's jury was William W. Caudill, FAIA, Caudill Rowlett & Scott, Houston, Texas.

"Purpose of the Sullivan Award," said BM&PIU Secretary John T. Joyce, "is to demonstrate to the architectural profession and the public that the Bricklayers' Union and its members care about architecture and environmental improvement.

The Sullivan Award recognizes the work of individual architects in masonry throughout their career, rather than a single project, and emphasizes environmental improvement as one of the criteria for receiving the award.

The Award will be made every other year, and is open to U. S. and Canadian architects who submit at least three projects in masonry that exemplify the ideas and accomplishments of the man historian Henry Steele Commager called "the most remarkable figure in the history of

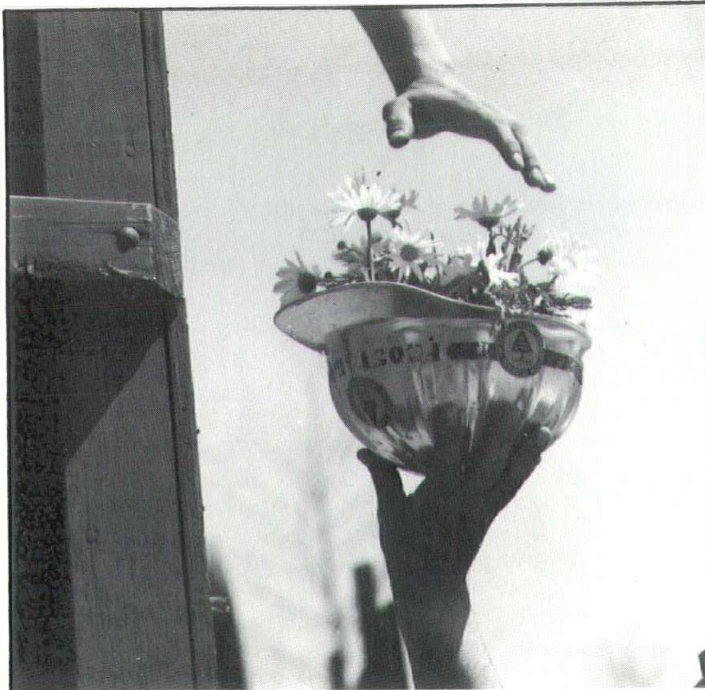


Dormitory for Mount Vernon College, Washington, D.C., provides living and related facilities for two groups of 48 students. Student rooms and lounges are arranged along the outside of a bent corridor, oriented away from the campus, while common rooms look towards the entrance quadrangle. Hartman-Cox Architects, Washington, D.C., designed the masonry structure, which was considered along with other Hartman-Cox projects by the jury which awarded the firm the 1972 Louis Sullivan Award of the Bricklayers, Masons & Plasterers International Union.

American architecture between Jefferson and Frank Lloyd Wright . . . the father (or at least the godfather) of modern American architecture."

In its comments on the Hartman-Cox projects, the jury said: "Such buildings as the EURAM Building, the Chapel and Dormitory for Mount

Vernon College, St. Alban's School Tennis & Tennis Club Building and a private residence give evidence of the recipient's qualifications to design distinctive, functional, beautiful buildings in masonry. The jury recognized the consistent high quality that permeated this work.



The sweet smell of success — for you and for us. We believe in it.

FROST and HIGGINS Since 1896
Landscape Construction
Two Wheeler Road, Burlington, Mass. 01803 — 617-272-4257
50 Cooke Avenue, Northampton, Mass. 01060 — 413-584-9417



The Draftboard.

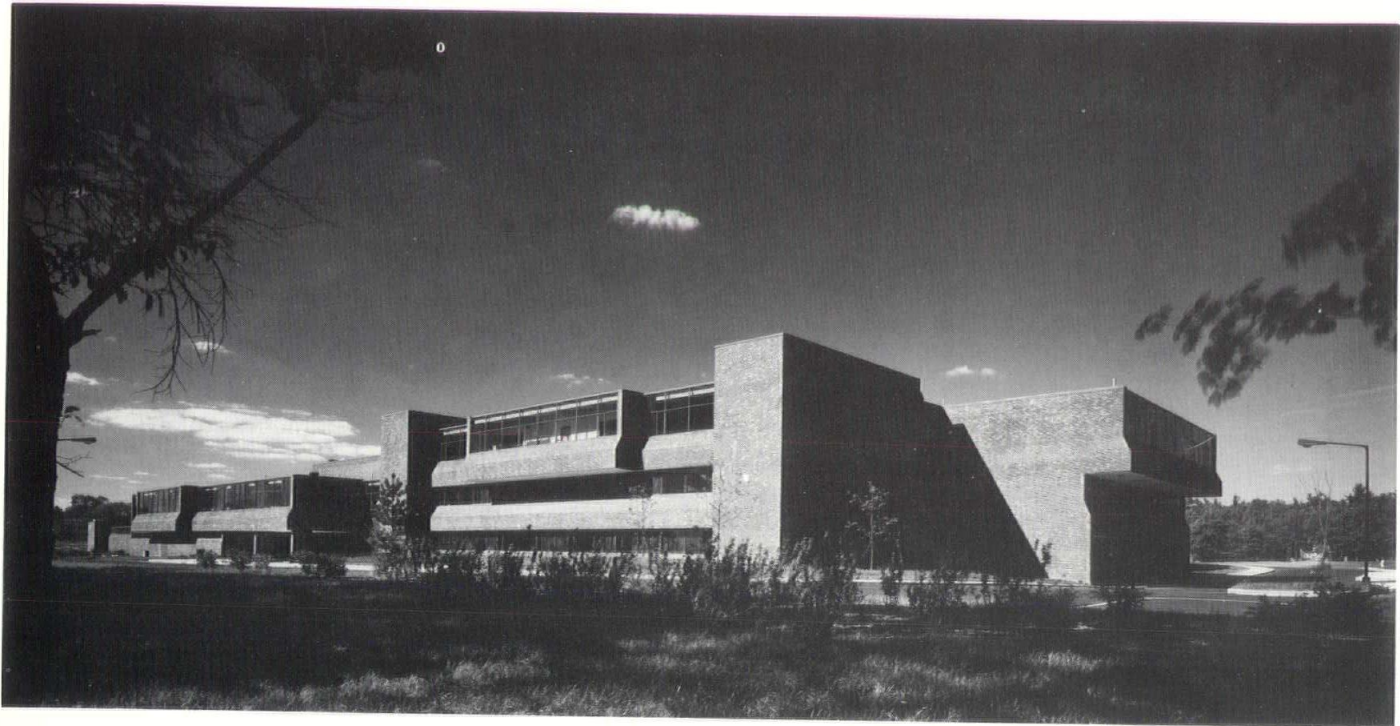
For all your plans. We're the new, most comprehensive single source of Engineering and Architectural supplies. Drafting machines and furniture, tools, and equipment. Printed formats. *Clearprint*® papers, and et ceteras. Our delivery is fast, and our prices are right.

When the need arises, call up.

THE DRAFTBOARD
ENGINEERING AND ARCHITECTURAL SUPPLIES

735 Granite Street, So. Braintree, MA 02184 TEL. (617) 848-2983
306 Murphy Road, Hartford, CT 06114 TEL. (203) 527-1195

MIDDLEBOROUGH HIGH SCHOOL MIDDLEBOROUGH, MASS.



THE plan for the Middleborough High School was intended to provide complete facilities for 1000 students, with the ready capability of expansion to 1250. Specific requirements included the following:

A. Six major academic departments with integrated departmental headquarters facilities and classrooms: English — 6 classrooms; Social Studies — 5 classrooms; Science — 7 laboratories; Mathematics — 4 classrooms; Language — 2 classrooms, 1 language laboratory; Commercial Education — 4 classrooms.

B. Other specialized classrooms: Arts and Crafts; Wood Shop and General Shop; Band and Chorus

Room plus 6 Practice Rooms; Food and Clothing Laboratories; Special Education Classrooms; Health Classrooms; Study Halls.

C. Library with associated audiovisual, remedial reading, and conference facilities.

D. 600-seat Auditorium.

E. Three-station Gymnasium plus Corrective Gymnasium.

F. Cafeteria and Kitchen Facilities plus Faculty Dining Room.

G. Separate Administrative, Guidance, and Health Suites.

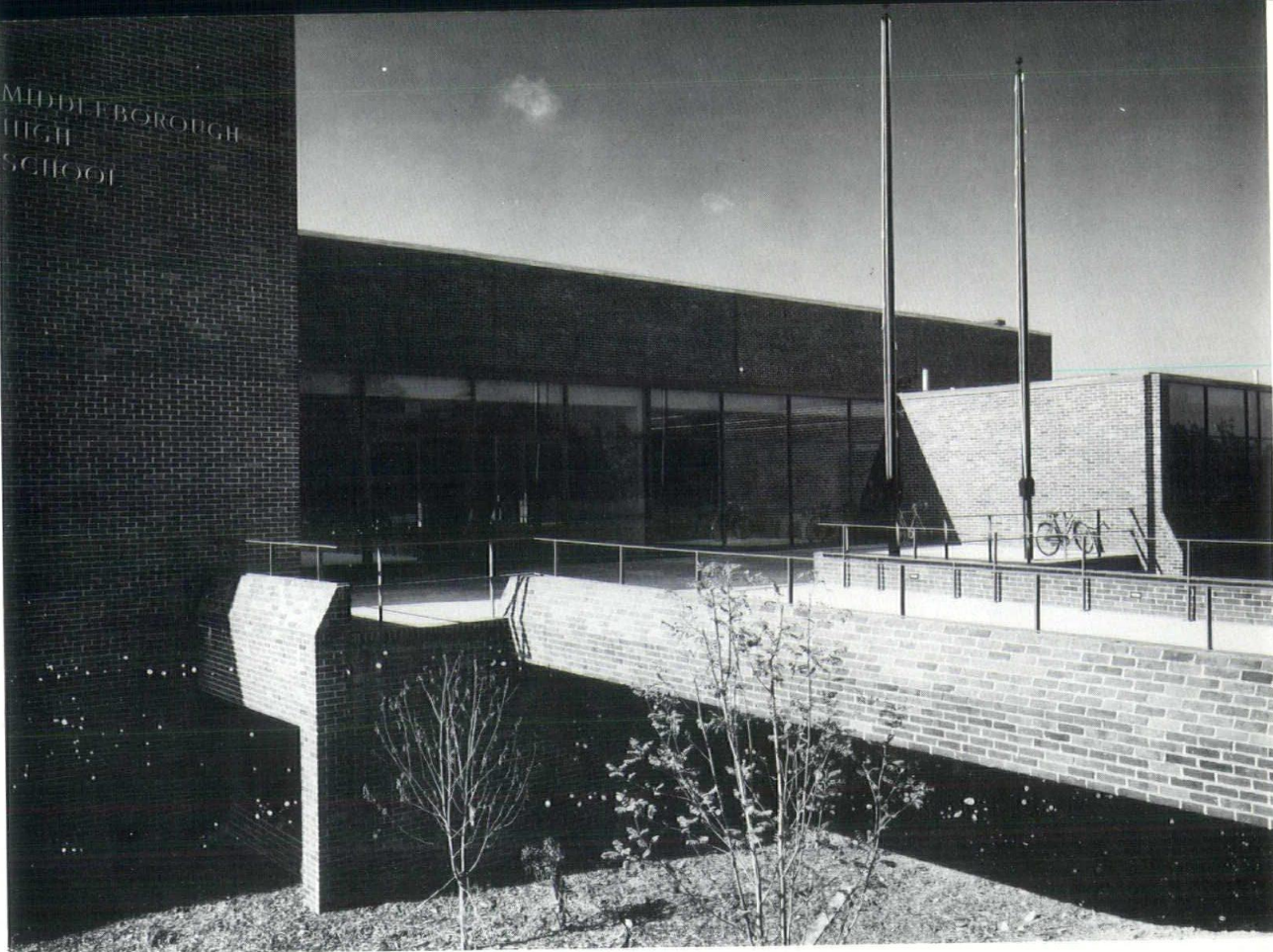
A compact plan was considered desirable to keep class-changing time to a minimum. Optimum flexibility was determined to be inter-

changeability of spaces, rather than the ready ability to change the size and student capacity. Future expansion needs were not well defined, but were thought to be chiefly in academic areas.

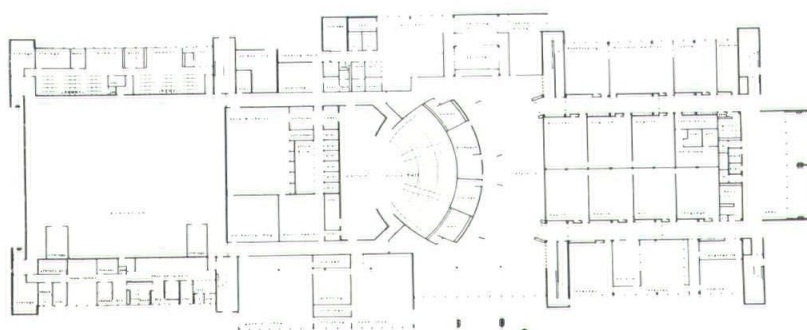
The solution is basically a double-loaded, double-corridor scheme providing maximum utilization of circulation space. To keep the corridors from becoming overly long or oppressive, they are deliberately dissolved in the area surrounding the auditorium. On the lower level this space becomes the cafeteria. At the middle level various functions are visually extended into this space by means of glazed partitions.

*Drummey Rosane Anderson
Wellesley, Mass.*

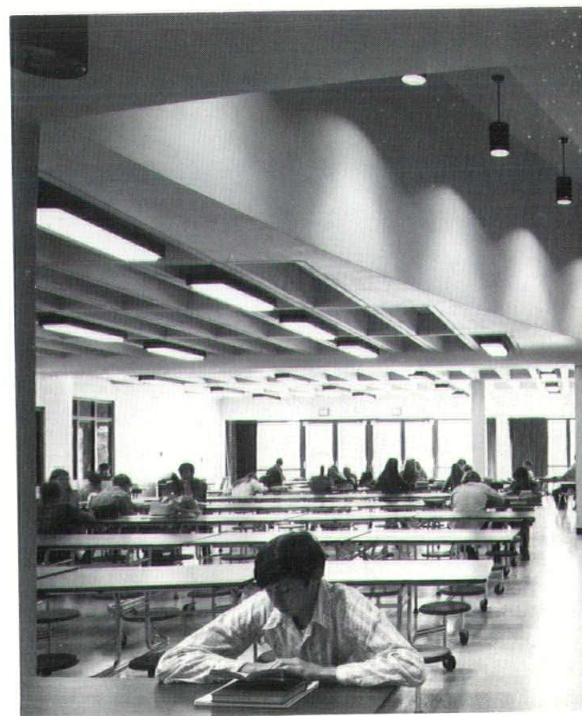
MIDDLETOWN HIGH SCHOOL



The building is served by two main entrances: one for the bulk of the student population at the east end of the academic wing convenient to bus unloading and parking; and the other (above) for visitors and students arriving by car located to the north near the Administrative Suite.



LOWER FLOOR PLAN



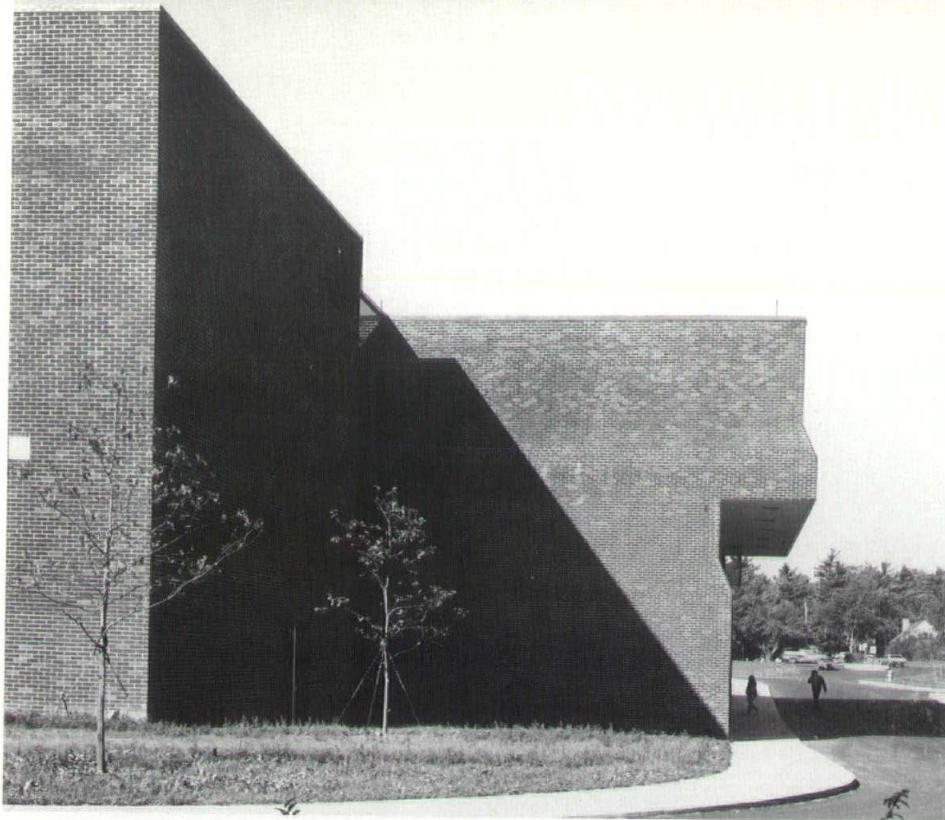
Full acoustic tile ceilings were used in corridors and recessed acoustic material in ceiling coffers elsewhere.

Expansion of the academic space is easily accommodated by extension of the double corridors to the east. Gymnasium space can be expanded to the west, and shops to the south. The balance of the core spaces rely on absorbing adjacent areas, or are already of sufficient size for a larger school population.

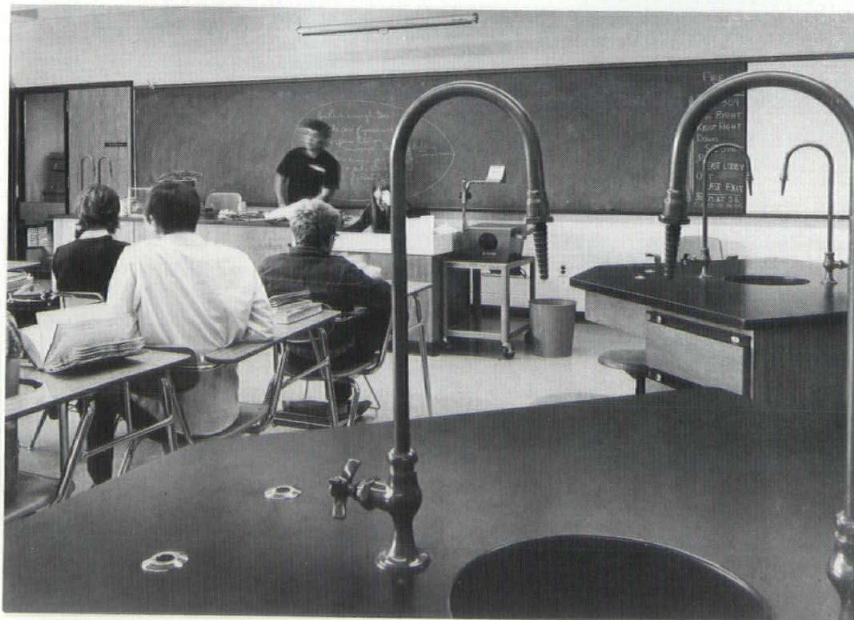
The academic (east) wing is a reflection of the need for compact, interchangeable classroom spaces. However, the 800-foot module can be broken down to provide the limited number of special-sized classrooms as well as the library.

The central auditorium is accessible from all levels of the building and is divisible into three smaller lecture halls, each of which is accessible from two levels. Its unusual shape modulates the space surrounding it and serves as the focal point for the entire building.

The building is served by two main entrances: one for the bulk of the student population at the east end of the academic wing convenient to bus unloading and parking; and the other for visitors and students arriving by car located to the north near the Administrative

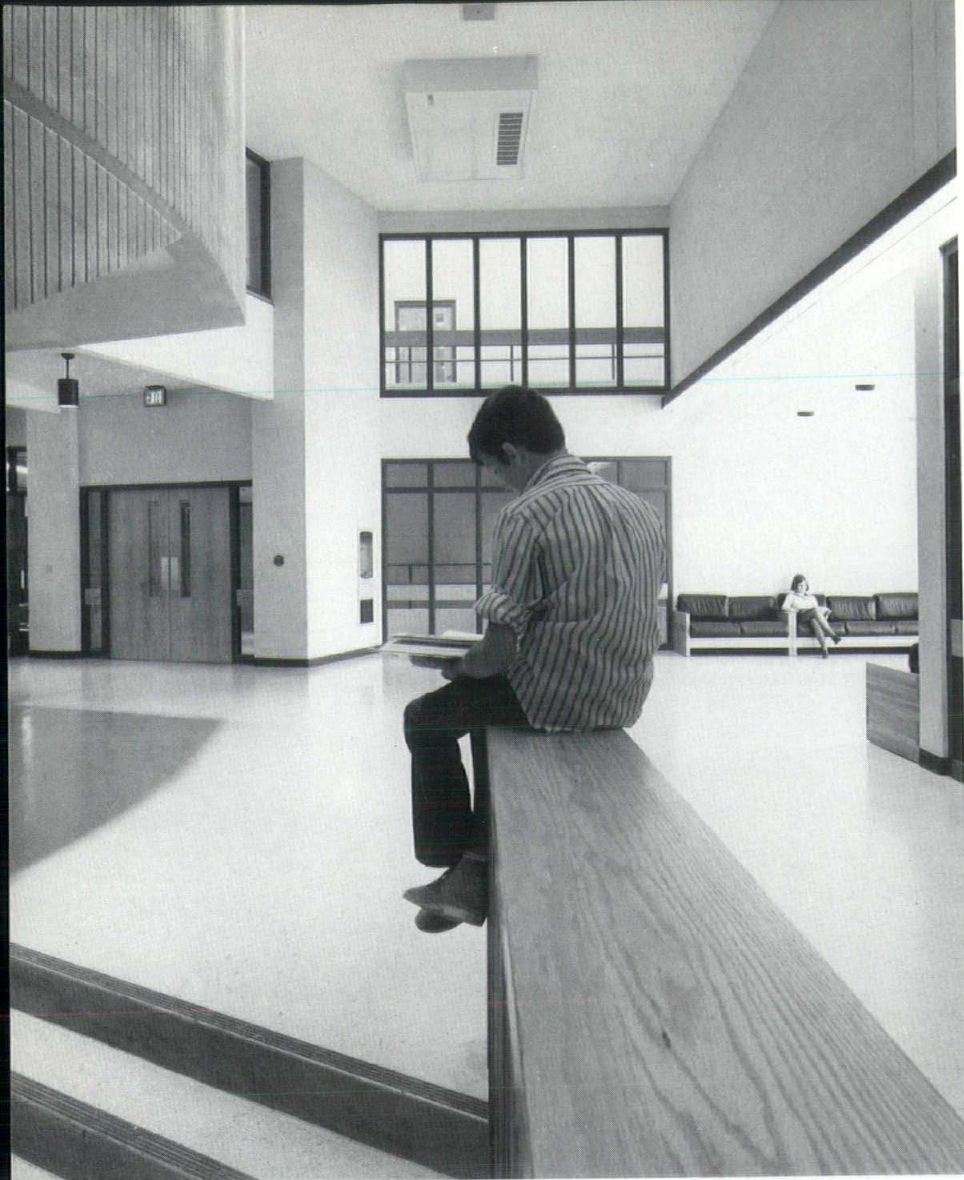


Exterior walls are of face brick veneer with concrete block backup.

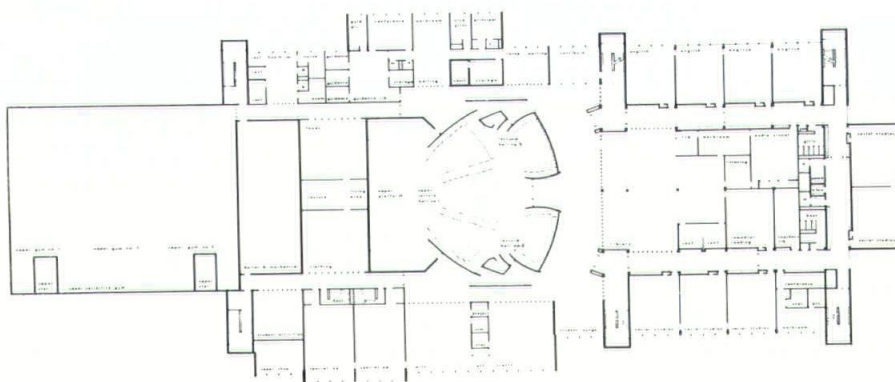


Science laboratory.

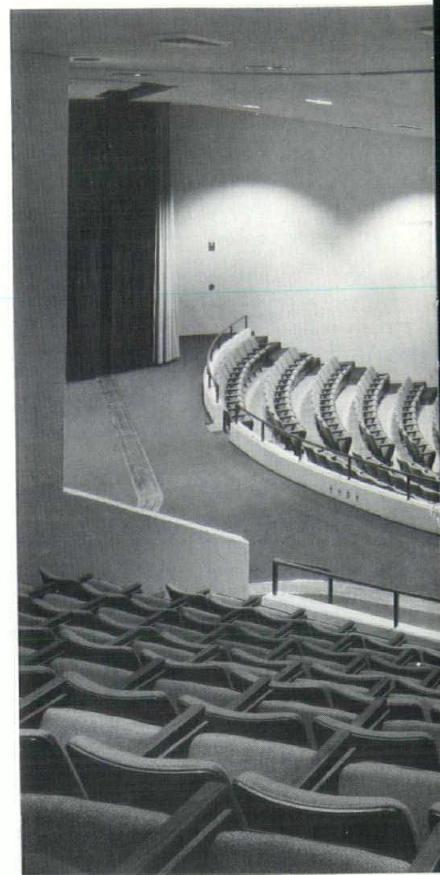




To keep the corridors from becoming overly long or oppressive, they are deliberately dissolved in the area surrounding the auditorium.



MIDDLE FLOOR PLAN



Suite.

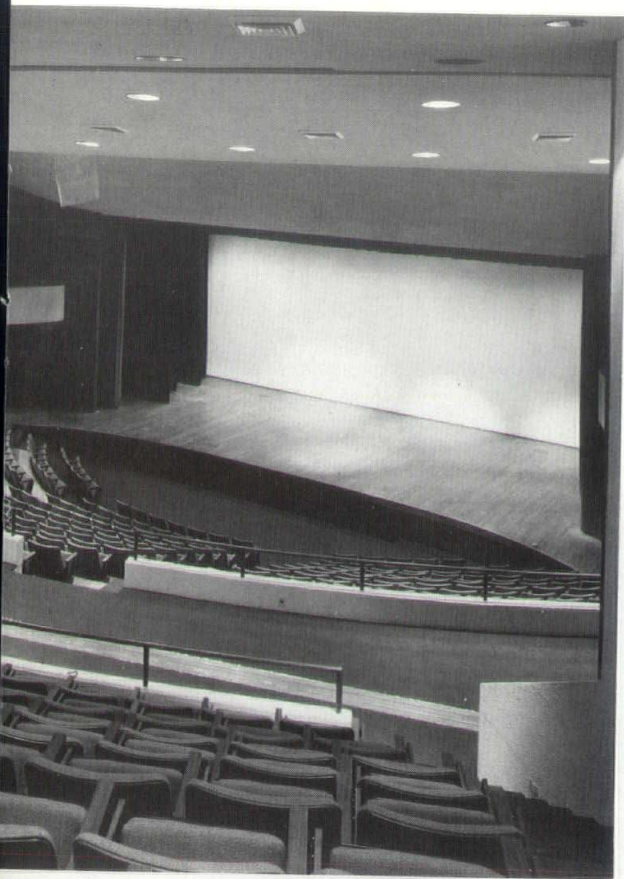
The 45-acre site posed no special or unusual problems. The soil had excellent bearing capacity and drainage characteristics. Much of the area was generously wooded with a variety of species, and it was possible to preserve a great many trees through careful adjustment of grades. Access was limited to the north side, and the ultimate configuration is a one-way loop for both cars and buses.

Structure — Concrete footings, foundation walls, slabs on grade, columns, and one-way rib slabs. Long span steel bar joists are used to frame the auditorium and gymnasium roofs.

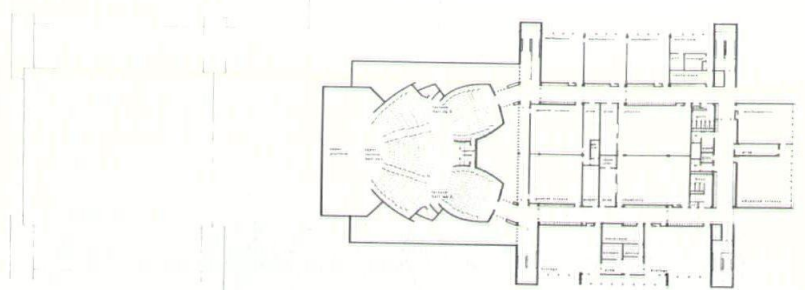
Exterior walls — Face brick veneer with concrete block back-up, steel window frames with steel ventilating sash and solar glass.

Roofing and Flashing — Built up tar and gravel roof with stainless steel flashing and insulating roof fill as required.

Flooring — Generally vinyl asbestos tile except for carpet in library, language classrooms, aisles



The central auditorium is accessible from all levels of the building and is divisible into three smaller lecture halls.



UPPER FLOOR PLAN

of auditorium, guidance suite, sheet vinyl in gymnasium, ceramic tile in lavatories, and quarry tile in kitchen.

Interior partitions — Painted concrete block or coated epoxy glaze.

Acoustic Treatment — Full acoustic tile ceilings in corridors and recessed acoustic material in ceiling coffers elsewhere.

Fixed Equipment — Open shelving, teacher's closet, plus special equipment for the kitchen, home-making suite, arts and crafts, shops, science, and library.

Area of building: 154,000 square feet.

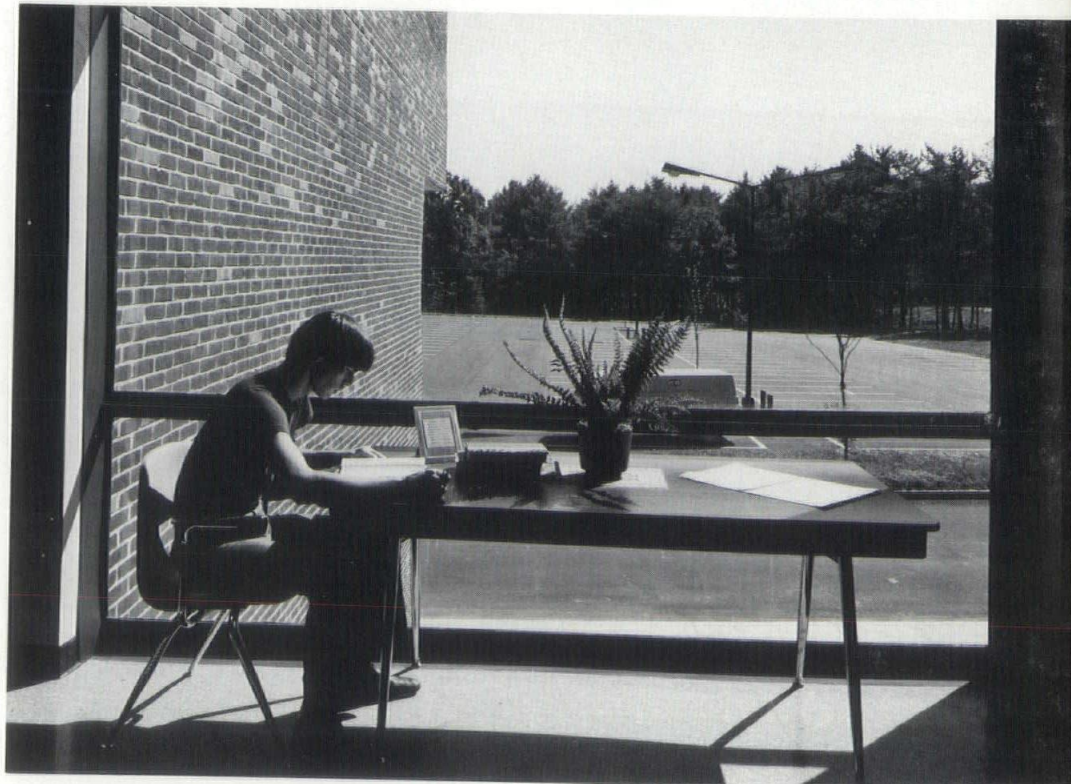
Total cost: \$4,136,000.00, including site development and fixed equipment; \$3,528,000.00, excluding site development and fixed equipment.

Completed: 1971.

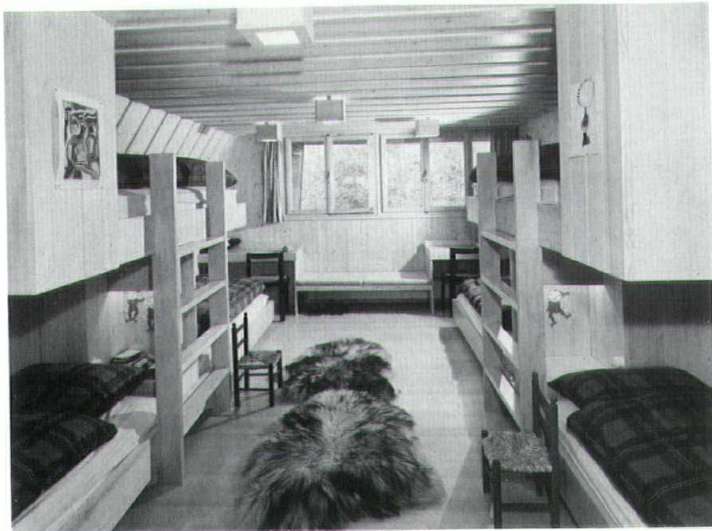
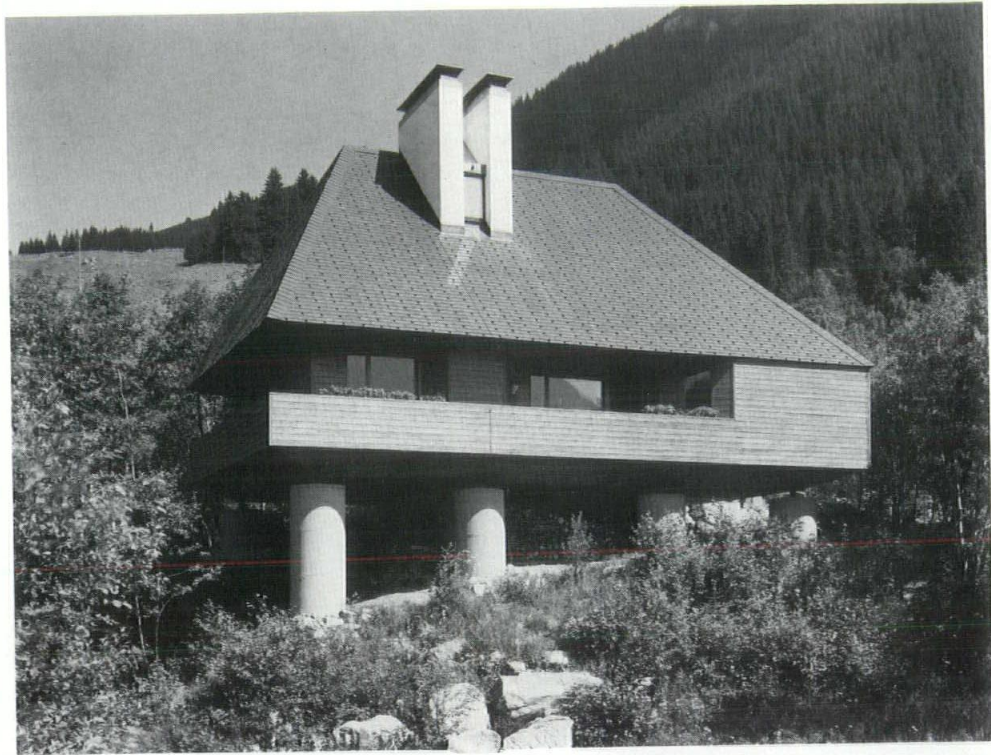
Engineers: Structural, Thomas Rona Associates; Mechanical, E. J. Flynn Associates; Electrical, Lottero & Mason Associates.

General Contractor: Northgate Construction Corporation, Waltham, Mass.

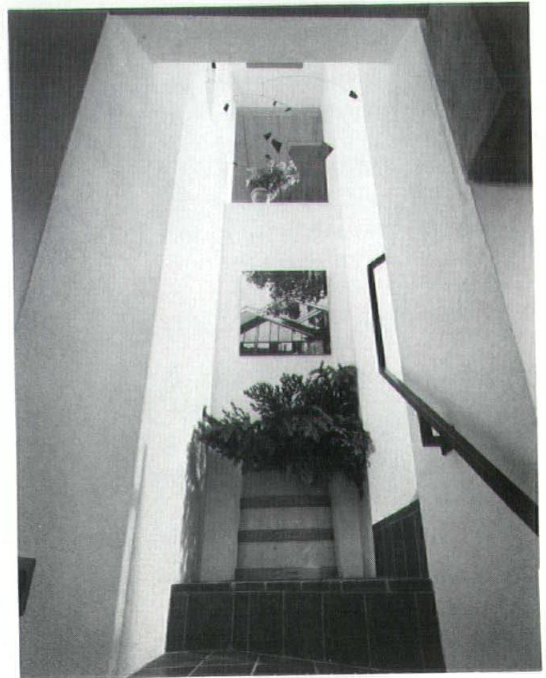
Much of the area was generously wooded with a variety of species, and it was possible to preserve a great many trees through careful adjustment of grades.



HUYGENS CHALET

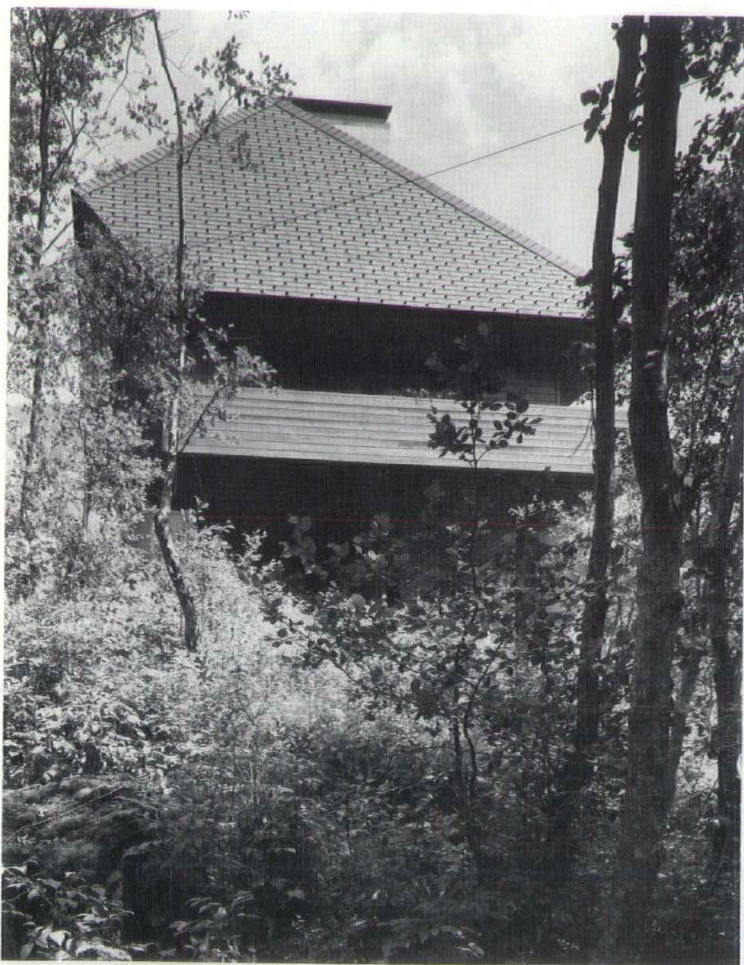


There are two separate apartments. A small one for the owners, and a larger one with two double bedrooms and a bunkroom with six bunks for the children and their families.



A window in the divided chimney brings direct sunlight into the stair well.

SORENBERG, SWITZERLAND

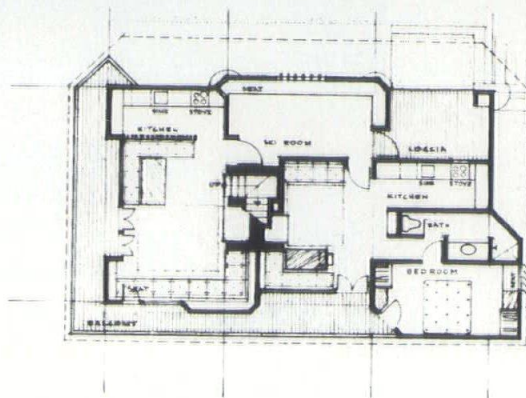


THE Huygens Chalet, a year-round vacation house in the Canton of Luzern in the Swiss Alps, was designed by Rennert Huygens for his parents.

The steep site is strewn with large boulders, left by a gigantic rock slide. The scar of the stone avalanche is now covered with low trees and a small brook works its way down among the boulders. The site has a southern exposure with a view towards the ski slopes and snow capped mountains.

The house is the home base for a retired couple in the geographic center of Western Europe, from where they travel extensively. For summer and winter vacations their children and grandchildren come for mountain climbing and skiing, while at other times friends visit for extended periods of time. Because of this, privacy and ease of maintenance are of prime importance.

This chalet has the character typical for the Canton Luzern mountain house and relates to an old farm house overlooking it from higher up the mountain. Massive concrete columns lift the house above the rough, rocky site. Entering the "introvert" volume of the house, a world of



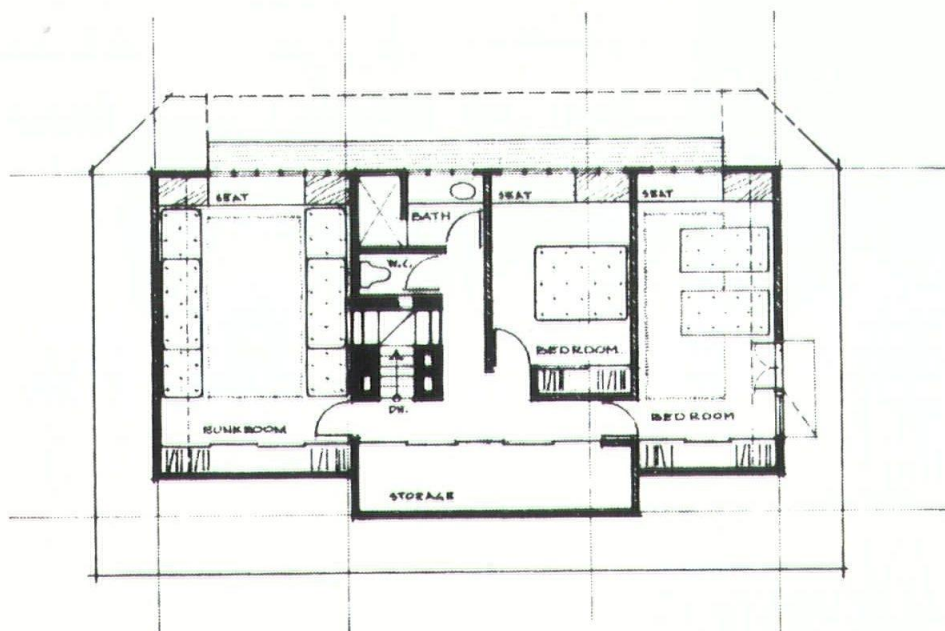
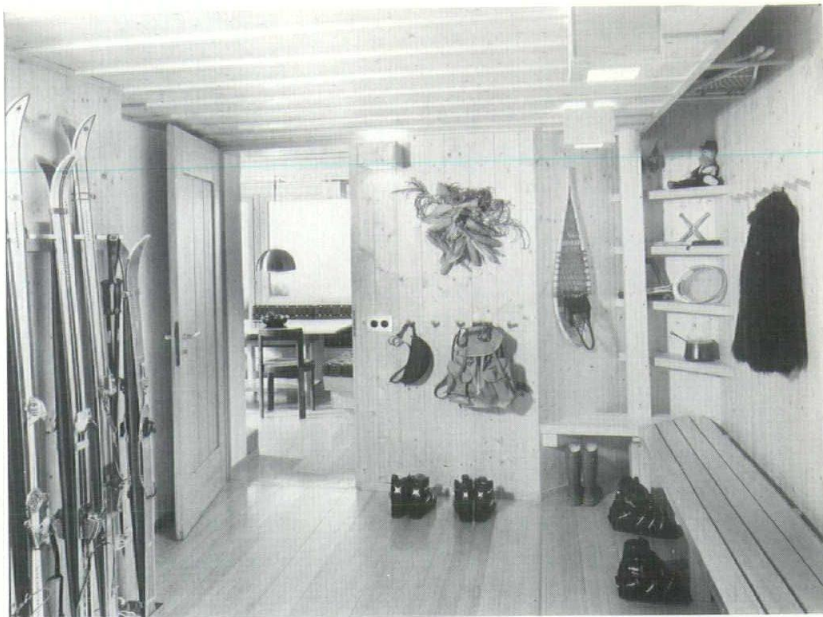
First level.

*Huygens & Tappé
Boston*

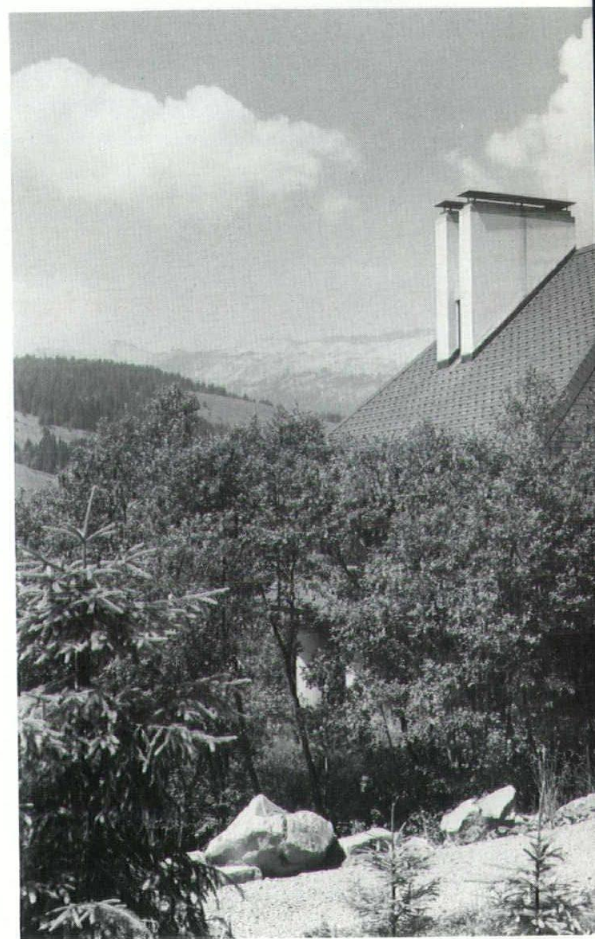
intimate spaces opens with sudden turns, dark passages, unexpected sources of sunlight. As for example, a window in the divided chimney brings direct sunlight into the stair well.

There are two separate apartments. A small one for the owners, and a larger one with two double bedrooms and a bunkroom with six bunks for the children and their families. The only shared space is a large central skiroom. The heater room is under the house.

The columns are built up with sections of precast concrete sewer pipe. The building itself is a wood frame structure: exterior walls are of horizontal tongue and groove wood boards, left to weather. The roof shingles are of slate colored



Second Floor Plan.



The steep site is strewn with large boulders, left by a gigantic rock slide. The scar of the stone avalanche is now covered with low trees and a small brook works its way down among the boulders.



All furniture and light fixtures are built in.



The site has a southern exposure with a view towards the ski slopes and snow capped mountains.

transite, materials native to the area. Interior finish throughout is natural wood. All furniture and light fixtures are built in. Heat is provided by oil fired hot water. Supply and return piping run uninsulated under the first floor to warm the insulated plenum under the house.

General Contractor: Robert Felder, Fluhli, Luzern.

Structural Engineers: Souza and True. Mechanical Engineers: Peterson Associates.

PITTSFIELD Service Center

PITTSFIELD, MASS.

THE site of the Pittsfield Service Center is bounded by New West Street, West Street, the Housatonic River and the Penn Central Railroad. It is approximately 4½ acres in size and is at the westerly end of the Jubilee Renewal Project area. The size of the site conditioned the design of the project since the building required a coverage of two acres. Parking for 125 employee cars, visitor cars, plus storage of transformers and poles accounted for all that remained.

With the construction of the Route 7 by-pass, West Street will be a principal entry into Pittsfield. It was important, therefore, to design a building that would be appropriate for such a location. As approached from West Street landscaping of the river bank was most important.

The building site was formerly occupied by 24 houses, a service station and garage. Sub-soil examination by borings and test pits revealed that for proper bearing, the top soil should be removed to a point below the foundations of the houses. All this material was removed from the site and special gravel brought in, which was compacted by heavy rollers to provide an adequate base for the building.

It was determined during the early design period that due to its urban location as an important entrance to the city, the many trucks involved in service operation should be concealed from public view. The building design, therefore, is expressed as

three principal elements:

- 1) The general office area.
- 2) The truck bay area. (Sky Lighted)
- 3) The store room area.

The General Office Area

The northern or office section contains business and executive offices, an auditorium to seat 90 people, toilets, conference rooms and a lunch room. Wood doors, wood paneling, and wood cabinets in this area are all of American cherry. The red brick of the exterior is used as a recall in the walls of the auditorium and the auditorium wall facing the front entrance. All windows are of 1" thick, insulated glass, solar bronze in color. The window draperies are an open weave, orange colored cloth imported from Finland. The carpeting is unusual, in that it consists of individual 20" squares laid directly on the concrete slab with no adhesive — relying solely on friction.

All furniture in the lobby, the auditorium, the executive offices and business offices is new with design and color selected for optimum coordination with the building. Both men and women toilets include a compartment meeting all requirements for handicapped use.

Truck Bay Area (Sky Lighted)

The truck bay area is expressed on the exterior by panels of water struck red brick between pre-cast architectural concrete columns. The truck bay area is sky lighted with Kal-wall panels set between structural

concrete beams and supported by pre-cast structural concrete purlins. The sky light is 180 feet by 164 feet or approximately 30,000 square feet in area, roughly ¾ of an acre. This sky light provides natural light which on sunny days gives a reading of over 250 foot candles and on cloudy days approximately 60 foot candles. Within the truck bay is an island with two tanks for dispensing gasoline and reels for dispensing air, water and oil. There are four carbon monoxide controls in the truck bay area which at a given reading automatically start the exhaust fans to prevent the air reaching a dangerous level. This area is also completely covered with sprinklers.

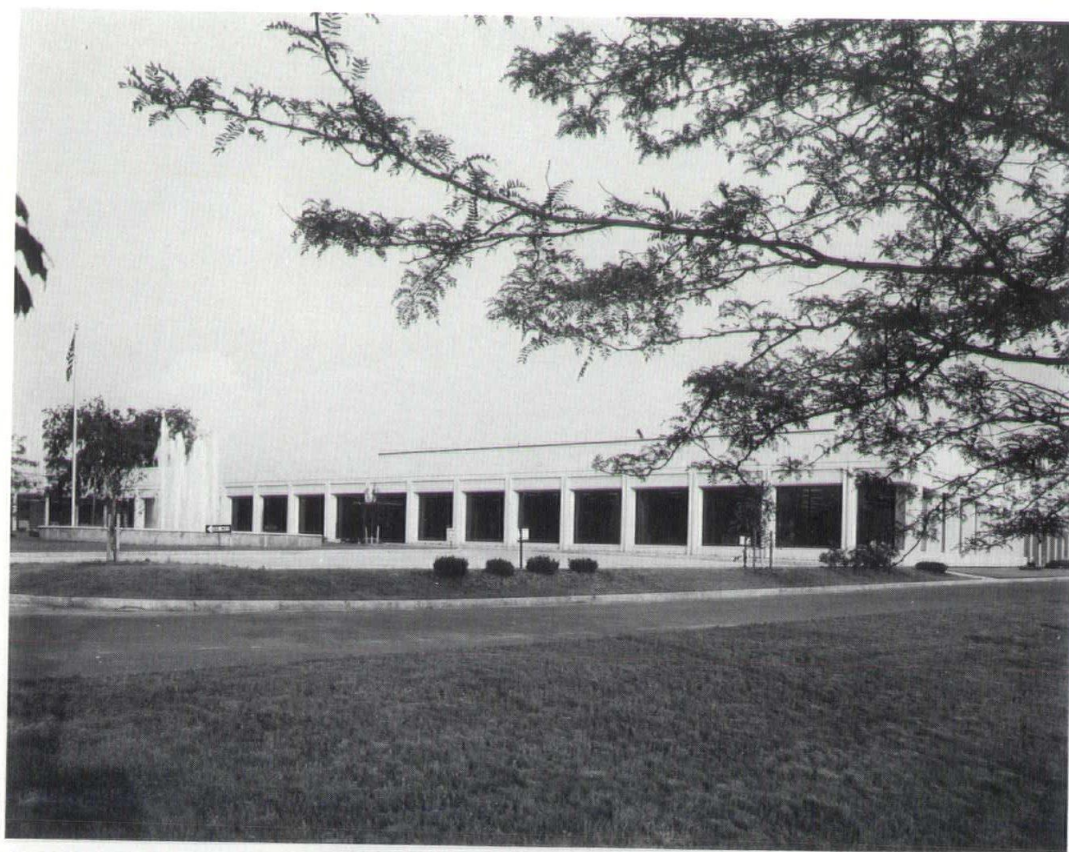
Opening off the truck bay area at the northern end is a repair garage which provides a wash bay and 2 bays with lifts adequate to handle the largest trucks. Head room in this area is 25 feet clear to the stem of the structural T's. Aluminum doors with clear plastic panels close off the garage from the truck bay.

Store Room Area

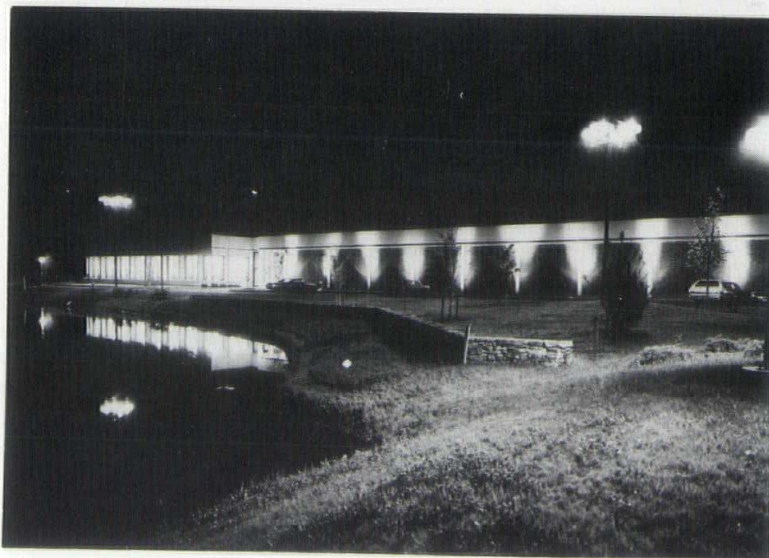
The Store Room area contains a large open storage space with an additional mezzanine storage area, large test room, maintenance room, transformer shop, line and tool room, office for store room supervisor and a second floor which includes a lounge, locker room, toilet and shower area for line men.

The project's location near the center of the city necessitated Class

*Bradley Architects, Inc.
Pittsfield, Mass.*



The red brick of the exterior is used as a recall in the walls of the auditorium and the auditorium wall facing the front entrance.



To provide general lighting for the access road and parking areas — as well as lighting along the river bank — are set standards of sodium vapor lamps in a totally new design developed for ecological impact — giving off soft and highly effective light.

I or fireproof construction. For this reason all structural members (columns and beams) are of pre-stressed, pre-cast concrete. Exterior panels surrounding the office area and store room area are of pre-cast architectural concrete off white in color with the aggregate exposed by light sand blasting.

The design of the building was based on a six-foot module. This produced a 12-foot spacing for both office and store room areas. For the office it provides a 6-foot spacing module for the location of movable partitions. The lighting fixtures of the ceiling being 3-foot squares are spaced 6 feet on center, thus conforming to the module which, therefore, provides a lighting fixture, air-supply and return in every 6-foot unit.

Exterior columns of the truck bay are 18 feet on center and interior columns 36 feet on center. This truck bay spacing provides three 12-foot spaces between columns for the large trucks and four 9-foot spaces for the small trucks.

This modular regularity provides a disciplined integrity to the whole design.

The building is heated and air conditioned electrically.

In the office area, air is distributed to all spaces, with the exception of the repair shop, by means of ducts from multiple zone units in the penthouse to the space between the ceiling and the roof. This space acts as a plenum which is put under pressure and from which air permeates into the spaces through hundreds of small perforations in the ceiling tiles. This air distribution is draftless and brings heated or cool air to all areas, wall to wall. The air is returned through the lighting fixtures connected to the ducts and returned to the multiple zone units. By being returned through the lighting fixtures the air picks up the heat from the fluorescent lamps and thus uses this incipient heat to reduce the heating load. Heat is supplied by electric coils.

There are two multiple zone units on each side of the penthouse which supply air to each half of the

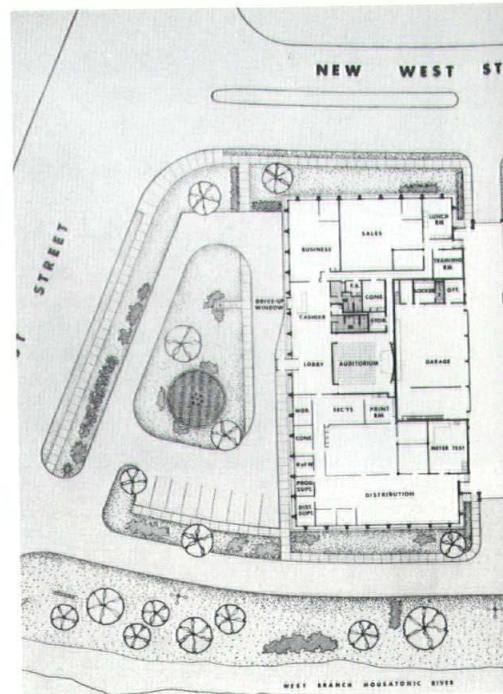


office part of the building. The plenum space is divided into 9 zones. This makes it possible to supply warm air to one zone and cool air to another. Continuous baseboard radiation at all window walls supplements the heating system.

In the store room area of the building, the store room supervisor's office, the range test area, the lounge, locker line man's space are all air conditioned in a similar manner. The balance of the store room part of the building and the entire truck bay is heated by electric cable by what it known as "deep heat". These cables are set 18" below the finished floor, above which is placed 12" of sand on which is poured the reinforced concrete slab. In this case, 6" thick. The front sidewalk approach to the building, sidewalk approaches to the two west entrance doors and the black top areas at the truck delivery bays and rear platform are all heated by coils set below either the concrete sidewalks or the bituminous concrete roadway.

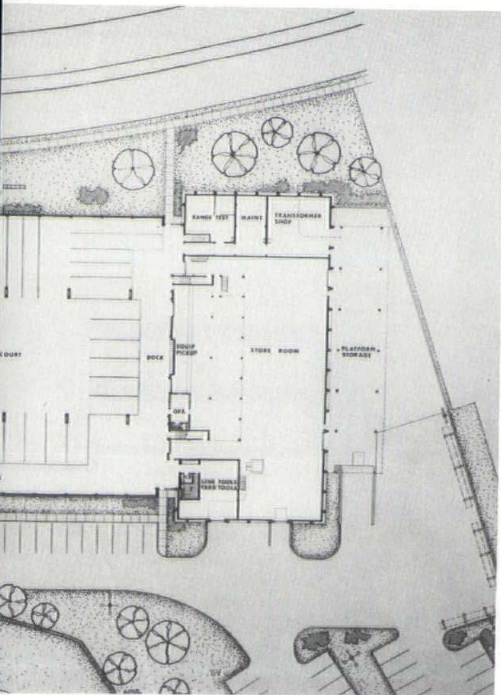
The decorative pool and fountains in the front of the building are

The truck bay area is sky lighted with Kalwall panels. The skylight is 180 feet by 164 feet or approximately 30,000 square feet in area, roughly 2/3 of an acre.





The carpeting in the conference room (above) is unusual, in that it consists of individual 20" squares laid directly on the concrete slab with no adhesive — relying solely on friction.



actually a functional part of the heating system. Water circulates through the cooling coils and thus picks up heat. This heat is dissipated, as in a cooling tower, as the water is cycled through the fountains. Since the air conditioned water is continuously recirculated, the only use of public water is to supplement that which is lost by evaporation from the pool. The water in the pool is kept above freezing by electric heating coils in the slab forming the bottom of the pool; thus the fountains run continuously year-round. This is necessary because, surprising as it may seem, a majority of the office space must be cooled, not heated, during all seasons of the year. The height of the fountains is controlled by a wind measuring device so that as the velocity of the wind rises, the height of the water drops.

To provide general lighting for the access road and parking areas — as well as lighting along the river bank — are set standards of sodium vapor lamps in a totally new design developed for ecological impact —

giving off soft and highly effective light. Interior lighting, with the exception of the truck bay and repair shop, is fluorescent. Both the truck bay and truck shop repair areas are lighted by mercury vapor lamps of 1000 watts each. Dimmer control is provided for the auditorium lighting, as well as a special track for spot and flood lights. These may be used for accent lighting for the platform. The screen in the auditorium is motor operated.

There are a number of transformers throughout the building which convert the 480 volt service to 120/208 as may be required in particular areas. An emergency generator will provide necessary electric energy in the event of a shortage.

To maintain freshness in the air, outside air is supplied in controlled amounts (depending largely on outside temperature) and, therefore, a compensating amount of air must be exhausted. Air to be exhausted is passed through "Enthalax wheels" which absorb the heat and return it to the system, thus reducing heating costs.

An "astronomical clock" controls the system so that 'day-nite', weekends, holidays, 30 and 31 day months, even leap year, are properly factored into the heating-cooling cycles.

It will be observed that all lighting fixtures in the office area are on continuously, night and day. This is done because (1) with the nite set track the heat from the fixtures provides a significant part of the heating requirement and (2) by operating continuously the fluorescent lamp life is increased to approximately four and one-half years.

Structural Engineers: Harvey & Tracy, Inc., Worcester, Mass.

Plumbing: Milton Menkus, Agawam, Mass.

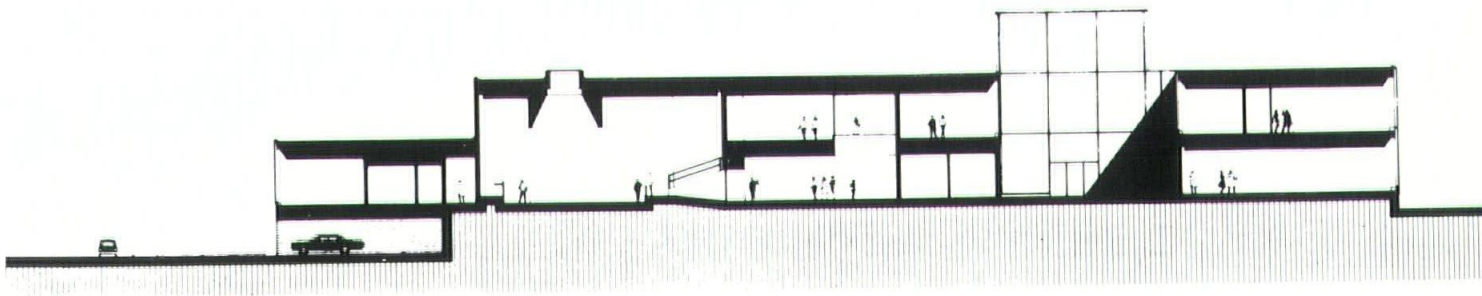
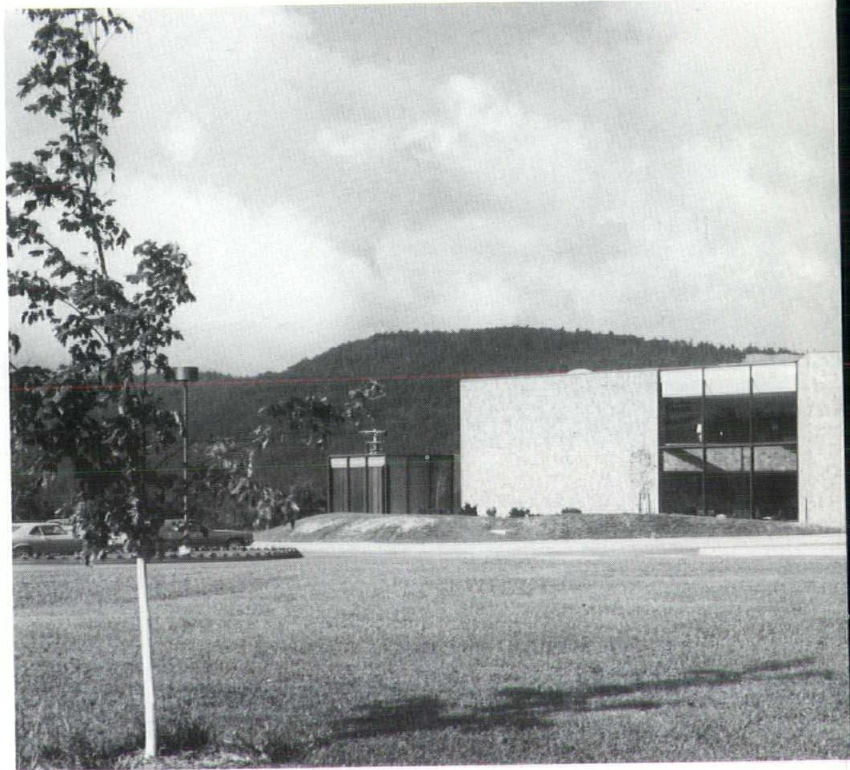
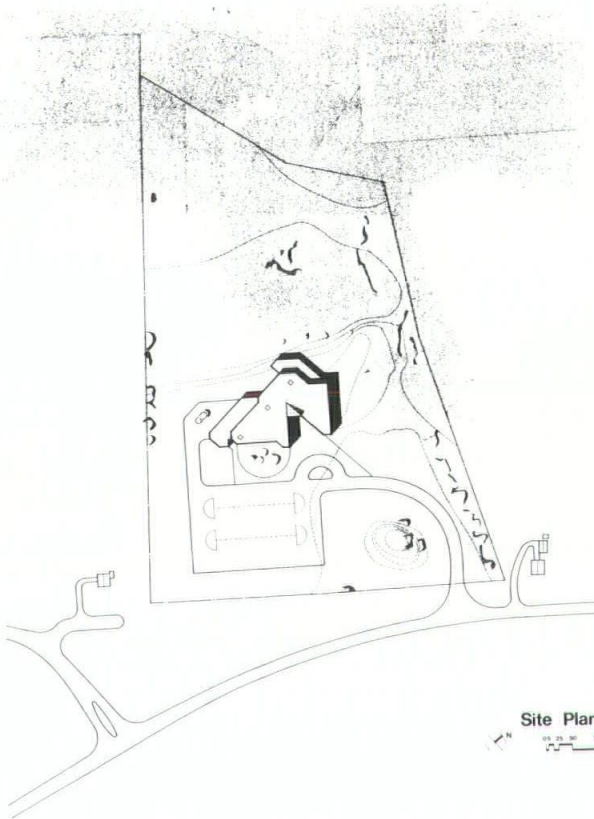
Heating, Ventilating and Air Conditioning: Harland B. Foster, Inc., Great Barrington, Mass.

Electrical: E. M. Sullivan Co., Indian Orchard, Mass.

Precast Panels: Art Cement Company, Wilbraham, Mass.

Prestressed Structural Members: Unistress Corp., Pittsfield, Mass.

GRAFTON COUNTY



COURTHOUSE Haverhill, N.H.



THE new Courthouse and Offices Building replaces three existing courthouses built over 80 years ago at a time when court sessions were rotated among courthouses dispersed across the county. In a sense, the consolidation of these facilities in this new building represents the first permanent seat of government for Grafton County, New Hampshire.

The challenge presented by this architectural change was the design of an appropriately symbolic and dignified building that was also compatible in scale and character with the adjacent farm structures.

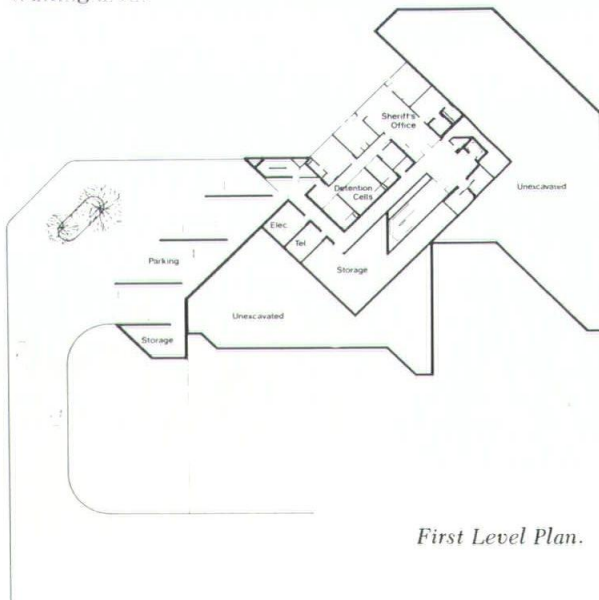
Since the only approach to the site is from a main highway, recognition of the Courthouse from a moving car dictated a single, dominant design image. To maximize visibility from the road, the building is set back overlooking an open field. A backdrop of white pines provides an intimate setting for the private offices and a striking contrast of



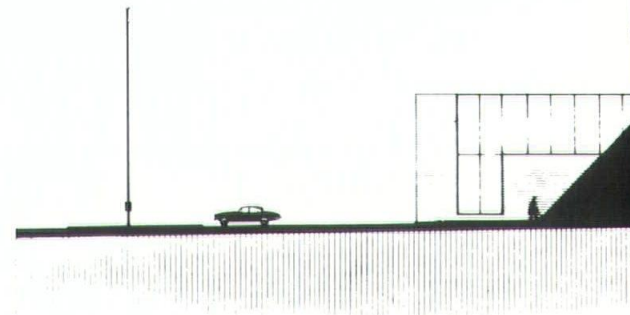
*Johnson-Hotvedt
& Associates
Boston*



Waiting area.



First Level Plan.



green to the variegated red brick. The triangulated entrance plaza and simple geometric landscaping are attempts to soften the transition of building to open field and to focus attention on the entry process, which is punctuated by a glass lobby. The glass lobby, which is transparent by day, becomes a radiating light source at night.

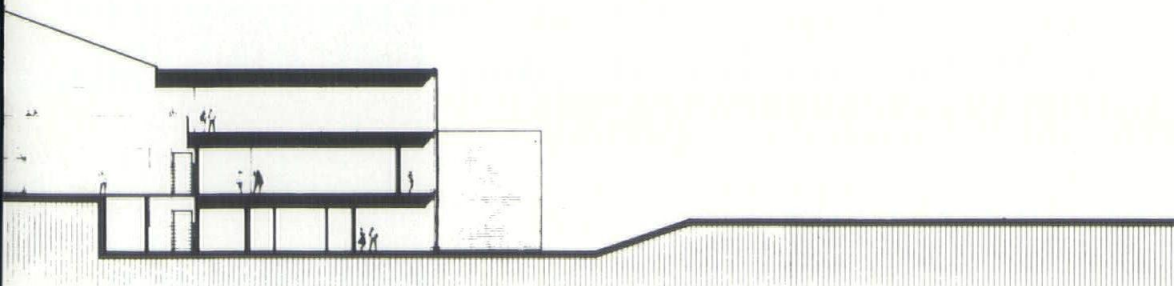
Functionally, the lobby is the organizing element for all the major public activities, providing immediate recognition and direct access to each department. A private corridor spine interconnects each department on the main level and provides a link between private and public activities.

The primary function of the 40,000-square-foot building is to provide facilities for the Superior Court, which includes two courtrooms, offices for Clerk of Court, jury rooms, and judge's chambers. The Registry of Probate and Deeds comprise the other major departments, all of which are located on the main level.

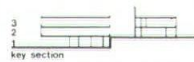
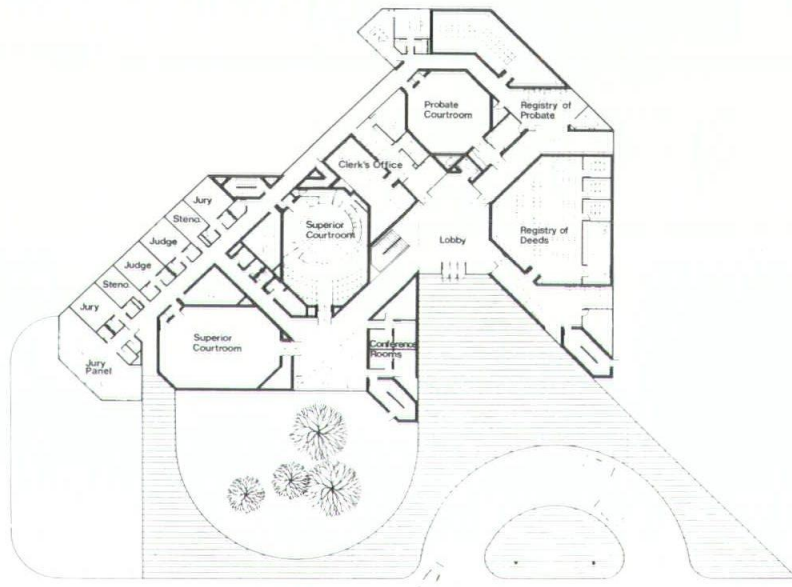
The Sheriff's Department, which operates 24 hours a day, is located on the lower level with direct ve-



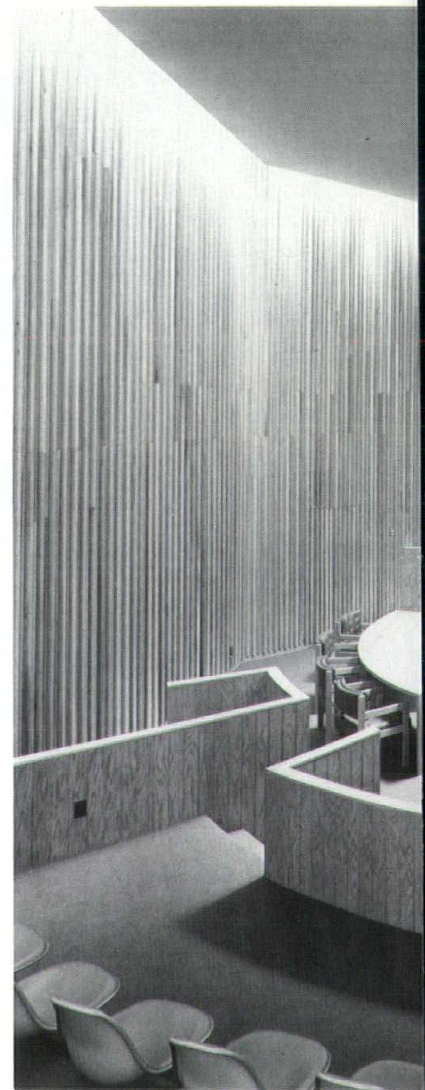
Functionally, the lobby is the organizing element for all the major public activities, providing immediate recognition and direct access to each department.



Third Level Plan.



Second Level Plan





The courtroom design is strongly influenced by sense of intimacy coupled with visual and acoustic criteria based on original research and numerous interviews with the judiciary.

hicular access for patrol cars. A separate controlled stairway facilitates the transfer of defendants from detention cells directly to the courtroom.

Miscellaneous County offices, lawyer lounge and library, and a public cafeteria take advantage of panoramic mountain views from the upper level.

Concern for intimacy in the building interiors resulted in the playful use of natural light, warm materials and carefully scaled spaces. The courtroom design is strongly influenced by this sense of intimacy coupled with visual and acoustic criteria based on original research and numerous interviews with the judiciary.

Architectural Team: Kenneth F. DiNisco, Partner in Charge; William B. Bricken, Job Captain; Reed Kiefer, Job Captain.

Structural Engineer: Simpson, Gumpertz & Heger, Inc., Cambridge, Mass.

Mechanical Engineer: Progressive Consulting Engineers, Inc., Cambridge, Mass.

Electrical Engineer: Lottero & Mason Associates, Inc., Boston, Mass.

Lighting: William Lam Associates, Inc., Cambridge, Mass.

General Contractor: H. P. Cummings Construction Co., Woodsville, N.H.

NEW PRODUCTS

SOUND-SEAL & XPAN-SEAL ACOUSTICAL GASKETING FOR DOORS

Conceived by Bay State Architect Parker Hirtle at Bolt, Baranek & Newman, Cambridge, Sound-Seal and Xpan-Seal acoustical gaskets for doors were developed by Brookdale Engineering to accommodate the chronic problem of effective acoustical gasketing on standard doors.

"Prior to their development, the consultant and the architect were forced to (1) specify an expensive sound-proof door package, (2) recommend ineffective weatherstripping or (3) ignore the problem," says Jim Harvey of Brookdale.

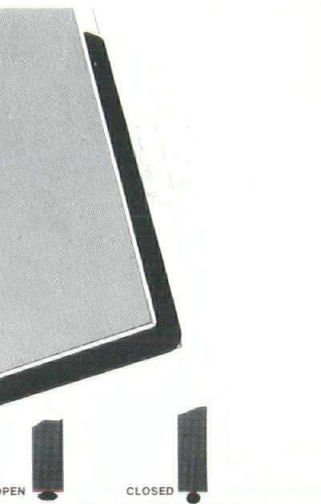
Sleeper Architectural Standards for door tolerances were used as a guide in product development. Moderately priced and applicable to both existing and new door openings without hindering normal open and close operations, both Seals require a minimum of effort to install.

Sound-Seal is applied to the door jamb at the sides, and either to the door or the jamb at the head. If a raised door-sill is present at the opening, it may be applied to the door bottom. The door slides over the material whose nominal thickness provides a minimum of resistance. In addition, the material used will tend to assume the contour of the closed door position, thus further reducing drag or resistance without losing effectiveness.

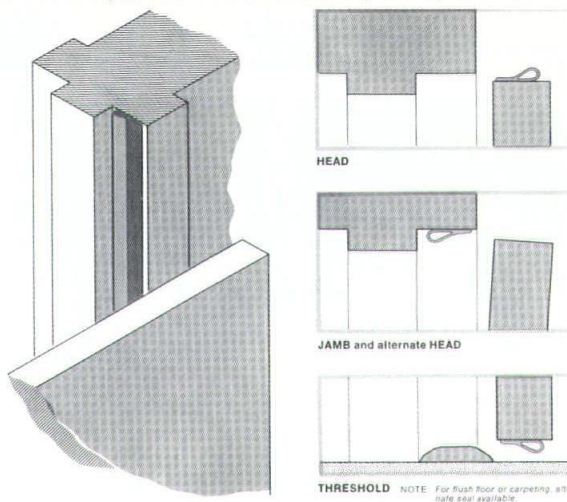
Since the vast majority of door openings do not have raised door-sills, Xpan-Seal should be used on most door bottoms, Harvey explained. Basically a tube closed at both ends, Xpan-Seal is applied to the door bottom and up the side of the door on the hinge edge (to approximately $\frac{1}{2}$ of the door width). The natural pressure on the tube at the hinge side during closing

pushes air into and expands the bottom.

The Seals, which were designed to improve the acoustical performance of any ungasketed door, can be used with standard doors not having exceptional sound attenuat-



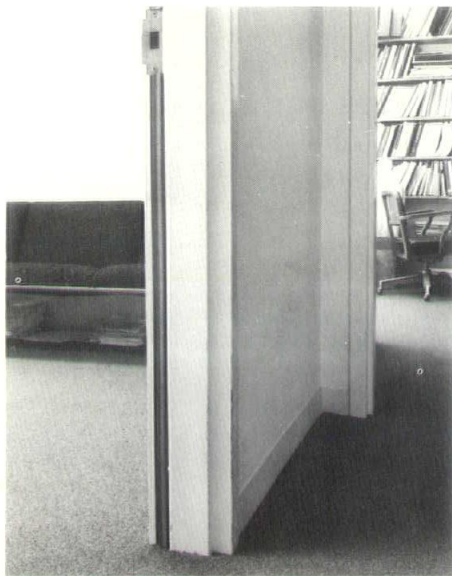
When the door is closed, the entrapped air is squeezed from the hinged side to inflate the bottom section of the Xpan-Seal.



Applicable to both new and existing door openings, Sound-Seal was designed to accommodate all but the most critical requirements.

ing properties.

For example: the standard solid core door has a panel value of SOUND TRANSMISSION CLASS 28-30. In place, ungasketed, it performs at approximately Sound Transmission Class 15-20. With



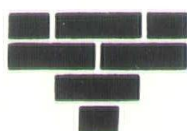
Standard door opening equipped with new gasketing.

Sound-Seal and Xpan-Seal it will perform at, or close to its panel value, Hanley added. Where high acoustical performance is required, sound-proof doors having their own special seals should be used.

Included among the many applications of Sound-Seal and Xpan-Seal at this time are dormitories, motels, apartments, medical of-

fices, business offices, hospitals, schools, churches, laboratories, TV and radio stations, recording studios, music buildings, symphony halls and conference rooms. It is felt that applications are virtually limitless and will eventually include private homes.

Sound-Seal and Xpan-Seal are manufactured and marketed at Brookdale Engineering Corp., Box 52, Newton Upper Falls, Mass. Inquiries may also be directed to Dor-Seal, P. O. Box 389, Newton, Mass. 02158, or Waldren-Hansell, Box 828, Norwood, Mass.



W. S. GOODRICH, INC.

MANUFACTURERS OF

Water Struck Brick

HARVARD, COLONIAL, ANTIQUE, FACE AND COMMON BRICK

Recently Completed:

University of Mass. Library — Amherst, Mass.

Additions to Boston Museum of Science

Winchester High School — Winchester, Mass.

Established 1906

☐ Epping, New Hampshire

☐ Telephone 679-5338

☐ Telephone 679-5339

Also Sales Outlet for a complete line of Masonry Supplies
Supplying Schools, Churches, Industrial Buildings,
Town Houses, Apartments and Home Construction.

Builder of

Grafton County Courthouse, Haverhill, N.H.

**H. P. CUMMINGS
CONSTRUCTION CO.**

EST 1879



GENERAL

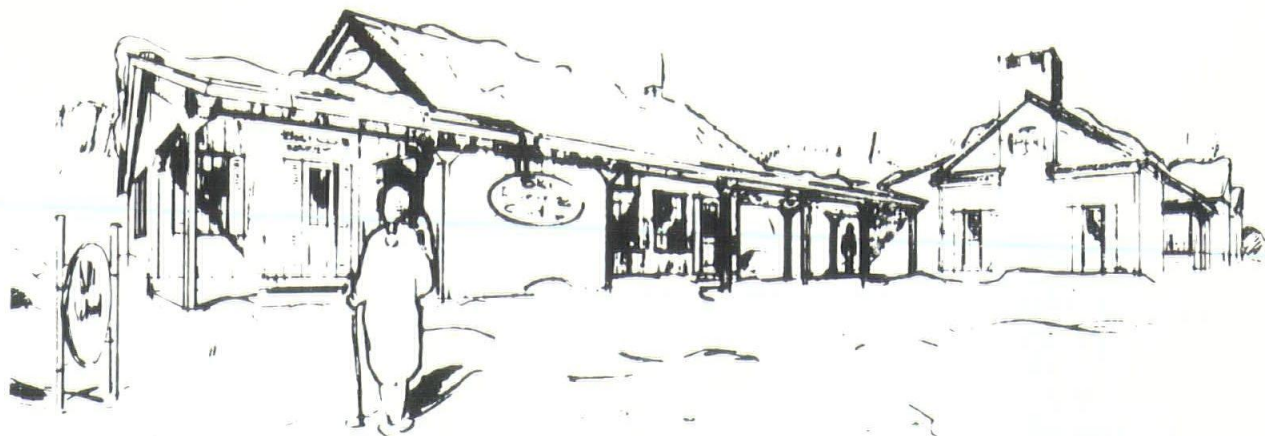
CONTRACTORS

WINTHROP, ME.

WOODSVILLE, N.H.

WARE • MASS.

Unique Touring Center Nears Completion at Jackson, N.H.



One of the first complete ski touring centers in the East will greet Nordic enthusiasts this winter in the heart of the White Mountain National Forest. Construction on the new Jackson, N. H., Ski Touring Center is proceeding briskly and will be completed by the time the first cross country skiers arrive. The center, which will serve as the headquarters for the Jackson Ski Touring Foundation, will be located at the Jack Frost Ski Shop in Jackson Village. The Ski Shop will operate the facility.

Intended as a congenial haven for cross country skiers, the traditional one-story building will house

a number of modern facilities for tourers. These include a fully-equipped waxing room, rental equipment, and a comfortable lounge area for relaxing around a warm fire between runs.

The center, designed by Vermont architect Benjamin Stein, known for his AMC work, is expected to be a popular gathering place for many diverse groups, including Nordic skiers and Tourers, who can chart their own course on 75 miles of beautifully maintained trails that comprise the Jackson Touring system.

A new 10-mile trail from the summit of Wildcat

BEAN

R. E. BEAN CONSTRUCTION CO., INC.

Industrial — Commercial — Institutional

25 ROXBURY STREET, KEENE, N.H. — TEL. 352-1774

Mountain was added earlier this year. Tourers may use the Wildcat Ski Shuttle to reach the new Wildcat trail or the many other trails that originate at Black and Tyrol mountains and nearby Dana Place inn. Skiers can catch this shuttle at most of Jackson's Inns or in "downtown" Jackson and ride the ski shuttle to their destination.

The Ski Touring Center will be open seven days a week throughout the season.

Computer Use Bibliography Published

The Center for Environmental Research, Boston, has announced publication of the "Bibliography of the Computer in the Construction Industry," and the inauguration of a key word search service which should prove of special interest to architects, engineers and members of the construction industry generally.

"The accelerated integration of computers in the practice of architecture, building and planning has merely served to point up the need for and the unavailability of a comprehensive information system for knowledge distribution," said Kaiman Lee, Associate Director of the firm.

The Center's data bank at the present time consists of more than one thousand entries of articles, books, conference papers, etc., relevant to the use of computers in architecture, building, planning and construction.

"Each entry is classified with a number of key words," Lee explained. "Any combination of key words can be searched, a service that will save an enormous amount of time in research on any subject related to the title," he added. "The data bank will be updated monthly to encompass new literature."

Additional information can be obtained by phone (617-482-9160) or mail to the Center for Environmental Research, 955 Park Square Building, Boston, Mass. 02116.

PCA Catalog

A new Cement and Concrete Reference Catalog has been issued by the Portland Cement Association.

The 39-page booklet describes all technical and semitechnical literature and computer programs for sale by PCA to the engineering and

construction professions, schools and universities, allied industries, and the general public.

Single copies of the catalog may be obtained free from the Order Processing Department, Portland Cement Association, Old Orchard Road, Skokie, Ill. 60076.

Plywood Brochure

"Plywood in School Construction" is a new 22-page brochure by the American Plywood Association illustrating modern design concepts

and building techniques for today's educational facilities.


Complete with photographs, construction details and cost factors, this informative booklet provides ideas for cutting costs and construction time; assuring structural adaptability for future changes and meeting structural and aesthetic goals.

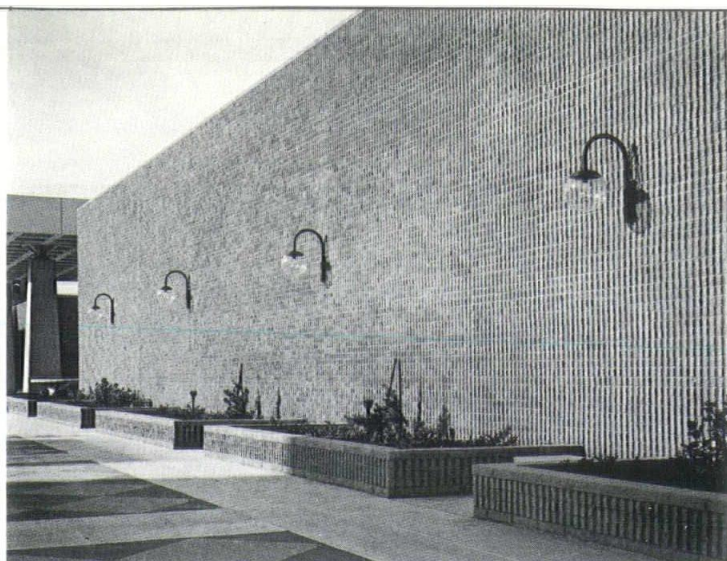
For a free copy of "Plywood in School Construction", write the American Plywood Association, 1119 A Street, Tacoma, Washington 98401. Ask for Form W315.



**WHEN WAS THE
LAST TIME YOU
SAW YOUR
AGENT?**

Does he value your insurance so little that he mails your renewal policies "same as last year?" We at the Rowley Agency have never heard of a contractor so small that he didn't require our personal attention.

 **The Rowley Agency inc.**
P. O. Box 511
139 Loudon Road
Concord,
New Hampshire 03301
603 224-2562



SPLIT CONCRETE BLOCK

**the strength of stone
... a beauty of its own!**

Architects choose split-faced concrete masonry primarily because of its color control and the attractive appearance it presents. The wide choice of matrix color and stone aggregate that can be incorporated into the total design is a major factor in the decision to use split-faced concrete masonry.

DURACRETE BLOCK CO., INC.

MANCHESTER, N.H. — MANUFACTURERS OF CEMENT BLOCKS



**Store Front Glass & Glazing Contractors
Distributors Erectors
For Windows and Curtain Walls**

GLASS, GLAZING & ALUMINUM WINDOWS
& ENTRANCES

for
Bank of N.H., Headquarters Bldg. — Manchester, N.H.
Infirmary Bldg. — Plymouth State College — Plymouth, N.H.

PPG INDUSTRIES, INC./ 100 CAHILL AVE./
MANCHESTER, NEW HAMPSHIRE 03103/AREA 603/624-4386
Contract and Supply Glass Division

Index To Advertisers

Bancroft & Martin, Inc.	1
<i>Creative Advertising</i>	
R. E. Bean Construction Co., Inc.	26
H. P. Cummings	25
The Draftboard	4
<i>Van Christo Associates</i>	
Duracrete Block Co., Inc.	28
Fimbel Door Corp.	Cover III
Fletcher's Paint Works	28
Four Power Group	Cover II
<i>Ingalls Associates, Inc.</i>	
Frost and Higgins Company	4
<i>Harold Glickman Associates</i>	
Your Local Gas Company	Cover IV
<i>Harold Cabot & Co., Inc.</i>	
W. S. Goodrich, Inc.	25
Lynn Bulletin & Directory Board Mfg. Co.	2
<i>A.P.S. Associates</i>	
Pittsburg Glass Company	28
The Rowley Agency	27
<i>The Young Advertising Agency</i>	
Spaulding Brick Company, Inc.	2



**NEW HAMPSHIRE'S
OWN PAINT MANUFACTURER
FOR MORE THAN A QUARTER
OF A CENTURY**

Paints for the Home
(including Authentic Colonial Colors
which have a nation-wide reputation)

Paints to Specification for
Commerce, Institutions & Industry

**FLETCHER'S
PAINT WORKS**

Route 101 Milford, N.H.
Factory Branch Stores in
Concord, Laconia, Keene, Lebanon
Woodsville, Hampton, Milford
Littleton (Littleton Hardware)
ALL IN NEW HAMPSHIRE



MANUFACTURING OVERHEAD TYPE DOORS SINCE 1924 — PRESENTS

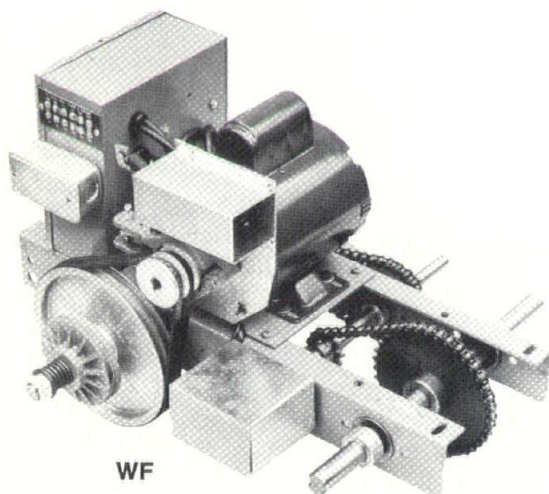
"W SERIES" OVERHEAD DOORS

Commercial

ELECTRIC OPERATORS

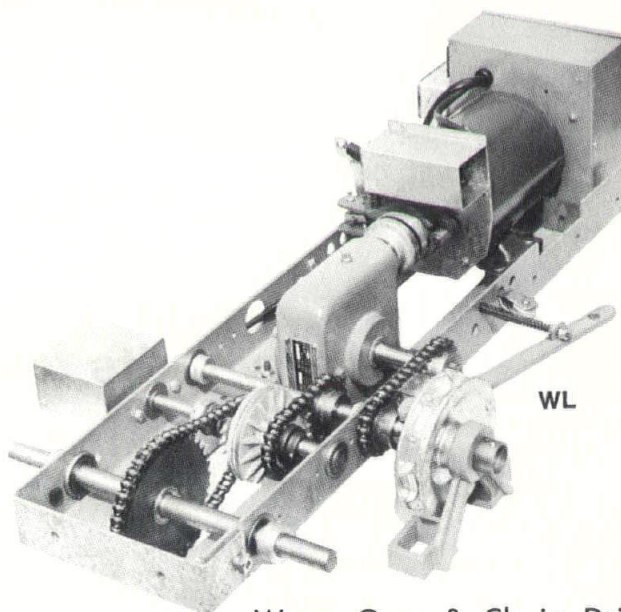
Industrial

AND ELECTRONIC CONTROLS



WF

V Belt
Drive



WL

Worm Gear & Chain Drive

HEAVY DUTY CONSTRUCTION

Operator Components are Totally Enclosed and **GUARANTEED FOR ONE YEAR!**

FIMBEL OPERATORS ARE ADAPTABLE TO FIMBEL WOOD, FIBERGLASS, ALUMINUM
AND STEEL OVERHEAD DOOR INSTALLATIONS.

For Technical Information -- see Sweet's 1973 Catalog

Standard Installations are routine. However, if you do have a door problem, the FIMBEL ENGINEERING DEPARTMENT can meet unusual specifications. Free estimates.

FIMBEL DOOR CORPORATION

The Nashua, N.H. Factory — 24 Fox Street — P. O. Box 848 — Tel. 603-882-9786

Distributors and Dealers in principal New England cities

Other factories located at: HILLSIDE, NEW JERSEY • WHITEHOUSE, NEW JERSEY • EGG HARBOR CITY, NEW JERSEY

7 Ways Natural Gas Equipment and Systems can

save you money.

1. Convert liquid under-firing to or submersion shaft-type melting heaters from immersion heating. 2. Use furnaces to pre-heat incoming material. 3. Install gas water heaters adjacent to the point of use. 4. Convert large batch type processes to continuous operation. 5. Convert from indirect to direct firing wherever feasible. 6. Substitute direct flame impingement or infrared processing for chamber-type heating (where suitable). 7. Use continuous equipment which returns process heating conveyors within the heated chambers. This saves fuel and eliminates the necessity for continual reheating.

Your Gas Company representative will be glad to help you start any of these projects.

The Natural
Gas Companies
of Massachusetts

