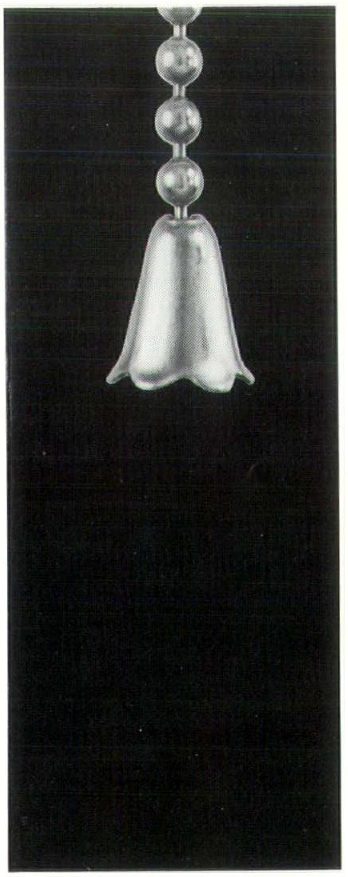
new england
Architect
& NEW HAMPSHIRE ARCHITECTURAL REVIEW

January-
February
1974

Let's pull together.



Housewives, senior vice-presidents, typists, plumbers, office managers, custodians, dentists, grocers, school kids, cooks, welders, illustrators, chambermaids, teachers, everybody.

That's you, us, the guy next door.

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January-February 1974 Volume 4 Number 8

features

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NOTES & COMMENTS

Rudolph Receives AISC Award

The First and Second Church, Boston, Massachusetts, has been selected as one of twelve prize winning structures in the Fourteenth Annual Architectural Awards of Excellence Competition sponsored by the American Institute of Steel Construction.

Architect: Paul Rudolph, Boston, Massachusetts.

Structural Engineer: Nichols, Norton, and Zaldastani, Inc., Boston, Massachusetts.

General Contractor: George B. H. Macomber Company, Boston, Massachusetts.

Steel Fabricator: A. O. Wilson Structural Co., Inc., Cambridge, Massachusetts.

Steel Erector: A. O. Wilson Structural Co., Inc., Cambridge, Massachusetts.

Owner: First and Second Church, Boston, Massachusetts.

Jurors' Comments: "This addition of contemporary space to the remains of an old church very successfully weds the old and the new without compromising either the contemporary flavor of the new or the Victorian and eclectic flavor of the old. An important symbol has been restored and a functional area for community use has been added. The jury was impressed with the handling of steel as an essential material for constructing the new addition and relating it to the remaining parts of the old church."

First and Second Church, Boston

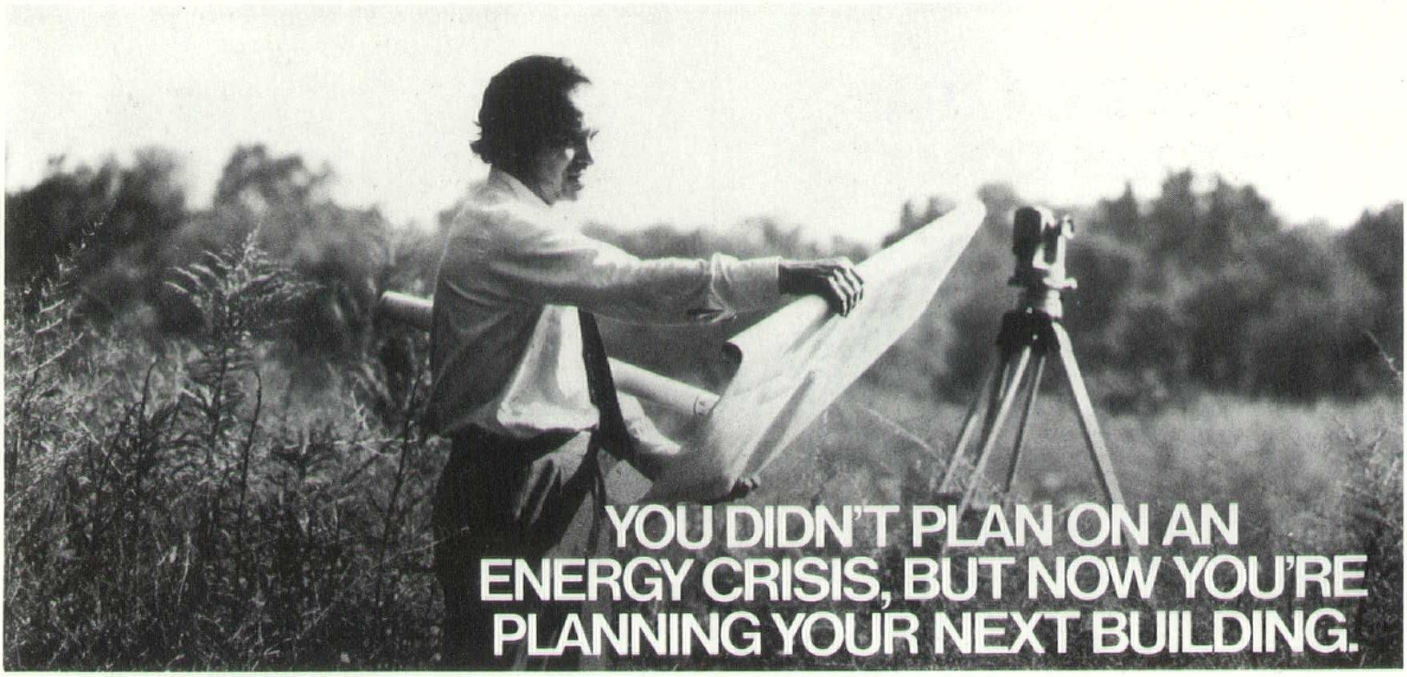
Northeastern Hosts Asphalt Paving Conference

Northeastern University of Massachusetts, in cooperation with the Asphalt Institute and several New England Highway and Public Works organizations is hosting the Fourth Annual New England Asphalt Paving Conference this Spring.

The conference will be held at Northeastern University (suburban campus), Burlington, Massachusetts, on Tuesday, March 26, 1974.

Carrell S. McNulty Leaves SMS Architects

Carrell S. McNulty, Jr., FAIA, announces his withdrawal from SMS Architects of New Canaan, Connecticut, and the establishment of a private practice. Mr. McNulty's new office is located at 1210 Post Road, Fairfield, Connecticut.



YOU DIDN'T PLAN ON AN ENERGY CRISIS, BUT NOW YOU'RE PLANNING YOUR NEXT BUILDING.

Which building material will you use?

You've got energy shortages to think about. Air-conditioning costs. Heat gain through the long, hot summers. Heat loss in the winter months. Heating equipment costs. The whole set of energy-use factors suddenly has become critically important. The building material you use affects all of them.

Compare the energy conserving capability of masonry, for instance, with double-plate glass walls.

At 4:00 P.M. on a hot August day in Washington, D.C., the heat gain through a square foot of west-facing insulated brick and concrete block wall will be 2.2 Btus an hour.

The heat gain through a double-plate glass wall in the same location will be 173 Btus a square foot in an hour. A big difference.

Project this differential over 10,000 square feet of wall. You come up with a heat gain through masonry of 22,000 Btuh, while the heat gain through double-plate glass is 1,730,000 Btuh.

In the case of the masonry wall, cooling equipment with a two-ton capacity can handle the heat gain. But with the double-plate glass wall, about 143 tons of cooling capacity will be needed.

An analysis of a typical 10-story building shows that over its useful life, the air-conditioning cost for a square foot of our masonry wall will be about 23 cents. For the double-plate glass wall, it will be $7.60.

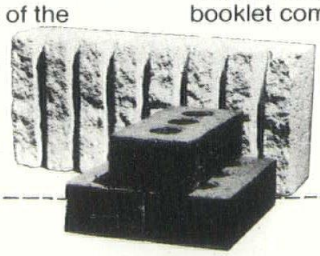
It takes a lot of money to buy, install and create space for all the extra air-conditioning equipment required by the double-plate glass wall. A lot of money and a lot of energy to run that equipment.

Compare the heat loss in winter. It has a dramatic effect on energy consumption and building operation costs.

Our masonry wall, for example, has a "U-value" of .12. The double-plate glass wall has a "U-value" of .55. (U-values are used to determine heat loss through one square foot of wall area in Btuh per degree Farenheit differential across the wall.)

This means that the masonry wall is about 450% more efficient, on the average, than the glass wall in reducing heat loss.

Over the useful life of the building, the heating cost per square foot of wall area for masonry will be about 30 cents. For double-plate glass, about $1.38.



In a time of one energy crisis after another, masonry makes eminently good sense as a good citizen.

The masonry industry believes that the thermal insulating qualities of masonry are an important economic consideration to building designers, owners and investors, and all citizens.

Masonry walls save on air-conditioning and heating costs. And just as important, they are less expensive to build. The masonry wall we've described would have a 38% lower initial cost than the double-plate glass wall.

If you'd like to find out more, write to us and we'll send you a booklet comparing the thermal insulating qualities of masonry walls with double-plate glass walls, metal panel walls and pre-cast concrete walls.

MASSACHUSETTS MASONRY INSTITUTE

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Boston, Mass. 02116 (617) 262-0020

Robert J. Joyce, Executive Director

Please send the booklet comparing insulating qualities of masonry with other building materials.

Name

Title

Company

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Nature of Business

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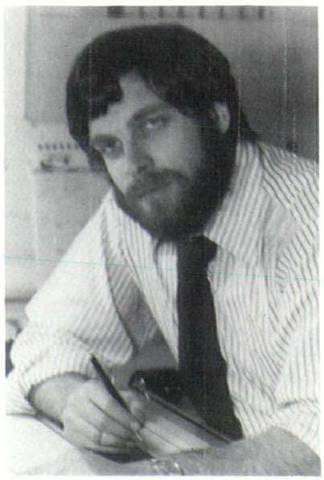

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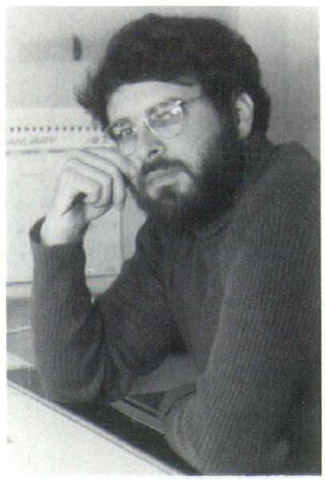


G. I. Hurwitz

Gordon I. Hurwitz and Merrill H. Diamond have announced the opening of their office for the practice of Architecture and Planning at 1408 Beacon Street, Brookline, Massachusetts.

Mr. Hurwitz and Mr. Diamond attended Syracuse University, and have previously been associated on many projects oriented toward building systems research and design.

Their practice encompasses large-scale residential planning, building renovation and conversion, and commercial development.

Mr. Diamond is a member of the Brookline Council on Planning and Renewal.

Connecticut Firm Honored By American Institute of Architects

The Hamden, Conn. firm of Kevin Roche John Dinkeloo and Associates has been selected to receive the 1974 Architectural Firm Award of The American Institute of Architects.

The award is the highest honor the Institute can confer on a firm. It is given to a firm in which the continuing collaboration among individuals has been the principal force in consistently producing distinguished architecture.

Both of the firm's partners, Kevin Roche and John Dinkeloo, were members of Eero Saarinen and Associates, of which their own organization is a direct outgrowth.

In bestowing the award, the AIA's Jury on Institute Honors paid tribute to the firm's roots in the Saarinen group while noting that it "has extended and matured with its own identity and has made vast contributions to the architectural worth of the world."

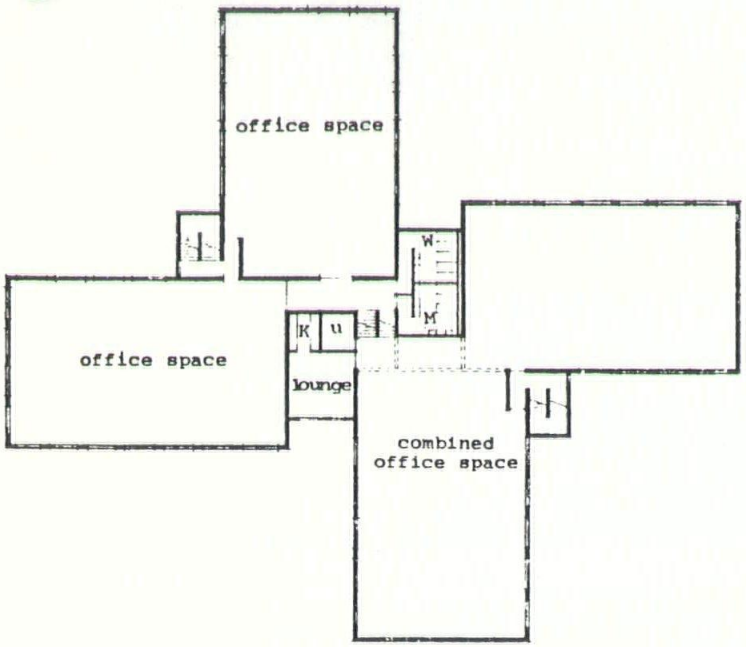
"With its creative approach and understanding of form," said the jury, the firm has "influenced the total design philosophy of the architectural profession."

Buildings designed by Kevin Roche John Dinkeloo and Associates include the Oakland Museum in Oakland, Calif. and the headquarters of the Ford Foundation in New York.

The award will be presented during the 106th annual convention of the Institute, to be held in Washington, D. C., May 19-23.

ON THE DRAWING BOARD

SUBURBAN OFFICE BUILDING
LEXINGTON, MASS.

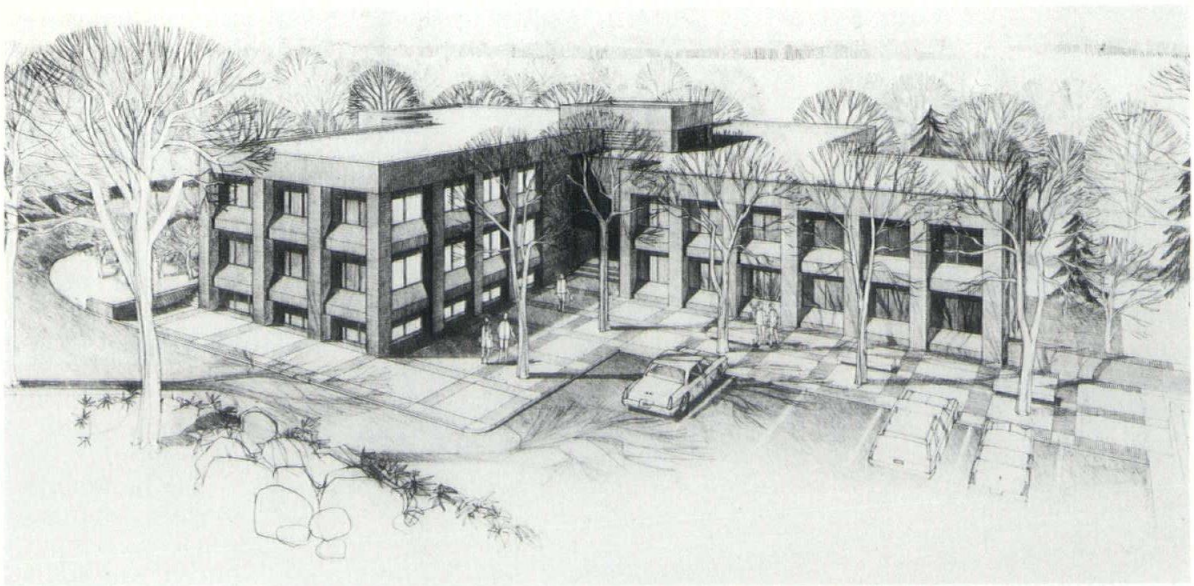


TYPICAL FLOOR

THIS three-story steel frame economy structure, veneered in brick, encloses a gross area of 40,-000 square feet.

The main floor levels split a half level at the central stairway so the building can accommodate a slight grade. The open-ended plan provides the possibility for future expansion from any of the four wings. These wings have a clear span of 42 feet.

Varying space requirements, i.e. a tenant may need one or more floors or wings, can be easily satisfied without compromising flexibility or accessibility. Parking is distributed equally from both entrances.



Architect: Thomas J. Holzbog — Cambridge, Mass.

B.U. ADMINISTRATION BUILDING
BOSTON, MASS.

Architects & Engineers:
Symmes, Maini & McKee, Inc.
Cambridge, Mass.

THE renovations of outmoded but structurally sound buildings is proving to be a major solution to city construction, where land is limited and new building costs are high. The Cambridge architectural and engineering firm of Symmes, Maini & McKee, Inc. with Boston University have provided an outstanding example of converting a run-down, turn-of-the-century building into a modern structure for BU's administrative departments and computer.

Two years ago, the 60 year-old one-time printing plant, located on 881 Commonwealth Avenue, typified the concrete manufacturing and office buildings of that period: exposed concrete columns and floor slabs, brick infill panels, and large areas of industrial sash. Today, the same building, completely renovated both inside and out, serves as an efficient center for Boston University's administration departments.

The University wanted to reorganize and consolidate its widely scattered administrative departments into one building which would be located on the main spine of their linear campus. Finding suitable land and minimizing building costs however is next to impossible in Boston. This was the problem which faced Boston University. Converting 881 Commonwealth Avenue provided the solution.

The building is situated near the western boundary of Boston University's campus, and renovation proved considerably less expensive than new construction. Although 881 was in disrepair by the time the University took possession in 1970

The porcelain enamel murals in the elevator lobbies designating each floor were designed by Louise Stone, a senior in B.U.'s School of Fine and Applied Arts, who won a competition sponsored by Symmes, Maini & McKee.

(having changed ownership often since 1913), the building remained structurally sound.

"The exterior walls were appalling," explains Jon McKee, Symmes, Maini & McKee's architectural partner. "The roof and parapets had numerous leaks, many of the windows were inoperative, the electrical systems were outmoded, the elevators were antiquated, and there was no air conditioning.

"By devising a new type of curtain wall system specifically for this type of building", he continues, "we are able to waterproof the brick infill panels, reduce the excessive window sizes, and bring the appearance into line with the surrounding Boston University buildings."

The curtain wall consists, first of all, of three-dimensional porcelain enamel panels which form spandrels between the new glass windows. The dark brown of the panels combines with bronze tint of the glass to make a continuous design element between the concrete columns, whose structural character is now clearly expressed. The columns themselves were refinished with a waterproof epoxy that recalls their concrete material by both its color and its texture.

The first four floors of the interior have been completely renovated. They key decision was to locate the administrative computer and its immediate support activities on the third floor. The two largest departments that relate directly to the computer, the comptrollers office and the registrar's office, were then placed on the floors immediately above and below the computer floor. The first floor, with its direct access to the street has been assigned to departments that require considerable public contact, as well as proximity to the computer.

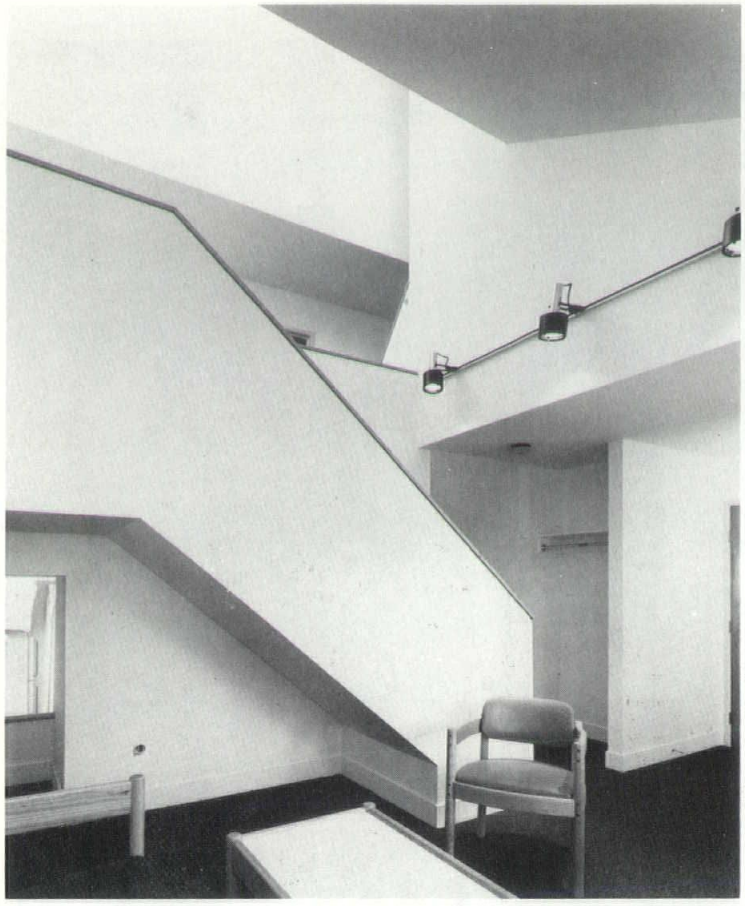
The porcelain enamel murals in the elevator lobbies designating each floor were designed by Louise Stone, at that time a senior in Boston University's School of Fine & Applied Arts. She was the winner of a competition sponsored by Symmes, Maini & McKee, Inc.

The buildings weave in amongst giant trees, permitting them to pierce through the broad decks and walkways where necessary, reflecting the trees back upon themselves in the broad skylights which top each unit.

STUDENT HOUSING

BOWDOIN COLLEGE

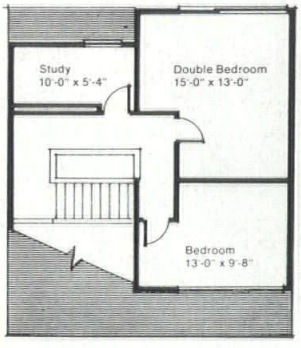
BRUNSWICK, MAINE



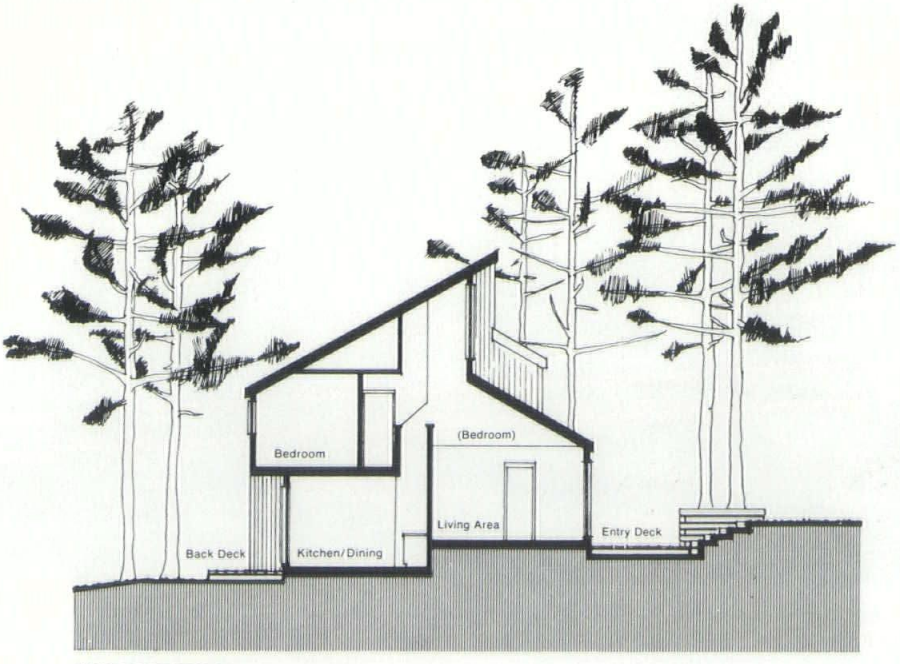
IN 1972, Bowdoin College in Brunswick, Maine, established some revolutionary and challenging requirements for the design, financing and production of new housing for 100 students.

First, the units had to be designed for future possibilities of conversion into married student housing, faculty housing, seasonal rental housing, or even condominiums for eventual sale to the general public.

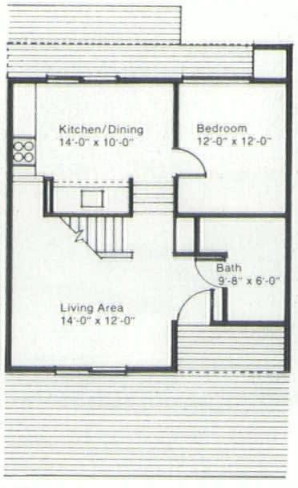
Furthermore, the two sites selected were densely forested with giant pines, and both the College community and the residents of the town of Brunswick were concerned that the pine groves be disrupted as little as possible by the new construction.



UPPER LEVEL UNIT PLAN

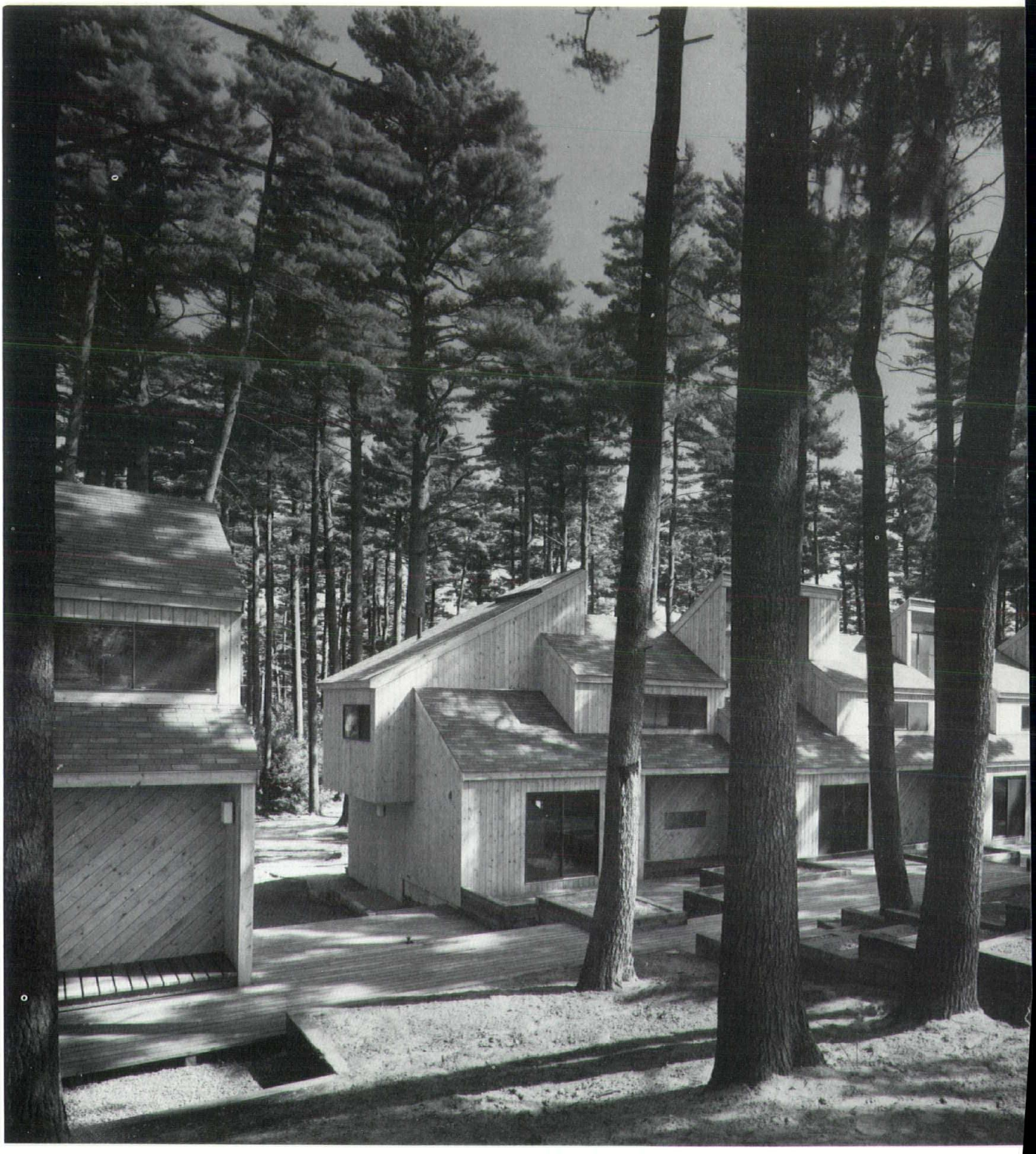


TYPICAL UNIT SECTION

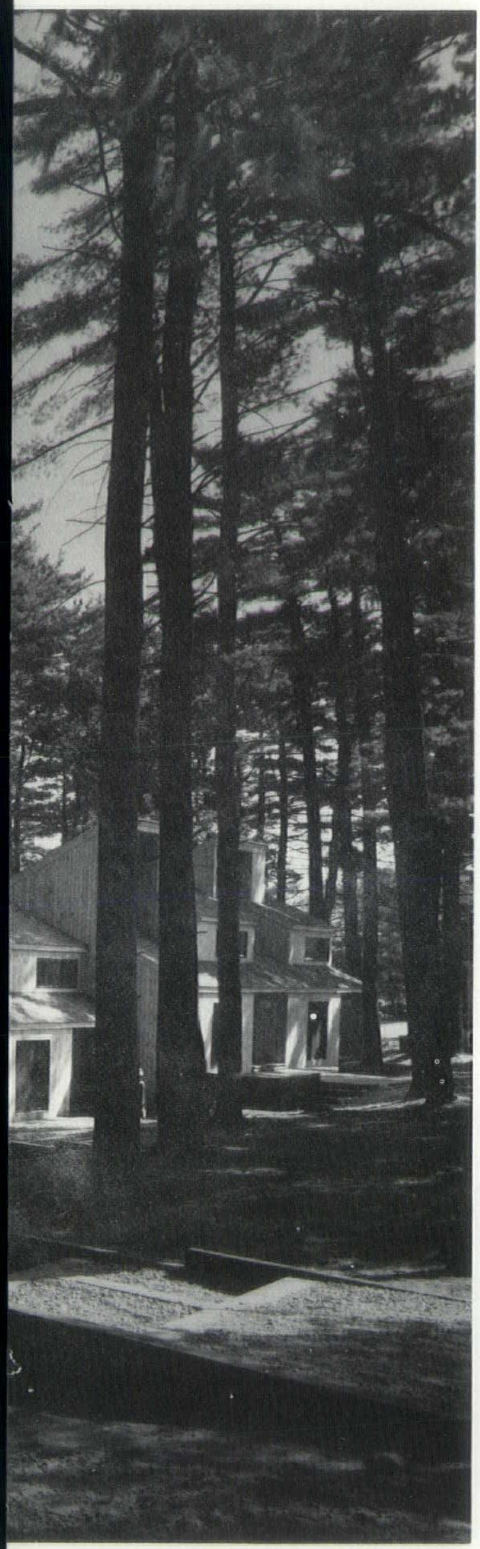


GROUND LEVEL UNIT PLAN

Architects: Design Five, Inc. - Cambridge, Mass.



The units, as well as the walkways, step down the hill maintaining the original contour as closely as possible in order to protect the shallow roof formation of the Pines.



Finally, each unit had to be constructed at a total cost that could be supported by Bowdoin's standard annual room charge for four undergraduate students.

Great Eastern Building Company of Cambridge, Massachusetts, working with Design Five, Inc., architects, also of Cambridge, presented a comprehensive design/build proposal for the group housing which met the difficult criteria. Although several New England firms were invited to present their ideas to the Bowdoin Committee, the Great Eastern/Design Five proposal was selected on the basis of both its architectural design and site planning. When Bowdoin elected to take advantage of an interest subsidy grant under the HUD College Housing Program, they commissioned Design Five to prepare drawings and specifications for open competitive bidding.

Great Eastern submitted the low bid and, starting construction in mid-March 1973, was immediately faced with a short construction period and tight building schedule. Despite this, the project was completed on schedule that September in time for the beginning of the college year. This was achieved by means of extensive pre-engineering, off-site panel fabrication, and systems scheduling of the trades. The wall sections were detailed in drawings, stored off-site, then delivered in sequence to the two sites for immediate erection. This process not only made the back-to-school deadline achievable, but spared the densely wooded sites the usual abuse of construction debris.

The 24 buildings are set among the giant trees, which pierce through the broad decks and walkways where necessary. The units, as well as the walkways, step down the hill maintaining the root formation of the pines. In the entire project, only thirteen trees had to be removed for the construction due to the careful site planning.

This sensitivity to the pine groves, which are an important local asset, was highly approved by the residents of both the town and the College.

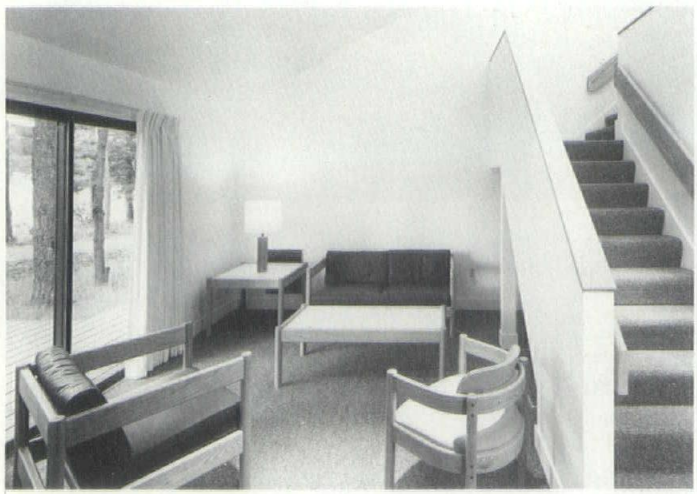
Each of the 24 living units has two single and one double bedroom, a bath, a living room, a kitchen/dining area, a study, and adequate storage for four students. Broad skylights top each unit, and reflect the surrounding pines.

Structural Engineer: Benjamin E. Abrams and Associates, Needham, Mass.

Mechanical Engineer: William H. C. Wong, Brookline, Mass.

Cost per Student: $7,031.

Cost per Square Foot: $26.



BETHANY

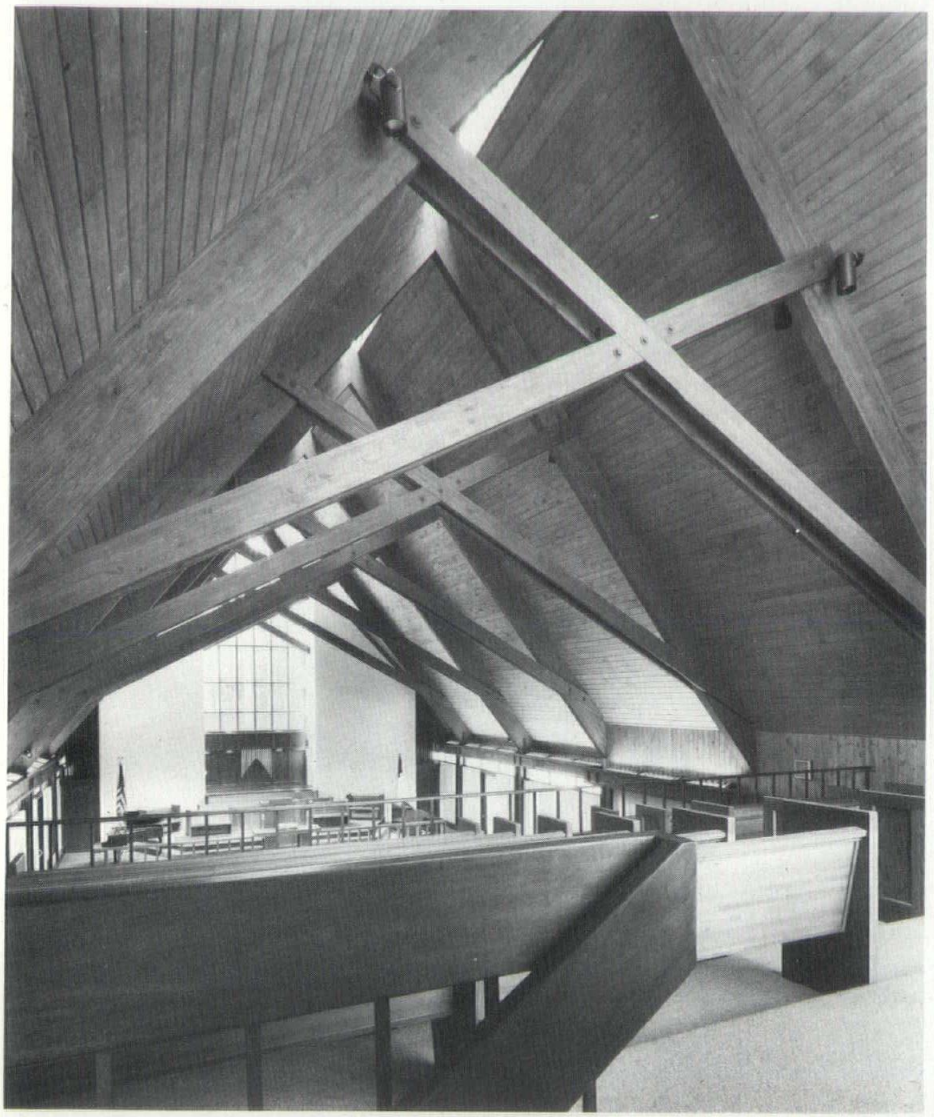
Architect:
Hugh Hedges
Darien, Conn.

HEAVY use of glued laminated timber beams for structural and decorative effect brought architect Hugh Hedges the feeling of quiet quality he was looking for in his design of the recently completed Bethany Assembly Church, Stamford, Conn.

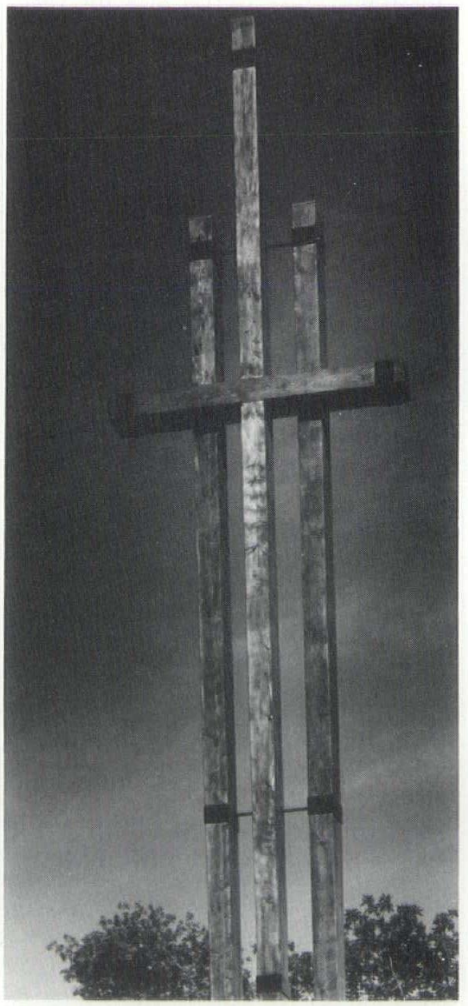
Hedges' problem was to create a simple but distinctive structure

ASSEMBLY CHURCH

STAMFORD, CONN.



Interior view from balcony



Massive glulam cross designed by architect towers over site. Main cross is 37 feet high. It is attached on its cross arms to two 57 foot vertical members. The vertical members give the structure the impression of three crosses, symbolically representing the scene at Calvary.

which would reflect the Scandinavian heritage of the church's membership. His solution was a return to wood, historically popular with a people who live close to the out-of-doors.

The 11,000 sq. ft. religious structure, which seats 250 people in a rectangular sanctuary, is essentially masonry with architectural grade

Southern pine laminated beams used as structural elements and floor members. Rough sawn glulam is also used for a mammoth wood cross located in the building's courtyard.

Most unusual use of laminated timber is Hedges' selection of glulam for a scissors truss arrangement in the main sanctuary. Once a popular structural design for church architecture, scissors trusses are seldom used today, due to the difficulty involved in fabrication.

Hedges felt the scissors truss gave the roof of the 40 ft. x 90 ft. sanctuary an interesting, rhythmic pattern.

"In most churches where wood is the structural element, architects use tudor arches to create a clear space. I felt the scissors truss gave the space more depth and interest," Hedges explained.

Hedges' scissors trusses have a clear span of 40 ft. and rise to a height of 30 ft. It is a novel use for glulam.

"Scissors trusses were originally made of solid timber. Today we can't find solid pieces of wood that big without incurring tremendous expense," Hedges said, "Using laminated wood, I could get the size and strength I needed for snow load conditions and yet keep the price down as well."

All glulam members used for the scissors truss and throughout the project were manufactured by Wood Fabricators, North Billerica, Mass., a member of the American Institute of Timber Construction (AITC). General contractor on the project was Massari and Kopp, Stamford, Conn.

Glulam is also used for Bethany Assembly's split-level floor. The beams are exposed below and provide structural strength as well as a warm, wood appearance for the basement meeting area and kitchen.

Approaching Bethany Assembly, visitors are first struck by the massive 60' wood cross in the church's front courtyard. The huge four-ton cross towers over the entire site.

Hedges wanted a particularly dramatic design for the cross.

"I believe the wooden cross helps bring to mind the old rugged cross at Calvary, which symbolizes Christianity," Hedges said. "That cross was also wood, hence the use of a dramatic representation of that religious symbol for Bethany Assembly Church was important."

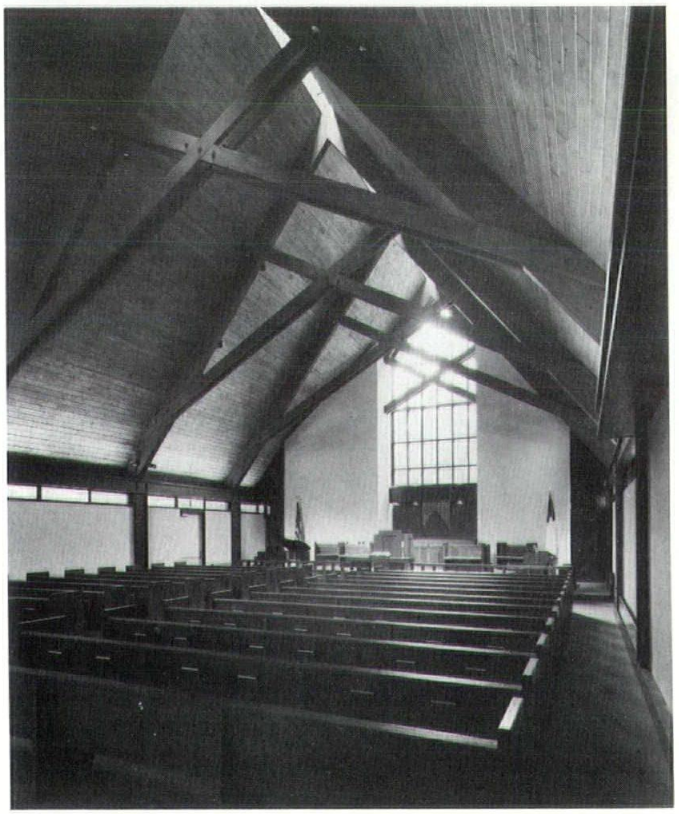
The magnificent cross exudes a feeling of great strength. The cross itself is 39 ft. high. It is attached to two 57 ft. vertical members. To many observers, the vertical members give the structure the impression of three crosses, again symbolically representing the scene at Calvary. Decorative features include massive steel bands and a marquee made of a laminated beam embellished with wrought-iron lettering.

At the rear of the white stucco building, two 60 ft. laminated beams covered with laminated decking create a driveway canopy, making ingress and egress to the church more pleasant on raw Sunday mornings common to the site's Eastern location. The beams further carry out the structure's overall wood theme.

In developing a design for Bethany Assembly, Hedges also took the church's beautiful hilltop site into consideration. The structure itself is contoured to the land and where possible, large trees were saved. From the sanctuary pews, members of the congregation are treated to a treasured view: a 175 ft. pine tree is framed by the clear glass windows above the chancel area.

About a dozen original trees were saved, including a large tulip tree at the rear of the church near the parking lot.

"The predominately Norwegian and Swedish congregation really enjoys the beauty of nature," Hedges said. "I tried to integrate the site's natural amenities with what was also a very natural design utilizing wood as a basic concept material."



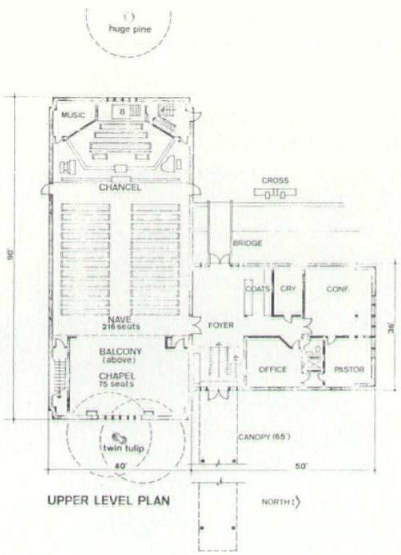
Scissors truss in sanctuary provides clear span area of 40 feet, giving the sanctuary an interesting rhythmic pattern.

Shown (opposite page) is driveway canopy made of glued laminated beams. Canopy opens onto parking lot at rear of church, making entry and exit during winter months more pleasant.

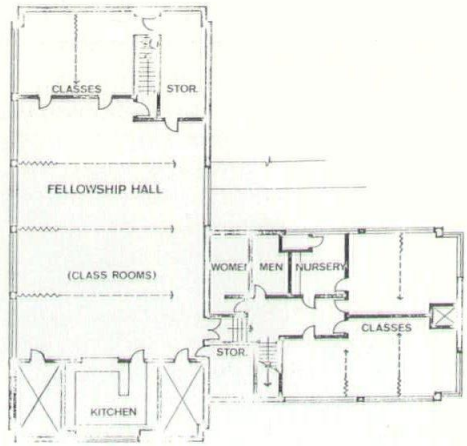
Hedges, who became so taken by the project and the people involved that he became a member of the church, takes great pleasure in bringing his family from Darien, Conn., to Stamford on Sundays. According to Hedges, much of the success of the project was due to the spirit of the congregation.

Hedges also credits Arne Tune, New Canaan, Conn., structural engineer.

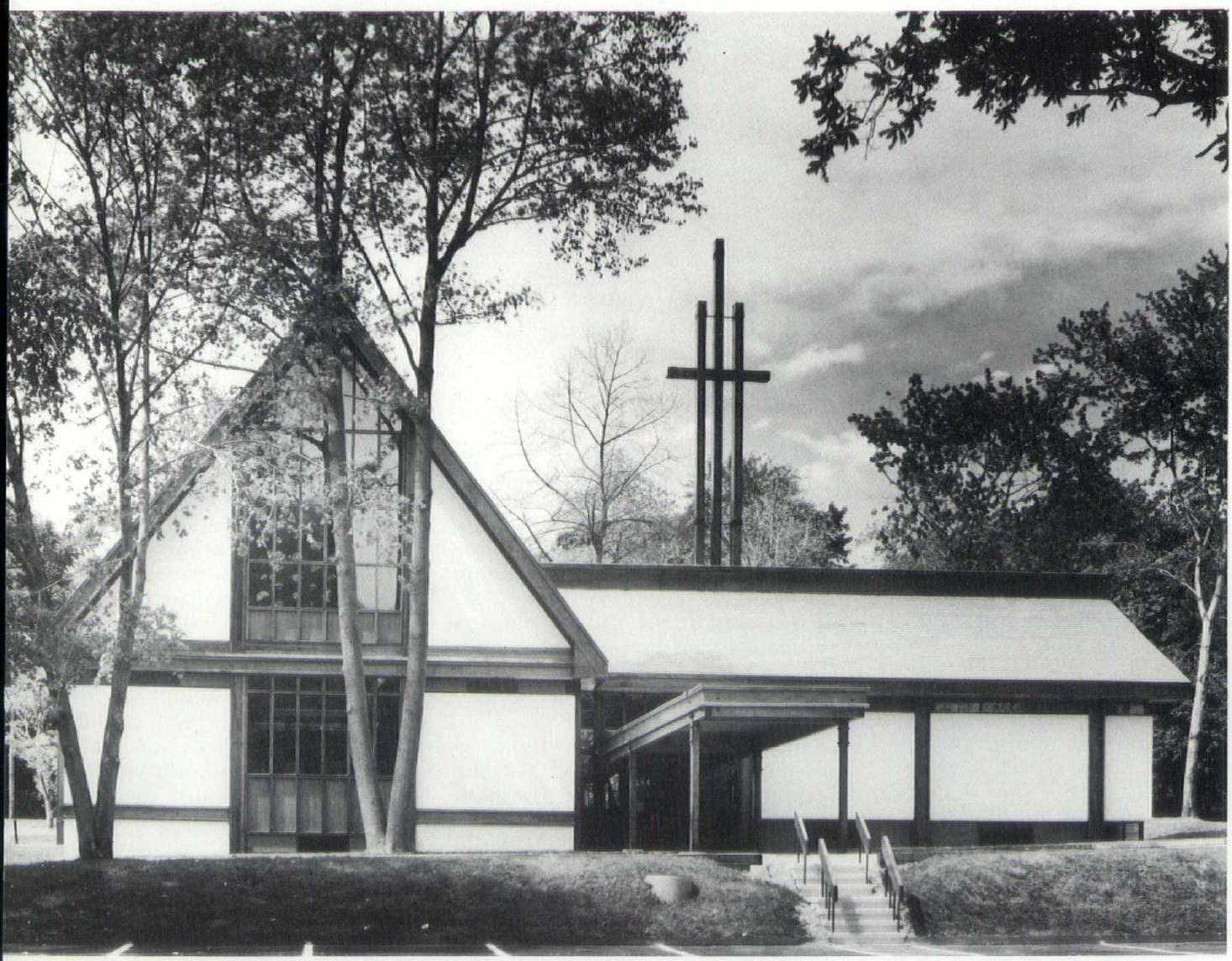
"The cost of the building was only $330,000 — a low price owing to Tune, who participated in the spirit, as well as the construction of the project," Hedges said.



UPPER LEVEL PLAN

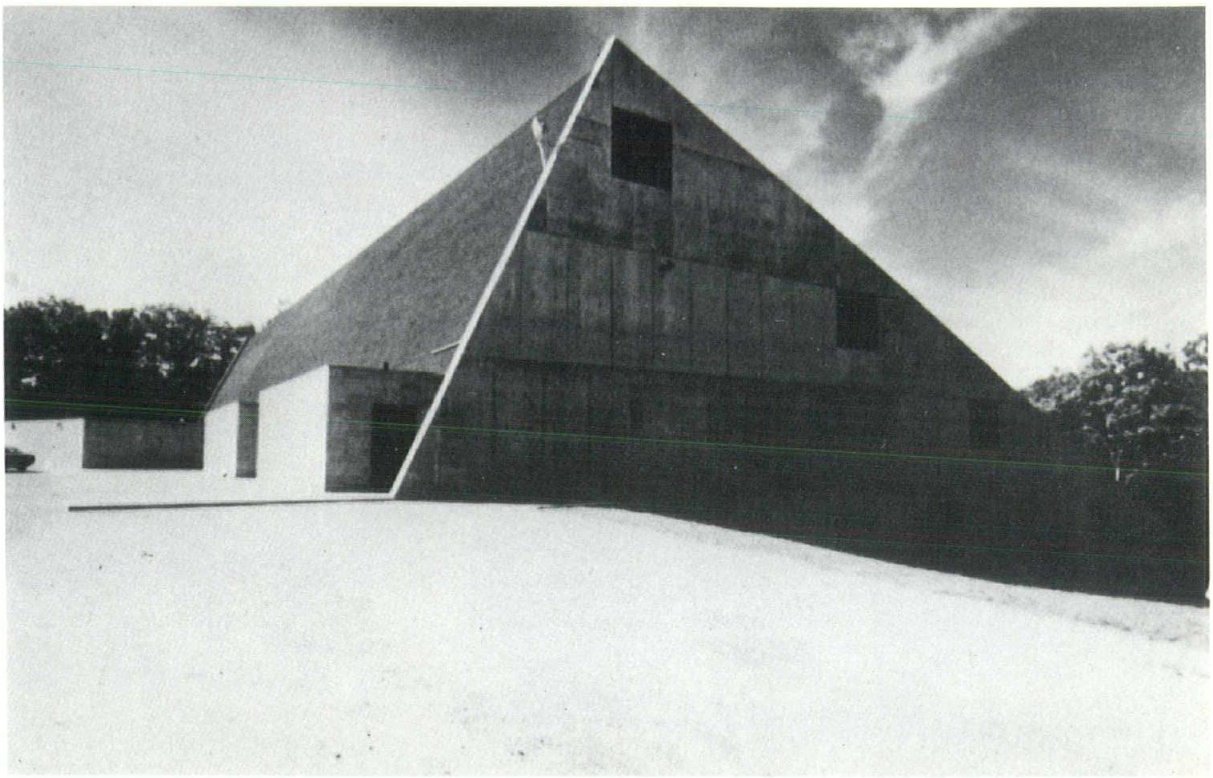


LOWER LEVEL PLAN



HONORABLE MENTION

The open concept building accommodates various functions on four levels that are open and interconnected to each other under one large roof.



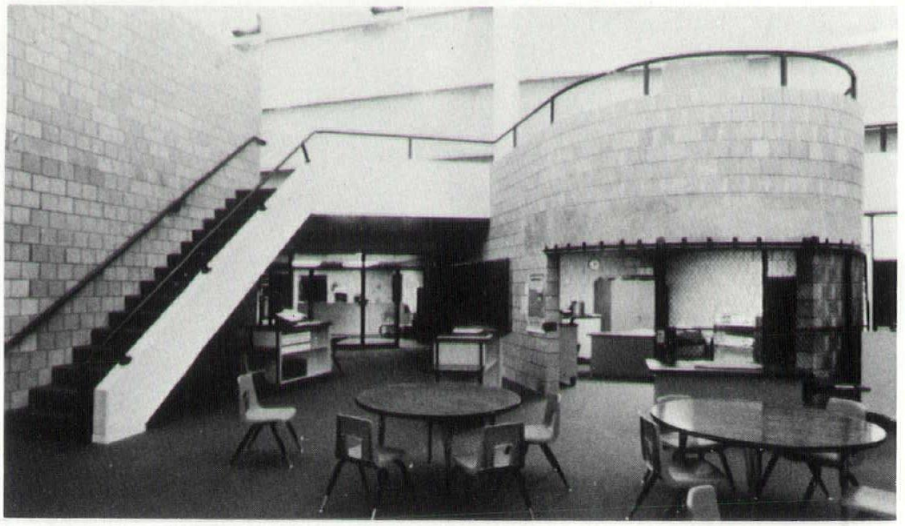
HOLLIS MIDDLE SCHOOL
HOLLIS, N.H.

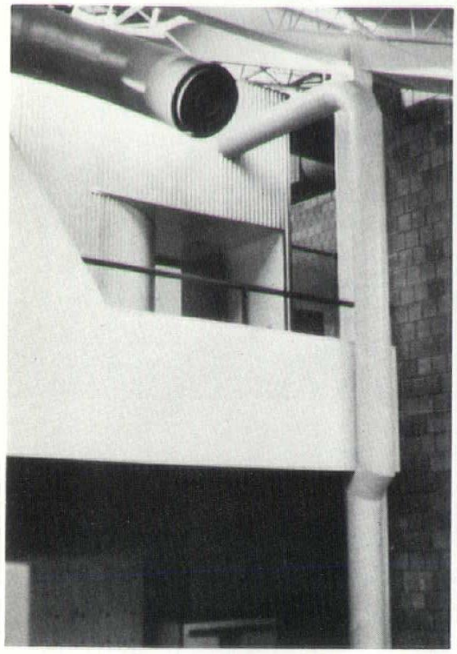
THE Hollis Middle School, Hollis, New Hampshire, opened the first of September 1973 to accommodate grades 5, 6, 7, and 8. It is located on a rolling, wooded, 12.16 acre site adjacent to the existing elementary school on Route 122.

The staff at the Middle School is concerned with meeting the needs of each individual child through individualized instruction, activity centers, large and small group instruction, educational television, use of audio-visual materials (listening centers, tapes, filmstrips, overhead projectors, movies, etc.) educational field trips, team teaching, week-long conservation schools and other appropriate educational approaches.

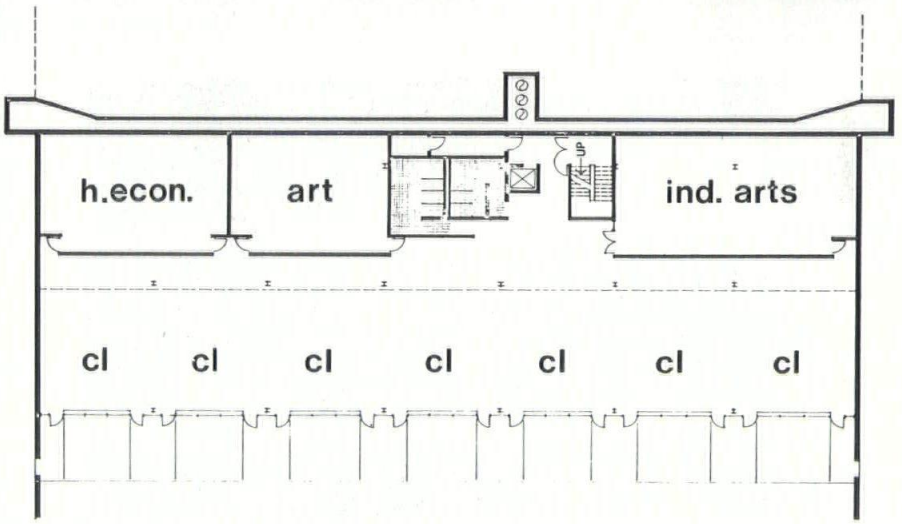
The open concept building was designed to respond to this individualized approach to education. It accommodates the various functions on four (4) levels that are open and interconnected to each other under one large roof. The school has articulated, but open classroom space on the two lower levels. Separate spaces are provided for Home Economics, Art, and Industrial Arts. The main entrance level contains the common spaces of administration, resource center, and cafetorium with its stage/music area. The cafetorium and lobby may be opened for community use without opening the entire building. The teachers' level, a balcony under the high

The main entrance level contains the common spaces of administration, resource center, and cafetorium with its stage/music area.





Architect:
Michael B. Ingram
Manchester, N.H.



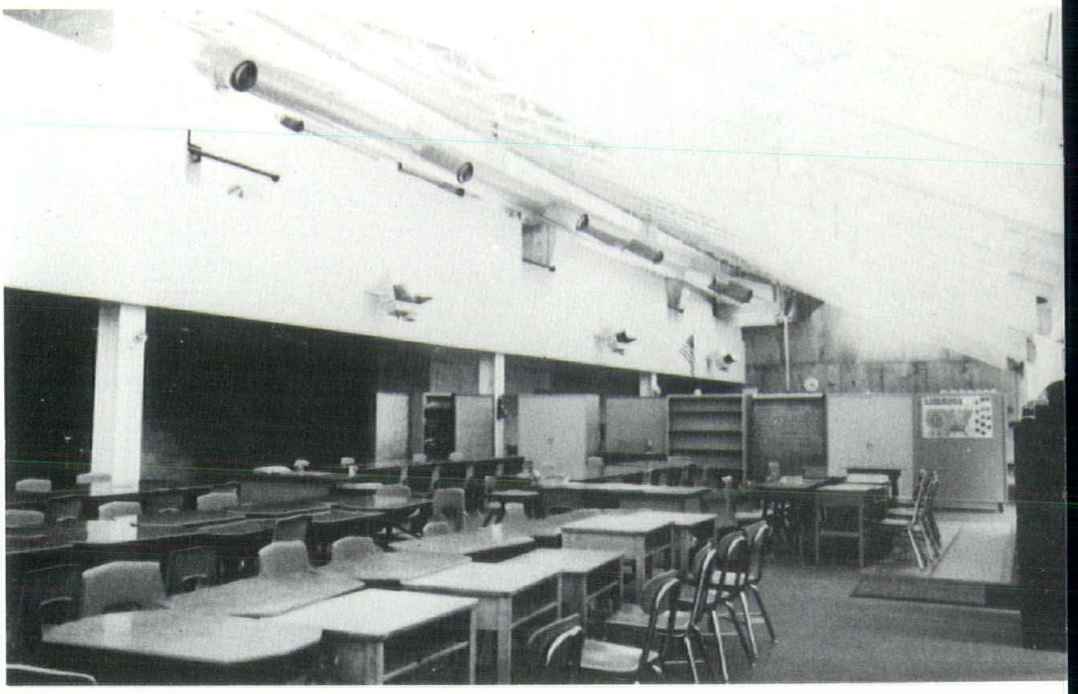
First Floor Plan

roof, contains work room, lounge and seminar space.

The only built-in equipment within the open spaces are the individual lockers that are distributed on the two classroom levels. Teachers' station, student tables, science station, blackboard/bulletin boards, storage closets and book cases are all part of a movable equipment system that maximizes the flexibility of instructional area organization. Compatible built-in equipment is provided in Home Economics, Art and teachers' work room, which provides counter and storage space. In the cafetorium, folding tables and storage space for sports equipment are also built-in.

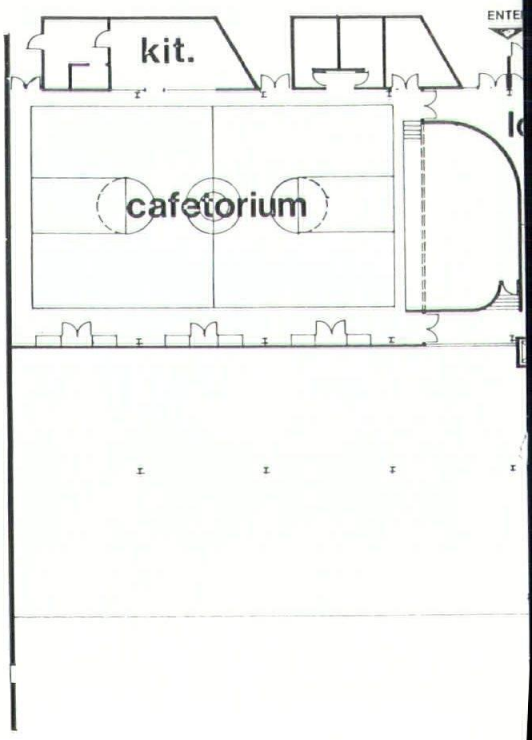
The building, designed for 400 students, was contracted for construction in July of 1972 for a total construction cost of $699,000, including carpeting and built-in equipment. At 34,000 square feet, the cost per square foot was $19.68. The total project cost, including site work, road, furnishings, A-V equipment, industrial arts equipment and all fees, was about $24.00 per square foot.

The building structure is steel framed with poured-in place con-



Teachers' station, student tables, science station, blackboard/bulletin boards, storage closets and book cases are all part of a movable equipment system that maximizes the flexibility of instructional area organization.

The natural concrete, concrete block, and white drywall and structure are brought to life with orange carpet, colorful furniture, and strong accent colors on all of the ductwork.



Third Floor Plan

In general, heating and ventilating are provided by exposed electrical forced air systems.

crete end walls and floor slabs. Other enclosure walls are insulated concrete block and hollow metal curtain wall. Roof construction consists of steel bar joists, Tectum insulated long span deck, plywood and asphalt shingles. Wall finishes include natural concrete block, painted drywall, spray glazed block, and corrugated aluminum. There are drywall ceilings in the administration area and acoustic ceilings in the work rooms, but the other major areas are exposed to the roof deck.

The open design, in combination with the pitched ceiling, permitted the use of the highly efficient HID "Metalarc" lamp as the general lighting source. This fixture reduced the lighting energy load and usage by approximately 15% from what might have been required by conventional fluorescent systems. The final indirect lighting system required only fiften (15) fixtures to provide the recommended visual comfort level in the classroom areas, while providing also the economy of extended lamp life offered by this type of fixture.

In general, heating and ventilating are provided by exposed electrical forced air systems. Incremental HVAC units are used in the Administration area. In this time of serious concern for energy conservation, it is interesting to note that through the use of a small area of glass (less than 1000 SF) and with normal building insulation, that the heat loss of the building is twenty-five per cent (25%) less than the conventional school building, based on square foot of floor area, and including the State Code ventilation requirement of 1½ CFM/SF for classroom areas. An analysis during the design phase projected that the school could operate over ten (10) years before paying a premium for electricity, as compared with an oil-fired system. At the time of the analysis, the cost of oil was figured at less than 20 cents per gallon.

The natural concrete, concrete block, and white drywall end structure are brought to life with orange carpet, colorful furniture, and strong accent colors on all of the ductwork. The limited glass area is never noticed due to the open spaciousness that is reinforced with the "daylight" indirect lighting system.

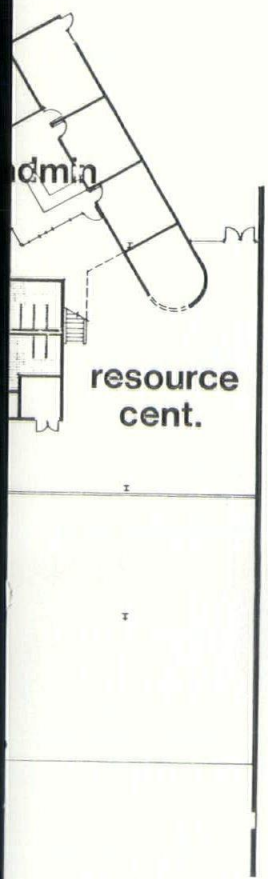
The Hollis Middle School was recognized with an "honorable mention" award for design in a competition sponsored by the New Hampshire Chapter of the AIA.

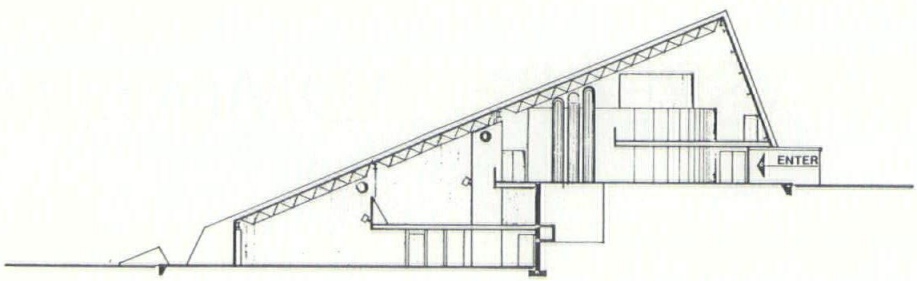
Structural Engineers: Rose, Goldberg and Associates, Inc., Londonderry, N.H.

Mechanical & Electrical Engineers: Kaufmann Associates, Cambridge, Massachusetts.

Contractor: Seppala and Aho Construction Company, Inc. New Ipswich, N.H.

Owner: Hollis School Board, Hollis, N.H., Roland Schoepf, Superintendent.





Section.

HONORABLE MENTION

SPEARE ADMINISTRATION

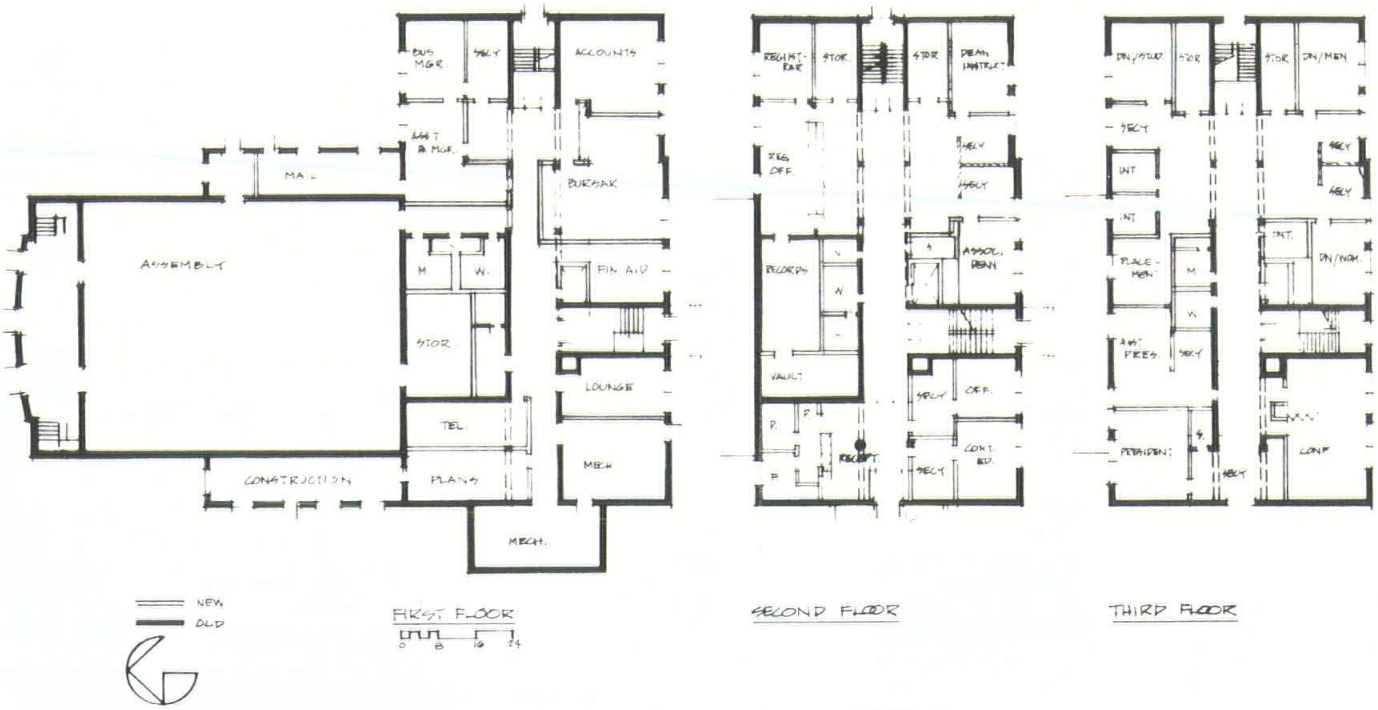
BUILDING
PLYMOUTH STATE COLLEGE
PLYMOUTH, N.H.

WHEN the Town of Plymouth completed its new school buildings for another site, the old Hudson and Granger elementary school was available to be converted to Administration Offices for Plymouth State College.

The site was excellent and the steel framed building structurally sound. The college found it could renovate and realize substantial savings if the antiquated mechanical and electrical systems and the over-sized leaky wood windows were replaced. The new plan shows how most of the old double loaded corridor partitions were removed to form the variety of spaces required by the office program. Stair and bearing walls remained as is.

To accommodate and integrate the substantial mechanical work (45% of the budget is Mech.-Elect.) a system of steel plate screens are hung outside the old walls. These screens reduce the size and scale

Architect:
Banwell, White
&
Arnold
Hanover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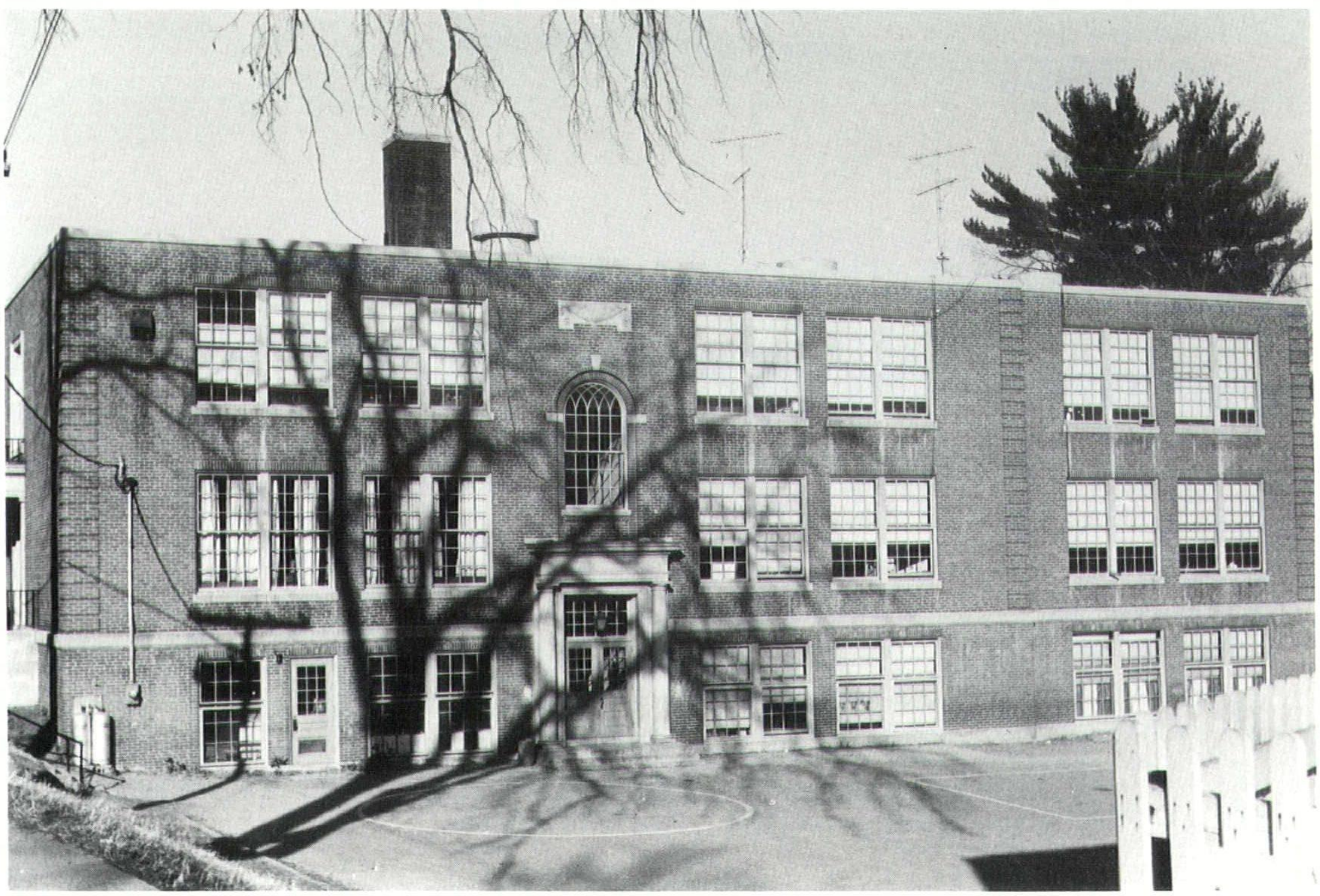


The new plan (opposite page upper) shows how most of the old double loaded corridor paritions were removed to form the variety of spaces required by the office program.

Stair and bearing walls remained unchanged.

of the big old classroom window openings without new lintels and masonry work. They integrate the new lowered ceiling height and also cover and rationalize the various cutting and patching of the old walls required by the new fan coil units. The modular left and right panels relate to the interior layout of units within rooms. An important energy consideration is the reduced solar load on the south wall of the building.

The Speare Administration Building received an Honorable Mention Award for design in the competition sponsored by the New Hampshire Chapter of the AIA.

Architects: Banwell, White & Arnold, Inc. Hanover.

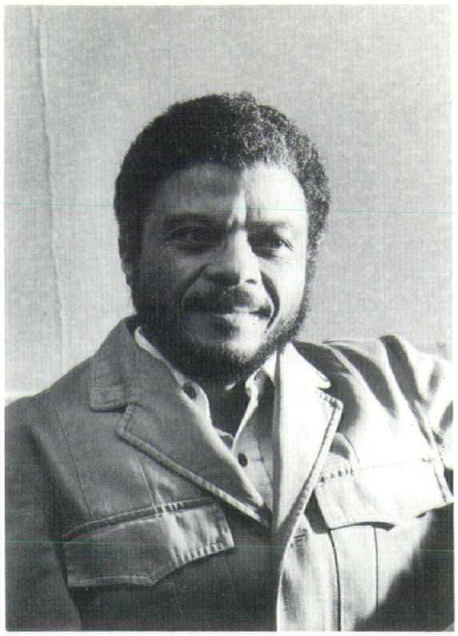
Mechanical Engineers: Rollins, King & McKone, Inc., Manchester.

Structural Engineers: Rose, Goldberg & Associates, Inc., Manchester.

General Contractor: Bion E. Reynolds Contracting, Inc., Concord.

The site was excellent and the steel frame building (opposite page lower) structurally sound. The college found it could renovate and realize substantial savings if the antiquated mechanical and electrical systems and the over-sized leaky wood windows were replaced.

Mitchell Named Architectural Associate



Clifford Mitchell, Jr.

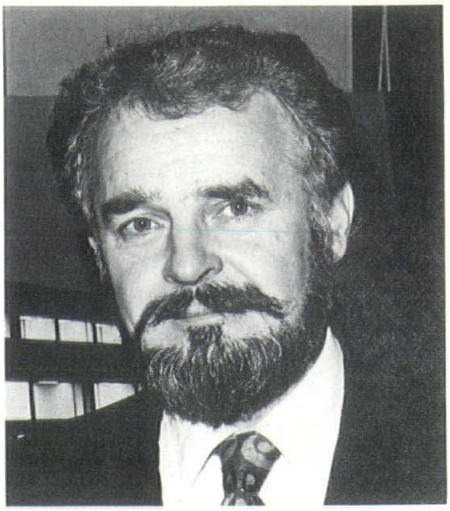
Hartford architect and artist, Clifford Mitchell, Jr., has been named an associate by the Hartford architectural firm of Milton Lewis Howard Associates/Architects.

Mr. Mitchell was graduated from Tuskegee Institute with a Bachelor of Science degree in architecture and the Hartford Art School of the University of Hartford with a Bachelor of Fine Arts Degree, cum laude. He is a registered architect in Connecticut, a member of the American Institute of Architects; National Society of Interior Designers and the Connecticut Academy of Fine Arts. Mr. Mitchell was past president of the Connecticut Chapter of the National Society of Interior Designers (1969-1972) and the Connecticut Watercolor Society (1970-1972). Mitchell has also taught courses in Design at the Hartford Art School of the University of Hartford. He has received numerous awards in painting and design and is listed in Who's Who in American Art — 1973.

His principal responsibilities with the firm will be design, programming and project management.

Milton Lewis Howard Associates /Architects, with offices at 99 Pratt Street, Hartford, Connecticut are architects for the new South Arsenal Elementary School which is known as the "Everywhere School" for the City of Hartford.

Eldredge Elected President of B.S.A.

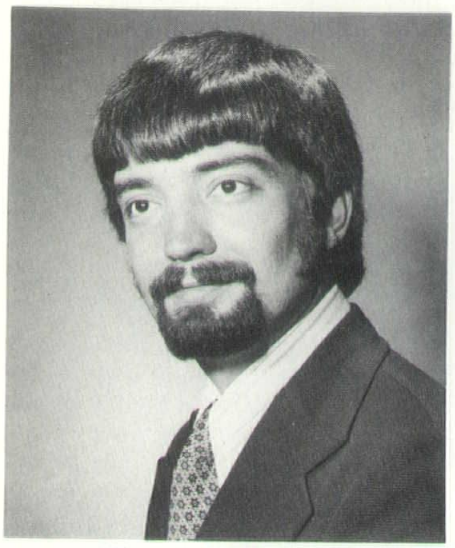


Joseph L. Eldredge

Joseph L. Eldredge AIA, partner in the firm of Brigham, Eldredge, Limon and Hussey in Boston, has assumed the Presidency of the Boston Society of Architects for 1974 from John C. Harkness FAIA.

Mr. Eldredge was elected President of the Society at the Annual Meeting at the Museum of Science.

Belhumeur Principal At Bednarski Stein



Pierre A. Belhumeur

Pierre A. Belhumeur has been made a principal of the Greenfield architectural firm of Bednarski° Stein Inc., it was announced today.

Mr. Belhumeur, who joined the Bednarski°Stein staff in 1969, is a graduate of Syracuse University where he received the Certificate of Merit from the Henry Adams Fund of the American Institute of Architects. The Award was made for high academic achievement in the University's School of Architecture. He is a graduate of Assumption College in Worcester, Mass., where he was awarded a B.A. Degree.

Since joining Bednarski°Stein, Mr. Belhumeur has participated in and contributed to a number of the firm's notable commissions including those for the recently completed dormitory at North Adams State College and the First National Bank of Franklin County at Federal and Main Streets in Greenfield.

Boston Symphony Hall Air Conditioned by Buerkel

Symphony Hall, home of the Boston Symphony Orchestra and the Boston Pops, has been air-conditioned as part of an extensive renovation program. For the first time since it was erected in 1900, the venerable landmark and seat of culture in Boston can now be comfortably used during the summer as well as the rest of the year.

Responsible for the design, contract administration, and field inspection of the air-conditioning project was the engineering firm of Buerkel & Company, Inc., a subsidiary of Chas. T. Main, Inc.

Upon receiving the assignment, Buerkel was presented with two major criteria: (1) The acoustics of the hall could not be affected in any way by the air-conditioning work, and (2) There could be no visible evidence of change within the hall itself.

The acoustic consulting firm of Bolt, Beranek and Newman, Inc. aided Buerkel throughout the project, from design through installation phases, in meeting the first of these criteria. And to satisfy the second requirement of appearance, Buerkel engineers designed the new system around the existing ductwork, altering as little of the original ventilation ducts as possible.

Although the engineers retained existing ductwork, they had to provide for an air flow of 60,000 cfm, roughly double that of the old ventilating system. This meant replacing the original 73-year-old fans, which were heavy-gauge, paddle-wheel types, with direct-drive d-c motors. In turn, the new fans required installation of a larger a-c service.

The fans gave rise to other design considerations as well. In the old system, supply and exhaust fans were located at opposite ends of the basement with no interconnection. There was no attempt to recirculate air because ventilation was the only purpose. With air conditioning, however, a connecting duct between fans became necessary to recirculate part of the cooled return air. What's more, the duct had to be carefully buried under the basement floor to preserve valuable space used for such functions as meetings of the Friends of Symphony.

Cooling for the new air-conditioning system is provided by a steam-absorption type water chiller. Buerkel engineers decided upon this for several reasons. First of all, steam was already available in the building for heating. Secondly, steam is a more economical source of energy, under these circumstances, than electricity for air-conditioning purposes. Finally, and perhaps most important in view of one of the main design criteria, the system chosen is quieter than those using electri-

cal-driven centrifugal compressors.

The system supplies about 230 tons of air conditioning to Symphony Hall. To give some idea of this magnitude, it requires about one ton of refrigeration to counteract the heat released by 30 people, sitting relaxed under such conditions as encountered in a concert hall. In addition to considering audience comfort, the design engineers had to make allowances for heat generated by TV lights in sizing the air-conditiong system.

Total cost of the renovation was approximately $400,000. This was funded through the generosity of the Frederick J. Kennedy Memorial Foundation, Inc.

C-E Maguire to Blueprint North Shore Waste Plan

C-E Maguire, Waltham, Mass., an architect-engineering-planning subsidiary of Combustion Engineering, Inc., has been retained by the South Essex County (Mass.) Solid Waste Council to assist in the formation and conceptual design of a solid waste disposal district. C-E Maguire's services will include guiding the Council in selecting the most economical and feasible system for regional solid waste disposal, and soliciting turnkey design and construction bids from private industry.

The Council and C-E Maguire will consider the possibility of one centralized disposal plant to be fed by satellite transfer stations, using modern resource recovery techniques to solve the mounting solid waste problems of the communities.

The project was initiated by the Council's 14 member communities: Beverly, Danvers, Essex, Gloucester, Hamilton, Lynn, Lynnfield, Manchester, Marblehead, Middleton, Nahant, Peabody, Rockport, Salem and Swampscott. The region has a population of over 360,000, covers 174 square miles, and generates 309,500 tons of solid waste per year. Each Council community will submit data to C-E Maguire for evaluation.

C-E Maguire recently completed a preliminary design of a 1000-ton per day separation facility for Connecticut's Resource Recovery Authority and a solid waste management study for the U.S. Virgin Islands.

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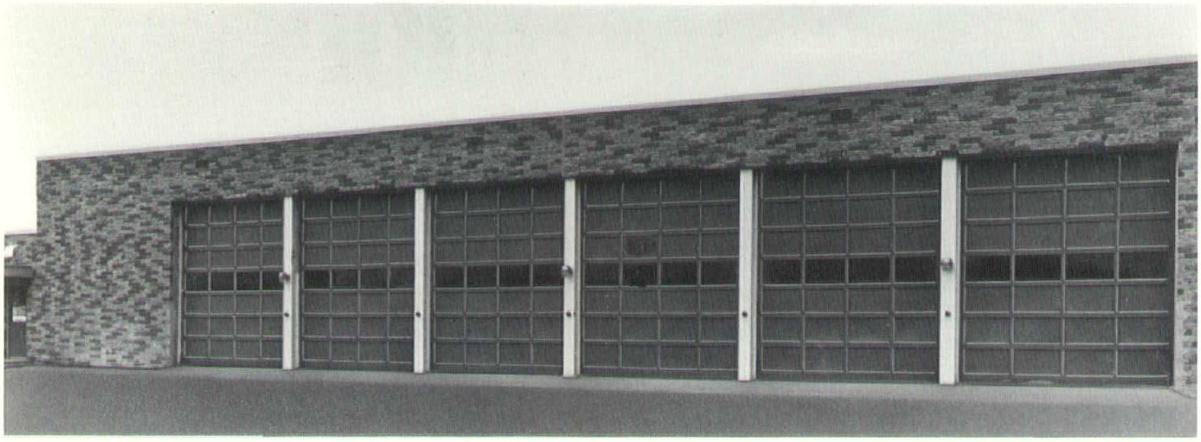

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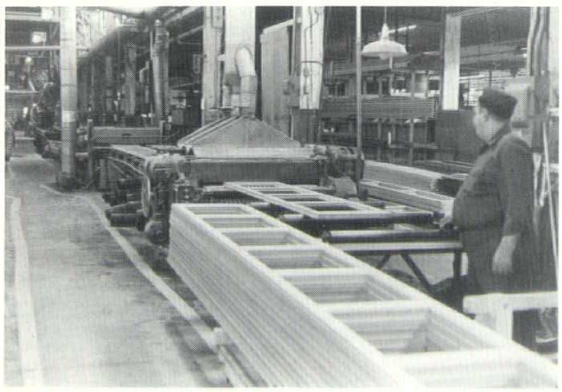

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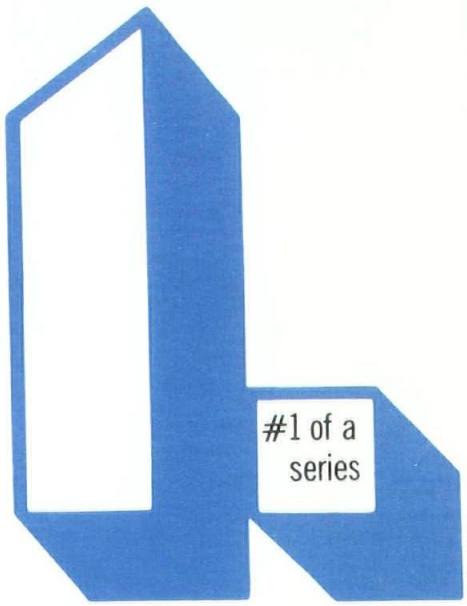

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