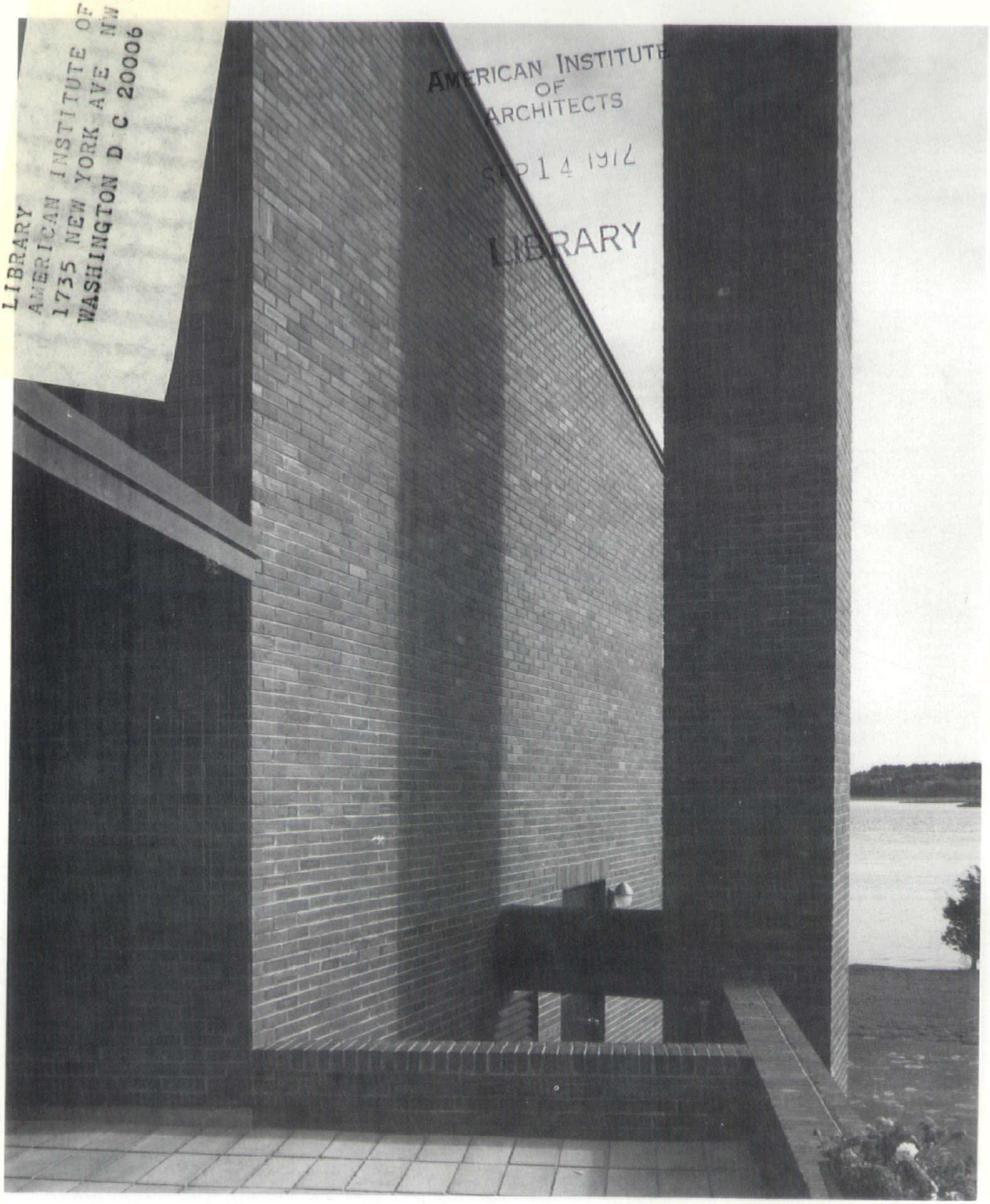
# new england Architect

July — August 1972





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*CORLETT AND SPACKMAN OF SAN FRANCISCO were Associated Architects on College No. 5 at the University of California at Santa Cruz. The architects were awarded Citations for Architectural Excellence by the 1972 College and University Conference and Exposition. The name of the West Coast firm was inadvertently omitted as associate to Hugh Stubbins of Cambridge, Mass. The award-winning project was featured in the May-June issue of the NEW ENGLAND ARCHITECT.*





## NOTES & COMMENTS

Henry A. Pfisterer
1908-1972

**Henry A. Pfisterer**

Henry A. Pfisterer, Professor of Architecture at Yale University, died at his home in Hamden, Conn., May 26 after a short illness. He was 63.

He had just been named the 1972 winner of the Medal of the Yale Arts Association which cited him for "Your thirty-one years of devoted and inspired service to the cause of architectural education at Yale, for your part in assuring for it continually high professional standards, and for your humane influence in our midst."

The award was accepted for him by his son at Yale ceremonies. He is survived by his widow, the former Hortense Marchessault of St. Albans, Vermont; a son, Charles, and a daughter, Mrs. Carole Hart.

Professor Pfisterer joined the Yale faculty in 1941 as an Assistant Professor, was promoted to the rank of Associate Professor in 1946, and in 1956, was named Professor of Architectural Engineering. He also served for that year as Acting Chairman of the Department of Architecture.

As a partner in Pfisterer, Tor, & Associates, he was a widely known consulting engineer who participated in the design and construction of the Empire State Building, Yale's Art Gallery, Gibbs Laboratory, Greeley Laboratory, Laboratory of Epidemiology and Public Health, Morse and Stiles Colleges, and the Tandem Accelerator; and in New Haven, the Central Fire Headquarters, Long Wharf Industrial Park,

*(Continued on page 28)*

new england
# Architect

July – August 1972 Volume 3 Number 2

## features



## departments



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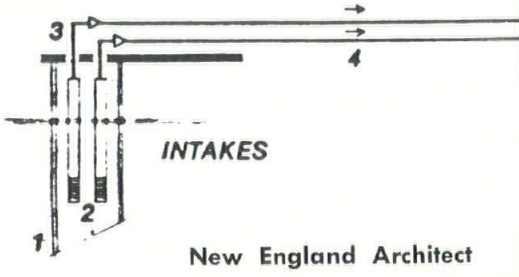
*Refrigerated seawater room, Loeb Teaching Laboratory. Fiberglass holding tanks are subdividied to accommodate a variety of specimens used in research programs.*

# MARINE RESEARCH FACILITIES

*Peirce & Pierce*
*Boston*



THE sea has always provided a strong recreational, commercial and cultural focus for the New England region. As one of our richest — and now most endangered resources — it is also becoming the focus for increased research activity in the marine sciences.

Historically, New England institutions — notably the complex at Woods Hole, Massachusetts as well as many university-based programs — have pioneered in this area of scientific investigation.

The architect planning a marine research facility is confronted with many special considerations; while marine laboratories may require the full range of mechanical systems common to all research laboratories, it is the presence of seawater which adds unusual constraints to their design, affecting the choice of structural systems, piping systems, building materials and site locations.

Since adequate shorefront sites are often remote and without access to public utilities, a laboratory — particularly a small one — is often faced with disproportionately large expenditures for on-site utility services: deep wells for an adequate, dependable source of fresh water; very often long overland, and more frequently underground, power line connections; an emergency generating plant to sustain critical pumping and refrigeration systems in the event of power failures; and on-site sewage disposal.

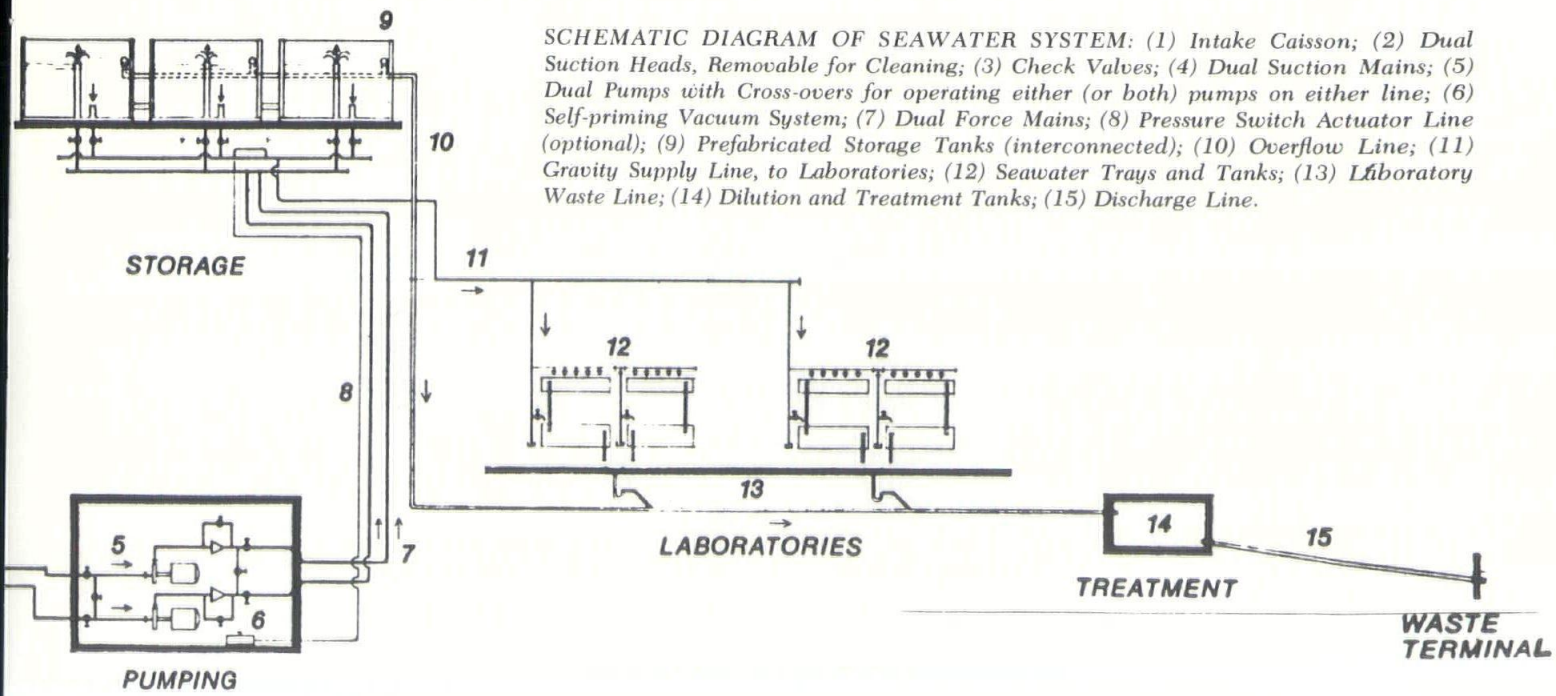
Given new, more stringent environmental standards as well as the laboratory's requirement for an uncontaminated water source, sewage disposal becomes a particularly critical engineering problem. With many New England coastal sites predominately ledge and lacking adequate gravel deposits, sophisticated package treatment plants are increasingly the only solution to disposal.

Once the site is selected, the quality of the seawater — its salinity, temperature, and turbidity — will affect the architect's choice of pumping and storage systems

*Jackson Laboratory, University of New Hampshire. Removable wall panels provide access to seawater holding tanks and pump loft.*

to be used in the laboratory: turbidity and a bottom condition which produce excessive sediment may require settling tanks; seasonal variations in water temperature, such as are found at locations south of Cape Cod, may require, for some research programs, a refrigerated seawater system in parallel with the natural seawater system; estuarine locations where heavy snow melt and fresh water run-off after storms dilute the salinity may need additional storage capacity so that water can be pumped on incoming tides and held.

Whatever the local seawater conditions, the ultimate purpose of any system is to deliver seawater to the researcher in as natural a state as possible, without diminishing its oxygen content or destroying the microorganisms initially present, and free of imploded nitrogen which the initial pumping may have induced. Pumping to overhead storage tanks where the water is aerated and then gravity-fed to the laboratories is a




*SCHEMATIC DIAGRAM OF SEAWATER SYSTEM: (1) Intake Caisson; (2) Dual Suction Heads, Removable for Cleaning; (3) Check Valves; (4) Dual Suction Mains; (5) Dual Pumps with Cross-overs for operating either (or both) pumps on either line; (6) Self-priming Vacuum System; (7) Dual Force Mains; (8) Pressure Switch Actuator Line (optional); (9) Prefabricated Storage Tanks (interconnected); (10) Overflow Line; (11) Gravity Supply Line, to Laboratories; (12) Seawater Trays and Tanks; (13) Laboratory Waste Line; (14) Dilution and Treatment Tanks; (15) Discharge Line.*

common method for restoring the oxygen-nitrogen balance.

Because of micro-organisms present in the water, any seawater system requires frequent maintenance and cleaning, particularly at sites with warm summertime water temperatures, where organisms in the piping systems will multiply rapidly. Since many research programs require an uninterrupted flow of seawater to sustain specimens, dual supply systems must often be installed (at least for the primary intakes, where most of the marine growth occurs) to allow one system to be in operation while the other is shut down for cleaning. Removable screens at the underwater intakes are also used to screen out larger organisms and foreign material.

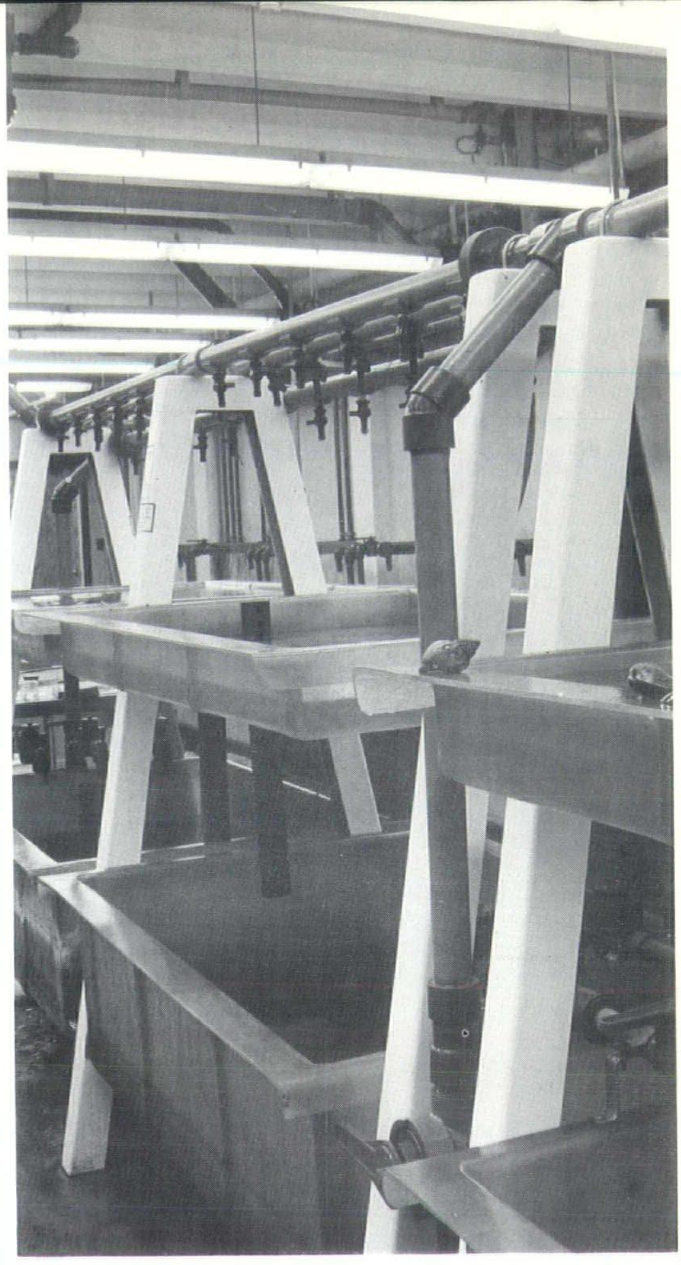
Dual drainage systems are also essential: the seawater which is continually circulating through tanks and aquaria may be returned directly without treatment to the ocean, whereas wastes from sinks and other sanitary facilities must be delivered to a sewer or to an adequate disposal system; wastes containing radioactive isotopes, poisons, heavy metals, etc. will require separate treatment and off-site disposal. All drainage piping should be specified of a saltwater corrosin-resistant type. Seawater tanks, trays and aquaria usually waste to open floor drains to permit easy cleaning and to handle the occasional accidental overflows from other sources in the laboratory.

Because of the need for frequent cleaning, saltwater distribution systems as well as drain lines should be exposed for easy access, laid out in straight runs with frequent clean-outs. The corrosive action of saltwater makes the selection of piping materials particularly critical. Fortunately, recent developments and improvements in some of the synthetic materials have simplified the task of selecting and specifying compatible materials: polyvinylchloride for piping and fittings, thermosetting epoxy resins for sinks and drainboards, and — borrowing from the boat builders themselves — glass fiber reinforced seawater storage tanks, aquaria and trays. While synthetic piping materials have largely replaced the former use of lead, development of an adequate variety of compatible fittings has come more slowly and care must be taken in selecting materials with design strength adequate to the varied pressures to which they will be subjected.

Careful selection of materials extends to the building itself. Since coastal locations are subject to storms directly off the water, and seawater is present throughout the building, the use of exposed metal should be avoided. Concrete or wood are excellent choices for the structural frame, although the choices of wood may be constrained by such considerations as fire rating or structural capacity. In other areas, substitutions for exposed metal should also be considered: wood or coated aluminum for window frames and doors, wood for casework, asbestos fiber or synthetic resins for counters, and concrete with epoxy sealers for floors.

Having considered the various technical aspects of marine laboratory planning, the architect still is confronted with the critical task of creating an architectural environment that will efficiently support the research work and enrich the life of the laboratory.

There is more involved here than providing a pleasant working environment, as important as that is. As an example, there is today more and more emphasis



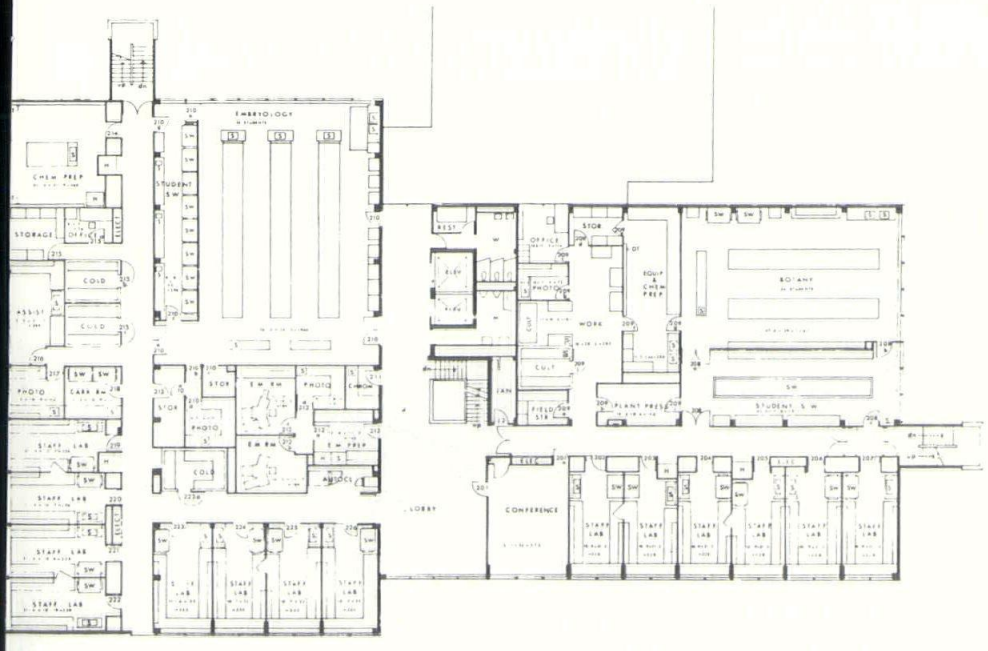
*PVC seawater piping and fittings, non-metallic, lighting fixtures, and specially designed fiberglass seawater trays and aquaria are basic components of a typical marine laboratory installtion.*

on a cross-disciplinary approach to scientific research, drawing on specialists from many fields. An architectural approach which grasps this trend could, by resourceful clustering of research spaces, or in the planning of circulation and other communal spaces, reinforce and encourage this scientfic mix.

Finally, we should consider how best to complement the attractive, and very often spectacular, coastal sites where these research facilities will be situated. In our experience these have varied from the small-scaled New England coastal town to unexploited sites of great natural beauty and without historical precedents. The architectural problem, however, is similar: How to "fit" what very often is a large institutional facility with all of its accompanying paraphernalia of utility connections, traffic, parking, and outdoor storage, into these small-scaled or undeveloped settings. In the planning process, scientists and architects need to keep in mind that the sea and its coastal edges also offer infinite aesthetic rewards which need to be respected.

**Walter S. Pierce, FAIA**

*Loeb Teaching Laboratory: Building massing has been kept low to maintain the residential scale of surrounding shingle houses. A natural finish tongue and groove cypress siding is used as wall cladding offering good protection against coastal storms; and as it weathers silvery-grey, continuing the visual theme of neighboring shingle walls. Glazed stair towers in each wing provide views over the town and encourage walking between floors.*




*Loeb Teaching Laboratory — Typical floor.*

THE Loeb building is planned for a variety of programs in the life sciences. Two disciplines share each floor and are equipped with a large teaching laboratory for student work and smaller staff labs for faculty research. Special support facilities — darkrooms, constant temperature rooms and equipment rooms serve both large and small labs. At each floor, the central lobby serves as a lounge area between separate departments.

Utilities — seawater and mechanical piping, electrical conduit and fixtures are recessed between double tee ribs to provide uncluttered circulation with easy access for repairs and maintenance.

Owner: Marine Biological Laboratory

Architects: Peirce, Pierce and Kramer/Architects° Boston, Massachusetts.

Plumbing Engineers: John J. McEvoy.

Mechanical Engineers: Reardon & Turner.

Electrical Engineers: Cleverdon, Varney & Pike.

° in partnership with Dirk J. Lukx, 1964-1968.

LOCATED four miles from the University of New Hampshire's Durham campus, Jackson Laboratory functions as a marine research center supporting a variety of academic departments including zoology, botany, microbiology and biochemistry. Laboratories for each science are grouped to overlook Great Bay. Seawater holding tanks and pumps are located in a loft space under the high peak of the sloping roof, providing for gravity flow to laboratory spaces with a minimum disturbance of water quality. At the exterior wall removable transite panels provide access for servicing and replacement.

Future plans provide for a two-story laboratory addition to connect with the administrative wing, which will link the completed facility.

Exterior material is red brick — traditional material of the New Hampshire campus — with steel operable sash. Laboratory floors are framed by precast double tees permitting recessed circulation of piping and other laboratory services.

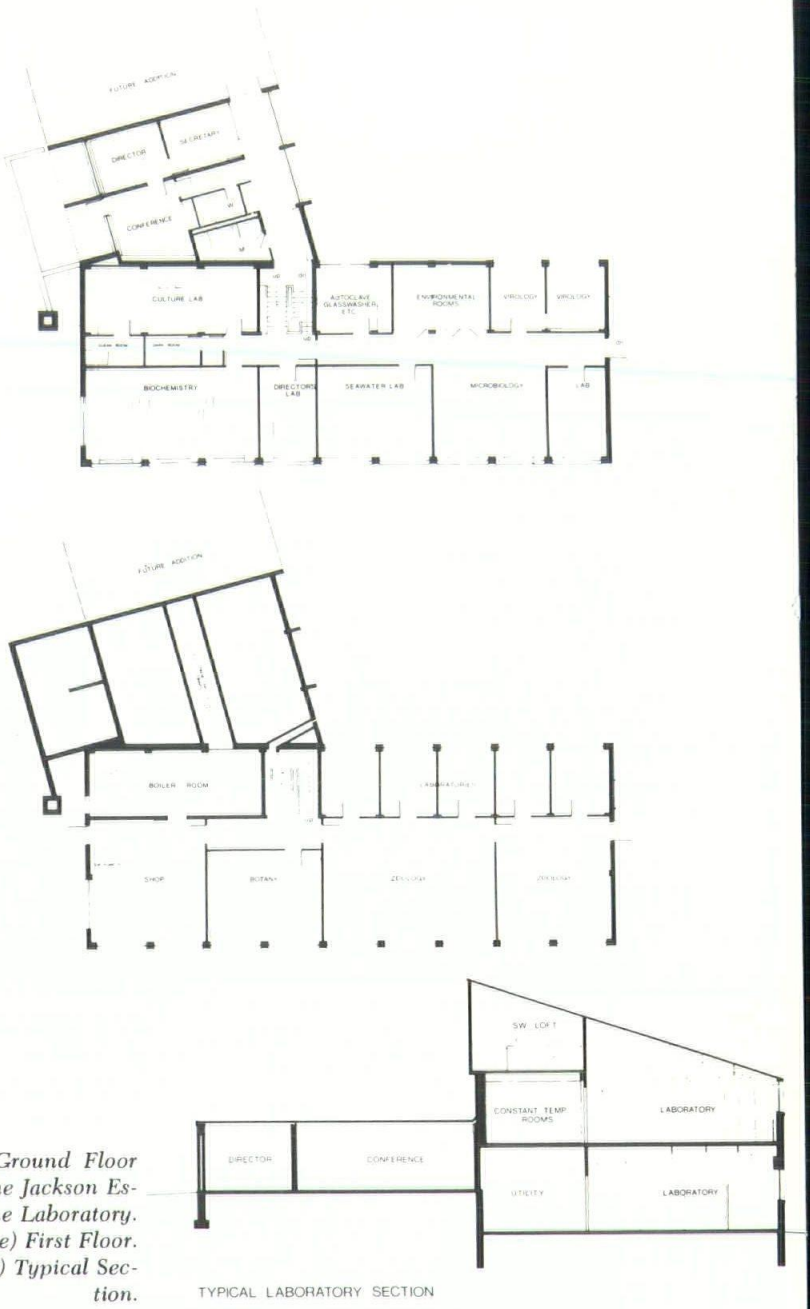
Owner: University of New Hampshire

Architects: Peirce, Pierce and Kramer/Architects° Boston, Massachusetts

Plumbing Engineers: John J. McEvoy

Mechanical/Electrical Engineers: Reardon & Turner

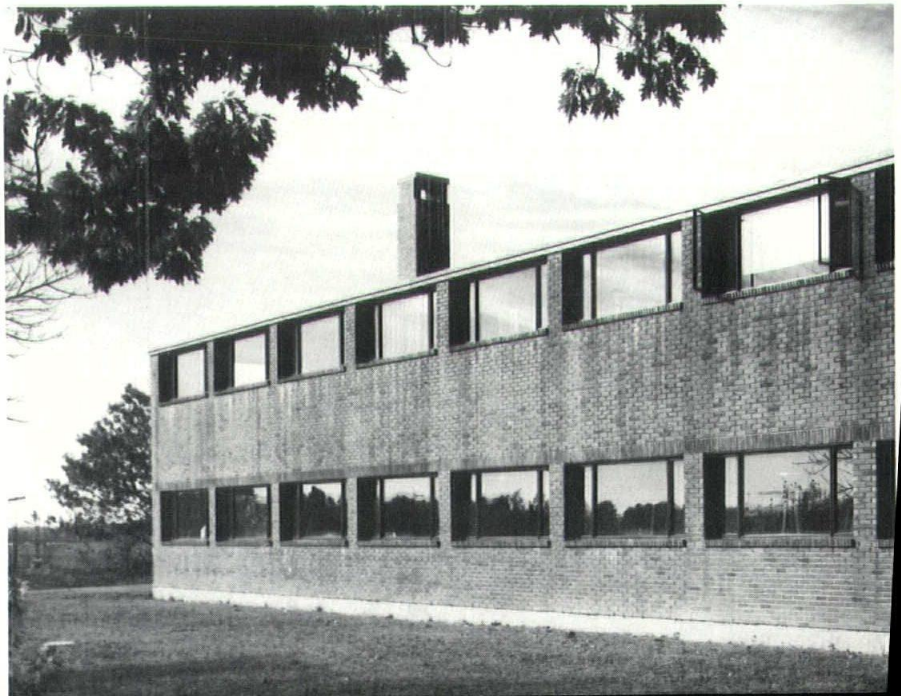
° in partnership with Dirk J. Lukx, 1964-1968

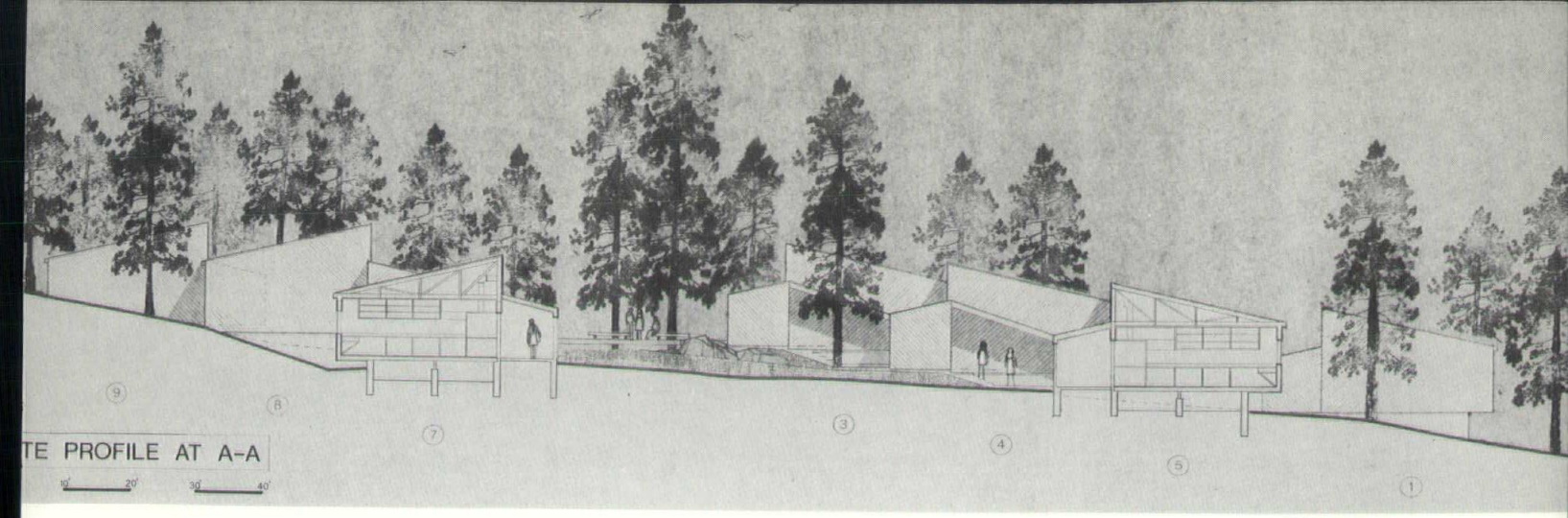



*(upper) Ground Floor of the Jackson Estuarine Laboratory. (middle) First Floor. (right) Typical Section.*

*Exposed seawater piping in main stairway serves all laboratories from seawater loft above.*

*Jackson Laboratory — major work spaces overlook saltwater estuary.*






*Site section.*

THE Mount Desert Island Laboratory is sited on a rocky wooded overlook at Salisbury Cove, on the northern shore of Mount Desert.

Presently, the laboratory operates in a scattered collection of simple frame buildings. Master plan requirements are for a phased replacement of these older buildings with laboratory units designed for year-round operation, which will be added in succession as programs expand and funds become available.

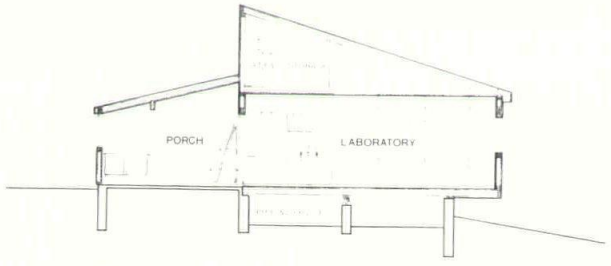
Eventually, the cluster of laboratory units will form a forested courtyard which will become the focus of this small campus. An open deck will provide a "commons" at the entrance to the complex, adjacent to the future administrative building. The design permits each building to be adjusted separately to the rocky terrain with minimum disruption of the site and still be joined by roofed connections to adjoining units to form a continuous all-weather circulation system.

Piping and other utility runs are placed in the heated utility spaces below the laboratory floors. By close-coupling the units, exterior utility runs and ledge excavation for these are kept to a minimum, and convenient all-weather access is provided.

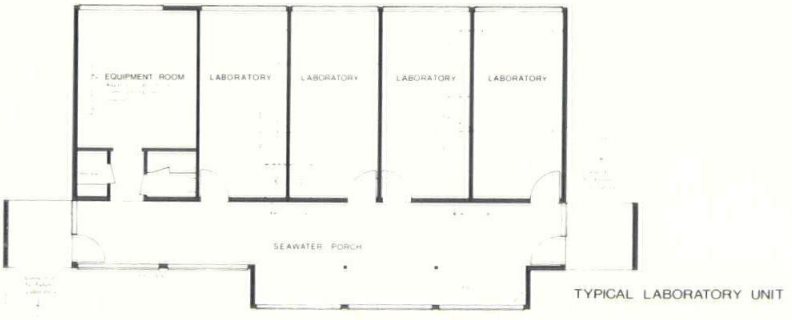
Construction techniques and materials have been selected with local labor and material sources in mind. Buildings are of wood frame on concrete pier footings, rough sawn siding of local pine and shingle roofs.

Owner: Mount Desert Island Marine Biological Laboratory

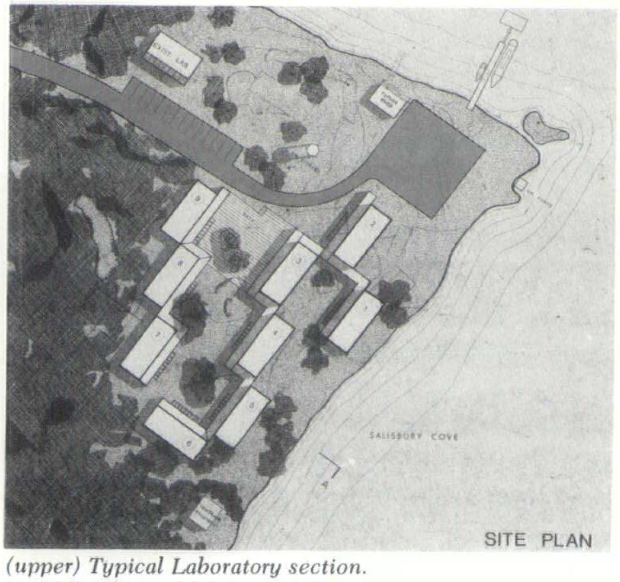
Architects: Peirce, Pierce and Kramer/Architects Boston, Massachusetts




TYPICAL SECTION




TYPICAL LABORATORY UNIT



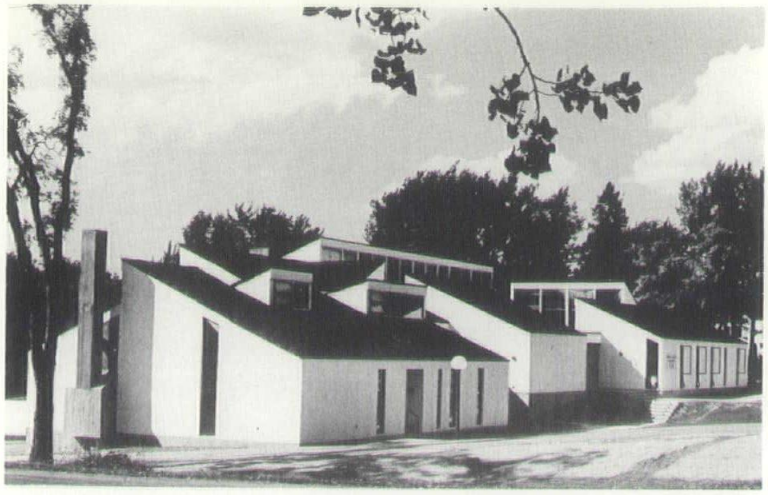

SITE PLAN

*(upper) Typical Laboratory section.*
*(middle) Typical laboratory plan.*
*(lower) Site Plan.*

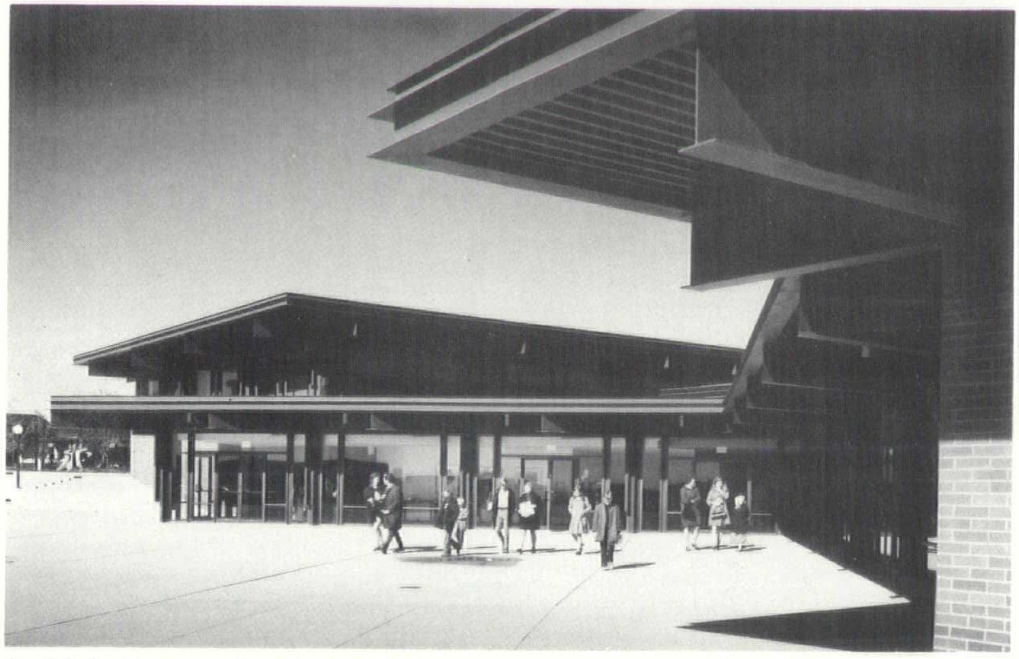
# RELIGIOUS ARCHITECTURE AWARDS

## THREE NEW ENGLAND ARCHITECTS

*St. Matthews Episcopal and Wilton Presbyterian Church, New Canaan, Conn. Architect: SMS Architects, Stamford, Conn.*



*Newman Student Center, Orono, Me. Architect: Willoughby M. Marshall, Cambridge, Mass.*



*St. John's Center, Columbia, Md. Architect: Huygens and Tappé Inc., Boston, and Gaudreau Inc., Baltimore, Associated Architects for the Columbia Religious Facilities Corporation.*

THREE of the twelve projects cited for Honor Awards in the architectural exhibit at the recent 33rd Annual Conference on Religious Architecture in Atlanta, Ga., were designed by New England Architects.

The award-winning projects included the following:

St. John's Center, Columbia, Md. Architect: Huygens and Tappé Inc., Boston and Gaudreau Inc., Baltimore, Associated Architects.

Newman Student Center, Orono, Me. Architect: Willoughby M. Marshall, Cambridge, Mass.

St. Matthews Episcopal and Wilton Presbyterian Church, New Canaan, Conn. Architect: SMS Architects, Stamford, Conn.

The architectural exhibit at the annual conferences on religious architecture — sponsored by the Guild for Religious Architecture — is a traditional feature of the conference, attracting widespread attention from registrants at the meeting. Projects are submitted with identification concealed and are juried by a panel of architects and clergymen.

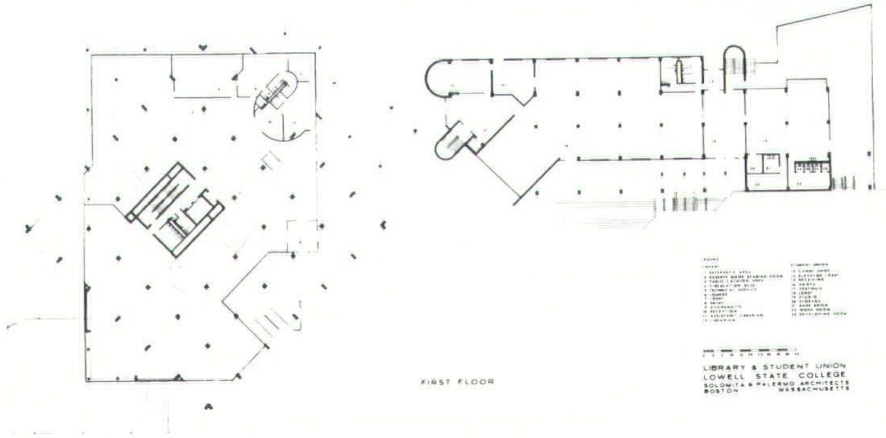
The chairman of this year's architectural exhibit was: Henry Howard Smith, AIA, GRA, Atlanta, Ga. Jury members were: James H. Finch, AIA, Atlanta, Ga.; William W. Gilfillen, AIA, GRA, Columbus, Oh.; Daniel Schwartzman, FAIA, GRA, New York, N.Y. and the Rev. Henry C. Gracz, Athens, Ga.

The jury felt that the projects submitted fell into five categories: 1) Regional religious centers; 2) Moderate size suburban religious centers; 3) Inner-city buildings for worship, education and community involvement; 4) Shopping center mall projects for worship, education and community services; 5) Alterations and additions to existing religious buildings.

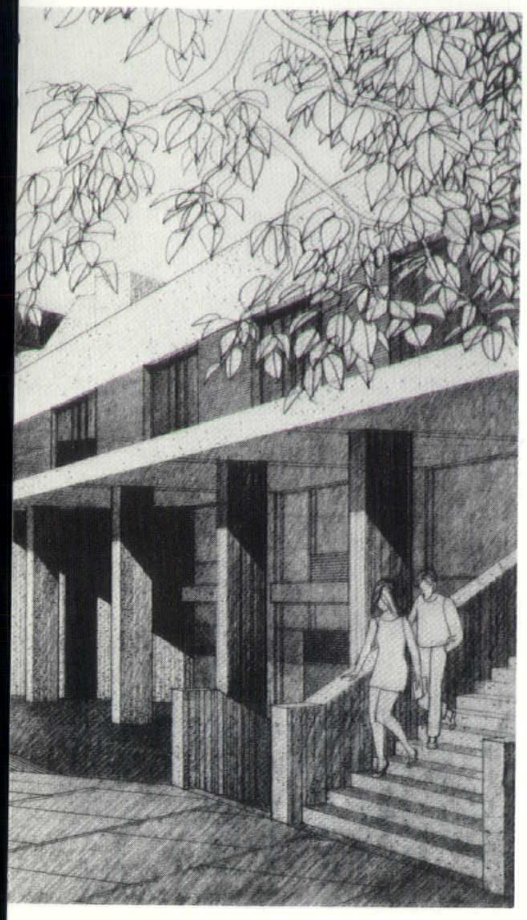
Awards were made on the basis of architectural excellence without specific regard to categories. Consideration was also given to skillful organization of plan elements; use of building materials to enhance their inherent beauty; excellence of workmanship; and integration of appropriate works of art.

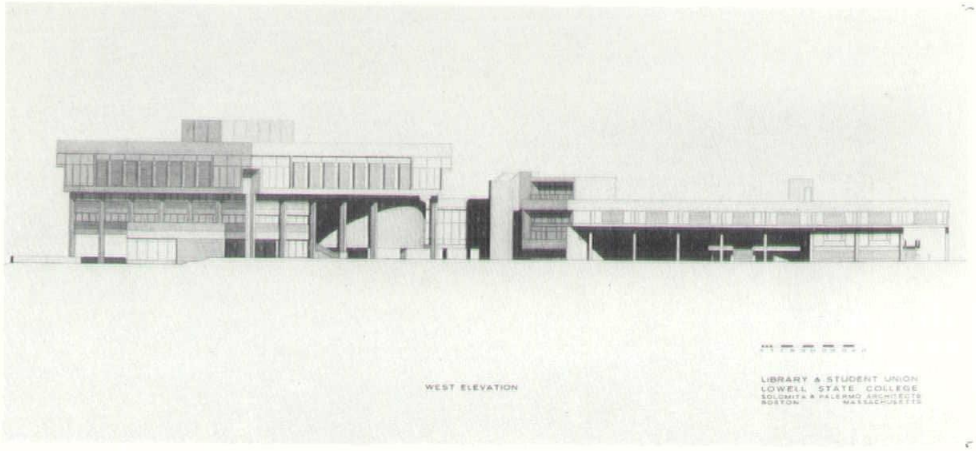
# LIBRARY & STUDENT UNION

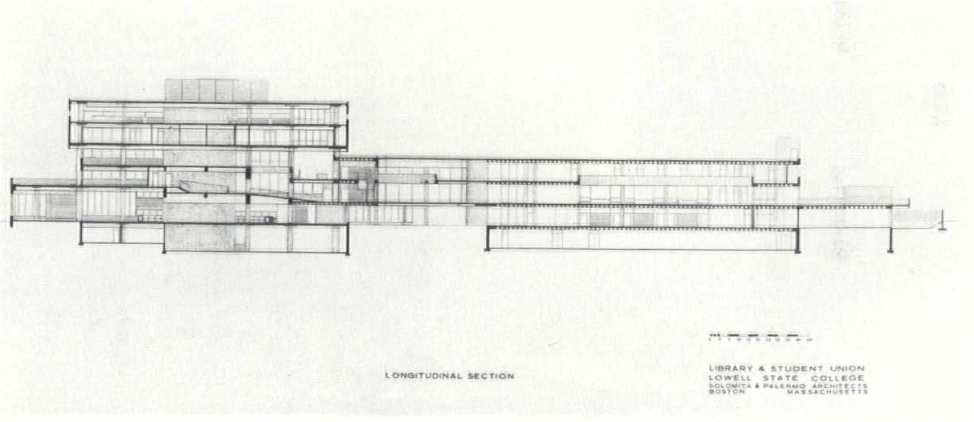
*The upper two stories of the Library, cantilevered from the main mass of the building served by a central core house the book stacks while leaving the four corner areas on both floors for reading areas. The curvilinear masses which appear to float below these floors make up the audio-visual facility. The main entrance to the Library is at a lower plaza level under the lecture hall.*



# STATE COLLEGE AT LOWELL, MASS.






THE design of the Library and Student Union building for the State College at Lowell, Mass., provided architects Solomita and Palermo with the opportunity of bringing into a cohesive whole the several existing buildings which presently make up the campus around a central plaza.

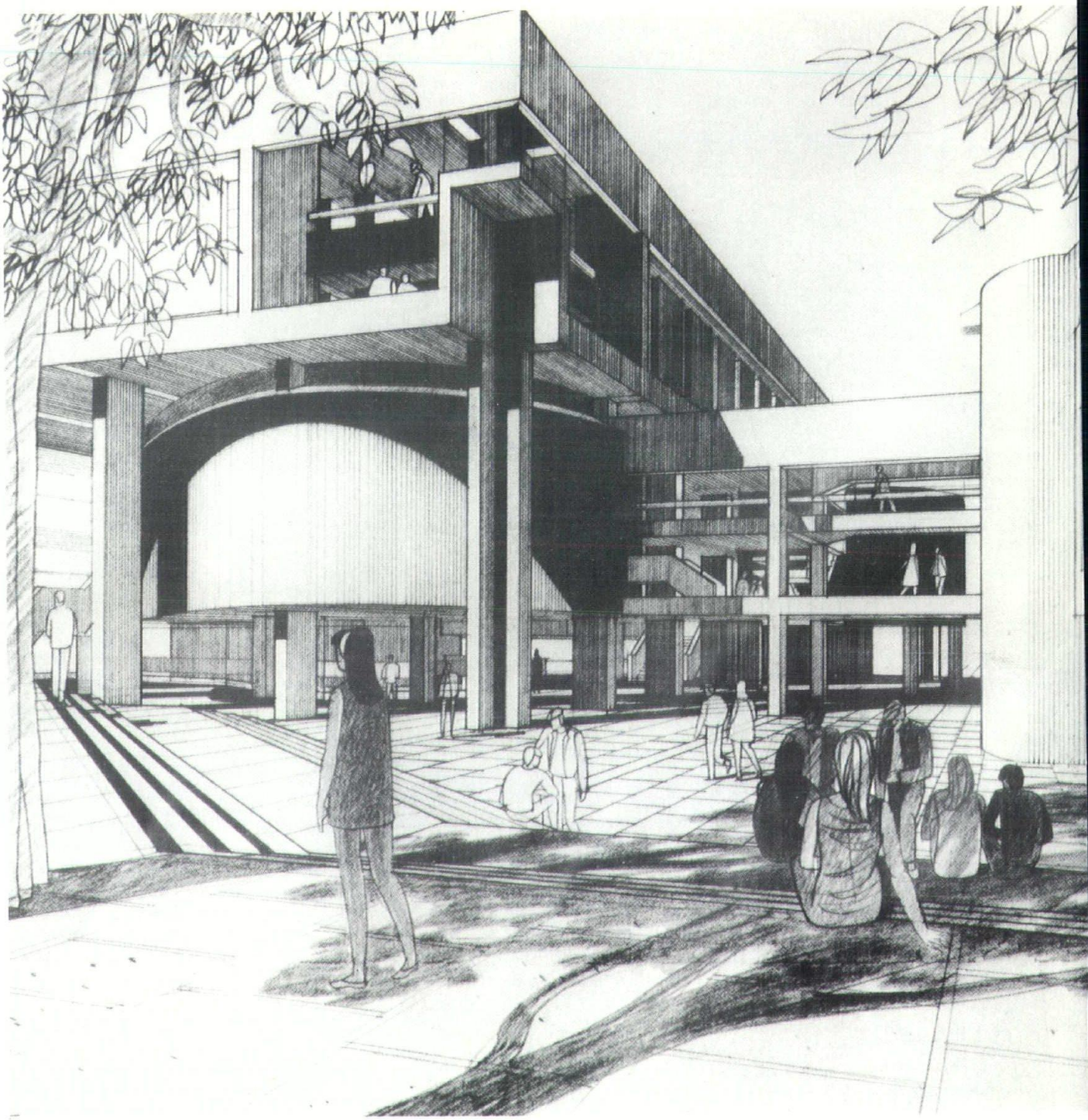
The varied program of the library functions with 1,500 readers' stations and 300,000 volumes and audio-visual facility employing a central projection core, and production space serving a 300-seat audio-visual lecture hall, four 30-seat classrooms, and a flexible area for multi electronic facilities for individual student participation, as well as a fully programmed student union building largely determined the plastic solution arrived at.

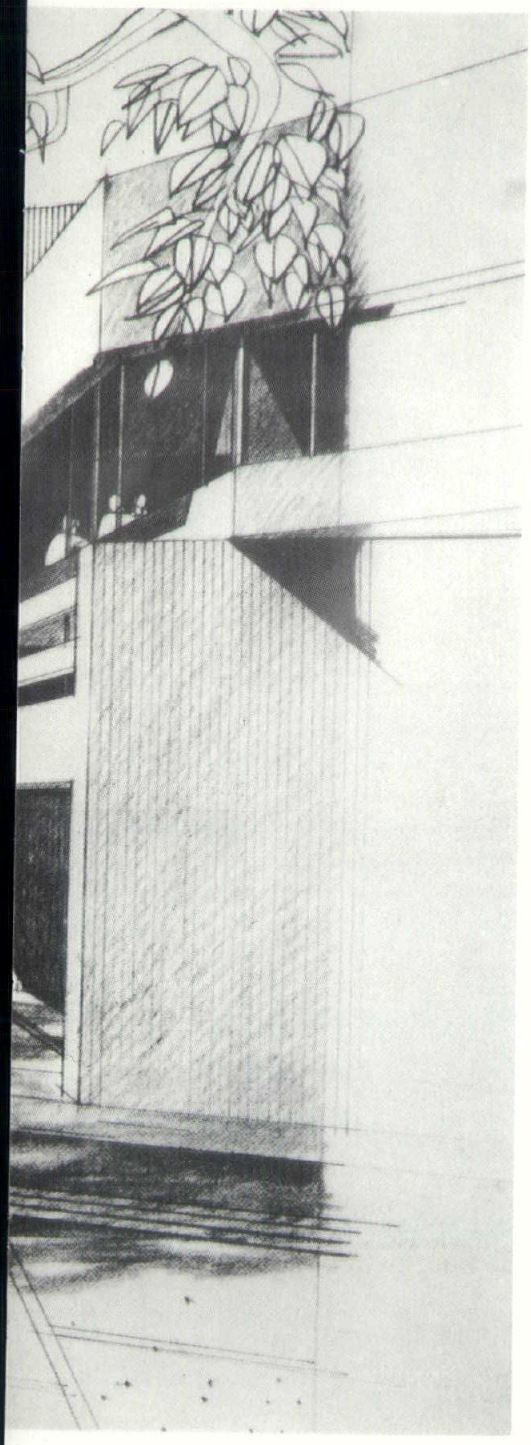
A quadrangular shaped plaza is formed by the Science building and Cafeteria building on the west and south sides. The new Student Union building will frame the east side of the plaza and the five-story cube-like mass of the Library turned at 45 degrees to the newly formed rectangular plaza, makes for a dynamic focus and termination to the north while by its angular gesture inviting the students to proceed beyond to the bank of the Merrimac River.

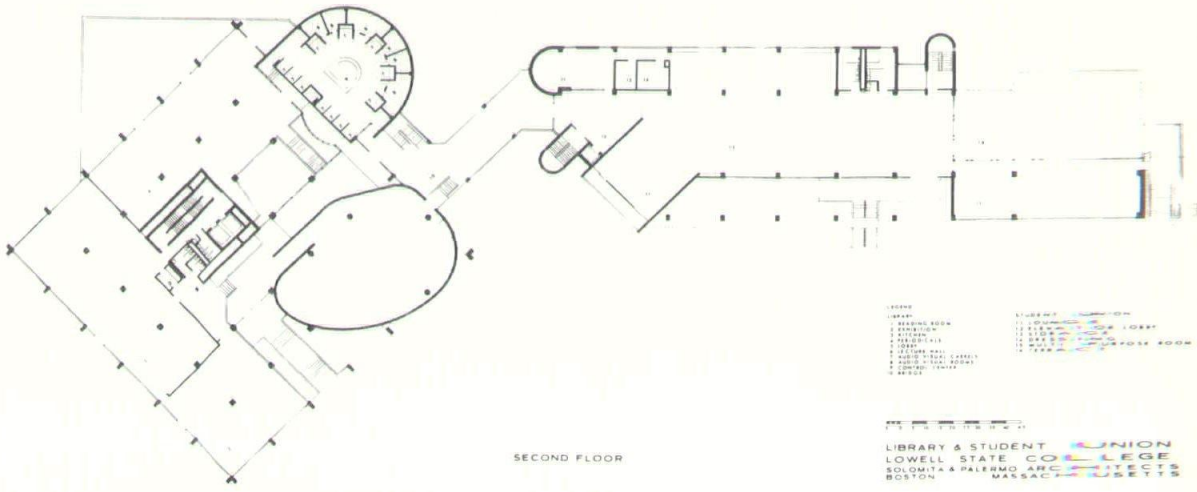
The upper two stories of the Library, cantilevered from the main mass of the building served by a central core house the book stacks while leaving the four corner areas on both floors for reading areas. The curvilinear masses which appear to float below these floors make up the audio-visual facility. The main entrance to the Library is at a lower plaza level under the lecture hall.

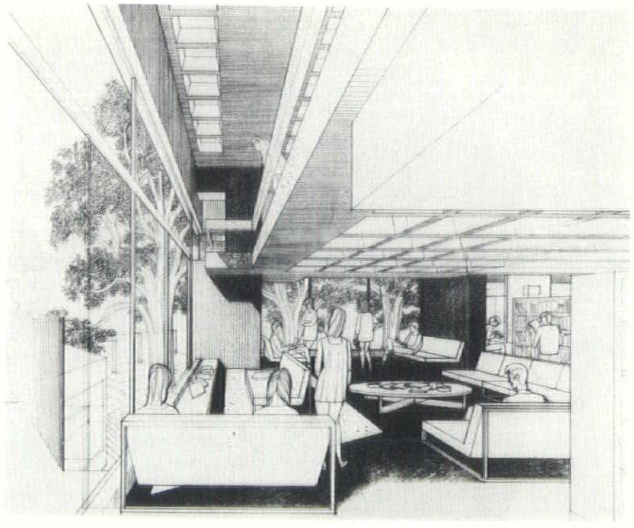
The structure of the Library and Student Union building is of reinforced concrete using exposed domes in the reading areas and flat slab where air ceiling is used in the library. A combination of exposed domes, and exposed ribs are used in the Student Union building. The

*Solomita & Palermo — Boston*







*(opposite page) View of Lower Court showing bridge between Library and Student Union Building. (above) Second Floor Plan. (left) Interior view of typical 4th-5th floor corner reading areas.*

concrete surfaces, both exterior and interior, are left exposed and is either a smooth form finish or a form board finish. Materials other than concrete are kept to a minimum for economy and unity of expression. Brick panels and glass make up the exterior walls. Vinyl asbestos tile is used for practically all floor surfaces.

The materials of the plaza are exposed stone aggregate set in wood dividers, concrete steps and planting beds for trees and ground cover.

Concrete was chosen as the most economical and versatile system to use, as it allows for a maximum plastic and visual continuity in the solution. Brick was selected to recall the predominant material used on the Science and Cafeteria buildings.

The areas for the library and student union building employ 178,000 square feet gross, 115,000 of which is taken up by the library program.

Close collaboration and encouragement were received from Dr. Daniel O'Leary, President of Lowell State College, Mr. Edward Rossi, Chief Engineer of the Division of State Colleges of Massachusetts, Mr. John Galvin and Mr. James Cusak of the Bureau of Building Construction of Massachusetts.

The consultants for this project are as follows: Gordon Bensley, Audio Visual Consultant; Souza and True, Structural Engineers; Environmental Design Engineers, Heating, Ventilating, Air Conditioning and Plumbing; Willard Thompson, Thompson Engineering — Electrical.

# HOUSING FOR THE ELDERLY

## HOPKINTON, MASS.

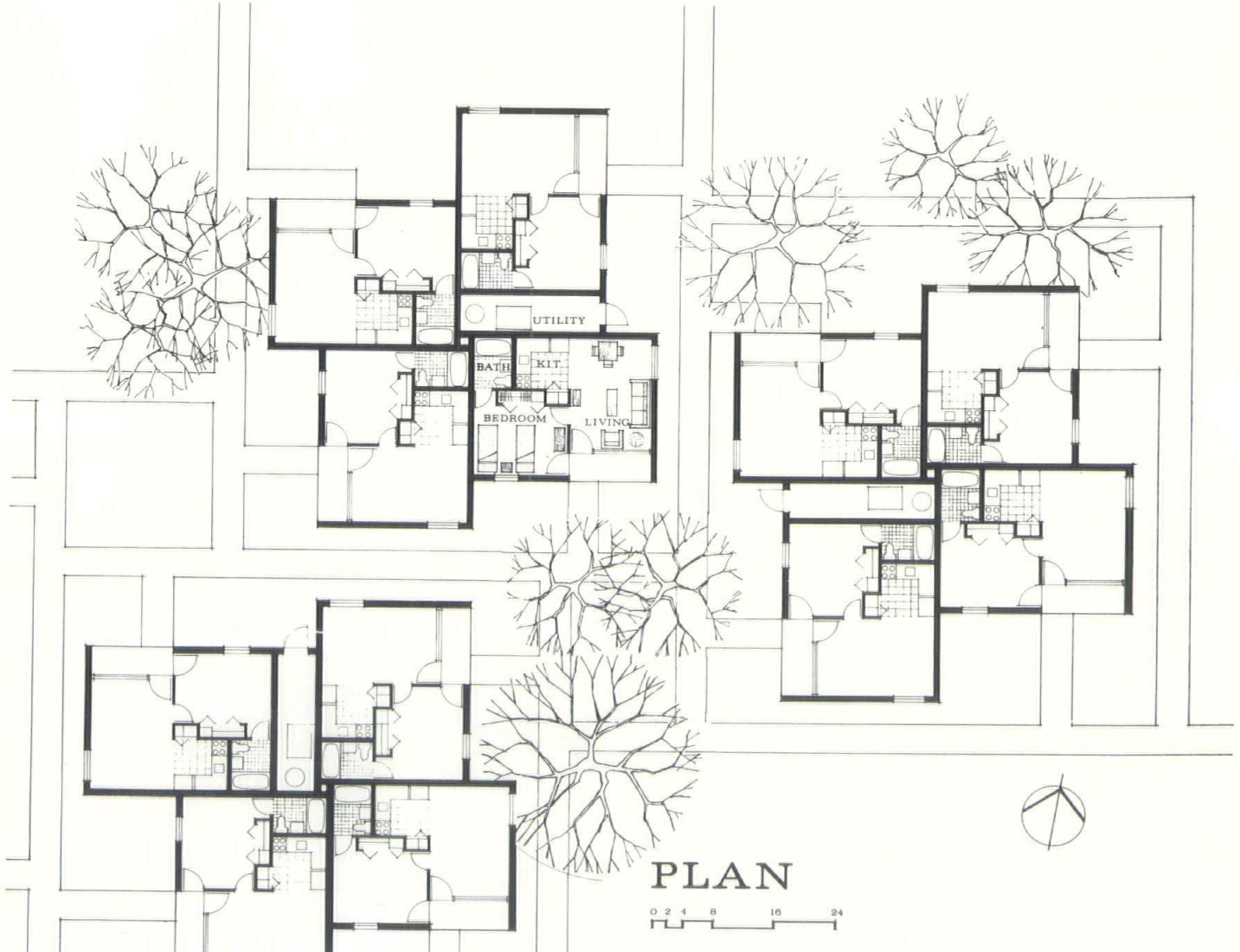
***Wm. Nelson Jacobs Associates — Boston***

THE Hopkinton Housing Authority's expanding low income housing for the elderly project was first begun in 1967 with eight buildings of four apartments each and a Community Building. Fifteen more buildings are presentely under construction (Phase II) and will provide accommodations for at least 60 more occupants by the end of this year.

Each building, which contains four one bedroom apartments, resembles a small salt box home with a high shed roof and weathered vertical cedar siding. The four units, arranged in a pinwheel about a central chimney, share a central service room with a gas-fired hot water heater furnace and hot water tank.

"The high shed roof design made it possible to treat each apartment like a small house," says Michael O'Shea, Design Principal for Wm. Nelson Jacobs of Boston. "It also matched the natural slope of the site, which consists of abandoned farm land with sloping fields and hedgerows. The buildings were stepped down to follow it. If we had kept changing grades and bull-

*Each building, which contains four one bedroom apartments, resembles a small salt box home with a high shed roof and weathered vertical cedar siding. The four units, arranged in a pinwheel about a central chimney, share a central service room with a gas-fired hot water heater furnace and hot water tank.*




PLAN

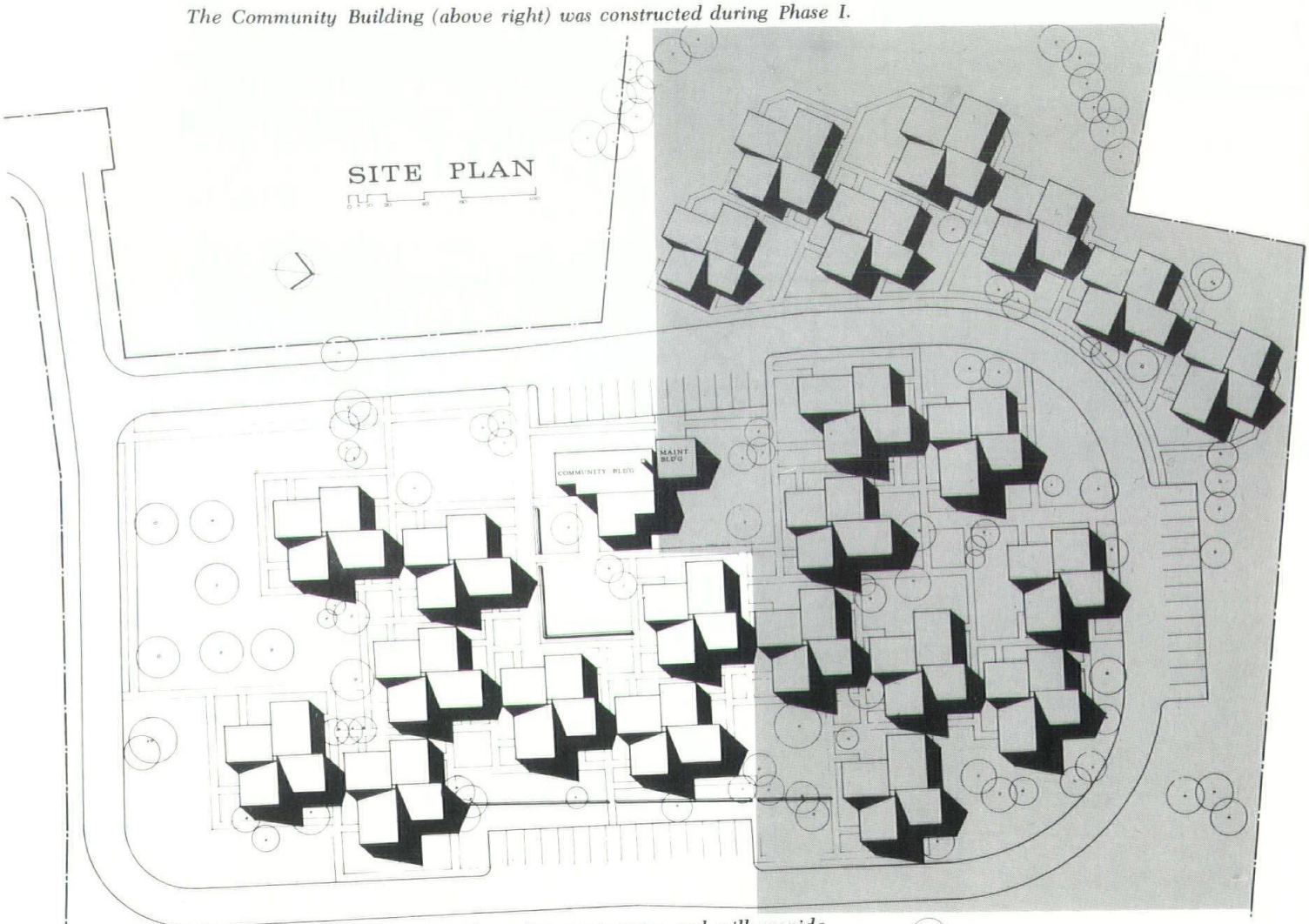
*The Community Building (above right) was constructed during Phase I.*

dozing, we would have lost many of the trees and we wanted to save as many as we could."

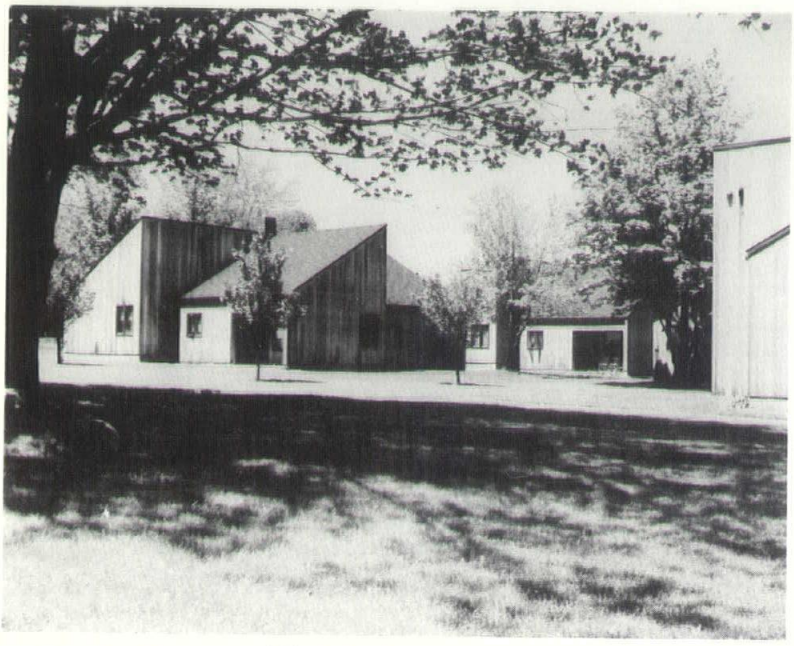
The entire development, 23 separate buildings, the Community House and a new Maintenance Building, will provide a total of 92 apartments. All services are hidden underground and the development has its own sewage disposal facility. Parking has been provided for in peripheral areas.

Thirty-two of the apartments are presently occupied and according to the Housing Authority approximately 80 applications have been received for the 60 new units now under construction.

In accordance with state regulations, maximum apartment unit




*Fifteen buildings (shaded area) are presently under construction and will provide accommodations for at least 60 more occupants by the end of this year.*



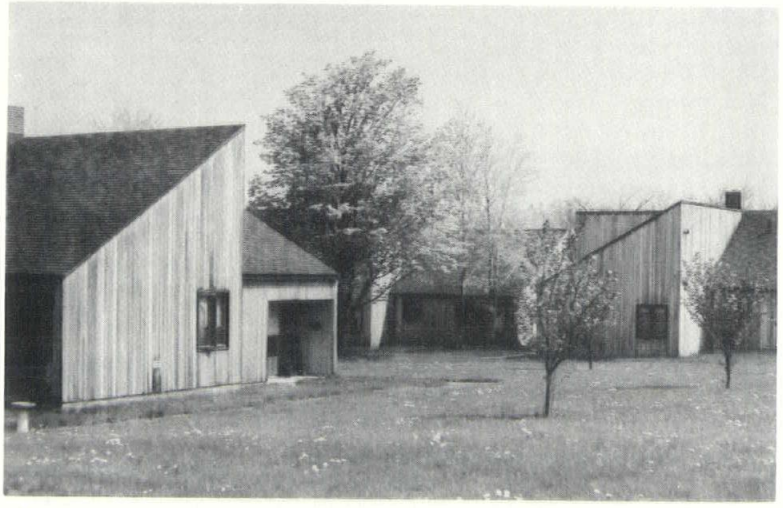
floor space was set at 450 square feet. Each building is criss-crossed with concrete block firewalls and there are two doors to each apartment, one for the living room and one for the bedroom.

Each apartment has a small porch, one step above ground level, a combination living-dining room with a picture window on the porch side, a small workable kitchen with range, sink and refrigerator, a large double bedroom, a bathroom and several fairly large closets.

Despite the steep pitch of the roof, all apartments have normal ceilings. The open space above them is not used for attic storage, but serves as a cooling chamber during the hot summer months.

This high unused space did not add appreciably to the cost, according to the architect, but did add to the contemporary flavor of the entire project. Cost of the original 32 apartments and the Community Building was about $445,000. The cost of the new expansion, 60 more apartments and an addition to the Community Building for tool storage, will be about $1.05 million.

A single apartment unit cost approximately $13,900 in 1966, compared with $17,000 today. The unit cost includes cost of the Community and Maintenance Buildings, the site, landscaping, walks, streets and service installations.



*The high shed roof, which made it possible to treat each apartment like a small house, matches the natural slope of the site consisting of abandoned farm land with sloping fields and hedgerows.*

Materials: Wood Frame Construction (pre-fab roof trusses); Concrete Foundations — Concrete slab on grade; Casement Windows — Package Doors; Asphalt Shingles — Copper Gutters; Drywall Interior — Wood Parquet Floors; Gas Heat, Range, Water Heating.

Owner: Hopkinton Housing Authority.

State Building Agency: Department of Community Affairs.

Architects: Wm. Nelson Jacobs Associates, Inc., Boston.

Structural Engineer: J. L. Barry Associates, Boston.

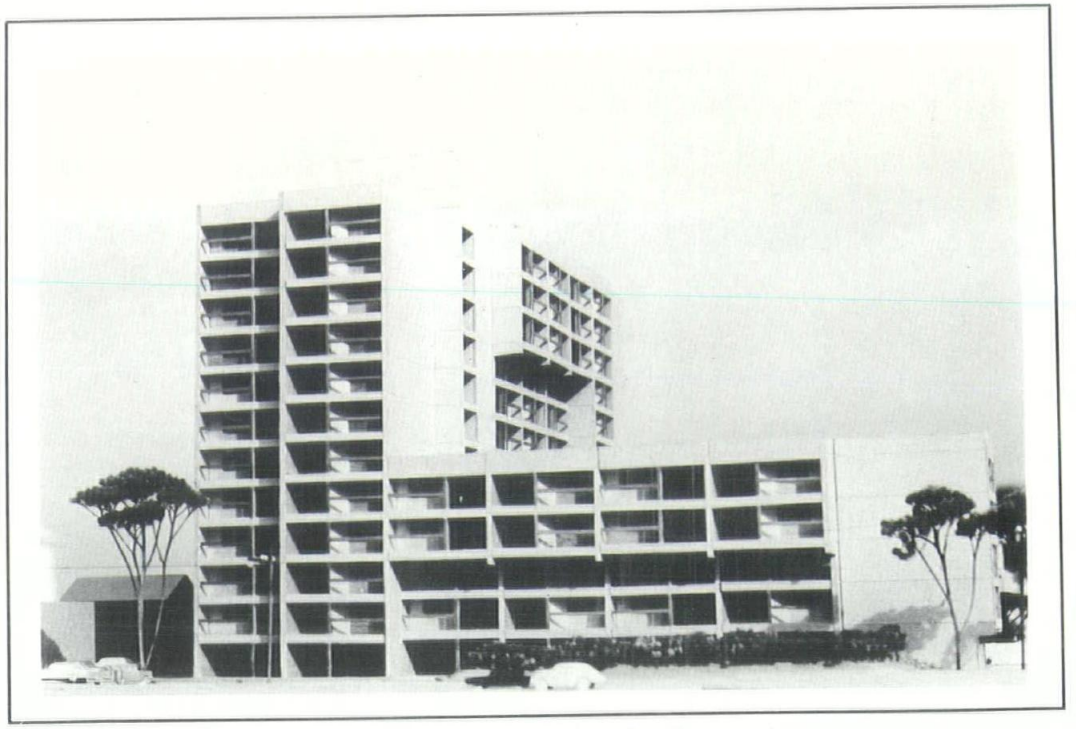
Mechanical Engineer for Phase I: Frank E. Gallagher Associates, Middleton, Mass.

Electrical Engineer: Goodall Shapiro Associates, Inc., Boston.

Site Engineer: Barnes Engineering Co., Inc., Auburndale, Mass.

General Contractor for Phase I: Concrete Construction Co.

General Contractor for Phase II: DiLibero Construction Co., Inc.



*Elderly Complex No. 2: Five stories around a courtyard, with a 12-story wing.*

# HOUSING FOR THE ELDERLY

## Cambridge, Mass.

BENJAMIN Thompson & Associates are the architects for 684 units of Housing for the Elderly — the largest H.U.D. Turnkey Project ever approved — being developed by the Massachusetts Institute of Technology on three sites in the City of Cambridge.

Under the Turnkey Program, M.I.T. is financing the complete project, including site acquisition, and will sell the completed three apartment complexes to the Cambridge Housing Authority for $17,092,000. The C.H.A. will finance the purchase by a public bond sale, and H.U.D. will pay the principal and interest over the 40-year life of the bonds.

M.I.T. will have no continuing or contractual interest after the sale. The University, through the Institute Real Estate Office directed by Antony Herrey, is doing the development on a non-profit basis, with the aim of constructing the finest possible residences for the elderly in Cambridge. In the face of an accute city housing shortage, the units will increase the city's total housing stock by 5%, and will add 40% to the units available for the elderly. According to a University spokesman, the project "represents an important way a university can lend its resources, its talents, its position of leadership to provide urgently needed housing for a large number of community people. We believe a university like M.I.T. has a responsibility to help and this is one way we have chosen to do it."

The three complexes — with 181, 304, and 199 units respectively — have been designed after extensive research involving the residents of each neighborhood and many future elderly occupants. A citywide questionnaire sought the comments and recommendations of all eligible residents on such aspects as living and shopping patterns, food and social needs, storage and health requirements. A joint committee of elders was formed to refine and review program requirements, and to review apartment plans with an eye to practicality, comfort and safety. Throughout planning and design phases, B.T.A. and M.I.T. representatives worked closely with homeowners adjacent to each site, eliciting comments, resolving questions and concerns, and working into the plans facilities for their community needs.

Each complex includes extensive community space that will be open to the wider neighborhood. Two of the buildings include shopping facilities, and outdoor areas have been landscaped with walks, benches, courtyards, planting, and recreational facilities that will also enhance the surrounding areas.

All apartments have private sheltered balconies, convenient U-shaped kitchens opened for serving to the dining-living area, and many comfort and safety features. About 75% of the units are efficiency or "studio" apartments with a separate sleeping ell; the remainder are one and two-bedroom for joint occupancy. On one site, the building is a 19-story High Rise using an adjacent renovated car garage as a social center and shopping area. On another site, the building is five stories high with a 12-story wing; and on the third, in deference to neighborhood preference, the building has been held to 6 stories. Similar apartments and amenities are included in each complex, but the placement and massing of each complex is individualized to fit the surroundings.

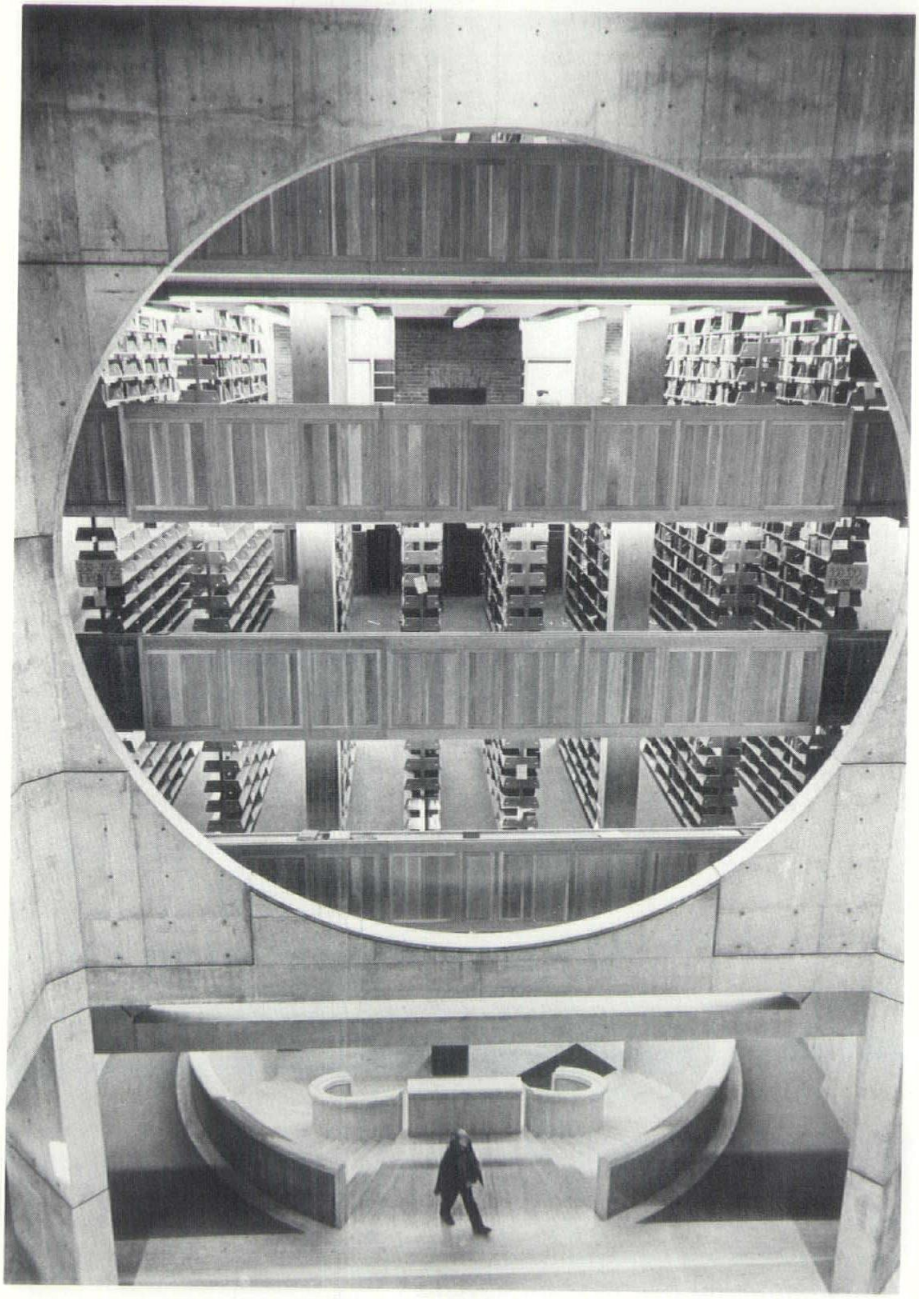
All sites are currently under construction. Occupancy is planned in 1973.

***Benjamin Thompson & Associates — Cambridge***

# PHILLIPS EXETER ACADEMY LIBRARY

## EXETER, N.H.

***Louis I. Kahn — Philadelphia***



WHEN famed Philadelphia architect Louis I. Kahn was commissioned in 1965 to design the newly completed library building at Phillips Exeter Academy, Exeter, New Hampshire, a somewhat paradoxical guideline was imposed by the Academy's Library Committee.

The emphasis in designing the new library was to be not on housing books, but rather on housing *readers using books*. Said Rodney Armstrong, Director of Libraries at Phillips Exeter and spokesman for its Library

*The library's entrance hall presents a dramatic four-level-high view of the library's bookstacks through giant 30-foot diameter openings in each of the four walls above the hall. The miles of shelving and bookstacks required to house the contemplated 250,000 volumes were custom designed and stalled by the Andrew Wilson Company of Lawrence, Mass.*

Committee, "Above all else, we sought to create an environment for our students that would encourage and insure the pleasure of reading and study."

The success of architect Kahn in attaining this objective is evident in both the exterior and interior execution of this new, strikingly modern structure that now dominates the Phillips Exeter campus. Completed in November 1971, the new library building looks deceptively like a five-story structure from the outside. Yet it boasts nine levels inside.

Total cost of the new Phillips Exeter library, including all fees, furnishings, and equipment, was in the vicinity of $4 million. The building will be paid for by gifts from alumni and friends of Phillips Exeter Academy.

Planning of the new library at Phillips Exeter actually began in 1959, when the physical limitations of the Academy's Davis Library, built in 1912, were seen to be approaching the critical stage.

The Director of Libraries, Mr. Armstrong, had originally favored true Georgian architecture for the design of the new library. But in seeking models of this architecture among the libraries of other institutions, he was unable to find any examples of the true original style. It was then decided to depart from Georgian architecture and create a contemporary, functional building that would still be compatible with the older surrounding buildings on the campus.

The selection of Louis I. Kahn for the design of the new Phillips Exeter library culminated a search extending over a ten-year period among over a dozen prominent

architects. Design of institutions in a unique style is a specialty of Kahn, who designed the Salk Institute for Biological Studies at La Jolla, California. He is currently working on the Paul Mellon Center for British Art and British Studies, at Yale University. Abroad, he is designing the entire project for the legislative capital of Bangladesh at Dacca. In 1971, Kahn was awarded the gold medal of the American Institute of Architects, their highest honor. A similar honor is scheduled to be bestowed upon Kahn this year by the Royal Institute of British Architects.

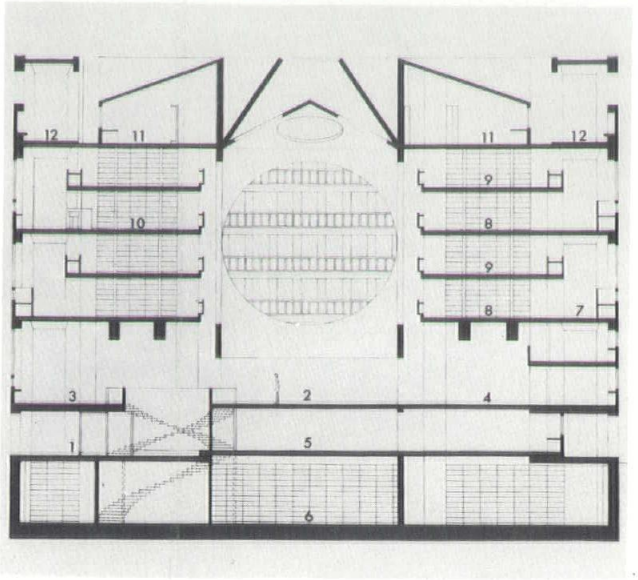
Contract for construction of the new library building was awarded to H.P. Cummings Construction Company of Ware, Mass., on the basis of their low-bid. Groundbreaking ceremonies took place on April 5, 1969.

The new Phillips Exeter library is the largest school library in the nation today, and will house 250,000 volumes. Construction is of poured-in-place concrete and brick bearing walls throughout, with an exterior of traditional brick and stone. The bricks were made locally, in Exeter. Italian travertine was used on the main staircase and on the floor of the central hall. Eighteen tons of all-wool carpeting were installed.

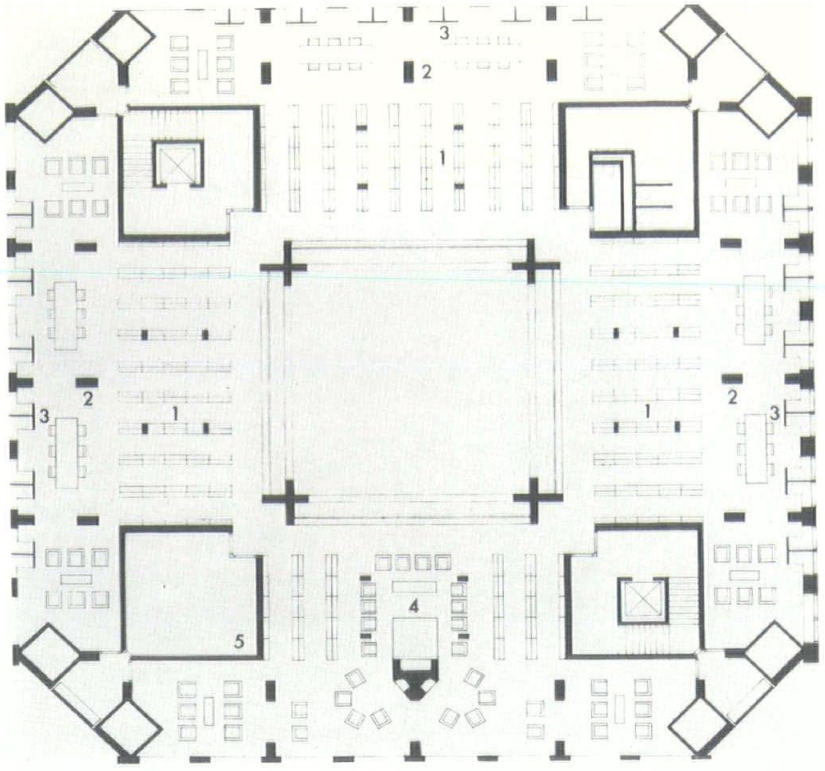
The library's unique entrance hall presents a dramatic four-level-high view of the library's bookstacks through giant 30-foot diameter openings in each of the four walls above the hall.

The nine levels of the library were planned to meet the estimated total floor space needs of 59,000 square feet. In addition to housing 250,000 books, the library is designed to accommodate 450 students — al-

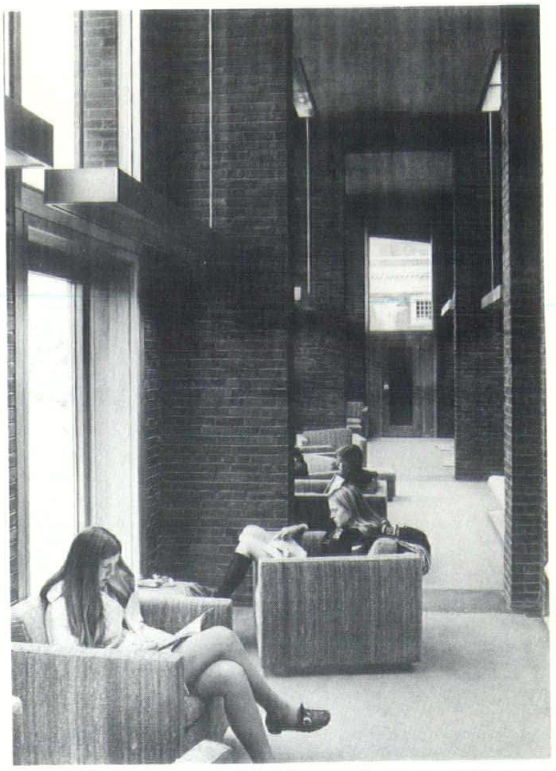
*Section: (1) Entrance; (2) Central Sapce; (3) Current Periodicals; (4) Card Catalogue; (5) Periodical Back Numbers; (6) Periodical Back Numbers; (7) General Reading Area; (8) General Stack Area; (9) Messanine Stack Area; (10) Fiction Area; (11) Rare Book and Seminar Room; (12) Roof Garden.*




*The building looks deceptively like a five-story structure from the outside yet it boasts nine levels inside. The windows at each level are wider than those immediately below them.*




*Third Floor: (1) General Bookstack Area; (2) General Reading Area; (3) Carrels; (4) Fiction Area; (5) Listening Room.*



*Of the 450 seats provided for student use, 50% are at individual carrels, 30% are in upholstered chairs and sofas, and 20% are at tables or other areas of study.*

most half the Academy's enrollment — simultaneously within its reading rooms, carrels and study areas.

Provisions for use of newest audio-visual and electronic learning devices, plus staff rooms, seminar rooms, and soundproof typing rooms, are incorporated in the design of the new library building. Areas for private study, unheard of in the old Davis Library, are provided in individual carrels located along the windows of the second floor and its mezzanine.

Of the 450 seats provided for student use, 50% are at individual carrels, 30% are in upholstered chairs and sofas, and 20% are at tables or other centers of study. Combined incandescent and fluorescent lighting assures the best intensity and type of illumination for the varying functions of each area.

Contract for custom design and complete installation of the miles of shelving and bookstacks required to house the contemplated 250,000 volumes was awarded to the Andrew Wilson Company of Lawrence, Mass. The bookstacks are modular, all-steel units with welded-frame construction that eliminates sway-bracing. Infinitely adjustable shelf spacing is provided by the Wilson construction, for flexibility in accommodating volumes and collections of varying heights.

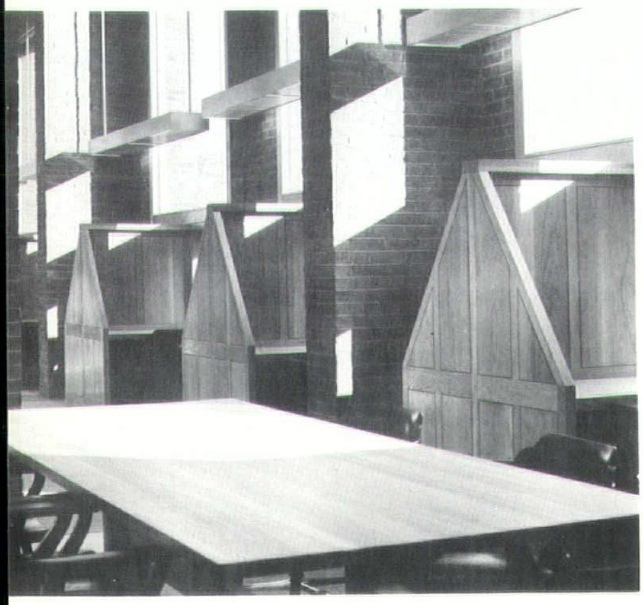
The foundation construction of the new library building is a huge 12,000-square-foot floating concrete pad, one of the largest ever laid in the state of New Hampshire. The library also boasts the state's largest installation of white oak for its paneling, bookcases, doors, interior window frames, and other millwork.

One of the key specifications in the design of the building was choice of all interior and exterior materials for minimum maintenance. Theoretically, all interior materials used will stand up under 25 years of wear and student use, and require only routine cleaning.

All levels of the library are air-conditioned for both the year-round comfort of the students and the preservation of its books against the ravages of heat and humidity. But an outdoor reading terrace is also provided on the top level for those desiring fresh air and natural light, weather permitting.

To dramatize the new building as a focal point of learning within the Academy and the surrounding community, its exterior is illuminated at night. Not officially named as yet, the new structure is currently designated only as "The Library". The former Davis Library building that it replaced has now been converted to student activities center.

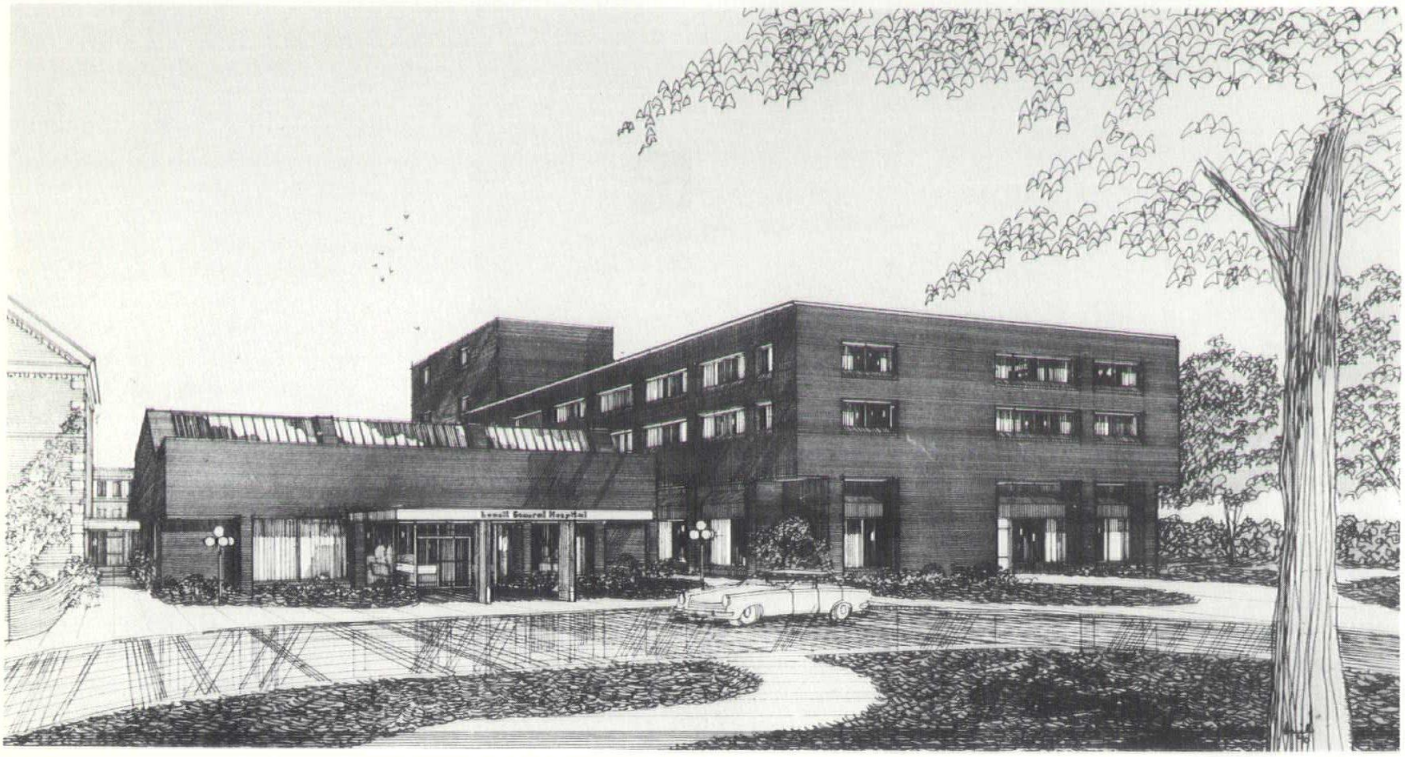
Far more than a mere depository of books and periodicals, the new, modern library at Phillips Exeter Academy will serve as a laboratory for research and experimentation; a quiet retreat for study, reading, and reflection; and the intellectual center of the academic community.



*The library boasts the State's largest installation of white oak for its paneling, doors, interior window frames, and other mill works.*

# LOWELL GENERAL HOSPITAL ADDITION

## LOWELL, MASS.



***Ritchie Associates Chestnut Hill, Mass.***

Rooms that are bathed with natural light from ceiling and window walls, and overlook gardens and roof terraces are some of the design themes of the new $7.5 million addition to Lowell General Hospital, Lowell, Mass. It is the fourth major addition to the hospital's Master Plan, developed by Ritchie Associates, Inc., Chestnut Hill, Mass.

A central skylight spans the all-brick lobby and gift shop. The dining room has a window-wall which overlooks the dining garden and a central skylight chandelier, creating an awareness of light and air in the interior public spaces.

Lawrence Partridge, AIA, a vice president of the Ritchie firm, designed the hospital, scheduled for completion in January 1973.

Interestingly, Lowell General's site is a glacially deposited sand hill. The new construction is a modified "tee" plan, connecting two existing patient buildings. The concrete pan-joist structure is faced with brick and limestone trim.

Some 40 patient beds will be provided in the new construction along with a new pathology department, surgery, radiology department, business facilities, admitting suite, medical records, central stores, radio therapy, inhalation therapy and EKG suite. The new dietary service, main entrance and boiler plant are separate structures integrated within the campus-type hospital complex. All new facilities in the 163,880 sq. ft. addition are replacements and expansions of existing areas; and will aid in the hospital's service to approximately 210,000 area residents.

Designed for both horizontal and vertical expansion, future hospital planning includes a combined medical library, parking garage, intensive care/coronary care suite, and medical office building.

General contractor is Columbia Construction Company, North Reading, Mass. Consultants include: Gilbert Small & Associates, structural; Hodgkins & Sullivan, Inc., plumbing; Buerkel & Company, Inc., HVAC: Edwin P. Mahard, Inc., electrical; Bolt, Beranek & Newman, Inc., acoustical; Mason & Frey, landscape architects; Antranig Der Marderosian, Inc. interior design.

## Historic Preservation Award To The City of Cambridge

*Robert G. Neiley, AIA, presents the Boston Society of Architects Award for Historic Preservation to Barbara Ackermann, Mayor of the City of Cambridge, Mass.*

The Boston Society of Architects Award for Historic Preservation, given annually for outstanding accomplishment in this field, has this year been presented to the City of Cambridge, Massachusetts, and was accepted by Mayor Barbara Ackermann at a recent dinner meeting of the Society.

Following the enactment in 1960 of the Massachusetts Historic Districts Act, the City of Cambridge appointed a Historic District Study Committee under the leadership of Albert B. Wolfe, a prominent Boston attorney and nationally known expert in the field of historic district and preservation law. By 1962 Cambridge had set up four Historic Districts and the Cambridge Historical Commission to administer them.

In addition, the Commission began an inventory and history of Cambridge buildings through the more than three centuries of the city's existence. "The Survey of Architectural History in Cambridge" under the creative guidance of Prof. Bainbridge Bunting has to date included volumes on the buildings of East Cambridge, Mid Cambridge and Cambridgeport, with further books on Old Cambridge due in 1973 and North Cambridge in 1975. The Cambridge Historical Commission has also published the very popular "Ten Walking Tours of Cambridge" by the energetic historical scholar, Robert Bell Rettig, who was the Commission's first executive director.

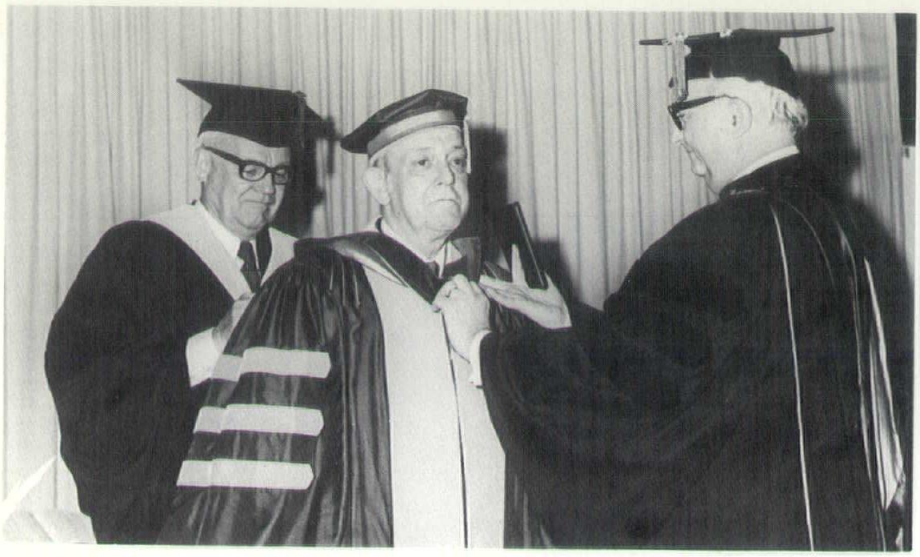
These publications, which serve as a constant resource for city planners, historians, realtors, bankers and ordinary citizens, are a unique achievement by the City of Cambridge and serve as a guide to other communities across the country who are learning that to preserve the valuable parts of their past they must first study, catalog and evaluate the architectural heritage they possess. Since Cambridge is the first city to have so looked at itself, the Boston Society of Architects has presented its 1972 Award for Historic Preservation with the following citation: "To the City of Cambridge, Massachusetts for the pioneering survey of its own architectural history and for the superb documentation, analysis and permanent publication of the buildings which make up that history."



## Arland A. Dirlam Honored by Union College

Arland A. Dirlam, nationally-known college and church architect from Marblehead, Mass., received an honorary Doctor of Laws degree from Union College Barbourville, Ky., during the 93rd annual spring commencement. Dr. Mahlon A. Miller, president of the college, conferred the degree "for outstanding achievement and leadership in the field of architecture." Dr. Dirlam is a member of the Board of Trustees at Union.

Dr. Dirlam is one of the leading ecclesiastical and college architects in the world and has served as a



*Arland A. Dirlam (center) receives an honrary Doctor of Laws degree at the 93rd annual commencement at Union College, Barbourville, Ky. Union President Mahlon A. Miller (right) and Dr. John Boyd (left), dean of the Graduate School, place the academic hood on Durlam, signifying the honor.*

technical advisor to the National Council of Churches. He has received many awards and honors from architectural societies and universities, including honorary doctor degrees from Tufts University and Simpson College.

A graduate of Tufts and Harvard Graduate School of Design, Dr. Dirlam held a Harvard Traveling Fellowship and did special studies in Paris and Rome. He is the author of a book and several architectural publications, and has lectured at universities here and abroad.

More than 180 undergraduate and graduate degrees were conferred by President Mahlon Miller. Union offers two-year, four-year, and graduate degree programs with 26 majors and minors.

Union College is a private, liberal arts institution affiliated with the United Methodist Church. Enrollment averages between 900 and 1,000 students, with about half the students from out-of-state.

## Nottonson Named To Ritchie Design Post

Peter Nottonson, of 21 Pamela Road, Natick, Mass., has been named to the new post of Administrative Assistant to the Director of Design for Ritchie Associates, Inc., architects and engineers, Chestnut Hill. Mr. Nottonson, who received his training at the Boston Architectural Center, joined the firm in 1969.

In addition to his regular duties as a designer, Mr. Nottonson will be responsible for the coordination of activities and production within the Design Department, headed by Wendell R. Morgan, Jr., AIA. Mr. Nottonson will work directly with Ritchie architects on buildings for health care, the firm's specialty field.

Projects on which he has worked include South Nassau Communities Hospital, Oceanside, N.Y.; Noble Hospital, Westfield, Mass.; and Winchester Hospital, Winchester, Mass.

## DeLoach & Parker Join Wright, Pierce & Whitmore

Two New England architects have been added recently to the staff at Wright, Pierce and Whitmore, Architects, of Topsham, Maine.

Robert H. Whitmore, president, said Arthur J. DeLoach III of Freeport, Maine, and George S. Parker, Marblehead, Mass., have joined the firm.

DeLoach received his bachelor's degree in architecture from Clemson University, Clemson, S. C., in 1967. He was discharged from the U. S. Army with the rank of captain in November after serving with the Corps of Engineers, New England Division, architectural section. He had been acting inspector general, New England Division.

He designed the Cape Cod Canal Ship Traffic Control Building at Bourne, Mass., and was involved in Construction Division projects at the Watertown, Mass., Arsenal and NASA Electronics Research Center, Cambridge, Mass. From June 1970 to June 1971, DeLoach was in the Pollution Control Section and Permits Branch of the Corps of Engineers Operations Division working on investigation of violations of the Federal Refuse Act and

processing Federal permits for projects in navigable waters.

Prior to entering the service in 1968, he was involved in several educational and youth programs. He has worked for Lyles, Bissett, Carlisle and Wolfe, Architects-Engineers, Columbia, S. C.; the Greater Southern Area Planning Commission, Statesboro, Ga.; and Corkern, Wiggins and Associates, Hilton Head Island, S.C.

Parker is a graduate of the University of Florida with a bachelor's degree in architecture and is a registered architect in Massachusetts.

He had been employed by Hugh Stubbins and Associates, Cambridge, Mass., since 1968 and his activities included work on a research facility for Teacher's College at Columbia University, New York; a community college facility; two college dormitories; an addition to the Boston Museum of Fine Arts; an office structure; and alterations to Boston Symphony Hall.

Parker also has been employed by Perry, Dean, Hepburn, and Stewart, Boston, Mass., and Eaton Tarbell and Associates, Bangor.



### Tatum, Van Horn, Jacobson Named Associates

Moriece & Gary, Inc., Land Planners of Cambridge and Portland, Maine, have announced the appointment of R. Stanley Tatum, David M. Van Horn and Robert A. Jacobson as Associates in the Cambridge office. Timothy J. Holt, formerly Architects and Planners of New York and Puerto Rico, has joined the staff as a Planner.

**Pfisterer** *(Cont'd from page 2)*

Temple Street Garage, Central Services Building, Knights of Columbus National Headquarters, St. Raphael Hospital, and Grace New Haven Hospital's Memorial Unit.

He was born in Hyde Park, New York, June 11, 1908, the son of Albert and Louise Beck Pfisterer. He attended Poughkeepsie High Schhol in Poughkeepsie, New York (1920-1924), and received his C.E. degree from Cornell University in 1929.

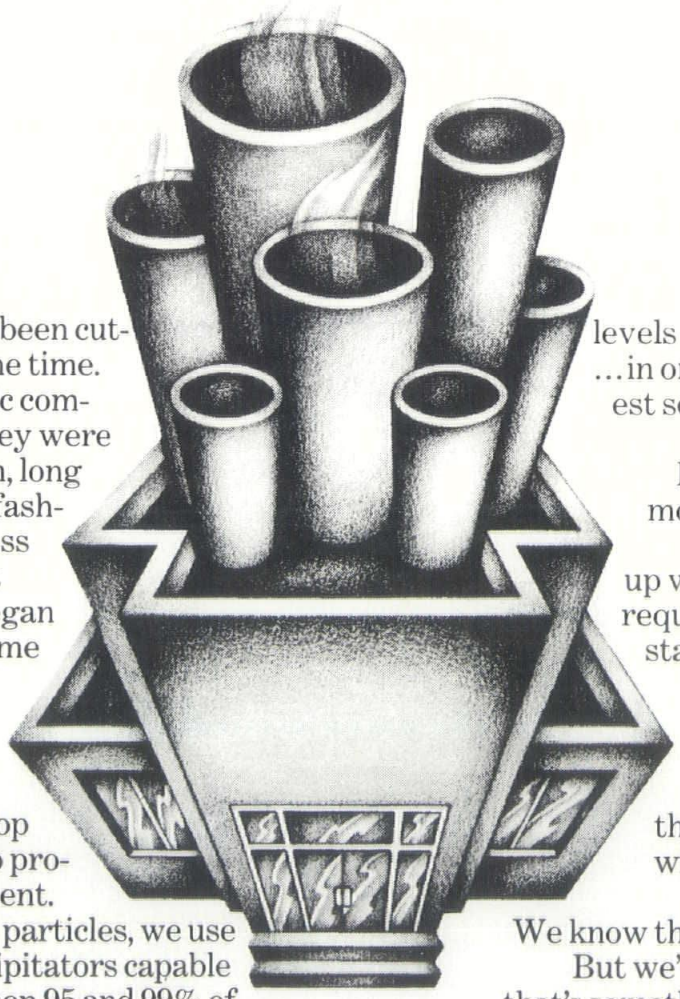
Professor Pfisterer was the author of "Design of Steel Buildings" (with Harold Hauf). He is a member of the Connecticut Society of Civil Engineers, American Institute of Architects, the American Society of Civil Engineers, and the American Concrete Institute.





## Index To Advertisers

# We're smoking less now and enjoying it more.



We've actually been cutting down for some time.

You see, electric companies realized they were smoking too much, long before it became fashionable for business to even talk about quitting. So we began to spend a lot of time and money to improve our equipment, to find cleaner burning fuels and to develop new techniques to protect the environment.

To control dust particles, we use electrostatic precipitators capable of trapping between 95 and 99% of flyash emissions. We built taller smokestacks (up to 500 ft. in some cases) to cut down the concentration of particulates at ground level. And we are continuing our extensive efforts to reduce the sulfur dioxide levels of gaseous emissions ... in one case with the largest scrubber system of its kind in the world.

But we're not just remodeling smokestacks. As we work to keep up with consumer power requirements, we're constantly developing new sources of energy. Like modern new nuclear facilities which will produce thousands of kilowatts without producing any pollutants.

We know there's a lot to be done. But we're smoking less. And that's something we all can enjoy.

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# 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