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ON OUR COVER is an interior view of Richmond Hall at Union Theological Seminary, Richmond. The project is presented on page 18 of this issue by architects Glave Newman Anderson & Associates, Inc. (Cover photo by Katherine Wetzel)

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Climate Consciousness

Over the past several years this space in the Architectural Editions has dealt many times with specific areas of concern over energy sources: recycling, adaptation, community concern, fuel shortages, alternate energy sources, governmental participation (or lack of same), etc. In February of this year an event occurred which will have an extensive and far reaching effect on the practice of architecture and the construction of our physical environment as it relates to energy.

The current chapter in the continuing and worsening energy crisis helped to bring together in conference more than fifty architects, engineers, homebuilders and climatologists for the first climate and architecture conference held since the National Academy of Sciences' Building and Research Advisory Board sponsored such a meeting in 1950. Unfortunately, the impetus begun by that meeting soon dissipated and, by 1953, climate consciousness was out and technology was in. The February 1979, meeting was convened by federal sponsors as was the 1950 meeting. Under directions from Congress to put together an agenda linking climate and energy the U. S. Department of Energy (Division of Buildings and Community Systems) and the U. S. Department of Commerce (National Oceanic and Atmospheric Administration), with the help of the AIA Research Corporation, assembled the conferees in Washington with the avowed purpose of listing the needs of the design community for that agenda. As evidenced by the 1950 meeting and recent research done for the Departments of Energy and Housing and Urban Development, energy savings can be realized by approaching climate as the first criterion to be evaluated in the solution of a design problem. In order to study the factor of climate as it relates to design, all of the various parts making up our climate have to be separated and identified as either design assets or liabilities, and, to accomplish this, architects and engineers have to learn to understand the language and symbols of climate data and know how to extract the information they need from that data. Those were the problems which confronted the conference participants.

To solve these problems, the conference participants set about developing a standardized building climatological summary capable of giving the designer the major climatic characteristics of any of the 138 major weather station locations around the nation. In a three day period involving presentations, smaller group work sessions and a consolidation session, the conferees developed a format, basing their work on the already known impacts of climate on design and on data gathered at the 138 weather station networks as well as from other sources. The format touches on most, if not all, of the climatic factors affecting human comfort in buildings and includes a narrative climatological summary; representative events; normals, mean and extremes; pure information on temperature, humidity, wind, the sun and daylighting; and correlations between temperature and humidity, sun and temperature and wind and precipitation.

In the estimation of the conferees this summary, and its maps, charts, etc., is an immediately necessity. Taken together, the information provided by the survey will give designers a quick and accurate tally of the climatic assets and liabilities of a region, invaluable information for practitioners who can interpret the data. To aid interpretation, the summaries should be supplemented by published guidelines for designers covering everything from understanding climate data to specific design solutions. Designs that respond to climate cannot attack the problem from any one direction but must consider all elements of climate in their approach to energy conservative design and, in addition, must realize the climatic differences from region to region.

In this age of constantly rising foreign oil prices and domestic shortages or uncertainties, the need for energy conservative design solutions is crystal clear. The current state of climate conscious design is thriving and must surely grow as energy conservation becomes a larger concern for all of us. It is up to design professionals to pursue and to follow up on the efforts and the recommendations of the February conference, to study the implications thereof and to put this information to work in the solutions of our designs.

By Frederick E. Baukhages, IV, AIA
Skyline Driving?
The nicest thing about going is staying.

So stay awhile.
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Recollections of My Visit to Kansas City

By S. A. Anderson, III

Leaving Richmond at 7:45 on a Saturday morning is no easy task, but nevertheless I, along with Bud and Dier Lindsay did so. In Atlanta we were joined by a contingent of North Carolina and South Carolina architects who accompanied us to Kansas City. We arrived about midday and checked into the Crown Center Hotel, the convention hotel. The Crown Center Hotel, part of the Hallmark development, master-planned by Edward Larrabee Barnes, features a five-story waterfall down the remains of the old Signboard Hill.

From midday Saturday until Monday morning (when the convention officially started) we were treated to a variety of activities which included a reception, hosted by the Women Architects’ Caucus at the home of Mary Rockwell Hook, a famous Kansas City architect. The home, built in the 1920s was designed in the style that one might call eclectic English Countryside, quite wonderfully detailed and highly picturesque. On Saturday evening, New York dancer and choreographer Marilyn Woods presented the last program in a series of events called “City in Celebration.” The show included a sound and light show and skydivers who tried (and failed) to dive into the midst of 30 or 40 different groups of ethnic dancers.

Sunday activities included a tour of Kansas City residential neighborhoods and the infamous Dodge-Sweet extravaganza. This year it was held in limestone caves somewhere about 15-20 miles east of Kansas City. Unlike nature-made caves such as the Luray Caverns, the limestone caves are man-made by hollowing out a hill. The caves with 12-15 foot high ceilings, supported by 30 foot diameter limestone columns, occupy about 15 acres of underground space. The caves proved to be an ideal location to host the approximately 5000 architects and guests.

These extracurricular activities served an important function as the matrix for the highly political drama in which the architects from the Middle Atlantic Region were engaged: the election of Randy Vosbeck as First Vice President, or President-Elect, of the National Institute. The parties and tours provided an opportunity for some quiet discussions with architects from other parts of the country, during which time we were able to proselytize as well as assess the likelihood of Randy’s election.

The pattern for the next three days, the official days of the convention’s program, went like this: the morning would be given over to business sessions with a break for lunch, at which time the architects could tour the exhibits put on by various product manufacturers and representatives. The afternoon was given over to a theme presentation that lasted about an hour, followed by a choice of seminars covering activities in the general areas of architectural practice, architectural design and opportunities for an expanded practice for architects. Each day’s theme talk was challenging and the seminars were instructive, to the point, and well attended.

On Monday, the morning business session was given over to minor housekeeping items; the giving out of a number of special AIA awards; and a brief ceremony during which the special American Architecture stamps were introduced to the public. Late Monday afternoon I attended the formal investiture of the new Fellows and watched Jack Wilson and Herschel Elarth receive their purple ribbons and bronze medallions. Jack and Herschel were both welcomed into the College of Fellows by former AIA President “Chick” Marshall. Jack Wilson reported to me later that the Fellows’ Dinner following the ceremony, which featured Pietro
Belluschi as the speaker, was a particularly nice affair. For the majority of us non-Fellow architects, however, the major event of Monday evening was the STORM, which arrived on the scene, as someone later said, complete with Dorothy and Toto, excepting only the Wicked Witch of the West, and the only reason she wasn’t there was because Missouri has not ratified ERA. The storm put two inches of rain into Kansas City within twenty minutes and besides disrupting several of the planned host-chapter dinner activities, seemed to contribute in some way to the collapse of a large portion of the roof of the award-winning Kemper Arena. This latter event prompted predictable “No comment” responses from the AIA leadership, the untimely departure of the Kemper’s architect, and a number of phone calls from anxious stay-at-home spouses, who feared that the Kemper was the arena in which the roof of the award-winning Kemper Arena. This latter event prompted predictable “No comment” responses from the AIA leadership, the untimely departure of the Kemper’s architect, and a number of phone calls from anxious stay-at-home spouses, who feared that the Kemper was the arena in which the Architects were actually meeting. Happily, it wasn’t.

On Tuesday morning the business session got down to the serious business of amendments to the bylaws. Several of these were of a “boiler plate” character, but I will mention two in particular: the first gave the public director (the non-architect member of the board of directors) a vote on most matters, excluding questions of ethics; the second was created especially for the situation which occurred the first time at this convention, when there were more than two candidates for the office of First Vice President. The proposed amendment provided that there be a primary election to determine the two highest ranking candidates, in order to prevent the situation from arising in which a President might be elected by less than a majority vote. Both these amendments were passed, and a primary election was immediately held between the four candidates for First Vice President — Herb Epstein, Tom Broshar, Jim Harris, and Randy Vosbeck.

Following the professional seminars on Tuesday afternoon, at the Middle Atlantic Reception put on by Administrators David Holtz of Maryland and Jim Nelson of Delaware at the foot of the waterfall in the Crown Center lobby, the results of the voting were announced: Randy Vosbeck had been elected by a full majority in the primary, thus eliminating the need for a runoff on the following day. This welcome event also took a good deal of the suspense out of the remainder of the AIA politicking; the office of Secretary was not under consideration this year; there was only one candidate for the office of Treasurer; and there were five almost equally attractive candidates for the three Vice Presidents’ positions. On Tuesday night, the Kansas City Chapter entertained the convention architects at an elaborate affair, at the Union Station, entitled “Red Cap Sensation.” From all reports it was a mob scene, but a great success.

On Wednesday morning the convention business session took up the question of resolutions. None of these was particularly controversial with the exception of one offered by the California Council which asked for the Board to undertake a study in order to come up with an AIA policy on nuclear energy. After a good deal of debate, the resolution was defeated by a margin of approximately 1200-800.

On Wednesday afternoon the lavishly Art Deco Music Hall, across the street from the convention center where most of the activities had taken place, was the scene of I. M. Pei’s acceptance of the AIA Gold Medal for 1979. I think Mr. Pei thoroughly charmed the packed house with his brief speech in which he told of several occasions on which he had been gently put down by Frank Lloyd Wright and Le Corbusier, among others. He then spoke a few words on his own approach to architecture, which nicely rekindled little sparks of excitement in the profession for most of us there. Pei’s simple speech on Wednesday afternoon was the unquestionable highlight of the convention, and from this point on, one had a real sense of the convention wrapping itself up for another year. When the balloting was completed on Wednesday, we had elected Anna Halpin of New York, Jerry Clark of Arizona, and Tom Teasdale of St. Louis as Vice Presidents of the Institute for 1980.

The Thursday morning business session was mostly devoted to ceremonial activities. Chief among these, I thought, was a slide show narrated by Steen Eiler Rasmussen, based on his widely read book Experiencing Architecture. Mr. Rasmussen, a very old man, was in the audience and, after the presentation, he succeeded in wresting the stage from Mitch Mitchell — no mean feat — in order to define the slide show to the American Institute of Architects. It was a very funny and moving occasion. The final event of the day, following a speech by Nancy Hanks, was a panel discussion by three architects — Jean-Paul Carthian from Boston, Paul Kunnan of CRS, and Harry Weese from Chicago — on their present work and their present concerns in architecture. Mr. Carthian, whose firm is the principal office of H. H. Richardson’s firm, contrasted some of the work of Richardson and immediate followers with the work of the firm since that time. Mr. Kunnan treated us to a CRS-oriented view of the world, which seemed not to find unanimous acceptance among the architects present; and Harry Weese treated us to a dazzling display of footwork, in which he almost made us not notice that every single one of his slides was either upside-down, or backwards, or both.

The contrasting styles of these three architects seemed to me to summarize almost perfectly the state of architecture in America today; and therefore, this was a particularly fitting note on which to close the convention.
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August 1979

to tell the Virginia Story
Five Virginians are Recipients
In AIA and AIA Foundation Scholarship Awards

Seventy-six outstanding undergraduate and graduate students from 49 accredited U.S. and Canadian schools of architecture and one architectural educator have been awarded scholarships totaling $98,500 under The American Institute of Architects/AIA Foundation Scholarship Program for 1979-80.

The 77 recipients were selected from 263 applicants by the AIA Scholarship Committee, chaired by Richard Dozier, AIA, of Tuskegee, Ala. Other members are Leon Bridges, AIA, Baltimore; DeVon Carlson, FAIA, Boulder, Colo.; Jean Young, AIA, Seattle, and Mary Beth Permar, a student at Clemson University and vice president of the Association of Student Chapters/AIA.

Five Virginia students were among the 77 scholarship recipients. They were: Breveita Omega Jordan, Front Royal, a student at Hampton Institute - $2,000; Adams Scholarship Fund; Jane E. Kimball, Chariot, a student at University of Virginia - $1,500 - Henry Adams Scholarship Fund; Clinton Egbert Brown, Charlottesville, a student at University of Virginia - $1,000 - Waid Education Fund; and Philip H. Buss, Charlottesville, a student at University of Virginia - $1,000 - Waid Education Fund.

The Institute’s scholarship program annually assists promising students in accredited first professional degree programs in the United States or in programs recognized by the Royal Architectural Institute of Canada. Awards, ranging this year from $500 to $2,000 are based on the committee’s evaluation of each student applicant’s academic record, on financial need, and on recommendations by deans or department heads. Professional applicants’ scholarships are based on proposals for study or research beyond the first professional degree.

The scholarship program is generated through endowments to the AIA Fund and annual donations to the AIA Foundation. Several scholarships, administered by the Institute through the Foundation, are funded by annual gifts from private corporations in the building industry. These include: Johns-Manville Fund, $2,000; National Association of Brick Distributors, $1,000; Knoll International’s W. Cornell Dechert Fund, $1,000; and Blumcraft of Pittsburgh, $500.

USA Will Host
International Conference
Of Women Architects

Between 600 and 800 women professionals representing at least 40 nations will meet in Seattle to exchange ideas and information on architecture, landscape architecture, and planning when L’Union Internationale des Femmes Architectes (UIFA) holds its first congress in the United States, Sept. 30-Oct. 4.

President Carter has been invited to open the five-day, multi-lingual conference.

The theme of the UIFA’s fifth annual congress, “New Design Concepts from Changing Resources,” will be projected through daily forums, discussions, lectures, exhibits, tours, and special activities.

Speakers will include Ehrman B. Mitchell Jr., FAIA, president of The American Institute of Architects, and Louis de Moll, FAIA, president of L’Union Internationale des Architectes (UIA). Both are from Philadelphia.

“This conference will communicate ways of work among architects and planners from nations with different social and political structures, all trying to solve basically the same problem—that of the living, working, and recreational environment,” said Seattle architect Jean Young, AIA, congress coordinator and UIFA secretary-general.

Ms. Young noted that the Seattle congress will be the first time in the United States that:
- Women professionals will have an opportunity to offer verbal/visual presentations to an international audience of their counterparts on a theme topic;
- Exhibits of professional design works by women from around the globe will be shown to the public;
- Women professionals from different nations will be involved in dialogues focusing on professional interaction.

UIFA, founded in 1961 and headquartered in Paris, was established to foster exchange between women architects, landscape architects, and planners to link their professional work and achievements and to support expansion of women’s participation in the design professions.

In addition to Ms. Young, UIFA officers include Solange D’Herbez de la Tour, France, president; Eva Spiro, Hungary, first vice president; Madame Raoul Chaneveret, Canada, treasurer. Vice presidents are Shoshona Madjar, Israel; Indira Rai, India; Cynthia Wood, England; and Regnolo Cavinana, Italy.

For information, contact Jean Young, UIFA 79/USA, 5601 N.E. 77th St., Seattle, Wash. 98115, 206/523-5474.
Old buildings. We pass by them daily without looking, thinking we know them – they’re out-of-date, out-of-fashion, obsolete. We fail to see their potential.

But in an era of diminishing resources, a new look at old buildings is clearly mandated. Renovation — the use of existing resources — makes solid sense.

For two-thirds the price of a new building, the City of Manassas was able to completely renovate Osbourn High School, utilizing a structurally sound, existing community resource, right in the heart of town... And in the heart of the people,
for the sentimental attachment to an established school - extending beyond its physical presence - cannot be denied.

Extensive energy conservation features - insulation, the sensitive reduction of large glass expanses, and an innovative mechanical system - were all incorporated. The upper two-thirds of the school's windows were closed in with stone aggregate panels on the exterior and pre-finished vinyl covered drywall on the interior, with thermal insulation between. Result: a new look and improved energy efficiency.

Other work on the exterior included reroofing with a homogenous roofing system, rehabilitation of the brick and stone masonry, and the installation of new aluminum entrances.

The exterior now projects a fresh, contemporary face.

The interior of the school was gutted down to the structure, then completely reconstructed and refinished; brightened and united by a dynamic graphics system. Bands of color run throughout the building. Silkscreened symbols on plexiglass identify each room's use.

- The building was upgraded to meet the current building code and made barrier-free for handicapped use. Combustible materials were removed.
- Semi-circular stair/ elevator towers were added.
- Entirely new gym locker and shower facilities were provided. Colorful sound-absorbing drums were hung from the gym ceiling to improve acoustics.
- A new office suite was created out of formerly wasted space - an exterior portico formed by a building overhang.
- The lobby was updated with the installation of an aluminum linear ceiling.
- Both the cafeteria and auditorium were refurbished.
- The library was entirely reconstructed - new stacks, carpeting, and a ceiling system, which by using perimeter indirect lighting, seemingly floats above the room. All new built-in equipment, chalk and tack boards, darkrooms, doors, carpeting, lighting and acoustical ceilings were installed.

Flexibility was designed into the new mechanical system, allowing the use of gas, electricity, oil, and potentially, solar, as alternative energy sources. The school is now air conditioned by heat pump, cutting energy costs by utilizing outside air for "free cooling."

Amazingly, this two million dollar renovation - from start of design to end of construction - was accomplished in just six months.

Stauffer Construction Co., Inc., of Wheaton, Maryland, was general contractor.

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Goodman Bros., Inc., Fairfax, masonry contractor; Anning Johnson Co., Springfield, roof deck; Fred S. Gichner Ironworks, Inc., Beltsville, MD, miscellaneous metal; Tornstad Caulking Co., Inc., Alexandria, caulking; Orndorff & Spaid, Inc., Beltsville, MD, roofing; Allied Steel Products, Miami, FL, metal doors & frames; Arlington Woodworking & Lumber, McLean, wood doors; Vienna Glass Co., Vienna, windows; Yeatman Architectural Hardware, Clinton, MD, hardware supplier; McClary Tile, Inc., Alexandria, ceramic tile; C & H Contracting, Inc., Oxon Hill, MD, acoustical treatment & firestein; and Southern Maryland Floor Co., Waldorf, MD, resilient tile & carpet.

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Two Elementary Schools
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Glen Allen And Donahoe Elementary Schools exemplify the adaptation of basic prototypical functional elements to two different sets of circumstances. The elements are flexible in their response to specific variables. The primary difference between the two schools is their sites, with Glen Allen occupying one which is more restrictive. One of the most notable characteristics of the schools is their articulation of the various prototypical functional components. The massing is
broken up into classroom modules, large single-function areas such as library and multipurpose space, service block and administrative space. The communal and administrative areas tend to be centralized near the main entrance, with service and classroom areas toward either end. These components are expressed externally by roof pitch and orientation. Entry and exit occur in slots where the masses have been pulled apart, enabling ease of circulation in all areas. The greatest degree of separation occurs between the service (cafeteria, kitchen, mechanical, etc.) and non-service areas. A circulation spine connects the functional units, but is not expressed on the exterior, allowing the units themselves to take visual precedence.

The classroom modules, one per grade level, also use a common diagram which is altered to accommodate specific needs. Each one consists of 3 or 4 classrooms separated by folding partitions, which

(Continued on page 46)
Renovation of Richmond Hall
Union Theological Seminary, Richmond
Glave Newman Anderson & Associates, Inc. — Architect
INTRODUCTION

The renovation of Richmond Hall is the first major step to be taken in a series of long-term development projects outlined by Glave Newman Anderson and Associates for the Union Theological Seminary in Virginia. These new projects will work to reverse development trends that were set in motion when the Seminary moved to Richmond in 1897.

At that time, the site of the present campus was open land on the north side of Richmond. When the original quadrangle of buildings was laid out by Charles H. Read, Jr., the buildings naturally faced outward, toward the open country; the buildings presented only back doors and carriage houses to the generous interior space which was seen as a shared "back yard." It was, in fact, ringed by a service drive for discreet deliveries to the back doors of all the buildings. But as the city grew out to engulf the campus, the view outward lost its appeal and the inner "service court" came to be valued as a precious, open space. Gradually the service drive was replaced by walkways, trees were planted, and the quadrangle became the true communal focal point for the Seminary.

The problem, pointed out by the architects, was that the forms of the buildings fought this communal focus at every turn; no buildings had major entries onto the quadrangle so activities could not flow naturally from the buildings out to the common space, and few occupied rooms overlooked the quadrangle, making it a place that felt isolated and even dangerous after dark.

Glave Newman Anderson's response to this situation was a master plan which provided a "shopping list" of development projects...
which could be accomplished relatively independent of each other, and in no particular sequence, as funds became available. Some of the projects were quite small and fundable out of operating expenses, others were so large as to require fund-raising campaigns — but each was a project that would, in some way, promote the central intention of the plan, to enhance the “specialness” of the quadrangle. The landscape work shown here is the sum of many small projects; the work done at Richmond Hall is a project of the major type.

RICHMOND HALL

Richmond Hall was built in 1906 as a dormitory and dining hall facility. A building in the shape of a capital L, it was entered through a porte-cochere at the base of the L, turning only windows to the street and quadrangle at its sides. The major thrust of Glave Newman Anderson’s renovation was thus to re-orient the building to face the quadrangle. First, the old porte-cochere was blocked by building a glass-walled conference room in its center. Then the whole “stem” of the L on the first floor was converted into a student lounge; the windows in the lounge were extended down to the floor to form doors; the turf of the quadrangle was ramped up to a new brick terrace at that floor level, and the terrace was roofed with a glazed canopy suspended from the building’s existing roof tie-rods. The terrace design, in which two ramps slice across gentle steps, gives handicapped access without the usual “wheelchairs only” stigma, sets up places for lounging in the sun, and has provided an image of what the President of the Seminary calls “arms spread wide in welcome.”

In the lounge itself, brightly-painted ducts provide the articulation formerly given by false plaster beams, while varied ceiling

(Continued on page 48)
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Crowning a hill near the city of Manassas rises the bold sculptural form of the Manassas Presbyterian Church.

The nature of the lovely site was a powerful form-giving factor. Highly visible, and graced with a number of mature trees, it demanded special attention: the prominent location dictated the need for a strong architectural statement.

A preliminary program prepared by members of the congregation required that the church "look like a church": its function had to be obvious. Further, anything that smacked of ostentation was to be disavowed: it had to be clean, simple.

But appearance, exterior expression, was just one factor.

Outgrowing an existing in-town facility, the congregation needed expanded worship space, as well as a series of classrooms for Christian education, a library, meeting spaces, a serving kitchen, and church offices. A fellowship hall, and additional classrooms and meeting rooms were tagged as future need.

Other requirements: a variety of room sizes; flexible spaces; capability for community use.

The preservation of the seventy-five year old stained glass windows from the original church was imperative.

Maintenance was a major concern. As was energy conservation. And planning for use by the handicapped.

Within these guidelines, the new Manassas Presbyterian Church site was master-planned and the structure designed.

(Continued on page 50)
Joy Manufacturing Plant
Tazewell County
Wiley & Wilson, Inc. — Architect

Wiley & Wilson, Inc. recently completed a major coal mining service facility for Joy Manufacturing Company. The Lynchburg-based firm provided all architectural and engineering services for the new service center located in Tazewell County. The challenge was designing a plant adapted to the needs of their client's business and the rugged terrain on which it is built.

Joy Manufacturing Company is one of the world's leading manufacturers of coal-mining machinery and other equipment. Its Tazewell County service center, one of several throughout the nation's mining areas, serves the heaviest coal mining region in the country—Virginia, West Virginia, Kentucky, Tennessee, and Alabama. The facility functions as a remanufacturing plant used to rebuild the massive electrical, mechanical, and hydraulic components of the coal mining industry.

"In designing Joy Manufacturing's new plant," says Wiley & Wilson Project Manager Sam Thompson, "we had to overcome problems with the mountainous terrain." Since the mountain building site varied from soft earth to pinnacles of rock, a "floating slab" foundation was used.

"We also had to keep in mind the function of the plant—working with huge heavy machinery," explains Thompson. A central mezzanine providing over 20,000 square feet of storage space is easily accessible to all areas of the plant. Crane runways are over almost every area of the plant for the many bridge cranes used to move heavy machinery while smaller jib cranes are installed in many of the support columns. The interior of the plant has few partitions to provide easy access to equipment by the
cranes. Also in areas of heavy cutting and welding, special ventilation systems remove the fumes.

Green pre-finished steel panels were chosen for the plant exterior for economic reasons while providing good insulation in the 90,000 square foot single-story area. Adjoining the plant is a two-story 10,000 square foot office building of off-white and buff-colored split-rib block and solar-bronze tinting insulating glass. The lightness of the office area provides contrast to the plant area.

"When you're designing and engineering an industrial plant such as this one for Joy Manufacturing Company," Thompson said, "the nature of their business must dictate design. That way both the architect and client are winners. The architect’s ingenuity is challenged and his capability advanced, while the owner has a building tailored to the needs of his plant."

N. C. Monroe Construction Co. of Greensboro, NC, was general contractor and handled sodding, seeding, etc., foundations, concrete work, carpentry, millwork, paneling and cabinets.

Subcontractors & Suppliers

Also, Regan Roofing Co., Inc., Mt. Airy, NC, built-up roof, roof insulation & sheet metal; Bluefield Glass &

(Continued on page 51)
The C & P Telephone Company
Plant Commercial Operating Center, Henrico County
Baskerville & Son — Architect/Engineer

Mechanical Engineer, Baskerville & Son • Electrical Engineer, Baskerville & Son • Structural Engineer, Harris, Norman, Giles & Walker • Site Work Engineer, CEK, Inc. • General Contractor, Whiting-Turner Contracting Co. • Photography, John Waggaman.

This three-story building is the second building to be located on the 51 acre site. The building houses commercial operations, archives, and training functions. Provisions have been made to expand the building to the east.
The construction is steel columns, trusses, and long span joists. By providing a complete sprinkler system and limiting the building height to three stories, the building code permitted the omission of fireproofing.

The layout of the floor plan was designed to allow open office planning. A large open space is located to the south of the building core. Access to core functions is provided on the north corridor. Electrical and telephone outlets are provided by a 4' x 6' pattern of preset inserts. The fiberglass ceiling and deep cellular parabolic light fixtures control sound reflections from the ceiling.

The sloping glass walled first floor corridor will be a main stem corridor to future buildings in line with this building. The employees' lounges project into a future brick mall which will be created when parking decks to be located to the north are constructed.

Whiting-Turner Contracting Co. of Chester was general contractor and handled foundations, concrete work, stonework, carpentry and foundation insulation.

Subcontractors & Suppliers
(Richmond firms unless noted)
Warren Bros. Construction Co., excavating & paving contractor; Watkins Nurseries, Inc., Midlothian, sodding, seeding, etc., landscaping & landscaping contractor; RRA Contracting, Inc., reinforcing; Lone Star Industries, Inc., concrete supplier; Wm. E. Tucker, Inc., masonry contractor; Arben and

(Continued on page 51)
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One of the true engineering marvels on the Peninsula, the Newport News Savings and Loan’s new solar energy building contains 40,000 square feet with an exterior of mirrored glass that literally reflects the busy Peninsula they serve. The new building is completely fireproof, utilizing poured-in-concrete construction. Designed primarily for a southern climate, the 24,000 square feet of exterior reflective glass is insulated and was selected to provide maximum shielding of the sun in warm weather, permitting more economical operation while giving optimum visibility for tenants. The shading provided by this reflective glass provides shielding of radiant discomfort.

During the winter months, the low angle of the sun will allow greater absorption of its energy to aid in

(Continued on page 51)
Dirk Bloemers Family Residence Addition
Albemarle County
John B. Farmer, Jr., AIA — Architect

Mechanical Engineer, John B. Farmer, Jr., AIA • Electrical Engineer, John B. Farmer, Jr., AIA • Structural Engineer, John B. Farmer, Jr., AIA • Landscape Architect, the Owner • Interior Design, John B. Farmer, Jr., AIA • General Contractor, Richard J. Funk, Builder, Inc. • Photography, Robert E. Troxell and John B. Farmer, Jr., AIA.
An old log cabin is the focal point of a group of buildings located beside a small lake, on a farm, in the mountains of western Albemarle County. Mr. and Mrs. Dirk Bloemers, the new owners of the property, decided on the log cabin as their home despite its small size. The cabin, which had been used in recent years as a weekend retreat, had two bedrooms and a bath on the second floor, and one large living area on the ground floor — hardly big enough for a family of five. They needed an addition, and they wanted a contemporary addition that would be compatible with the existing structure. Mr. and Mrs. Bloemers wanted to preserve the integrity of the old cabin which was to become their home.

The addition was designed to provide a sense of enclosure and protection not unlike the log cabin. Openings on the front were kept to a minimum, hoping to avoid competition between the new and the old. The roof slope of the cabin was repeated on the addition, and the new ridge line was kept below the old one. A flat section of roof separates and helps define the two distinctly different elements of the house.

The exterior materials include cypress siding, fieldstone and a galvanized metal roof. The structure is concrete floor slab on grade and 2 x 6 wood frame walls. Heating for the cabin and the addition is provided by hot water baseboard units.

The addition encloses one end of the log cabin with its stone fireplace to form one wall of the kitchen and foyer. The other finishes in the kitchen area are soapstone flooring, pine wainscot, pine cabinets, gypsum board walls and a cypress ceiling in the two-story portion that includes the loft.

Natural light from high windows and a skylight give this two-story space a feeling that prevents the large stone fireplace from becoming overbearing in its “new” setting. The ever changing spatial qualities and materials of this small house add a measure of interest that is greater than the sum of cabin plus addition.

The master bedroom has an eight foot ceiling height which seems low in comparison to the other spaces, but is similar to the cabin. It has a wood parquet floor,
gypsum board walls and ceiling, and soft warm colors throughout. The large window offers a view to the lake through the weeping willow trees just outside. The master bath is finished in ceramic tile and gypsum board.

As a part of the construction project, certain improvements were made to the cabin. An existing porch was screened; stone underpinning was set in place; a new septic system was installed; heating was provided; and, the cabin was treated with a water repellent material. What had been a multi-purpose first floor space with kitchen in one corner, is now a large living room with space for dining at the end.

The children enjoy the upstairs of the old cabin as their special area while the parents have the privacy of the addition. The family spaces are functional, attractive and varied, with room for the many activities and interests of each person. The two buildings-as-one have given this family a unique home in an idyllic setting — a combination of old and new.

Richard J. Funk — Builder, Inc. of Charlottesville was general contractor and handled masonry work, work on carpentry, structural wood, millwork, paneling, cabinets, waterproofing and caulking, and roof insulation, wall insulation, and foundation insulation. The owner acted as his own painting contractor.

Subcontractors & Suppliers
(Charlottesville firms unless noted)

James L. Chisholm, excavating; S. H. Herring, concrete contractor; Allied Concrete Co., concrete supplier, masonry supplier & mortar; Jenico Stone Co., stonework contractor/supplier; E. M. Martin, Inc., roof deck, roofing & sheet metal; Better Living, Inc., carpentry structural wood, millwork, paneling, cabinets, waterproofing & caulking with the general contractor, and wood doors & windows; and, Charlottesville Glass & Mirror Corp., glass & glazing contractor.

Also, Martin Hardware Co., hardware supplier; Frank E. Ware — Plastering/Dry Wall Contractor, gypsum board contractor; Oliva & Lazuri, Inc., (now Richard A. Oliva & Sons, Inc.) ceramic tile & special flooring — soapstone; Maddux Supply Co. and Noland Co., plumbing fixture suppliers; Pete’s Plumbing & Heating, plumbing/heating contractor; George Kovacs, Inc., New York City and Piedmont Electric Supply, lighting fixtures suppliers; Ayell’s Electric Co., electrical contractor; Paul Pyzyna, Free Union, wood screen; Coleman’s Floor Service, floor finishing; and Hydrozo Products Co., Myrtle Beach, SC, water repellent coating for old log cabin.
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Beach House
North Carolina Coast
Glave Newman Anderson & Associates, Inc. — Architect

The owners of this North Carolina Outer Banks vacation house wanted a design that would recall the "Old Nags Head Houses" that had played such an important part in the summers of their youth. The rambling, wedding cake, single-styled houses of the Outer Banks have grown more graceful with age, and it would be difficult to duplicate that quality in a brand new progeny. Recalling the familiar materials, the layered look, and the wrap-around porches with wide overhangs helped to establish the link with the past. The fact that the owners have a large family, many friends and enjoy entertaining contributed to the requirements that the house must be large and accommodating. The living areas are designed to "flow," to be open, to accentuate the rambling quality of the house; they are meant to be used simultaneously. Bedrooms and adjacent bathrooms are found on all three levels of the house and can accommodate large or small crowds with plenty of privacy for everyone.

The house is laid out in such a way as to allow flow-through ventilation to take advantage of the slightest breeze no matter from which direction it might flow. Even when the interior spaces are closed to provide privacy, breezes can flow through the rooms because of their orientation and by use of interior shutters and gaps at the roof line. Utilizing natural ventilation minimizes the need for the mechanical air conditioning which is provided.

Although the house is winterized, (heavily insulated with extremely tight double-glazed windows and sliding doors and a fireplace), it is primarily meant to be used as a summer and weekend house. Exterior decks and porches provide half again as much square footage as the interior and add flexibility to the living and entertaining space. All of the exterior living spaces except the "dune deck" and second floor sunbathing deck, are under the large overhanging roof, allowing for use during all weather conditions and providing protection to the openings so that they can remain open during storms. In addition, the circumferential decking allows for outside use no matter what the sun or wind conditions.

The site, a double oceanfront lot protected by a story-high dune, is flanked by 1950s, single-story cinderblock cottages. From the beginning, it was decided that the house should reflect needs and requirements of the client and the present and future development of the beachfront rather than accommodating the single story, behind the dune, with no breeze or view approach as established by flanking structures. By raising the main living level to +10 feet above grade, occupants are able to take advantage of a variety of views in every direction. In addition, as a result of the changing and uncertain nature of the beach, raising the house enabled it to be designed in such a way as to be relocatable further back from the water's edge should the need arise. Since its completion, a number of second and third-story additions to existing single-story cottages have been built, an indication that the intensity of beachfront is increasing.
The exterior handsplit cedar shingles on the walls and the machine-cut shingles on the roof have already begun to turn various shades of gray giving the appearance that the house has been around for a number of years. Responding to the client's desire that the house should be as maintenance-free as possible, the interior is finished out in natural wood and sheet vinyl. The walls and ceiling are a combination of cedar plywood and tongue-and-groove cedar boards, all openings are trimmed out in clear cedar. The floors are screwed-and-plugged random width oak in the living, dining and entrance areas, sheet vinyl in the wet areas, and carpet in the bedrooms. There are no painted surfaces inside or out. Window washing and vacuuming are all the tasks that are required to maintain this vacation house, and after all, isn't that the way it should be!

R. D. Owens Co., Inc., of Harbinger, NC, was general contractor and handled carpentry, millwork, caulking, roof insulation (Dow Chemical USA), wall insulation (Owens/Corning Fiberglass Corp.) and electrical work.

Subcontractors & Suppliers
D. D. Well Drilling, Wancheese, NC, piling; Grandy Readymix, Grandy, NC, paving contractor; Kitchen Distributors of Va., Inc., Richmond, cabinets & equipment; Cedar Roofs of Richmond, Inc., Richmond, roofing; W. H. Stovall Co., Richmond, Naturalite glass; Pleasants Hardware, Richmond, hardware supplier; Aubrey James, Weaksville, NC, resilient tile; Wayne Trimmer, Elizabeth City, NC, painting contractor; Sherwin-Williams Co., Richmond, paint manufacturer; W. T. Beasley, Kill Devil Hills, NC, plumbing contractor; and Climate Masters, Elizabeth City, NC, heating/ventilating/air conditioning (Carrier equipment) contractor.

Other suppliers included, Koppers Co., structural wood; U.S. Plywood, paneling; Pella Window Co., wood doors & windows; Kohler Co., plumbing fixtures; and Lightolier, lighting fixtures.
Greensville-Emporia Regional Library
Emporia
Moseley-Hening Associates, Inc. — Architect

Formally dedicated in the Fall of 1977, the Greensville Emporia Regional Library was the realization of a dream for the small Southside Virginia community with a population of approximately 15,000. As the second phase of establishing a Civic Center Complex, the residents and city and county officials worked together to develop a facility that would meet the needs of everyone in the region. Funding came from only local sources including an equal share from the
city and county, contributions from residents and businesses and a large portion from the estate of Mr. William E. Richardson, Jr.

Space is provided, in the 8,300 square foot building, for an adult reading room, a children's reading area, audio-visual facilities for both adults and children, a 65-70 seat conference/meeting room, and limited kitchen facilities. Shelf space is provided for 16,000 volumes thereby doubling the capability of the area's old library for such use.

The Library was the second phase of the implementation of the Emporia Civic Center. The first phase included a Master Plan for the Center along with implementation of the Emporia Administration Building. In the design of the Library, exterior masonry was required to match the brick used on
the Administration Building while the precast concrete fascia served as a contrasting yet complementary design feature.

Silas S. Kea & Sons Co., Inc., of Ivor, was general contractor and handled excavating, piling, sodding, seeding, etc., landscaping, paving, foundations, concrete work and carpentry.

Subcontractors & Suppliers
From Richmond were: Economy Cast Stone Co., prestressed concrete; Miller Manufacturing Co., Inc., millwork & wood doors; PPG Industries, Inc., glass, windows, window wall & storefront; Architectural Hardware, Inc., hardware supplier; Wall to Wall of Richmond, Ltd., ceramic tile, acoustical treatment & resilient tile; Termix-Seva, Inc., termite treatment; Roanoke Engineering Sales Co., Inc., firefighting devices & toilet accessories; and Brownson Equipment Co., Inc. and Morton Marks & Sons, Inc., furnishing & installation of interior furnishings & library equipment.

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to tell the Virginia Story August 1979
The Dooley-Madison Home for the Retired was the key element in the restoration and development of the historic 200 block West Franklin Street, by a combination of preservation interests in Richmond. Initiated by a joint committee composed of private citizens and sponsored by the William Byrd Branch of the Association for Preservation of Virginia Antiquities and the Historic Richmond Foundation, the project was developed by the Historic Richmond Foundation under the special guidance of its President, Mr. Charles Larus Reed. A study of the architectural and economic development of the property was undertaken by the architectural firms of Marcellus Wright, Cox and Ladd and Glave Newman Anderson and Associates.

The primary challenge in the restoration and adaptive re-use of the Dooley Madison Home for the Retired was in making an attractive, efficient, modern facility which would retain its historic character. Located at 206-212 West Franklin Street, it is part of one of Richmond's most important historic areas. The central part of the main house was built in 1803, serving as a gracious residence until it was changed to the Tucker Sanitorium in 1915. The building underwent several remodelings and additions in subsequent decades.

The present layout is similar to that which preceded it, a number of walls having been moved to accommodate new functions. A large portion of the space is residential, most of which has new carpet, furnishings and bathrooms. There are also many offices, parlors for the residents, and a large dining facility. A spacious new dining room has been added to the north wing, served by the completely renovated kitchen. Another dining room of a more formal character has been established on the first floor above the kitchen. Much of the old woodwork, windows and high ceilings has been retained, especially in the parlors.

Most of the interior plaster work was replaced. An entirely new heating and air conditioning system was installed, as well as all new plumbing. All of the lighting fixtures are new, and a large portion of the electrical service and panels have been replaced. The building was partially equipped with a sprinkler system, which has been supplemented to cover the whole building. Smoke detectors and fire alarm
boxes have also been added. A new elevator and two new stairwells promote ease of egress and safety.

The building's exterior has been cleaned and carefully restored according to easements given the Virginia Historic Landmarks Commission. Where necessary, the stucco has been repaired on 212 W. Franklin Street. This portion has been painted off-white with grey trim, to resemble its original appearance. The dining addition has the same kind of finish, to tie it in visually with the rest of the building. 206 W. Franklin has been painted brick red with white trim, in keeping with Richmond tradition. The surrounding walls, fencing and ornamental cast iron gates have also been painted. The yards, fairly extensive for an urban location, have been reseeded, and new sidewalks laid where necessary. A ramp is being added for entry to the first floor to aid non-ambulatory residents. Most of the building has been re-roofed, including a new weatherproofed concrete slab for the sun deck above the third floor.

It is hoped that renovation work such as this will help to prompt adaptive reuse and restoration of other buildings in the city, serving as an example of what can be done. Especially significant are the benefits received by the investors in this project and others in the area under the Federal Tax Act and under easements given to the Virginia Historic Landmarks Commission. The area was also placed in an Old and Historic District by the Richmond City Council and will be protected under the auspices of the City Commission of Architectural Review. The residents of the Dooley House for the Retired are now able to enjoy the clean, comfortable, pleasant atmosphere of their building, while taking pride in their historically significant neighborhood.

J. Kennon Perrin Company of Richmond was general contractor for the project.

Subcontractors & Suppliers
(All Richmond firms)
Southern Brick Contractors, Inc., prestressed concrete; Liphart Steel Co., Inc., steel supplier; N. W. Martin & Bros., Inc., built-up roof & other roofing; Pleasants Hardware, hardware supplier; John H. Hampshire, Inc., plaster contractor & gypsum board contractor; H. E. Satterwhite, Inc., ceramic tile & terrazzo; Fendley Floor & Ceiling, Co., acoustical treatment, resilient tile & carpet; W. W. Nash & Sons, Inc., painting contractor; Virginia Elevator Co., Inc., elevators; Automatic Sprinkler Corp. of America, sprinkler contractor; Harris Heating & Plumbing Co., Inc., plumbing/heating/ventilating/air conditioning contractor; Hazzard Electrical Corp., electrical contractor; and John G. Kothe, Inc., kitchen equipment.
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- "Women who start their own businesses make money just as fast as male entrepreneurs; but, they must work much harder than men to get the necessary start-up funds," according to a recent study prepared for the White House by the American Management Associations.

In fact, according to the report, discrimination in financing is about the only difference between men and women entrepreneurs.

"Borrowing barriers for women are both subtle and blatant," says Charlotte Taylor, executive director for the White House Interagency Task Force on Women Business Owners. "When women approach the banking environment with support or assistance from husbands or male friends, borrowing suddenly becomes possible."

Even the Small Business Administration turns down women, the report notes, citing one SBA official who said flatly; "There are no SBA loans available to women."

Once women obtain the initial financing, however, the results, according to Ms. Taylor, are "remarkable."

Of the 983 women listed by the Department of Commerce as business owners, more than a third of those polled said they started making a profit during their first year, and another third showed profit within three years.

The AMA study, the most extensive ever made on women entrepreneurs, sought to find the model of a successful women business owner and dispel myths about her. And it found virtually no difference between the sexes in terms of high energy levels, clever ideas, engaging personalities and a strong entrepreneurial "drive" that emerged during elementary and high school years.

Like their male counterparts, nearly half the women business owners had a strong bond to their fathers and followed his footsteps as a business owner.

The findings show that women entrepreneurs are better educated than women as a whole - 90 percent have attended college; more than half have one or more degrees. And, the older the woman, the more successful. One-third of those interviewed were 40 or under, nearly another third were 40 to 50, 24 percent were 50 to 59 and 10 percent were over 60.

Although their ventures gross into the millions of dollars, only one out of seven women entrepreneurs clears $20,000 or more a year. Primarily, women business owners are engaged in retail trades and services, followed by manufacturing, finance, insurance and real estate. Only a handful are in construction and wholesale trades.

The majority of the woman-owned businesses grossed more than a quarter-million dollars in 1977. The report states that one in four gross under $50,000 a year; nearly a third gross between $50,000 and $249,999; 17.4 percent gross up to $1 million and 16.3 percent gross over $1 million.

Finding money to start a venture is the most pressing barrier facing women, according to the report. Six out of 10 of the women surveyed used their own savings - only 15 percent obtained commercial loans. Another 12 percent obtained SBA financing.

As a result of the American Management Associations' findings, the White House task force has recommended sweeping reforms to equalize men and women in business ownership. Recommendations include:

- Imposing standards for financial and banking institutions to make loans easier for women;
- Legislating to outlaw "redlining" against women who want to buy, borrow or lease property, or obtain equipment, insurance, services and even public utilities;
- Establishing a clearing house for an information exchange between women and government agencies;
- Providing more high school courses on the ins and outs of business - loans, credit, suppliers, competition, marketing and taxation;
- Offering "sensitization programs" for male business people - bankers, lawyers, suppliers, as well as the government officials who deal with women business owners.
Two Elementary Schools
(from page 17)

cluster around a common group activity area. The
classrooms vary in size, responding to local
demographic trends. Classrooms tend to be closed in
feeling, with a maximum of wall space for chalkboard,
display, etc. By contrast, the group activity
areas are very open with a glass wall at one end.
Each of these opens into an outdoor play area, which
is separated from the communal play areas for the
entire school.

A key idea which appears in numerous ways in the
design is that of a hierarchy of spaces. In order to
promote a diversity of group experiences, indoor and
outdoor activity areas are provided in different sizes.
These range from divisions within the classroom
space, facilitated by movable storage boxes which
can act as partitions, to places large enough for the
entire school. In the library, small story-telling areas
are defined by a change in floor surface. It is in­tended that this hierarchy serve to break up the
monotony traditionally associated with institutional
design, and make for a richer environment.

The siting of the schools orients toward the street,
with play fields behind. A clear division is made bet­ween bus and other traffic, with service vehicles and
cars having separate entrances. The parking lot is to
one side, with the bus loop directly in front. This
maintains a large green area between the building
and the street. Canopies shelter those waiting for
the bus, and cover the walkway to the main en­trance.

Both Glen Allen and Donahoe Elementary Schools
are constructed of masonry bearing walls faced with
brick. Open web steel joists support asphalt shingled
shed roofs. Wood fascias visually tie the canopies in
with the buildings. Roof surfaces vary to provide the
proper functional surface and to define spaces. Main
entries are denoted by a change in window and door
types, otherwise more or less consistent throughout.
Clerestory windows are used to accent important
spaces.

The main factor which distinguishes the Glen Allen
site from the Donahoe site is Glen Allen's high water
table. This, combined with the topography, meant
taking measures to limit excavation. Unlike Donahoe,
the building is turned at a diagonal to the street in
order to follow the contours. This changes the bus
lane, service and parking access configurations. The
floor plan is linear, avoiding changes in floor level
where possible. Consequently, the circulation spine
which links the building together is a stronger
element. The entry lobby is proportionately larger
and receives greater emphasis, with a large dramatic
clerestory light above. A change of level between the
front of the building and the center happens in this
lobby, which houses a ramp and stairs. One enters at
mid-level, which houses the administrative functions,
and must go up to the 4th and 5th grade classroom
areas and down to all other functional areas. This
separation of the older students gives them a
stronger sense of identification and the younger ones
something to look forward to, changing their orientation from one year to the next.

Donahne Elementary School, less constrained by site conditions, is a bit more compact. This lessens the primacy of the circulation, deferring to the library as the central focus. It is a more dramatic space, with clerestory windows and windows which open onto the corridor. Sizes and exact location of all functions differ between the two schools. The flexibility of the concept allows for the uniqueness of each project to be expressed, while recycling the best ideas in both.

Hendrick Construction Co., Inc., of Richmond, was general contractor for both schools.

Subcontractors & Suppliers
Glen Allen Elementary School
(Richmond firms unless noted)

Also, Architectural Hardware, Inc., hardware supplier; A. Bertozzi, Inc., plaster contractor & gypsum board contractor; C. B. Smith Co., acoustical treatment & resilient tile; Miller & Rhoads Contract Sales Department, carpet; Catlett-Johnson Corp., heating/ventilating/air conditioning contractor; Horton Pipeline Co., Glen Allen, utilities; and Atlas Fence Co., Inc., fence.

Subcontractors & Suppliers
East End Elementary School
(Richmond firms unless noted)

heights provide different degrees of intimacy within the single large space.

Activities incompatible with an open lounge can flow naturally and easily into three rooms immediately adjacent: a discussion room, a television lounge, and a game room. The remainder of the building's first floor accommodates a mailroom and post office and offices for the Seminary's scholarly journal, Interpretation.

On the upper floors, the original 41 single rooms with common gang baths have been remade to provide a mix of single rooms with shared baths and suites for two to four students. The new plan accommodates the same number of students as before, but the renovated building provides greater options for student living than had been possible under the old arrangement. In all of the student rooms, the original high ceilings were kept where possible, and the most popular rooms have proven to be those up in the roof where intersections of valleys and dormers give fascinating shapes to the rooms' ceilings.

Each of the floors is organized with a corridor running down the stem of the I, terminating in a kitchen/snack area at one end and a laundry area at the other. Two new firestairs were built in the positions where the old wooden stairs had once been located, and an elevator was added to provide easy handicapped access to all floors. The existing sprinkler system was modified; the eight gang baths of the original building have been replaced with twenty small baths related to the individual bedrooms.

Throughout the building, it was possible to salvage many of the existing plaster walls and patch those; it was also found that the quarry tile floor on the first level, much of which had been covered with carpet, was in good condition and needed only to be repaired.

The building is fully air conditioned, by individual fan-coil units in each student room, and by a ducted system on the first floor. All of the windows in the building were replaced with new insulating-glass units, operable and displaying where possible the same mullion pattern as before. The new windows came factory-painted in the two-tone color scheme specified by Glave Newman Anderson for the windows of all campus buildings.

In Richmond Hall and indeed in all work on the campus, modern materials have been selected which match as closely as possible the original materials. A close match was found to the very distinctive red brick which dominates the campus color scheme and all new curbs and trim are done in cast stone and tinted to match the original stone trim.

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The renovation of Richmond Hall was the first in a series of campus improvements. All the buildings on the quadrangle were repainted in a new coordinated color scheme that reintroduced Victorian colors to the gothic campus. Red and green trim is complemented by roof accessories the color of weathered copper and doors of a bright scarlet.

The maintenance shops and storage areas which had formerly been located in the basement of Richmond Hall have been relocated to a new maintenance structure on the Westwood Campus of the Seminary. This new maintenance structure provides a centralized facility for the entire maintenance staff of the Seminary, increasing the efficiency of their maintenance operations. It also removes most deliveries from the quadrangle portion of the campus.

The ramped and terraced entrance to Richmond Hall has provided the prototype for entrances to other major buildings on the campus. The area between Watts Hall and the Library, for example, has been converted into a broad, ramped entrance to the two buildings. The ground level has been raised up to door height with a series of walls and steps suitable for sitting and lounging. This arrangement serves to define the entrance to the quadrangle and to screen out the sound and activity on Brook Road. The brick and cast stone trim matches existing materials on the campus very closely.
The other major entrance to the campus, through Watts Hall (the Administration/Classroom/Chapel building), had been damaged by being used as a service entrance. The damaged steps have been removed and replaced with new steps providing an easier and more gracious entrance to the building. A brick-paved reception area has been created at the foot of these steps for dropping off passengers.

To the rear of the building facing the quadrangle the porte-cochere entrance to the Chapel has been made the focus of a large brick-paved area. This provides a gathering place for the congregation in the Chapel before and after daily services. This paved area is of ample size but is articulated by a paving pattern that radiates from the curved configuration of the Chapel itself.

In addition to the development of plazas and terraces, an extensive reworking of the campus's paths and walkways was undertaken; old paths were consolidated and rationalized where possible. New diagonal paths were created to link the quadrangle with the Westwood Campus and the dining hall to the west, and other new walks were provided where heavy pedestrian traffic had worn paths through the grass.

Additional parking areas were provided where most useful, expanding the existing area at the entrance of Watts Hall and providing a new parking area for Moore and Smith Halls, buildings which had had no parking areas before. In addition, all parking areas and driveways on the campus were repaved and repaired.

The existing landscaping on the campus dated from the original founding of the Seminary in Richmond and much of it was old and in poor condition. Two severe winters had taken their toll on the existing trees and shrubs. It was decided to completely renew the landscape of the quadrangle. The existing single rows of sugar maples on the quadrangle itself are being replaced with a double row of oaks. These are being planted between each of the existing trees and are expected to achieve some size before the remainder of the maples die and are removed. A number of evergreens are being added to provide color during the winter period, and a number of flowering ornamental trees have been planted. This last is an especially welcome addition since previously the Seminary had no substantial number of flowering trees or shrubs. This spring the Seminary has planted, on the quadrangle, over 700 trees and shrubs.

Finally, as a part of the current series of improvements, the signage and lighting of the Seminary has been entirely renewed. Pairs of banners have been erected on Chamberlayne Avenue and on Brook Road identifying the campus to the motorist. Pennants had traditionally been flown from the towers and turrets of Watts Hall, so these new flags continue an old Seminary tradition. Flying 25 feet high are: one red and white banner spelling out the Seminary's name, the other commemorating the School's Presbyterian ties with the blue and white cross of St. Andrew.

Taylor & Parrish, Inc. of Richmond was general contractor and handled masonry work.

Subcontractors & Suppliers (Richmond firms unless noted)

The Great Big Greenhouse, interior plants; Economy Cast Stone Co., precast concrete supplier; Liphari Steel Co., Inc., steel supplier & stairs; Ruffin & Payne, Inc., cabinets; Kawneer Co., Inc., Niles, Michigan, storefront & canopy; Pleasants Hardware, hardware supplier; Fendley Floor & Ceiling Co., resilient tile; Stratton "Ironsides" carpet; L. K. Vass, Inc., painting contractor; Dover Elevator Co., elevators; Capital Mecahnical Contractors, Inc., plumbing/heating/ventilating/air conditioning/electrical contractor; Tech, Inc., N.Y., lounge furniture; Thonet, Inc., N.Y. casegoods; Thalhimer's Business Interiors, furniture installer & supplier.
The church complex, uniting the various functions into a single building, is planned linearly. At one end is the nave; at the other, the classrooms. They are coupled by the narthex and office/meeting room areas. Expansion will occur at right angles to this existing axis, developing the building into a cruciform plan.

Architectural emphasis is given to the nave, befitting its foremost importance. The remainder of the building is understated to further heighten this effect. The radially arrayed, carpeted nave forming the nave's roof structure. Natural light enters from the rear; all artificial light sources are incandescent. The stained glass windows from the original church were reused in the interior wall between nave and narthex, backlighted to simulate daylight. Not only are these memorial windows now protected from the elements, but they help to maintain a continuity, a connection, with the past.

The spacious narthex serves a variety of purposes. It is an entry. An orientation point. A social space. It houses a number of specially detailed items: built-in seating; book storage cabinets; and coat hanging facilities.

A meeting room, complete with a full kitchen, serves for church and community assembly facilities, coffee hours and church suppers.

The classroom wing houses two nurseries, classrooms to grade twelve (a number divisible by folding partitions), the library, and the education office. Access to a fenced exterior play lot is provided from classrooms for the lower grades.

Throughout the building, quality materials - brick, cedar shakes, laminated wood beams, and the selected use of copper - were chosen for their permanence, ease of maintenance, appearance, and traditional appeal.

Double-glazed, ced wood windows and the extensive use of insulation help assure energy efficiency.

An oil-fired hot water boiler provides heating; rooftop units, with economizer cycle, provide zoned air conditioning. The nave is served by an underfloor duct system, with air returning inconspicuously behind a wall over the main doorway. The frequent problem of the visibility of rooftop mechanical equipment was solved without the construction of elaborate screening. A slab built into the gabled roof of the classroom wing contains this equipment, utilizing the roof slope as an effective barrier to view.

Construction, by E. H. Glover, Inc., general contractor, of Bailey's Crossroads, was completed in October 1977, several months ahead of schedule, at a building cost of less than $30 per square foot.

The uncompromising form of the Manassas Presbyterian Church stands as a symbol, an expression of the vitality of its congregation.

Subcontractors & Suppliers

Also, Asbestos Covering & Roofing Co., Inc., Beltsville, MD, roof/wall/foundation insulation; Associated Glass Co., Inc, Fairfax, glass & glazing contractor; Brunetti & Associates, Greenbelt, MD, metal doors & frames; Yeatman Architectural Hardware, Clinton, MD, hardware supplier ADA Plastering Co., Inc., Falls Church, gypsum board contractor & acoustical treatment; Stevens Tile & Marble Co., Inc., Kensington, MD, ceramic tile; Fairfax Tile & Linoleum Co., Inc, Alexandria, resilient tile; Southern Manufacturing Corp., Danville, equipment; Manumaco Plumbing & Heating, Inc., Manassas, plumbing contractor; The Kraft Co., Alexandria, heating/ventilating/air conditioning contractor, and L. T. Bowden, Inc., Vienna, electrical contractor.
heating the building. It is interested to note that the solar-energy cells are designed to provide 60 to 70 per-
cent of the firm’s heating needs and 100 percent of the building’s hot water.

When the plans for the new structure were submitted by Peninsula architects Rancorn, Wildman & Krause, the
Board of Directors of Newport News Savings & Loan voted unanimously to shift the position of the building on its lot so that more trees could be preserved. Then came the winter of 1977, and America became more energy conscious as well as more environmentally aware. The Board then voted to have the building heated by solar energy, making this the only commercial building on the Peninsula to date that utilizes solar energy.

The solar energy system employs 3,312 square feet of flat plate liquid collectors to provide building and domestic water heating. The collectors are mounted above the building roof on a structural frame.

The system was designed by the firm of Dublin-Bloom Associates of New York. Mr. Fred S. Dubin was in charge of the project. The design was done in collaboration with the project mechanical and electrical consulting engineer, Mathew J. Thompson, III, Consulting Engineers, Inc. The installation was accomplished by the mechanical contractor, Warwick Plumbing and Heating Corporation.

W. M. Jordan Co., Inc. of Newport News was general contractor for the project.

Subcontractors & Suppliers

Newport News firms were: E. W. Muller Contractor, Inc., sodding, seeding, etc. & paving contractor; Benson-Phillips Co., Inc., concrete supplier; Waterfront Lumber Co., Inc., carpentry, cabinets & wood doors; Nolend Co., plumbing fixture supplier; Warwick Plumbing & Heating Corp., plumbing/heating/ventilating/air conditioning contractor & solar panel supply & installation; and A. M. Savedge Co., electrical contractor.

Norfolk firms were: Winn Nursery, Inc., landscaping; Hall-Hedges Co., Inc., reinforcing; Standard Iron & Steel Co., Inc., steel supplier/erection/roof deck & miscellaneous metal; Door Engineering Corp., metal doors & frames; and Dover Elevator Co., elevators.

And, from Hampton were: Heath Roofing, Inc., built-up roof, roof insulation & sheet metal; Walker & Laberge Co., Inc., glass, glazing contractor, window wall & storefront; Pompei Tile Co., Inc., ceramic tile & special flooring; VCS Plastering, Inc., acoustical treatment; The Tile Shop, Inc., resilient tile; and Shaw Paint & Wallpaper Co., Inc., painting contractor.

Others were: Welch Pile Driving Corp., Suffolk, piling; United of Norfolk, Inc., Grafton, masonry contractor; American Furniture & Fixture Co., Inc., Richmond, millwork & paneling; Commercial Caulking Co., Richmond, caulking; Architectural Products of Va., Va. Beach, window wall & storefront; Pompei Tile Co., Inc., ceramic tile & special flooring; VCS Plastering, Inc., acoustical treatment; The Tile Shop, Inc., resilient tile; and Shaw Paint & Wallpaper Co., Inc., painting contractor.

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