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ON OUR COVER is a view of Market Square the latest facility for the Brandermill Community. Designed by Freeman & Morgan, Architects, the project is featured on page 10 of this issue. (Photography, Llewellyn/Morgan & Assoc., Advertising, E. T. Revere and John Morgan)
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Some First Steps Toward Preventing Energy Waste

By Frederick E. Baukhages, IV, AIA

It is not news to most that energy, both consumption and conservation thereof, is one of the prime motivating factors of life in the 1980s. Concern is already heightened about present and future availability of sources of heat, light, cooling, transportation fuel, and many other life support systems. This is particularly true for our built environment.

Most of our present life support and work support structures were built when energy conservation was not a prime consideration, in many cases not a consideration at all. The design, construction, and operation of these older buildings is, by today's standards, woefully inefficient. With the pending implementation of building energy performance standards or some other form of energyaving design criteria, buildings will be subjected to the same type of energy standards legislated for motor vehicles. Such regulation may be expressed in terms of materials, appliances, and techniques mandated for use, or it could set certain levels of performance which the architect and builder must meet through combinations of technology and creativity.

This latter solution is, of course, the more reasonable, since it allows for any technological advances which may occur—as well as the free applications of imagination by owners, architects, and builders. But whatever the solution adopted by the legislators, it is a certainty that buildings will have to improve their overall energy efficiency if we are to preserve any of our rapidly dwindling resources.

To reverse the squandering of energy at our current rate of between 30 and 50 percent in today's buildings, we should focus attention on three major areas of importance. Whether building, buying, or refitting a building, it is necessary to look closely at the building site, the materials used, and the insulation provided.

Before proper energy use became a topic of general concern, a building's site was often underrated. The design of the structure was usually more important, so the land around it was made to fit the building. Today, however, we are much more aware that the placement and orientation of the structure can contribute to both its aesthetic appeal and energy efficiency. By using natural features like hills and vegetation as protective shields, we can reduce the need for artificial heat or cooling. Since north and west sides of a building in the northern hemisphere are subjected to the most wind, we can cut down on the numbers of doors and windows on these exposures. And, in older climates, it is best to place major glass exposures to the south to make the best use of winter sun. Depending on the particular sites chosen, there are usually several other factors which can be used to good advantage.

Once the structure is situated, the choice of materials becomes a crucial factor. Everything from the type and color of paint to the actual shapes used in the design can have a bearing on a structure's efficiency. In warm climates, for example, light-colored roofing can help keep buildings cooler. Windows that open provide natural ventilation, and the use of shades, screens, and films over windows can have a dramatic effect on the amount of light and heat entering a space. The use of simple shapes, such as squares, circles, and octagons, provides much less exterior wall space in relation to floor area than some modern angular designs; thus simple shapes reduce heat loss. In many areas, using an attic ventilator reduces the need for mechanical cooling during periods of hot weather. In designing a structure, grouping of spaces with similar functions can contribute measurably to efficient "zoning" of the heating and cooling systems.

None of these considerations will be as effective, however, if the structure is improperly insulated. The very effective and simple way to test your insulation is to pass a lighted candle by seams which are supposed to be airtight. If the candle flickers strongly, it is time to consider weatherstripping, caulking, or full-fledged insulating. The first two can be accomplished by anyone with a modicum of mechanical ability, but the third may call for the services of a professional. The amount of insulation necessary to provide a structure with maximum protection without over-insulating is determined by a variety of factors, all of which can be boiled down to a rating called an "R-value." Having consulted with a knowledgeable person to determine the proper R-value for your home, it is possible to do some insulation on your own. Ceilings are relatively routine jobs, but walls and other interior spaces may require hiring of an insulation contractor, since there are a number of pitfalls to avoid. Even the cost of hiring someone to insulate exterior walls can prove efficient, since the energy savings can (Continued on page 39)
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New Firm Opens Norfolk Offices
Weinstein Parker Architects, AIA, has opened an office for the practice of Architecture, Planning and Interior Design at 201 Granby Mall, Room 203, Norfolk, Virginia. The principals of the firm are: Lawrence Weinstein, AIA and Anthony R. Parker, AIA. They are members of The American Institute of Architects, The Institute for Urban Design, the National Trust for Historic Preservation and they hold Certification in The National Council of Architectural Registration Boards.

Reducing Flood Damage Through Design
The AIA Research Corporation has begun a research study that may help alleviate the rise in annual losses due to flooding. Under a grant from the Federal Insurance Administration of the Federal Emergency Management Agency the AIA/RC project will survey and analyze flood issues, examine relevant case studies, and generate effective design strategies for easing flood damage. The research project intends to address the needs of architects as key figures in designing the built environment in areas that are flood-prone. Historically, flood damage mitigation efforts have been predominantly site-oriented with the architect's role limited to designing buildings for a specific parcel of land. Today, design considerations at many levels interact to influence decisions that affect the individual site and building. The architectural viewpoint should include an understanding of the full array of issues that determine flood hazards.

In addition to detailing the inherent characteristics of the flooding problem, the project will develop guidelines that focus on various concepts and techniques for adjustment to flood hazards. Six major kinds of adjustments already in common use are flood control measures, such as dams and levees; floodproofing with such techniques as elevating buildings and placing water-tight enclosures (applicable to new buildings and historic preservation); forecasting, warning, and preparing for emergencies; planning and managing land use; maintaining flood insurance programs; and providing relief and rehabilitation to ease flood damage.

To adopt this comprehensive approach, it is vital that the architect have a thorough knowledge of the characteristics of both the natural hydrologic system and the built environment, and, more important, of the interface between them. The potential for conflict in this interface is the crucial issue, and the AIR/RC study will focus on providing the architect with the information necessary for resolving conflicts.

The AIA Research Corporation, established by the American Institute of Architects in 1972, performs a wide variety of applied research projects on national issues related to built environment. The AIA/RC initiated a Hazards Program in 1975 with research that led to publication of a design primer, Architects and Earthquakes; a subsequent project developed seismic design guidelines for police and fire stations. Current projects include an analysis of building codes in relation to designing for multiple natural hazards such as earthquakes, fires, extreme winds, and floods, and energy conservation. The flood design project expands this hazard mitigation research program.

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Freeman & Morgan — Architects

Landscape Architect, Clarke Plaxco • Mechanic Engineer, Wagner & Jones Consulting Engineers
Electrical Engineer, Wagner & Jones Consulting Engineers • Structural Engineer, Freeman & Morgan Architects • General Contractor, Heindl-Evans, Inc.
Photography: Llewellyn/Morgan and Associates
Advertising: E. T. Revere; and John Morgan.
Designed as an anchor for Brandermill's central commercial core, the Market Square Building provides retail and office space necessary to a total community. Unprecedented growth of the development had created a need for services that were absent in the area but were socially and economically desirable. Programming for the building attempted to fill these needs with an appropriate architectural solution that was compatible with Brandermill's design philosophy.

Construction of the project was handled with the Design/Build team concept which has recently found increasing favor with construction professionals. Freeman and Morgan, Architects coordinated the programming/planning efforts of the Brandermill Planning Office and the construction/contract administration work of Heindl-Evans, Inc., the general contractor. This arrangement, which kept costs down and accelerated the construction schedule, proved very satisfactory to the owner.

Additions to the shopping center are planned with Market Square providing the theme for future buildings. Texture, scale, and graphic treatment were established on this building and similar architectural expressions will be used to reinforce the idea of continuity for the entire shopping center. Ultimately, enough varied office and retail space will be provided to make the community self contained.

Retail Occupants
- Drugstore
- Convenience food store
- Florist
- Cleaners
- Women's hair shop
- Community associates
- Clothing store

Heindl-Evans, Inc. of Richmond the general contractor also handled reinforcing, carpentry, structural wood, millwork, roofing, sheet metal and wood doors.

Subcontractors & Suppliers
(Richmond firms unless noted)
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- Howard & Morgan, Inc., masonry contractor
- Mack's Iron Co., Inc., Colonial Heights, steel supplier/joists & miscellaneous metal
- E. S. Chappell & Son, Inc., caulking
- Humac Co., wall insulation & foundation insulation
- Binswanger Glass Co., glass & glazing contractor
- J. S. Archer Co., Inc., metal doors & frames
- Pleasants Hardware, hardware supplier
- F. Richard Wilton, Jr., Inc., Ashland, gypsum board contractor
- C. B. Smith, resilient tile & carpet
- W. W. Nash & Sons, Inc., painting contractor
- Worsham Sprinkler Co., Inc., Ashland, sprinkler contractor
- M. R. Ellis & Sons, plumbing contractor
- Mayhew & Chaulkley, Inc., Ashland, heating/ventilating/air conditioning contractor
- Sound Electric Co., electrical contractor
Potomac Hospital
Additions & Alterations, Woodbridge
Peck, Peck & Williams — Architects

Mechanical Engineer, Glassman-LeReche & Associates PC • Electrical Engineer, Glassman-LeReche & Associates PC • Structural Engineer, B.E.C. of Virginia, Inc. • Interior Design, Peck, Peck & Williams • General Contractor, Wayne Construction Co., Inc. • Photography, Greenwood Studios.
In 1977, Peck, Peck & Williams was hired to design additions to Potomac Hospital which would double its existing size: Administrative Addition 8,870 sq. ft.; Psychiatric Wing 5,320 sq. ft.; Building 3A 29,230 sq. ft.; Emergency Room, 5,190 sq. ft. At the same time, the board of directors entered negotiations with a "Finance-Build" company, Tandy, Inc. Because of scheduling, the architects were asked to complete design and working drawings in eight months. During that time, the design team used several techniques to keep construction costs down. At the end of this time, Tandy negotiated a price with the hospital board and the board thought it a good price.

The architects, feeling this price was much too high, recommended that the board put the project out to bids. The board was very concerned about the possibility of a higher bid price than their "guaranteed" bid. However, the designers were convinced, and persuaded the board to take the time to bid. The project was priced by five contractors and all bids came in below the guaranteed price.

**PROGRAM:**

Expand the existing 50,000 sq. ft. hospital to meet the needs of a rapidly growing community. The hospital had to be kept operational including the emergency unit, at all times during construction. The expansion includes:

1. A 12-bed Psychiatric Addition—Including group therapy, conference rooms, occupational therapy, nursing station, offices, day room, kitchen and six sleeping rooms. This wing will eventually be converted to a detoxification unit when a larger psychiatric facility is built.
2. An Administrative Addition—Enclose an existing courtyard and include offices for the administrators, secretaries, medical library, medical records, conference room, board room, auditorium, doctors' rooms, intern room, miscellaneous offices and waiting room.
3. A 26-bed Psychiatric Addition—This will include a new out-patient entry and waiting, out-patient registration, general records and accounting, radiology department, physical therapy, respiratory therapy, pharmacy, Intensive Care Unit, Cardiac Care Unit, expanded operating suite and new recovery rooms, and associated waiting rooms.
4. Emergency Room Expansion—Expand emergency area after evacuation of existing administrative areas. Add four new beds, new nursing station, coronary room, cast room, holding room, special procedures, doctors' and nurses' lobbies and lockers, and ancillary spaces.
5. Covered parking for doctors.

**COST SAVING TECHNIQUES**

1. Repetitive Elements: Structural members, bay sizes, window units are all the same.
2. Brick Detailing: The design was achieved by using brick forms and details (i.e.: corbelling, soldier and sailor coursing) instead of costly canopies, attachments, etc.
3. Movable Partitions Where Possible: Allowed ceilings and utilities to be put in at all once.
4. Tapping Into Existing Mechanical System Where Possible.
5. Designing to Minimally Disturb Existing Facilities.

Wayne Construction Co., Inc. of Arlington was general contractor and handled excavating, sodding, seeding, etc., landscaping and landscaping work, foundations, concrete work, and carpentry.

Subcontractors & Suppliers

- Dominion Caisson Corp., Alexandria, piling
- Northern Asphalt Co., Inc. of Va., Alexandria, paving contractor

To tell the Virginia Story

August 1980
Halifax-South Boston Community Hospital
South Boston
Sherertz, Franklin, Crawford, Shaffner — Architect/Engineer

Mechanical Engineer, Sowers, Rodes and Whitescarver • Electrical Engineer, Sowers, Rodes and Whitescarver • Structural Engineer, Sherertz, Franklin, Crawford, Shaffner • General Contractor, John W. Daniel & Co., Inc.
Halifax-South Boston Community Hospital’s recently completed addition was developed to house ancillary facilities for a hospital with a bed capacity of 300 patients—109 in the existing hospital, 46 in the new addition and, design provisions for the future addition of three floors containing 143 beds. One of the more unique features of the four million dollar structure just completed in South Boston, is that financing of the project was handled by Farmers Home Administration (FMHA)—an unusual arrangement brought about by some timely and aggressive work by Al Burkholder, Executive Vice President of Halifax Community Hospital.

An article in the Wall Street Journal about funds available from FMHA prompted Burkholder to apply for the money to build a new hospital in South Boston. After many letters, phone calls and personal visits with the proper authorities, Burkholder succeeded in getting his request approved and now the first hospital in Virginia financed by FMHA is a reality. Burkholder shared his story with other hospitals, and some of them also have obtained financing from this unique source.

The new life-support areas housed in the new addition include: a four-room operating suite; an eight-bed recovery area; a ten-bed intensive care unit; laboratory facilities; and emergency areas. These emergency areas are comprised of a waiting room, nurses’ station, fracture room, minor operating room, and eight treatment rooms.

Primary exterior materials include: architectural precast concrete and bronze glass with anodized aluminum trim.

John W. Daniel & Co., Inc. of Danville was general contractor and handled foundations.

Subcontractors & Suppliers

Riverside Equipment Co., Danville, excavating; Thompson-Arthur Paving Co., Greensboro, NC, paving contractor; Felton Bros. Transit Mix, South Boston, concrete contractor/supplier; East Coast, reinforcing; Cast-A-Stone Products Co., Inc., Raleigh, NC, prestressed concrete; Boston Concrete, South Boston, masonry contractor/supplier; Carolina Steel Corp., Greensboro, NC, steel supplier & miscellaneous metal; Pridgen Cabinet Works, Inc., Whiteville, NC, millwork, paneling & wood doors; and Seager Waterproofing, Inc., Greensboro, NC, waterproofing.


Others were: Colonial Flooring and Acoustical Co., Inc., Durham, NC, resilient tile; Discount Carpet Center, Roanoke, carpet; Glidewell Bros., Inc., Richmond, painting contractor & wall covering; Roanoke Engineering Sales Co., Inc., Roanoke, specialties; Westbrook Elevator, Danville, elevators; Kannapolis Sprinkler Co., Kannapolis, NC, sprinkler contractor; J.H. Cothran Co., Inc., Altavista, plumbing/heating/ventilating/air conditioning contractor; and Bryant-Durham Electric Co., Inc., Durham, NC, electrical equipment supplier & electrical contractor.

Special Equipment: AMSCO, medical equipment; Greensteel, metal casework; and Portable Lab, laboratory equipment.

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Community Memorial Hospital was planned and built by and for the people of Brunswick, Lunenburg, and Mecklenburg counties in 1954. Over the next 20 years a continuing growth program was implemented by the board and the administrator, Mr. Thomas W. Leggett, virtually doubling the size of the original building. The original hospital, as well as the subsequent additions to 1970, was designed by Ballou and Justice, Architects and Engineers.

In 1974, the hospital began development of a Nursing Care Wing to supplement the Acute Care Facilities already in place and provide a balanced spectrum of health care. Working with Jones & Strange-Boston, who had designed six previous nursing homes, and with the Farmer’s Home administration, which was interested in encouraging rural community development, construction was begun on the W. S. Hundley Annex in July 1976. The project provides 100 intermediate nursing care beds, 40 skilled care beds, laundry facilities, a complete cafeteria and all necessary therapy areas. An air conditioned glassed-in promenade connects the annex directly with the hospital so that the Acute Care Facility support is immediately and easily available to the Nursing Facility.

The architects selected a precast concrete system for both the bearing walls and the floors to aid in the speed of construction. While the projected “21 days erection time” was not quite realized, substantial savings in time and ease of working conditions were achieved. The brick cladding is actually non-bearing, and so the scaffolding time was not a penalty. A precast concrete channel fascia is used to reduce the scale on the new building to accommodate the existing building and, with the repetitively used opal glass ball lighting fixtures, provides a dominant theme for future planned additions.

Interior colors and textures were selected to highlight informality, featuring residential shades to contrast with the institutionality of the hospital.

(Continued on page 39)
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The Wrens
Wrens Way, Falls Church

Lynwood E. Brown, AIA (Formerly Bushey-Burrey, AIA) — Architect

Designers. Richard Schoppet, Assoc. Member AIA, CSI, AIDD and Donald Greenwood, Assoc. Member AIA
• Landscape Architect, Gerald I. Rupert • Mechanical Engineer, Frank Williams • Structural Engineer, Bushey-Burrey • Civil Engineer, Walter L. Phillips, Inc. • Interior Design, James Reid • General Contractor, Creative Environments, Inc. • Photography, Richard Schoppet, Assoc. Member AIA, CSI, AIDD.

The Wrens — Cluster Townhouses & Carriage House Home, in Falls Church, are designed to harmonize with the surrounding historic homes. The cluster consists of thirteen units, one of which is a restored carriage house. Careful attention was given to details to achieve an accurate representation of American traditional architecture.

Unit No. 12 faces Broad Street between the historic Birch House (built in 1849) and an early period residence on the left.

The homes were designed to resemble a cluster of single-family residences, but with a village/townhouse effect. A wide variety of materials (slate, cedar, copper, and metal roofs) were employed in order to present authentic eclectic residences. Brick, wood, sidings, windows, doors, trim, stone, and brick-and-wood garden walls were detailed much as those seen in Williamsburg.

Most of the fully-matured trees were saved, and new landscaping, walks, exterior lighting, and terraces were designed to enhance the period architecture.

The historic Birch House is also being restored by the builder/developer, James W. Reid, Jr., Creative Environments, Inc. of McLean.

Creative Environments, Inc. of McLean, the builder/developer, also handled foundations, masonry work and carpentry.

Subcontractors & Suppliers
D. I. Lyons Excavating Co., Sterling, excavating & paving contractor; Stadler Nursery, Laytonsville, MD, landscaping contractor; C. C. & G., Inc., Fredericksburg, concrete contractor; Virginia Concrete, Springfield, reinforcing; L. C. Smith, Inc., Alexandria, mortar; Ben Porto &

(Continued on page 41)
Sandler Residence
Virginia Beach
The Design Collaborative/Laszlo Aranyi, AIA — Architect

Interior Design, G. Reese Fowler Ltd. • General Contractor, Francavilla Building Co. • Photography, Roman Mann.
To tell the Virginia Story
August 1980

Program
The house was to be designed for a bachelor who likes curvaceous forms of all kinds. His other hobby was working with plants and displaying them in his house. Even though the house was to be occupied by one person, it had to be designed to accommodate a family in case he wanted to sell the house or in the unlikely event that he would get married.

Site
The site is located on 76th Street in Virginia Beach and adjoining Seashore State Park on the west side.

Design Solution
Based on the site conditions and the program requirements, the house was oriented to face the park and has a limited number of window openings facing the other sides.

Entering the house, one becomes immediately aware of the stairwell which serves as a light tower as it reaches up to capture the sunshine. The light is transmitted into the other portions of the house through various openings. From the second floor there is a spiral stair leading to a roof-deck.

The focal point of the house is the two-story living room with an impressive full-height fireplace. This room is a few steps lower than the surrounding area and is open to the dining room on the first floor and the den on the second floor.

Francavilla Building Co. of Virginia Beach was general contractor and handled steel erection and carpentry.

Subcontractors & Suppliers
Virginia Beach firms were: Oceana Ready-Mix Corp., concrete supplier; Tidewater Steel Co., Inc., steel supplier; Higgins Roofing Co., roofing; Insulation Service Co., Inc., roof/wall insulation; Jim Boyce, painting contractor; Duron Paints & Wallcoverings, paint supplier; Schell Supply Corp., plumbing fixture supplier; House of Lighting, lighting fixtures supplier; and 3-D Electric, electrical contractor.

Norfolk firms were: Colonial Block Corp., masonry supplier & mortar; Addington-Beamam Lumber Co., Inc., structural wood & wood doors; Powell-McLellan Lumber Co., Inc., millwork; Kitchen Towne, Div. of Towne Distributors, Inc., cabinets; Econo Drywall & Plastering Co., plaster contractor; Jayen Tile Co., ceramic tile; I & M Plumbing, plumbing contractor; and Mechanical Service Co., Inc., heating/air conditioning contractor.

Others were: Hazel, Miller, Mason, Chesapeake, foundations & masonry contractor; Pella Virginia, Inc., Richmond, glass, windows & window wall; Trus-Joist Corp., Richmond, truss joists; and Duvinage, Maryland, spiral staircase.
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VIRGINIA RECORD
Founded 1878
This residence is situated on a sloping site taking advantage of an unobstructed panoramic view to the south. The owner desired to be as energy independent as possible and, at the same time, to minimize the impact of the building upon the site. The selection of an earth sheltered passive solar design was a natural outgrowth of these concerns.

The building program calls for a 3,800 sq. ft. residence for a young expanding family with strong emphasis given to the time which the family spends together. The resultant open floor plan further reinforces heating by passive means. An active collector is employed for heating domestic hot water. Backup heating will be accomplished by a wood stove and a fireplace insert.

The building uses a variety of passive solar techniques to obtain a significant solar heating fraction. As the first step, the heat loss from the building was minimized. The earth sheltered north and east walls reduce infiltration of cold winter winds, all windows are double glazed and oriented to the south. The garage provides a...
buffer zone to the habitable space from the west. In addition, the entrances are both air locked. The insulation package requires an R-38 ceiling with R-25 walls. There is manually controlled R-10 movable night insulation provided to all high clerestory windows and to the thermal storage wall. In general, emphasis has been placed upon energy conservation in order to retain the solar energy which is collected.

The major solar collection occurs as direct gain through approximately 800 square feet of vertical south facing windows. Every room in the house receives some benefit, both in terms of heat gain and natural daylighting from these windows. The problems of glare have been addressed by bringing the sunlight into both sides of the rooms or by reflecting it off a light colored surface. Surfaces used for direct gain thermal storage are finished with slate stone or skim coat plaster over concrete.

Two areas of the house are heated by indirect gain. A vented thermal storage wall, with movable exterior insulation, heats the recreation room while an attached greenhouse heats the master bedroom through an intervening mass wall. The thermal storage wall in the recreation room is constructed of concrete one foot thick and single glazed. There is some direct gain through a window in the thermal storage wall.

Domestic hot water is supplied through rooftop-mounted solar air to water collectors, horizontally mounted above the clerestory windows at an angle of 45° from horizontal. Hot air is ducted from the collectors to the air to water heat exchanger. From the heat exchanger, excess waste heat can then be distributed to the west supply duct and into the recreation and utility room areas, or returned directly to the collectors. Return air can also be drawn directly from the root cellar at a lower temperature to improve collector efficiency. This solar water system uses a storage tank and a back-up electric water heater all supplied from water.

J. E. Kidd and Sons of Hollins is general contractor and is handling paving, foundation concrete work, carpentry, waterproofing, foundation insulation and glazing.

Subcontractors & Suppliers (Roanoke firms unless noted)
- Tony Reed, Vinton, excavating: Dixie Building Products, Inc., reinforcing and miscellaneous metal; Roanoke Ready Mix Concrete Corp., concrete supplier; Hamlin & Bell, Blue Ridge, masonry contractor; Home Lumber Corp., millwork; Superior Cabinet Co., Hollins, cabinets; and Locker & Company, Wytheville, the master rock supplier.
- Also, Robertson Sheet Metal Co., sheet metal; Pella Window & Door Co., greenhouse & windows; Graves-Humphreys, Inc., hardware supplier; James L. Thompson, Salem, plaster contractor & gypsum board contractor; Cliff Floor & Tile Service, Inc., Salem, carpet; Shewin-Williams Co., paint supplier; CMC Well Pump Supply, Inc., hot tub; Warner Supply Corp., plumbing fixture supplier; Forbes Plumbing & Heating Co., Inc., plumbing contractor; Williams Supply, Inc., lighting fixtures supplier; Richard Lee, electrical contractor; and Nola Company, domestic hot water system.

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VIRGINIA RECORD
Founded 187
Group Homes
Roanoke & Richmond
Glave Newman Anderson and Associates, Inc. — Architect

Mechanical Engineer, Simmons Rockacharue & Prince • Electrical Engineer, Simmons Rockacharue & Prince • Structural Engineer, W. J. Davis • Interior Design (Richmond). Glave Newman Anderson & Associates, Inc. • General Contractors: Richmond - Teal Building Corp., Roanoke - Regional Construction Services, Inc. • Photography: Bob Strong.
Making the transition from life in an institutional setting to living independently in a private home or apartment can be difficult and frightening. One method devised to combat the hardships faced by those who must make such a change has been the establishment of group homes.

In 1975, the Virginia Housing Development Authority (VHDA) asked Glave Newman Anderson and Associates to be one of two architectural design firms to develop a prototype group home for mentally retarded adults. These group homes were to serve as temporary residences for individuals who had just left an institutional setting but were not yet able to live entirely on their own. Section eight allocations from the Department of Housing and Urban Development enabled the VHDA to finance group homes non-profit sponsoring agencies.

The two architectural firms worked independently in order to come up with different solutions for the project. The prototype designs were to be sold on a per unit basis, keeping architectural fees down and allowing the repetition of the design, realizing an economy of scale when building a quality product.

Initially, a workshop for ideas was held with representatives from the VHDA, the state Department of Mental Health and Mental Retardation, and representatives from eight sponsoring organizations. The homes were to be residential and where zoning permitted, fit into existing neighborhoods. Originally the firms were given instruction as to whether the home design would be for urban or suburban settings. But the project evolved, Glave Newman Anderson was asked to develop a home for a suburban setting, while the other firm was asked to work within the confines of an urban setting.

The VHDA had learned from a similar project conducted in Michigan, that the homes seem to work best when they accommodate a minimum of six and a maximum of 12 residents, plus full-time staff, which is usually a married couple. In order for the regular staff to take vacations and spend other time away from the home, an additional bedroom was needed for substitute staff.

"We felt it was important that the prototype design be flexible enough to be constructed on a number of different types of sites," said Richard L. Ford, Jr., a Principal of Glave Newman Anderson. "We accomplished this by using components with similar activities grouped together in the components. The living room, dining room, and kitchen served as one component; the bedrooms served as another component; service facilities another; and the staff apartment served as another component.

The clients also asked for alternate plans which would allow for a recreation room or garage. Glave Newman Anderson placed this area so it fed directly into the kitchen.

"In order to serve as few as six residents per staff, we split the bedroom components in two, six unit sections," Ford said. "These could be placed side by side, stacked, or connected at various points, depending on the site constraints."

The prototype for a suburban setting followed the typical suburban home: brick with wood siding, asphalt shingles, rambling in nature with two bedroom wings off at right angles from the living space. The resident managers' apartments were attached to the other side of the living space. The residents needed the capability to congregate in one area, so open space was provided in the living room, dining room and kitchen area. But the residents also needed..."
We have the privacy of their own room and bath, so each individual has a private room with a semi-private bath. The bathrooms, which are traditional in style with a bathtub, sink, and toilet, have been placed between every two bedrooms. Landcap specifications were met by providing walk-in showers in two bathrooms.

"Perhaps the most important feature of these facilities is the difference between a residential and institutional setting," Ford said. "The residential setting features different colors, a variety of materials in its construction, and residential scale size rooms and appliances.

"These homes serve not only as residences, but also as educational facilities," Ford added. Residents are taught the care of such things as dishes, preparation and storage of food, how to operate such appliances as ovens and dishwashers, and they are required to maintain their bedrooms and bathrooms, and do their own laundry.

When the prototypes were presented five months after the project started, there was enough difference in the approaches to the problem to emphasize the need for using two architects. The other firm broke their building into more and smaller component parts, perhaps to the restrictions of an urban location. The Lake Newman Anderson building will fit on narrow sites by stacking the bedroom components.
on a hilly site by stacking the bedrooms and stepping down, and on any configuration of a flat site by reconnecting the bedroom parts.

"Our prototype is adaptable to a number of different types of locations," Ford said. "The residential appearance of the buildings allows them to be placed in existing residential communities with minimal impact or disruptive influences."

Since developing the prototype, Glave Newman Anderson has worked with two sponsoring organizations in the construction of group homes. One is the Roanoke Mental Hygiene Services in Roanoke, and the other is the Richmond Area Association for Retarded Citizens.

The Roanoke home is located on a large, one-acre plus, site. It is in a buffer zone between a residential area approximately 10-12 years old and a commercial strip. Since there was ample room to work with, the one-story scheme was used with a few minor changes made to the original prototype. These included room sizes, location of the handicapped facilities, and minimizing small lounge areas and leaving more communal space in the living and dining room areas.

"These changes were all minor," Ford said, "which illustrates how well the prototypes will work. And that was the intent of the program."

The Richmond facility is based on the same prototype and is located in a residential section on the city's northside. This is an older neighborhood and the site is much smaller than its Roanoke counterpart. In order to accommodate 12 residents, the bedroom components here were stacked and the handicapped requirements were met on the first floor. Budget restrictions prevented the installation of an elevator, but the second floor is served by two staircases, satisfying the building and fire codes. The building also has a sprinkler system. The exterior walls are solid masonry as compared to the frame construction of the Roanoke home. Both are brick veneer exterior, with some wood siding. It has steel windows, sized to provide easy escape for the handicapped in an emergency. The living room, dining room, and kitchen are in one large space, with a minimum of walls to allow a number of activities to occur simultaneously without seeming cramped.

The Richmond facility has all the standard techniques of residential construction. There is a brick veneer exterior, with some wood siding. It has steel windows, sized to provide easy escape for the handicapped in an emergency. The living room, dining room, and kitchen are in one large space, with a minimum of walls to allow a number of activities to occur simultaneously without seeming cramped.

"Solving any architectural problem gives us a great deal of satisfaction," Ford said. "Solving a problem and at the same time helping to provide for such a pressing social need gives the firm particular satisfaction. We think this is a vital program and believe it is working as it was intended."

Teal Building Corporation of Ashland was general contractor for the Group Home in Richmond. The firm also handled clearing, footings, landscaping work, and paving. Regional Construction Services, Inc., of Roanoke was general contractor for the Group Home in that city.

Subcontractors & Suppliers

Richmond Group Home

(Richmond firms unless noted)

J. H. Concrete, concrete; B&W Construction of Virginia, masonry; Hanover Iron & Steel, Inc., subcontractor.

VIRGINIA RECORD

Founded 187...
Church at Northern Virginia

Oakton

Brown/Ryon Associates, Ltd. — Architect

Mechanical Engineer, Beauchamp Associates • Electrical Engineer, Beauchamp Associates • Structural Engineer, F-D-E Ltd. • Civil Engineer, Walter L. Phillips, Inc. • General Contractor, E. H. Glover, Inc. • Photography, Ralph Snell, AIA

Church at Northern Virginia is an autonomous Charismatic Renewal congregation. Members are born-again, Spirit-filled believers, steadfastly basing their faith on the Bible. An integral component of the Church is the Whole Word Theological Seminary which trains candidates for the ministry.

Founded in 1967, the Church is blessed with a strikingly beautiful eighteen-acre site: a gently rolling glade in the woods surrounding a tranquil lake. A small log cabin occupies the highest hill.

Over the years, a series of additions, designed by the architects, were grafted to the original cabin to house the growing congregation. But master planning pointed to the eventual need for an entirely new Sanctuary and educational building.

The new building would have to resolve a number of conflicting demands:
— Functionally, it had to unite a large scale worship space with multi-sized educational and assembly facilities.
— The future addition of a seminary library and a dormitory had to be projected.
— The structure would have to look as if it belonged — within its natural setting and with the existing buildings.

— Symbolically, it had to be a prominent, bold statement of faith, bigger and better than before.
— And reflecting the times, energy efficiency was a must. As was planning for use by handicapped visitors.

Concept planning initially resulted in a one-story scheme. Further development, and careful siting, turned the single story plan into one incorporating a lower level, created by using the natural drop in grade. This permitted the seminary library (with a 26,000 volume capacity) to be included in the initial new building at a minimum of extra expense. The seminary could now seek accreditation sooner.

The natural division in function is expressed on the exterior. Worship space—Educational space—the forms are discrete; coupled by the Narthex.

Exterior materials were selected for their appearance and permanence. Stone-based split face masonry is used inside and out. A prophecy determined the building's color: white. White mortar and white trim are used to obtain a monolithic effect, emphasizing the bold geometry. Cedar shakes cover all sloped roofs. Gutters and downspouts are copper. Dark bronze completes the limited palette of colors — appearing

(Continued on page 41)
Messiah United Methodist Church
Springfield
Lawrence Cook & Associates, AIA — Architect

Landscape Architect, Lawrence Cook & Associates, AIA
Mechanical Engineer, McDavid Grotheer Co.
Electrical Engineer, McDavid Grotheer Co.
Structural Engineer, F-E-E Ltd.
Acoustical Engineer, Lycosics
Civil Engineer, Matthews & Wootton
Interior Design, Lawrence Cook & Associates
General Contractor, E.H. Glover, Inc.
Photography
Larry Cook & Andy Ness.
ENVIRONMENTAL CONSIDERATIONS—The bold shape with traditional lantern and cross were chosen to render a strong image of the church in the community. The church property acts as a buffer to separate a long commercial strip from a fine residential planned community. The entrance drive was shortened to provide a piazza-like transition space between the parking and the Commons while providing ideal access for the handicapped. Existing trees surrounding the site were preserved. Ornamental landscaping will be planted soon.

ENERGY CONSIDERATIONS—This facility was designed as the first all-solar heated and cooled church in the United States. However, the Department of Energy did not grant assistance as a demonstration project and the congregation could not afford to install the solar system at the time. The walls and ceilings are heavily insulated for minimum heat transfer. The Commons is heated by passive solar energy. The winter sun penetrates the clerestory windows and stores heat in the slate floor “solar sink” which gradually emits the heat back into the room at night. The summer sun is blocked by the clerestory overhang and vertical wing walls.

MATERIALS—Brick and mortar were selected to match the existing buildings. The Sanctuary walls are brick outside and inside with special brick patterns used to accent the Chancel, to form return air grilles, and to bond the top of the wall around the entire Sanctuary. The Sanctuary ceiling is gypsum board for sound reflectance with cedar siding encasing the steel frame. The Commons ceiling is spaced oak paneling with sound reducing back-up insulation. All windows are dual glazed and set in custom fir frames. Most doors are custom made oak. The roof is covered with heavy cedar shakes.

(Continued on page 42)
Southampton High School
Vocational Addition, Courtland
Moseley-Hening Associates, Inc.— Architect

The Vocational Addition for Southampton High School is the first phase of a proposed two-phase project designed to meet increasing educational and community needs in this rural Southeastern Virginia county. A civic center proposed as the second phase would be the result of a cooperative venture between the County Board of Supervisors and the School Board and could provide a cost savings to each for expenditures made for community facilities which might otherwise be too costly for either individually.

When the new Vocational Addition is completed, 43,890 square feet of space will have been added and facilities provided for programs in food service; carpentry; masonry; electricity; plumbing; heating; ventilation and air conditioning; stenography; reprographics; office services and accounting; typing; cosmetology; occupational clothing; and home institutional training. A resource and career center is designed as an integral part of the student circulation pattern to encourage its use by students. A model office is provided to place business students in a simulated working environment. Another feature of the new addition, the solar water heating system, will serve as a valuable educational tool to students of the building trades while providing for most of the new building's hot water needs.

Athletic fields at the school have been updated to provide first class facilities for Southampton's State Championship Football Team. The second-phase civic center, in conceptual form only at this stage, would house a gymnasium for school and community use, an auditorium, exhibition halls, and other community facilities.

Silas S. Kea & Sons Co., Ivor, was general contractor and handled foundations, precast stone erection (with Old Dominion Co.), masonry work, carpentry, light welding, and electrical installation. Landscape Architect, Watkins Nurseries, Inc.; Mechanical Engineer, Wm. G. Brandt, Jr. & Associates; Structural Engineer, Dunbar, Milby & Williams; Interior Design, Moseley-Hening Associates, Inc.; General Contractor, Silas S. Kea & Sons Co. Photograph, Huffman Studio.
Concrete insulation (with J. D. Wells, Inc.), and insulation insulation.

Subcontractors & Suppliers

Norfolk firms were: Winn Nursery, Inc., landscaping & landscaping contractor; Hall-Hodges, Inc., reinforcing; K & P Construction Co., masonry (joint sealers); Roof Engineering Corp., roof & damp proofing, sheet metal & shing; Lyon Metal Products, Inc. (c/o Dave Fey, Hampton), metal lockers; Walker & Porge Co., Inc., glass & glazing contractor & custom windows; Carpet Installation Associates, Inc., carpet; Anchor Fence Div. of Anchor Products, Inc., metal fencing & athletic backstops; and Door Engineering Co., door frames & projection screens.

From Richmond were: Economy Cast Stone, cast stone & precast concrete supplier; J. B. Bell Co., steel roof deck, roof deck (lt. weight insulating), and roof insulation (lt. weight insulating); Miller Manufacturing Co., Inc., tool; J. H. Pence Co., cabinets (casework) & solid doors; Roanoke Engineering Sales Co., metal doors & frames & security vault doors; Lundia of Virginia, shelving; Manson & Key, acoustical treatment (ceilings); Millwork; J. H. Pence Co., Inc., metal lockers; Walker & Berger Co., Inc., glass & glazing contractor & custom windows; and J. H. Pence Co., Richmond: Franklin Office Supply, Franklin; and International Business Machines, Norfolk.


Randolph Boys' Club
Richmond
Fraher and Harrison — Architects

Mechanical Engineer, CEK, Inc. • Electrical Engineer, CEK, Inc. • Structural Engineer, St. Clair, Callaway, Frye • General Contractor, A. D. Whittaker Construction, Inc. • Photography, Fraher and Harrison.
The Boys' Club of Richmond, a non-profit organization supported by the United Givers Fund, has been providing programs for inner-city youths ages 7-15, at its Central Unit for over 20 years. In 1970 the need of an outreach program was documented and the Club opened its first Extension Unit in an old home in the Randolph Redevelopment Area of Richmond. Membership at the existing facility inadequate. Because remodeling and enlarging the building were not feasible, a fund raising campaign for a new building was started in 1978.

The newly completed building is located on a 1 1/3 acre site on the eastern edge of the Randolph Urban Renewal Area. The building, which is designed to accommodate a membership of 300 youths, contains approximately 6,700 square feet and includes a games room, library, gymnasium, locker rooms, kitchen and other support spaces. The gym is designed to allow for expansion in the future. The use of modest materials, both interior and exterior, were necessitated by budgetary restrictions. The building was completed in May 1980.

A. D. Whittaker Construction, Inc., Ashland, was general contractor and handled carpentry, waterproofing and caulking.

Subcontractors & Suppliers
(Richmond firms unless noted)


Also, Perkins & Glass, Inc., glazing contractor; Architectural Hardware, Inc., metal doors & frames; Ar-Wall, Inc. of Va., windows; Pleasants Hardware, hardware supplier; H. E. Satterwhite, Inc., quarry tile; Manson & Utley, Inc., resilient tile; W. W. Nash & Sons, Inc., painting contractor; J. S. Archer Co., Inc., toilet partitions; R. J. Tilley, Plumbing & Heating, Inc., Ashland, heating/ventilating/air conditioning contractor; and W. C. Lang & Son Electric Co., Inc., Ashland, electrical contractor.
First National Bank
West Atlantic Branch, Emporia
Fraher and Harrison — Architects

The West Atlantic Street Branch was the first step in a carefully laid plan for expansion of the First National Bank of Emporia. The building program called for a traditional design which could be easily expanded to become the bank’s main office in the next few years.

The site of the building is in a rapidly expanding commercial corridor west of downtown. Because of the location, little pedestrian traffic would be expected and the site was planned to allow for maximum access from vehicles to the main banking lobby and to allow ample parking space for vehicles using the drive-in facilities.

The building contains 3,025 square feet of finished space and 740 square feet of unfinished space on the first floor and 2,235 square feet of unfinished space on the second floor. Construction...
The First Floor Plan was completed in April 1979. The general contractor was W. F. Hamm Construction Company of Petersburg.

Subcontractors & Suppliers
Wisco, Inc., Emporia, excavating & paving contractor; Ragsdale & Davis, Petersburg, concrete finishing; Hercules Steel, Jarratt, reinforcing, steel supplier & steel erection; Garrett, Don & Pool, Inc., Blackstone, concrete supplier; Jones & Meredith, Kenbridge, masonry contractor; John R. Houck Co., Richmond, steel joists; L. D. Kennedy, Emporia, carpentry; Hanover Fabricators, Ashland, wood trusses; and Weaver Brothers, Inc., Newport News, millwork.
Also, Tri-City Plumbing & Heating Co., Petersburg, built-up roof; Roofing & Supplies, Inc., Richmond, roof shingles; Architectural Hardware, Inc., Richmond, metal doors & frames; Pleasants Hardware, hardware supplier; H. E. Satterwhite, Inc., Richmond, ceramic tile & brick paving; Fendley Floor & Ceiling Co., Richmond, acoustical treatment & carpet; Chapman & Martin, Inc., Amelia, painting contractor & wall covering; Daniel Brothers, Lawrenceville, plumbing/ heating/ ventilating/ air conditioning/ electrical contractor; and Meyer & Meyer, Richmond, draperies and window treatments.

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(Information Courtesy of Travel Development Department, Virginia State Chamber of Commerce 1980 Calendar of Events, dates subject to change by localities.)

Late August
Doswell
August 25-31 EAST COAST COUNTRY MUSIC CHAMPIONSHIPS Kings Dominion, I-95 at Doswell. (Route 20 miles north of Richmond, VA. Seven days of the best of Virginia's Country and Bluegrass performers in Aug. 25 through Aug. 31. Each of the seven days there will be ten regional bands competing for cash prizes. Pay one price, general admission to Kings Dominion. Mrs. Lin Benfield, Box 166, Doswell, Va. 23047, c/o Kings Dominion 804/204-3771.

Lexington
August 30 ROCKBRIDGE COMMUNITY FESTIVAL event is held annually on the Saturday before Labor Day. Artists and craftsmen offer their wares for sale. Demonstrations of traditional skills such as blacksmithing, weaving, butter making, candle making, etc. 10:00 a.m. to 8:00 p.m. Pay one price, general admission to the 1980 festival Greg Raetz, Harter & Goss, Lexington 24450, P.O. Box 916, 703/463-7121.

Richmond
August 30-Aug. 31 TRI-STATE AUTUMN GOSPEL SING. Tri-State Autumn Gospel Sing, Breaks Interstate Park, Breaks, VA. Quartets from several states invited, to 10:00 p.m. on Aug. 30, and on Aug. 31st—10:00 a.m. to 5:00 p.m. Free Ruth Hutchinson, Route 2, Box 335, Grundy, VA 24614. 703/531-8215.

Dublin
August 30 to Sept. 1 2nd ANNUAL VIRGINIA MOUNTAIN CRAFTS GUILD FAIR. Modern and traditional crafts, demonstrations and sales held at Clator Lake State Park. Sat. and Mon. 10:00 a.m. til dark; Sunday til late. 50¢ admission to park. VA Mountain Crafts Guild Fair, Box 1287, Dublin, VA 24084.
Some First Steps...  
(From page 7)

offset the cost of the installation within a few years, depending on the climate.

Other areas in which we tend to squander energy include lighting (we generally provide too much) and the use of appliances, from toasters to air conditioners. Savings on lighting costs can come from simply turning off lights not in use to using dimmers, fluorescent bulbs, lower wattages and, wherever possible, that most basic of all sources — natural illumination. Appliances, too, can be wasteful, either because we use too many of them or because they offer many more conveniences than we really need. Frost-free refrigerators and "instant-on" TV sets consume far more energy than the more conventional models, and by defrosting your own freezer or waiting ten seconds for the TV picture you cut your utility bills measurably.

In such a complicated area as energy consumption, it would be foolish to suggest that any one solution will provide all the answers. The overall easing of our energy problem will come about when a wide variety of solutions are applied. By preventing energy waste now we can apply one of the first and easiest remedies. That alone is a giant first step.
Together, in tangible form, the new Church at Northern Virginia makes manifest the fervent faith of its congregation. E. H. Glover, Inc. of Bailey's Crossroads was general contractor for the project.

Subcontractors & Suppliers


THE WRENS
(From page 19)

The Wrens, Ltd., Bethesda, MD, stonework contractor; County Asphalt, Inc., Leesburg, stonework supplier; Union Iron Works, Herndon, steel supplier; Lamar & Wallace, Inc., Landover, MD, mill & wood doors; and Wailes and Edwards, Bethesda, MD, cabinets.

Also, J. W. Loveless Roofing & Guttering Service, Ashburn, built-up roof; J. A. Cassidy Co., Beltsville, MD, Pella windows; Southern Doors & Acoustics, Inc., Merrifield, resilient tile; Stevens store, Aberdeen, NC, carpet; H & S Plumbing & Heating, Herndon, plumbing contractor; and James R. Harris, Inc., heating/air conditioning/electrical contractor.

And, from Arlington, Murphy & Ames, structural wood; American Insulation Co., roof/wall foundation insulation; William Hotlle, gypsum board contractor; Leonard Schneeman, ceramic tile; John Kampans, painting contractor; Duron paints & Wallcoverings, paint supplier; Union Tarpaper & Paint Co., Inc., wall covering; and minion Electric Supply Co., Inc., lighting fixtures supplier.

Church at Northern Va.
(From page 29)

soffits, door and window frames, and the exterior trim, the Nave stands out as an equilateral angle, symbolic of the Trinity. It is covered by simple, single sloped, roof rising uniformly to the level of the points. From the front, this highest point dominates both the composition of new Nave's walls and the existing building. The height was determined by the Biblical directive to build at the high point. Since this spot was already occupied by the Chapel, the new Sanctuary's high point is fixed at a level above the Chapel's apex. As the white, split face, masonry walls at the back of the 350-seat Nave converge toward the raised chancel, attention is focused on the architectural centers — altar, pulpit, and baptistry. The roof construction consists of laminated roof beams and a wood deck. Wood slats form the front and rear walls — housing and hiding Bilt-Rite Steel Buck Corp., Greenbelt, MD, metal doors & frames; James A. Cassidy Co., Inc., Beltsville, MD, windows; J. B. Kendall Co., Washington, DC, hardware supplier, T. M. Woodall, Inc., Takoma Park, MD, gypsum board contractor & acoustical treatment; McClary Tile, Inc., Alexandria, quarry tile; and Fairfax Tile & Linoleum Co., Inc., Alexandria, resilient tile & carpet.


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August 1980
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