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Plants and fabric art lend color to the central foyer, which is used by both workers and visitors.

cost-effective method of producing a large product within a relatively short amount of time.

By January 1983, the general contractors for the project had been determined and site clearing began in May. The J.N. Pease design team developed a schedule which called for five bid "packages" instead of one major package. As Komisin explains, "Having five bid packages means that we identified five different parts of the project, accepted competitive bids for each one and sequenced our own design efforts to go along with the work being done at the same time on each section."

The five bid packages involved: one, site work and the foundation; two, the basic steel structure, plus any mechanical equipment that had to be built into the structure, such as chillers and generators; three, the exterior; four, the interior; and five, the building automation system, which controls and monitors almost all mechanical, electrical, life safety and security equipment within the facility.

Komisin says that one of the most unusual aspects of the fast-track system used for Southern Bell is that "it involved so many people working so well together on an intense schedule. We were very fortunate that the groups involved were able to learn together and be a team."

The general contractor for the project was McDevitt & Street Co./Parke Division of Charlotte. Also instrumental in the process was Southern Bell's own Charlotte-based Building and Design Construction Group (BDCG), headed by T. S. Cates as operations manager and



J.N. Pease Associates designed a three-story central entry building that connects the data-processing (right) and administrative wings.

# Data Center Design Accommodates Both Man And Machine

#### By Ellen Grissett Photography By Aerial Photography Services

n the fall of 1982, Southern Bell officials approached the Charlottebased engineering/architectural firm of J.N. Pease Associates with what could only be called a "plum" job for any firm. They wanted the firm to design an ultramodern, regional data-processing facility to be located on 27 acres in University Research Park, a 3,500-acre complex of high-technology and research facilities near the University of North Carolina at Charlotte.

There was just one catch: the kind of building Southern Bell wanted would normally take three years or more to design and construct, only Southern Bell officials wanted it finished in  $2^{1/2}$ .

The architects and engineers of J.N. Pease took a collective deep breath and went to work on what is called the "fasttrack" system.

Project architect John Komisin, who was to coordinate the \$30 million Southern Bell endeavor for the next 30 months, says that the firm knew immediately that "the usual hard-bid package couldn't accomplish what we needed in the time frame we were given. That's when we decided we had to utilize the fast-track process."

Instead of designing the entire project, then ordering materials, then beginning construction, fast-tracking would mean that all those functions would be going on at the same time. The architects would be designing one section of the building, while materials for another were being delivered, while construction of yet another section was beginning. Fast-tracking, in the wrong hands, could result in a gigantic mess or it could mean an extremely efficient,

<sup>(</sup>Left) The exterior of Southern Bell's Carolina Corporate Data Center is of anodized aluminum panels with areas of solar gray glass.



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# NorthCarolina ARCHITECT

Volume 33, No. 5 September-October

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#### **COVER STORY**

### 6 DATA CENTER DESIGN ACCOMMODATES BOTH MAN AND MACHINE.

Story by Ellen Grissett.

Photography by Larry Harwell.

When Southern Bell asked J.N. Pease Associates of Charlotte to design a regional data-processing center, the architects faced two challenges: creating an environment that was both modern and "user friendly," and completing in 2 1/2 years a building that would normally take three or more.

#### FEATURE

#### 24 VINTAGE DAIRY BEARS NEW FRUIT AS ESTATE WINERY. Story by Mary Ann Claud.

Photography by Aerial Photography Services.

Padgett and Freeman Architects of Asheville have transformed an old dairy barn on the Biltmore Estate into a facility that houses state-of-the-art wine making equipment yet retains some of the old-world atmosphere of European wineries.

#### DEPARTMENTS

16 OFF THE DRAWING BOARD.

COVER: A central entry building links the administrative and data-processing wings of Southern Bell's Carolina Corporate Data Center, which is located in Charlotte's University Research Park. The foyer's plumply upholstered seating and hanging fabric art bring touches of warmth and "humanness" to a facility that houses a vast amount of technological equipment. Design by J.N. Pease Associates, Charlotte. Fabric art by Jacqueline Heer, Charlotte. Photography by Larry Harwell, Aerial Photography Services.

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Brick Association of North Carolina

Photographs by Pete Cieslak

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project manager. Although the BDCG had been involved in the design and construction of Southern Bell facilities in the past, this particular project was "far and away the most complex facility we've ever built," Wilson says.

The main reason for the complexity of the project was that the design had to be modern enough to accommodate a massive amount of data-processing equipment while at the same time provide a "human" environment for the proportionately small number of people who actually operate the equipment.

J.N. Pease's design actually called for two major buildings - one a five-level, 200,000-square-foot data-processing wing, the other a three-story, 50,000square-foot administrative wing connected by a core entry building. The three parts had to be designed so that they could be constructed quickly and economically and could also be expanded in the future. To meet these needs. Pease chose a structural steel frame with a composite slab on metal deck, beams and girders. A raised floor in the data-processing wing allowed adequate space below for cable distribution; steel columns were stubbed up above the roof to allow future vertical expansion of both wings with a minimal interruption of the roof membrane.

The exterior of the Carolina Corporate Data Center is of clear and black anodized aluminum panels with areas of solar gray glass. A four-story expanse of glass block at one end of the computer wing allows, in Komisin's words, "a burst of light" to filter into the stark, modern wing.

The common core that links the two wings is both sleek and and "user friendly." It features a color scheme of gray, burgundy, blue and dusty rose, plumply upholstered seating and eyecatching fabric art hangings, made by local artist Jacqueline Heer.

The common-core building was deliberately designed by Pease to be the only entrance into the facility. "We felt that having both visitors and workers come in through this one area would give them a better sense of 'entry' into the building," says Komisin.

Mechanical and electrical systems for the facility were designed for maximum efficiency, with standby power provided for all systems. A central chilled water plant, composed of four 500-ton electricity-driven centrifugal water chillers,

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Sculpture and Architectural Metals 1201 Park Terrace, Greensboro, NC 27403 (919) 299-0106 provides cooling for the computer wing. Heat generated by the computers is used to warm the administrative areas of the building.

Komisin says that the design of the facility took into account Southern Bell's request for future expansion (there is room for the administrative wing to expand both laterally and vertically, while the computer wing may add on two more floors at some point).

The 27-acre site chosen by Southern Bell for the data processing center was also utilized carefully and with an eye to the future, Komisin says. "We tried to be very careful with the existing environment when we planned the parking lot in front," he says.

The fast-tracking system saved Southern Bell "about 26 weeks in construction time," says Komisin. "We finished just about all the construction on New Year's Eve, 1984 — and I do mean New Year's Eve! — and had the employees in by late April 1985, ahead of the May 31 deadline when the lease on the space they were (then) occupying expired."



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P.O. BOX 33476 CHARLOTTE, N. C. 28233 704/377-3461 While Pease had used the fast-track idea in other, smaller projects, Komisin admits that the Southern Bell project was "a learning experience. Now that we've successfully used it with this project, we're using it on more and more of our projects. Fast-tracking started back in the late 1970s, when interest rates on new construction were so high and people couldn't afford to build any other way, but I think it's a system that will become almost routine to architects and engineers. Though it takes a lot of teamwork, the time and money saved are worth it."

#### PROJECT CREDITS

Carolina Corporate Data Center University Research Park, Charlotte, N.C. Architect/Structural, Electrical, Mechanical and Civil Engineering: J.N. Pease Assoc., Charlotte. Construction Manager: McDevitt & Street Co./Parke Div., Charlotte. Steel Fabricator: Southern Engineering, Charlotte. Steel Erector: Florence Steel Erectors, Florence, S.C. Owner: Southern Bell.



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## Off The Drawing Board

#### Ronald McDonald House Under Construction

Construction is under way on a new Ronald McDonald House for eastern North Carolina, to be located in Greenville. The house, which will be funded through McDonald's restaurants and other communitywide efforts, will serve as a "home away from home" for the parents and families of children being treated for serious illnesses at the nearby Pitt County Memorial Hospital and East Carolina University medical facilities.

Planning & Design Associates P.A. (PDA) of Raleigh designed the house, which will cost \$1 million to build and will feature 12,000 square feet of living space.

According to PDA architect Terry W. Alford, the Ronald McDonald House

Artist's rendering of the new Ronald McDonald House for eastern North Carolina.

was designed to "accommodate 20 families in a warm and comfortable homelike environment." The facility will include kitchen facilities, laundry, recreation and study areas, and will be staffed by professionals and volunteers to help the families. Fund-raising efforts, spearheaded by the nonprofit Children's Services of Eastern Carolina Inc. group, have been under way since early 1985. Occupancy of the house, which will serve children in about 30 eastern counties, is expected to be early 1986.

#### Construction Congress Presents Check

The North Carolina Construction Congress, which was formed in the 1960s to promote the interests of all segments of the building industry in the laws of the state, recently presented the architecture department at North Carolina State University with a check for \$2,418.38.

The check will be used for the department's enrichment and outreach activities, which are funded through The Golden Section, the departmental support organization.

Joining Albert L. Haskins Jr., FAIA, chairman of the Construction Congress, and Robert Burns of the NCSU architecture department for the presentation of the check in August were Dean Claude E. McKinney of the school of Design, NCSU; Tom Turner, president of the NCAIA; and Charles E. Gordon of the Carolinas Branch of the Associated General Contractors of America Inc.



(Left to right) Gordon, Haskins, Turner, Burns and McKinney at check presentation.

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#### Third Phase of Center Begun

The third phase of the CharlottePark Executive Center, which is located at the intersection of I-77 and South Tryon Street in Charlotte, is currently under construction.

The building, which was designed by the Charlotte firm of Clark Tribble Harris and Li, is scheduled for completion in January 1986. Developer for the project is the national firm of Spaulding & Slye, which has a regional office in Charlotte.

The third phase of CharlottePark will have 61,000 square feet of office space on three floors and will feature a threestory interior skylit atrium.

### University Place Theater Completed

A new six-screen theater was recently completed at University Place in the UNCC area north of Charlotte.

The 25,000-square-foot theater, which is being operated by Piedmont Theatres of Charlotte, was designed by the Charlotte-based firm of Atkinson/ Dyer Architects. The project was built by Edifice Inc. of Charlotte for the Carley Capital Group, also of Charlotte.

The theater links an existing shopping center and plaza to the site of a future high-rise office complex. Each auditorium features 230 seats and has Dolby or Kinteck sound systems; one auditorium was designed specifically for

#### Downtown Building Renovation Under way

The 57-year-old Addison Building, a concrete-and-steel five-story structure at the corner of Third and Church streets in downtown Charlotte, is about to get a major facelift and a new name.

The new name, Packard Place, harks back to the building's first use, as a Packard dealership. Built in 1928 by J. A. Jones Construction Co. of Charlotte, the building is today owned by the newly formed partnership Packard Associates.

Renovations to the interior and exterior of the building are being handled by Odell Associates of Charlotte, which in



Artist's depiction of the third phase of the Charlotte Park Executive Center



Drawing of the recently completed six-screen theater in Charlotte's University Place complex.

70mm films.

John Watson, project architect, says "The large building mass has been reduced in scale by the use of horizontal bands of green glazed brick and a onestory outside covered walk. The roofs over the (two) entrances, as well as over the covered walks, are red metal standing seam roofing," the same roofing used on surrounding buildings.

1952 won an AIA award for its conversion of the old Packard dealership to the first office building in Charlotte with central air conditioning.

Packard Place will offer customized leased office and retail space ranging from 300 square feet to 12,000 square feet on a single floor, with a new restaurant to be located at street level. The building has about 86,000 square feet of rentable space.

Odell project architect Steve Onxley says that interior renovations should be finished by the early fall, with exterior renovations completed by the end of the year. "One of the unique aspects of this project is that we are using finishes on the building that have never before been used in Charlotte." he explains. "In particular, we're using something called 'Fiandre,' which is an Italian porcelainized tile that is made from granite chips and is durable enough to be used on the exterior as well as the interior of the building."

Other features of the "new" building will include recessed lighting, sleek new graphics for tenants, upgraded elevators and new sidewalks in front of the building.

#### Addition to Resort Begun

A major addition to the Dillon, S.C., resort South of the Border is currently under construction, with occupancy

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scheduled for May, 1986.

The new indoor recreational complex and motel lobby was designed by Snowdon, Stogner and Associates P.A. of Laurinburg. The structure will consist of two aluminum-frame domes with bronze-tinted plexiglass panels sitting on precast concrete structures. The structures will house such facilities as a sauna, dance floor, bar, patio and lobby, along with a heated swimming pool, spa and wading pool.

The addition will cost \$1.5 million to build. Construction will be handled by A.G. Carter Jr. Inc. of Whiteville, general contractor.



Model of new additions to the Dillon, S.C., resort "South of the Border."

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#### Firm Moves Up In National Ranking

Clark Tribble Harris and Li Architects P.A. of Charlotte has moved up 11 positions in a survey conducted annually by *Building Design & Construction* magazine.

The move means that Clark Tribble is now the 46th largest architectural/engineering firm in the country.

The rankings are based on 1984 revenues from commercial, industrial and institutional (CII) work and show Clark Tribble Harris and Li with \$7,114,000 in CII billings. In the 1984 survey, which was based on 1983 figures, the firm had ranked 57th in the country with CII billings of \$4,512,000.

Clark Tribble Harris and Li is headquartered in Charlotte with additional offices in New York City and Washington, D.C. Recent projects have included the Mint Museum and Discovery Place expansions and the design of the new Guest Quarters and Marriott City Center hotels, all in the Charlotte area.

#### Need Help? Call "CADD Assist"

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The new service, "CADD Assist," is being directed by Kirk A. Bodick, AIA, registered architect and manager of computer services for the firm. He

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believes that because CADD systems represent such large capital investments for most architectural firms, "It's important to have the right kind of assistance in selecting a system, in implementing that system and in creating management and operational controls."

Basically, the "CADD Assist" consulting service offers aid in these areas: a general introduction to CADD, including the pros and cons; evaluating and selecting the proper system, with attention paid to financial considerations; implementing the CADD system, including special training in management of the system so that less time is needed for startup of the system; troubleshooting, which includes giving help with an existing system as well as a new one; and seminars specifically tailored to meet a firm's needs.

Bodick, who earned bachelor's and master's degrees in architecture from the University of Michigan, has worked with CADD systems for more than 10 years. He has implemented CADD systems for two area firms, including Reg Narmour.

He says that the new program he is directing is "people-oriented. We want to help architectural firms make CADD systems the valuable tools they should be in the daily work of a firm." He adds, "There are a lot of people out there who know a lot about computers but not a lot about architecture, and conversely, there are people who know a lot about architecture and nothing about computers. We're confident we can integrate those two areas through our service."

Reg Narmour/The Architectural Group is initially offering the "CADD Assist" program to any architects practicing within the firm's four service areas (Charlotte, Raleigh, Washington, D. C. and Tampa, FL.). For more information on the program, firms should contact Bodick in The Architectural Group's home office, Charlotte, at (704) 364-5818.

#### N.C. Firm Constructs Resort Condominiums

Metric Constructors Inc. of Charlotte has begun construction of Ocean Lagoon Associates' new luxury oceanfront Villamare condominiums on Hilton Head Island.

The three-phase project, located on

an 8<sup>1</sup>/<sub>2</sub>-acre site in the Palmetto Dunes section of the island, will feature 160 two-and three-bedroom villas.

Design of the first phase of the project was by David Jensen Associates Inc. of Denver, Colorado; financing for the project is being provided by N.C. National Bank. Completion of phase one is scheduled for May 1986.

## Names and Changes In N.C. Architecture

**Randy Jones** is a new architectural design draftsman with the firm of Howell Associates, Architects, in Boone.

Jones received his bachelor's degree in architecture from the University of North Carolina in Charlotte.

Charlotte architect **Stephen M. Hepler** and **John M. Knight**, formerly with Knight Design, have formed the firm of Knight Hepler Design, to be based in Charlotte.

Hepler was formerly with Clark Tribble Harris and Li Architects and holds a B.E.D.A. and master's degree in architecture from N.C. State University. Knight's firm is three years old.

The firm is presently located at 148 Brevard Court in Charlotte but is renovating expanded facilities at 211½ N. Tryon St. for a future move. The firm also recently designed the Colony Park West office condominiums currently under construction on W. Morehead St. in Charlotte as well as 14,000 square feet of speculative office space in Rock Hill, S.C.

**Fred M. Brune** is the new vice president for finance at Odell Associates in Charlotte, a 200-person architectural and engineering firm with offices in four states. Brune will manage corporate finance and human resource activities for the Charlotte, Greenville, Richmond and Tampa offices.

Brune was formerly an audit principal with Arthur Young & Company in Charlotte and is a certified public accountant. He received his bachelor of science degree in business administration and accounting from the University of South Carolina.

Josie Holden is a new project architect with Charlotte-based Jenkins-Peer Architects. She was formerly with Dean/Dale and Dean PA, Jackson, MS and is a graduate of the Mississippi State School of Architecture.





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The Carolinas Concrete Masonry Association elected new officers and directors for 1986 during their recent meeting. The new officers are: **Chester A. Pittman Jr.**, president; **Fred Stevenson**, vice president; **J. Kenneth Thomas**, secretary-treasurer; **John Allen** and **Bill Durham**, directors, Eastern Region; **Wayne Utley** and **Doug Barbee**, directors, Central Region; and **Roddy Edwards** and **Warren Cochran**, Western Region directors. **Carl Thomas Jr.** is the new associate director.

Continuing on the board for another year are: Jerald Long, H.A. "Butch" Hardy, Harry L. Tsumas and Ed Blanton.

New officers and directors will automatically take office January 1, 1986.

The Carolinas Concrete Masonry Assoc. is a trade group composed of concrete-block plants in the Carolinas and is based in Greensboro, where it maintains an information center on concrete masonry design and technology, passive solar design and house plans.

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announces the formation of a new firm, Surapon Sujjavanich and Associates Inc. The firm offers services in architectural programming, planning and design, landscape architecture, interior design, engineering services and passive/active solar applications.

The new firm is located at 104 Beechtree Court, Apex, N.C. 27502.

**Kim Tanzer** has joined the firm of Dail, Dixon & Associates based in Carrboro. Tanzer received her bachelor of arts degree from Duke University and her master's of architecture degree from N.C. State University.

**Patricia Richmond Ramos** has joined the staff of Overcash-Harris Architects in Charlotte. Ramos, a graduate of the college of architecture at UNC-Charlotte, is experienced in multifamily and commercial design.

**Duane Coen** is a new registered landscape architect with the Charlottebased firm Dellinger/Lee Associates.

Coen, formerly with a Durham firm, has a bachelor's degree in landscape architecture from Oregon State University and a master's of landscape architecture from N.C. State University.  $\Box$ 

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(Left) Architects Padgett and Freeman restored the Clock Tower, one of the most distinguishable features on the Biltmore Estate's old dairy barn. (Above) After fermenting and racking, red wines are placed in oak barrels. Different oaks add their own subtle qualities to the wines' taste. (Right) The Clock Tower and three barns are original structures; the rest were rebuilt with the aid of drawings left by the original architect, Richard Morris Hunt, who designed the dairy in 1897. Asheville Firm's Design Meshes Touring, Wine Making Functions

## Vintage Dairy Bears New Fruit As Estate Winery

By Mary Ann Claud Photography By Aerial Photography Services

sk Asheville architect Jim Padgett what he knew about wine making three years ago and he will tell you, "Zero." Until 1982, his firm, Padgett and Freeman, was more conversant with classrooms than cask rooms. Padgett estimates they have designed as many schools as any firm in North Carolina. But that was before they were commissioned to renovate a dairy barn and convert it into a winery.

"We spent about 18 months on research and made two trips to California to visit wineries there," Padgett recalls. "We think we learned from their failures and their successes."

In the course of the research, Padgett discovered the Biltmore Winery required a different approach from that of the 20



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This window in the Welcome Center is one of a set made in 1905 by John LaFarge.

wineries he visited in the Sonoma and Napa valleys. Most California wineries accommodate visitors as a peripheral activity to their primary function of wine production. Once bottled, the wine is moved off the premises quickly as possible for national distribution and sale.

But that was not to be the case at the Biltmore Winery. Estate officials viewed visitors to the facility as being just as important as the wine production itself. This philosophy, they believed, would be in keeping with the history of the estate, which is self-sufficient but has also been open to visitors since 1895.

This philosophy of course influenced the design of the new winery. As Padgett explains, "Here at Biltmore we are moving up to 5,000 people a day through the facility in addition to making and selling the wine. The main design challenge was meshing the two functions without having one interfere with the other."

No strangers to adaptive-use projects, the firm of Padgett and Freeman occupies the second floor of what was once the old Asheville Bakery at 30 Choctow, a building redesigned by the firm four years ago. Prominently displayed in the design room is a large blueprint of the Biltmore Dairy clock tower, drawn 90 years ago by Richard Morris Hunt, who also designed the Biltmore House.

Although Padgett was not responsible for all the interior design, the areas he redeveloped give a good indication of his sensitivity to Hunt's concepts. Stone walls, cleaned and left intact, provide eloquent textural contrast to enormous cylindrical, stainless-steel fermenting vats in the crushing room. The soft blond of French oak casks is echoed in the general color scheme, and the neutral colors help to focus attention on structure and technology. Padgett's design is intended, he says, to accent the historic elements of the building, allowing Hunt's work to speak for itself.

A self-guided tour for visitors to the winery begins in two small theaters with a 10-minute multimedia presentation. Considerable space is given to a tasting room and a sales area, both of which open onto a rectangular courtyard shaded by an oak tree as old as the original building.

Along with ample accommodations for visitors, a prime concern from the outset was that the winery be functional. "The winemaster, Philippe Jourdain, has been here for seven years cultivating the grapes and producing wine in the basement of the greenhouse, and we hired a process engineer from California to install the equipment," Padgett says. "Last year the winery produced 35,000 cases; an addition now under way will increase output to 50,000. One of the problems is making enough wine to meet the







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also simple to install. (It has to do with the "snap" in the name, but it's simppler if you see it for yourself.)

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demand. At present this is the only place Biltmore Wine is sold."

A native of western North Carolina, Padgett's first architectural office was in Biltmore Village. He has undertaken several restoration projects for Biltmore owner William Cecil, including the winemaster's residence, a striking white antebellum house that crowns a hill overlooking the winery.

"As you see the winery today, the clock tower and three barns are original structures; the rest we rebuilt with the help of Hunt's drawings," says Padgett. He estimates that 50 percent of the original building was incorporated into the new structure. "Fortunately the Biltmore archives contained a great deal of very helpful information including photographs. It was amazing how the new (winery) function fell into place as we developed the project."

For example, original architect Hunt had included a network of underground tunnels for the purpose of removing manure from the stables to nearby fields. Padgett added a drainage system and cemented the floors, creating an ideal underground wine storage area where the necessary temperature is easily maintained. Open to visitors as part of a tour, the perspective of the tunnels is heightened with a subtle down-lighting which plays off the stone walls and gently arched ceilings.

The barn which once housed the estate's legendary Biltmore Jersey herd had been poorly maintained and was virtually abandoned in 1979 when the dairy operation separated from the estate. The exterior treatment looks like rough stucco but is actually pebble dash, a combination of mortar and small creek stone reminiscent of Low Country tabby. Existing pebble dash was repaired on the old buildings and a new generation of craftsmen learned to match the material for the reconstruction.

The interior space is divided between public areas, production rooms and storage. Visitors enter the winery through the Welcome Center, a large holding room decorated by London designer John Finney with elaborate stencil patterns and Portugese tiles. Finney was one of eight consultants who worked with Padgett on the project. "Coordinating the consultants





Raleigh (919) 829-1987 Durham (919) 493-6423 Winston-Salem (919) 773-1212 Greensboro (919) 274-2404 Call Toll Free 1-800-842-6262 became a major part of my job," Padgett says. "Fortunately all the consultants were very talented men."

Padgett and Freeman also designed the new ticket office at the main entrance to the estate, as well as Deerpark Restaurant, an NCAIA award winner in 1980. Padgett views his past experience working with Cecil as a defi-

#### "It was amazing how the new (winery) function fell into place as we developed the project," says Padgett.

nite plus. "The more you work with a client, the more you understand what he expects, and the easier it is to deliver."

In the course of designing the winery, Padgett has become something of an expert in a highly specialized field. Not especially fond of wine himself, he says one of his associates has become a dedicated oenophile as a result of his work on the winery project. From a technological standpoint, Padgett is confident the winery is state-of-the-art. With wine tanks from France and bottling equipment from Italy, he says the Biltmore Winery is a model for East Coast wine production.

The precision of modern winemaking is borne out by the winery's extensive laboratory facilities and its gyropallet, a machine which replaces riddling, the labor-intensive process of turning champagne bottles by hand.

"Actually, you aren't supposed to call any sparkling wine champagne unless it is made in the Champagne region of France, but our sparkling wine is made by the exact process the French use," says Padgett. He adds with a chuckle, "Besides, the winemaster said nobody would buy it if we call it 'Buncombe."

Mary Ann Claud is a Tryon-based free-lance writer.

#### **PROJECT CREDITS**

Biltmore Estate Winery Asheville, N.C. Architect: Padgett and Freeman, Asheville. General Contractor: Haywood Co., Lake Junaluska. Plumbing & Heating: Moser Inc. of Asheville. Electrical: M.B. Haynes Corp., Asheville.

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