

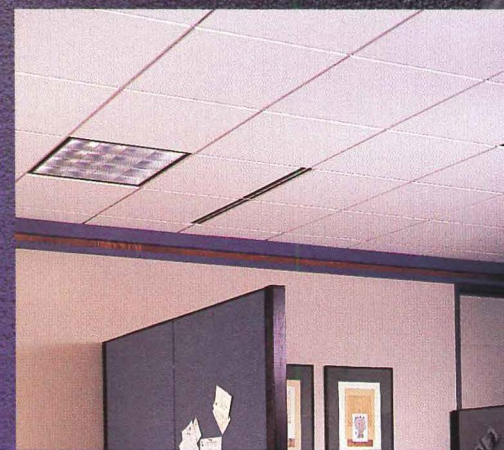


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Seldom has the role of public buildings in our society been better stated. On a recent winter evening Supreme Court Associate Justice Stephen Breyer, speaking at this year's AIA Accent on Architecture dinner, captured, in the span of twenty minutes, the essence of what public design is all about. His theme was, not surprisingly, the architecture of justice, and because that's also the theme of this month's RECORD Building Types Study, I want to share with our readers the highlights of his message. Justice Breyer, before his elevation to the Supreme Court, worked closely, along with Judge Douglas Woodlock, on the new, Henry Cobb-designed Federal Courthouse in Boston, where he was the model of the enlightened modern client:

"[The] responsibility of a Justice," he said, "is not so very different from your responsibility, as architects of our public space. You must design... buildings that work properly, but you also must do more. Both in function and design, those buildings will embody and reflect principles that tell the public who uses or sees them something about themselves, their government, their nation; and in doing so, those buildings may help us live together better as a community—or they may not. Indeed, the story that a building tells through its design can be as important to the community it serves as [is] its function, for, by shaping our thoughts about ourselves and our institutions, it will directly affect our efforts to work productively together."

One day Cobb showed Justice Breyer the picture (which he kept taped to his mirror) of a courthouse built in Virginia in 1735. Made of brick and wood, it contained one simple courtroom and a front porch. It was located at a crossroads. Citizens gathered daily on its portico. "We saw other pictures," Breyer went on, "that suggested a change in the 20th century. And that change was not always for the better. We saw some courthouses that looked... more like faceless office buildings. Some even looked a little like prisons. The architectural challenge, Harry [Cobb] said, was to recreate a building embodying certain civic virtues of the 18th century Virginia courthouse, while... responding to our judicial system's 21st century need for many courtrooms, many judges, many lawyers, many administrators, and avoiding many security risks."

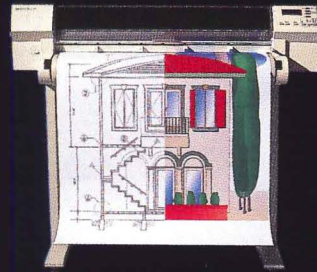
Speaking of the Boston courthouse, Breyer referred to buildings as conveyors of certain civic messages. "A judge, for example, is a public servant, not a potentate. We wanted to create a courthouse and courtrooms the design of which would focus upon lawyers and their clients carrying out their business, rather than create a kind of regal procession towards a judicial throne... The courtroom is the home of the law, not the judge... Neither is the judge a bureaucrat, nor a courthouse a bureaucracy. A court, unlike a government agency, concerns itself not with the public en masse, but with the individual citizen who appears before it...."

Justice Breyer also commented on the length of the design process: "Harry Cobb told us that not so many years ago, it took only a few phone calls to obtain the necessary support for an important building project. He told us this as we prepared for our thirtieth public meeting on the subject. [The process of meetings with a great number of different groups]... took time, but it also created understanding, it built support, it produced change, and the result is a building that will better serve the public."

The legal and the architectural professions each exerts huge leverage on the public culture. It's encouraging to see enlightenment beamed from such a high place.

Stephen A. Kliment

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Design

Briefs

Someone is watching you—or not

Redwood, California has become a laboratory for high-tech Orwellian surveillance technologies in the service of lowering crime rates. In a new twist on the panopticon (a round prison with a central guard), the town has been installing acoustic sensors that can pinpoint a gunshot to within 10 yards of where it was fired. According to local police, just the suggestion of the new device—is it watching or isn't it?—has reduced crime. Developed by Trilon Technology, the system cost a modest \$25,000.

Competition

The Van Alen Institute in New York City has announced "Public Property," an ideas competition for Governors Island, located at the southern tip of Manhattan in New York Harbor. Once home to the U.S. Coast Guard, the island is currently for sale. Entrants are encouraged to explore "ideas of site, 'the urban,' and properties of the public by recognizing the endowments of city life." Submissions are due April 17. A first prize award of \$10,000 will be made. For additional information call: 212/924-7000.

Transitions

- Carlos Zapata Design Studio, based in Miami, has joined with Benjamin Wood, formerly of the Cambridge, Massachusetts firm Thompson and Wood, to form a new firm, Wood & Zapata, with offices in Miami and Boston.
- Marquis Associates of San Francisco has closed its doors one year after the death of its founder Robert Marquis. The 40-year-old firm built its reputation on housing, educational, and civic projects.
- Alfred Swanke has died. A co-founder of Swanke Hayden Connell, a firm known for high-profile restoration projects, including the Statue of Liberty and the Senate and Supreme Court chambers in Washington, D.C., Swanke had retired in 1982.
- George M. White, former Architect of the Capitol, has joined the firm of Leo A. Daly, which has 17 offices worldwide, as a special assistant to the chairman. ■

Venice, Italy

Historic Opera House Goes Up in Flames

La Fenice, Venice's opera house, was destroyed by fire on January 29. Nestled in the San Marco district, it was one of the city's gems, an unusually vertical theater with a towering curved wall of ornate balconies. It has long been associated with composer Giuseppe Verdi, who premiered "La Traviata" and "Rigoletto" there. The theater was born of fire: it was commissioned in 1774 after the San Benedetto Theater burned to the ground. In 1836, La Fenice (or the phoenix) rose from ashes after another fire. This time, in a horrible irony for a waterbound city, fire boats were unable to reach it because surrounding canals were being dredged. A helicopter finally doused the flames. The city estimates it will take \$62 million to rebuild it, but others predict as much as \$300 million. Luciano Pavarotti is planning a concert to raise money for the restoration. ■



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Los Angeles

Koolhaas Cast in a Lead American Role

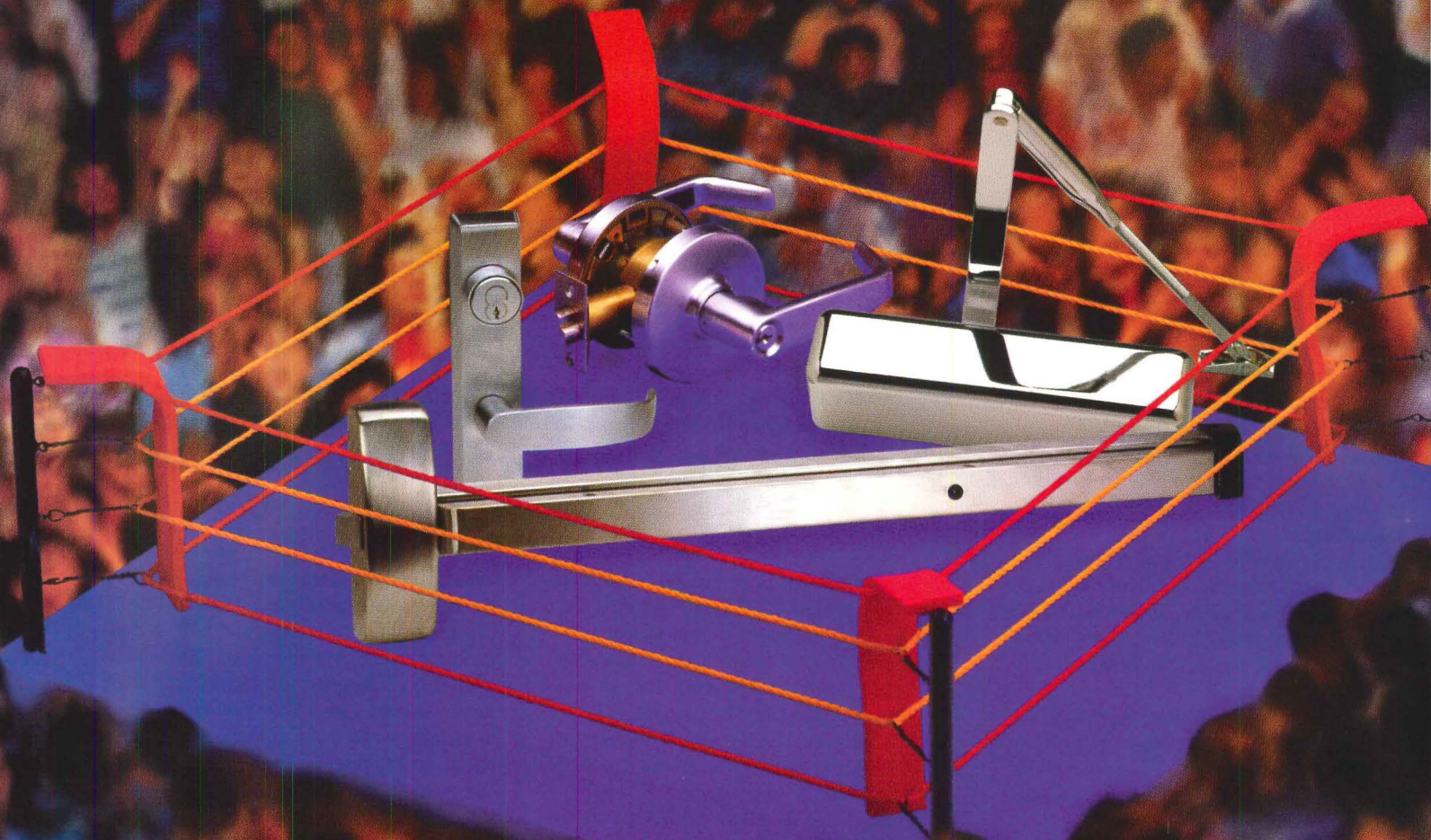
Rem Koolhaas has been tapped for his first American project by Edgar Bronfman Jr., the Seagram Company's chief executive. Bronfman's recent acquisition, media giant MCA, has hired the Rotterdam-based architect and his Office for Metropolitan Architecture to design a new headquarters for MCA/Universal as well as the master plan for Universal City, a sprawling 415-acre complex, in Los Angeles. (Seagram acquired 80 percent of MCA from Matsushita last year.)

The project—now in the early planning stages—will include a new office building, at a still undetermined location. It will replace former MCA chairman Lew Wasserman's black-glass Modernist tower. "Part of the interest will be reestablishing the importance of the development companies, since that is

where the ideas begin," says Koolhaas of the commission. In selecting Koolhaas, Bronfman continues a family tradition of bold architectural patronage begun in the 1950s by his grandfather Sam Bronfman and aunt Phyllis Lambert, who hired Mies van der Rohe in association with Philip Johnson to design the Seagram Building on Park Avenue in New York City. Lambert is also the founder of the Canadian Center for Architecture.

The Los Angeles project is part of Bronfman's plan to remake the famed entertainment conglomerate in his own image and establish his credentials in Hollywood. Movie-making also makes an entry on Koolhaas's resume: he supported himself as a scriptwriter in Amsterdam before beginning his architecture studies at London's Architectural Association. *Nicolai Ouroussoff*

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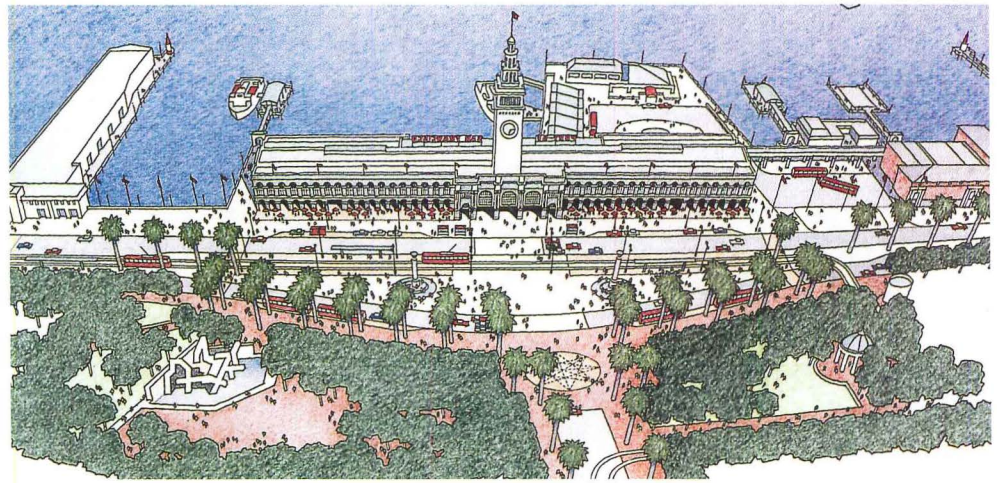
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The City By the Bay Goes From Port To Sport

Where Market Street and the Embarcadero meet: Roma Design Group is helping to make the transition from maritime use to recreational activities.

In San Francisco, a city threatening to become a giant theme park of itself, there are two places where the urban fabric opens up to reveal the true nature of the place: Market Street—the seam that runs from the heart of the old port, through the financial district, past the Union Square shopping area, past the Civic Center, and out to the gay ghetto of the Castro—and the Embarcadero, the long arc that traces the city's seawall from the empty railroad yards of China Basin all the way to the evocation of a maritime past at Fisherman's Wharf. For decades, San Francisco has tried to make these two avenues into its defining image. Now that most of the planning battles are over, they have become a mirror of the city: a polite, recreation-oriented, slightly romanticized urbanism.



Market Street—the great divide

Market Street has been the subject of redevelopment since the late 1960s, when the new Bay Area Rapid Transit System (BART) tore up the street before disappearing underground. It took the local streetcars (MUNI) with it, leaving the street as a wide mall. Though there is some car traffic, it is so constricted that most drivers avoid this diagonal connector. Red sidewalk pavers, signs, and sparse planting coordinated by Lawrence Halprin in the early 1970s have long given the street an aura of architectural rendering without vitality. It is not so much a central artery in the manner of New York City's Fifth Avenue or Chicago's Michigan Avenue as a furrow that splits two grids and historical characters of the city: to the north, wealthy commercial and residential neighborhoods; to the south, industrial districts.

The distinction has evolved over the last few years with the movement across Market Street of both housing and offices, as well as with the growth of the cultural/convention mecca of Yerba Buena Center [RECORD, November 1994, pages 74-83]. Yet Market Street remains bleak. Recently, hopes that the Emporium department store would come back to life as Bloomingdale's and an adjacent building would become Barney's have been deferred by economic realities.

What *has* happened is what appears to be the last steps of sprucing up the street furniture. MUNI now once again runs a streetcar line

down the middle of Market Street. It features vintage trains, each painted in 1940s colors. The city has created handicap-accessible stations with elaborate paving patterns at a reputed cost of \$100,000 per ramp. Palm trees now adorn the upper end of Market Street. At the lower end, French company J.C. Decaux has erected green rotating kiosks and newsstands. As part of the company's agreement with the city, it has also provided self-cleaning toilets of similar design, which seem to want to evoke a Parisian past this street never had.

The Embarcadero as playground

The Embarcadero is equally empty, but well-appointed. The Roma Design Group is overseeing the completion of an elaborate replanting and repaving of the whole stretch of what used to be the dock's connector. This redesign is also the result of changes in transportation infrastructure: after years of fighting, the city decided to tear down the site's elevated "freeway to nowhere" that had been damaged by the 1989 Loma Prieta earthquake, creating new open space. MUNI is now laying a light-rail line here that will initially jut connect the tourist areas to the north to the new yuppified housing enclave at South Beach and a proposed baseball stadium, but may perhaps run all the way to the southern end of the city. Roma's design is remarkably tough and sparse for a firm known for its Postmodern pyrotechnics on such projects as the Santa Monica Third Street Promenade, though old-fashioned street lamps add that *olde* flavor. A double row of palm trees defines the line of the new

tracks. Concrete blocks, set into the quay at different intervals and bisected by glass bricks, are Stanley Saitowitz and artist Vito Acconci's contribution to defining the street.

For Roma's Boris Dramov, the Embarcadero is "marking the transition from a maritime area to a place of recreational opportunities." At the same time it is "maintaining the myth of maritime activities that is important to how the city sees itself." The city has leased some of the Beaux-Arts piers that stick out from the Embarcadero, allowing both design offices and old-time shipping uses to continue while the city tries to "convert them to more recreational uses," says city planning director Lu Blazej. The Embarcadero's future seems to combine the image of a port city, but without its attendant grit and grime.

The clearest sign of how the city wants to see itself is the place where Market Street and the Embarcadero meet: the Ferry Building at the end of Market Street. An empty shell, for years there have been big plans—from skyscrapers to an airport—for what was once the turn-around of street cars and the arrival point for ferry commuters. Now Roma is designing a discreet series of little plazas, an arched entry from the remaining ferries, and a set of objects to "hold this vast new space," as Dramov calls it. "It is a mosaic. It's not one thing, and never has been," says Dramov of the proposed Ferry Plaza. That's what the city now wants: a pleasant amalgam of street furnishings, pavings, and plantings that signals its transformation into the recreational capital of the Pacific Rim. *Aaron Betsky*

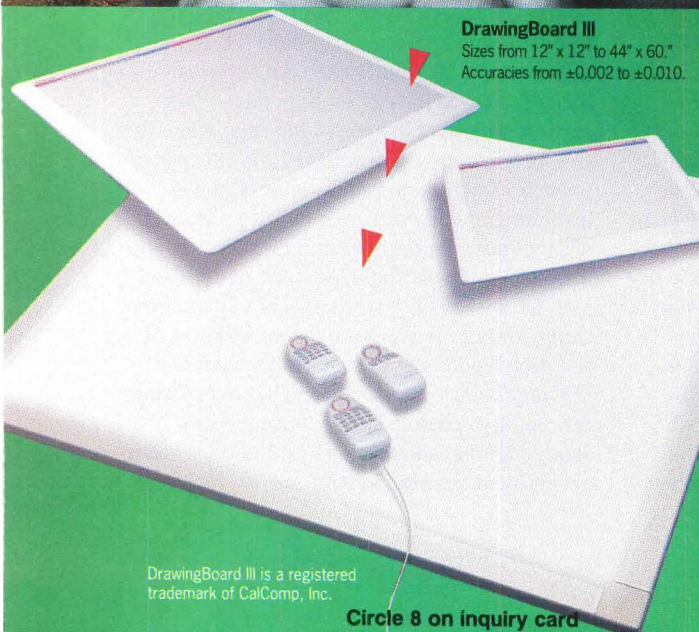
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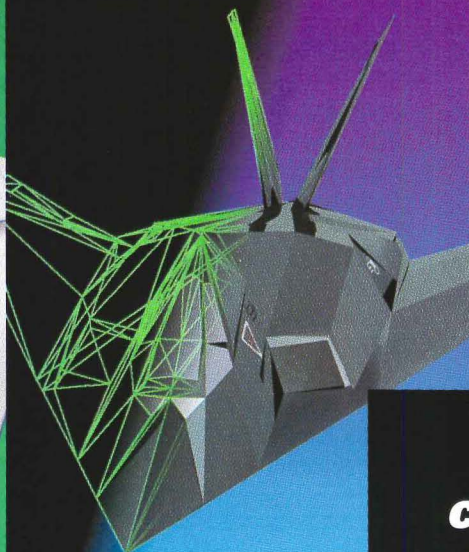
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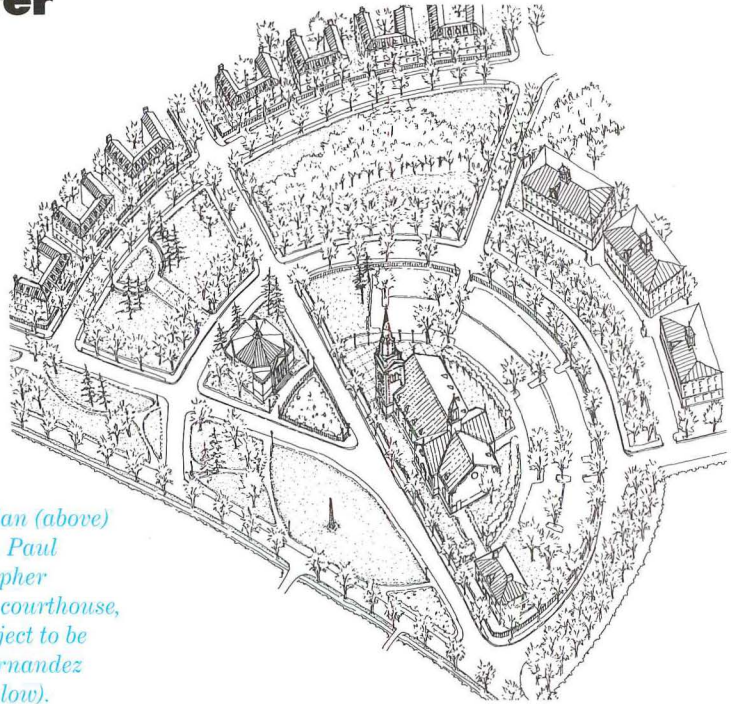


Historic Town To Get New Master Plan and Courthouse

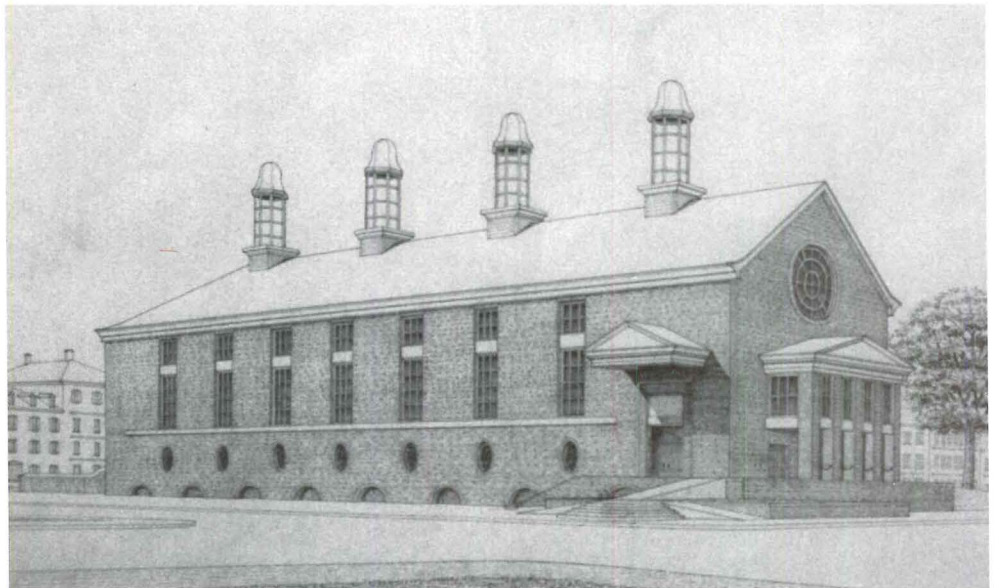
Michel Dionne, Paul Milana, and Christopher Stienon are the winners of a competition for a master plan for Williamsburg, Virginia, which will give new focus to the historic town. (The three architects work at Cooper Robertson & Partners in New York City.) The 600-acre plan is situated on what is now mostly forest to the northwest of the Colonial-era town. In the somewhat organic design, wetlands define several small neighborhoods that are organized around a civic core. The new village will include 2,000 residential units, one million square feet of retail and office space, and civic buildings such as a library and post office. Each major "node" is marked by a public structure, visually tying the plan back to the old Colonial town.

In a related competition, a design by Miami-based Jorge Hernandez and Francis Lyn was chosen for Williamsburg's new courthouse. The courthouse, the first building to rise in the new development, will be the latest in a series of such structures built during the town's long history. The original, in historical Williamsburg, was part of a Georgian-style capitol building. Another was built in the 1770s, a third in the 1930s in a new shopping district, and the most recent, a banal modern building, in the 1960s.

In Hernandez and Lyn's version of the courthouse, three cupolas will filter natural light into a series of staggered courtrooms below. A fourth cupola will top the lobby. Exterior brick will be laid in a cruciform pattern typical of the region. Inside, austere wood paneling is meant to create an almost Shaker-like simplicity. The \$9 million, 72,000-square-foot building is scheduled for completion in 1998. *N.O.*



The winning town plan (above) is by Michel Dionne, Paul Milana, and Christopher Stienon. The county courthouse, which is the first project to be built, is by Jorge Hernandez and Francis Lyn (below).

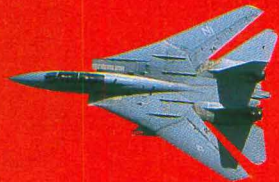


Portzamparc Builds up Paris' East Side



© Michel Donance

Christian de Portzamparc has won the urban design competition for the Massena section of Paris along the Seine River and adjacent to the new Library of France by Dominique Perrault [RECORD, December 1995, pages 19-21]. Portzamparc chose to open the traditionally closed *ilot*, or island block, creating a village-like configuration of housing and offices. The project, which incorporates the Grands Moulins historic grain silos, is to begin construction 1998. *Claire Downey*



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Asian Cities: Is 'Generic' the Wave of the Future?

Rem Koolhaas stirs up strong emotions at a Singapore conference by saying the loss of cultural identity can free the architectural imagination.



The loss of cultural identity is not a theoretical question in Jakarta. A new business core (above) is emerging as if from a blank page.



At the same time, an older part of the same city (above) awaits new development, unsure what direction it will take.

© Clifford Pearson, photos

Few issues arouse such passion among Asian architects as maintaining their cultural identity in the face of rapid globalization. With McDonalds and Kentucky Fried Chicken franchises popping up on street corners from Seoul to Shanghai, and highrise office towers looking alike whether they're in Manila or Manhattan, a lot of designers in Asia are worried about the way their cities are currently developing.

The mega-forces of international finance and multi-national capitalism that are transforming Asia seem, however, to be impervious to cultural distinctions and national character. Moreover, the design architects for the biggest and most prominent construction projects are usually Western firms with little understanding of local building traditions or cultural nuances. Indeed, foreign firms are usually hired to inject a Western, international, or Modern sensibility into the local landscape.

So when Dutch architect, author, and *agent provocateur* Rem Koolhaas addressed the topic of globalization in his keynote speech at a Singapore conference last November, the audience of mostly Asian architects listened keenly. The conference, entitled "Asian Cities in Asia's Century," was organized by the Architects Regional Council Asia (ARCASIA), an umbrella group of 15 national institutes of architects.

But instead of exhorting his listeners to resist the forces of homogenization, or preserve historic structures, or devise ingenious ways of infusing local character into modern buildings, Koolhaas told them such a battle was hopeless. The driving forces behind the globalization of their cities were just too big for architects to resist in any meaningful way.

Architects can't change the calculus

"Cities, like airports, are becoming all the same," said Koolhaas. Architects could yell and scream all they want or design pagoda roofs for 50-story skyscrapers, but none of this would alter the basic calculus behind the standardization of their cityscapes. Some of the architects at the Raffles City Convention Centre (designed, of course, by an American architect, I.M. Pei, in a sleek Modern style) were stunned by such a notion.

"Instead of resisting this globalization, we should theorize about it," advised Koolhaas. "Perhaps we have to shed our identities. Perhaps identity is restricting us." There was no irony in his voice and it soon became clear that Koolhaas was nothing if not earnest. In his rapid-fire delivery, he suggested that architects should view the current situation as "a blank page for us to work with"—even as "a liberation."

"What is left after identity is lost?" asked Koolhaas. "The generic." But instead of being

horrified at the thought of plain-wrap buildings in interchangeable cities, Koolhaas stated that today "brand names are less important than the generic. The city is now a plain envelope. And regret about the loss of history is just a reflex" that serves no useful purpose. Indeed, such regret is like the "phantom pain one feels in a limb after it has been amputated" and is long gone.

In his new book, *S, M, L, XL (Small, Medium, Large, Extra-Large)* [Monacelli Press, 1996], Koolhaas explores these same ideas, saying globalization "astronomically expands the realm of possibility, for better or worse." But while most people today shudder at the thought of architects playing for "astronomically" large stakes, Koolhaas is clearly energized by it. Bigness, of course, is one of his favorite themes and, as he showed at Euralille in France, he is more than willing to start with a blank slate and build on a grand scale. Most architects, though, are much less cocky. As he puts it in his book, the architectural "profession is in a profound state of denial. Following its fright instinct, it runs away from the possibly ridiculous to miss a rendezvous with the sublime."

Koolhaas has long been critical of urban planning in the world's rapidly developing cities. Using outdated notions of zoning and master-planning, the profession doesn't realize that the rules of the game have *(Continued)*

changed, he told the ARCASIA conference. Instead of dealing with the process of growth, architects and planners continue to focus on individual products—buildings and urban compositions. Even when planners address the realm of infrastructure and map out subways and roads, they end up creating separate enclaves rather than connecting people and places. The irony, declared Koolhaas, is that “Real urbanism seems to have died just as all this urban building is going on,” in Asia.

Landscape, not masterplan

In place of the current approach to planning, Koolhaas proposed a broad but vague notion of “landscape,” which would “accommodate the accidental and the chaotic” and would be the “outcome of a process” rather than the product of a specific plan. “Landscape is cheap, fast, and flexible,” he explained. Although he never made clear who would initiate this process or even participate in it, Koolhaas seemed to imply that landscape would provide the connective tissue—the muscles and tendons, so to speak—controlling the architectural bones of the city.

Give Koolhaas credit—he stirred things up and got his audience to rethink the basics of what they do. During the question-and-answer session, a few of the architects were apoplectic in their response to his call to turn their backs on their old cultural identities. Others found some truth in Koolhaas’s radical approach and searched for ways of bridging the gulf between the profession’s current methods and the brave new world Koolhaas evoked.

Tunney Lee, professor of architecture at the Chinese University of Hong Kong and one whose own career has bridged the gulf between East and West (having studied and worked in the U.S. before returning to Asia a few years ago), agreed that the old way of planning no longer applied to Asian cities. “Planning criteria such as standards and codes may indeed be outdated,” he said. “But criteria as values may still apply.”

“We are high-density societies,” said Lee, who had stated earlier that high-yield rice cultivation had traditionally supported higher population densities in Asia than wheat cultivation had in the West. This powerful

agricultural base helped shape the particular character of Asian cities.

“Asians are comfortable living with contradictions,” asserted Lee. “The building and the garden, for example, or Confucianism and Taoism. Perhaps globalization and localization can exist together too.” While globalization has brought a great deal of uniformity in architecture, Lee wasn’t convinced this went much below the surface. Shanghai may have new skyscrapers that could have been plucked from Houston or Atlanta, but workers in those towers still speak Chinese and live differently than Texans or Georgians. “Our language and our food may be changing,” said Lee, “but they’re changing very slowly. Asian rituals and customs won’t go away just because McDonalds comes along.”

The users of architecture are often forgotten factors in judging the impact of buildings on a particular place. People change buildings so they look and feel different after a few years. Winston Churchill said, “We shape our buildings, then they shape us.” But we continue to rearrange our buildings even after the contractor says they’re finished. Additions are made, surface treatments changed, interior partitions knocked down, and furnishings reshuffled. People from different cultures use, work in, and live in buildings in different ways—even if the buildings start out the same. The generic quickly becomes specific.

Modernism in a local setting

Responding to differences in climate, terrain, materials, and building traditions, Asian architects today are struggling to develop indigenous forms of Modern architecture. One approach is to adopt or adapt vernacular forms to modern buildings: the pagoda-roof tack. Although easily dismissed as simplistic, this approach has great appeal with many clients and much of the general public, especially for projects in historic places.

Hong Kong-based Tao Ho, who studied under Josep Luis Sert at Harvard and worked for Walter Gropius in the 1960s, has found his architecture changing in the 1990s as he does more work in China. A Modernist who once designed for himself an office made of 24 used shipping containers, he recently designed a mixed-use complex in the historic city of

Designed by Hong Kong architect Tao Ho, this 350,000-sq-ft retail/office/residential complex in Suzhou, China, adapts traditional forms to a modern building type.



Suzhou, using curved roofs and other traditional forms. Building in a place with “a rich cultural background sometimes requires the architect to suppress his ego,” says Tao Ho.

Other Asian architects are exploring ways of adapting a Modern vocabulary to local settings and conditions. T.R. Hamzah & Yeang in Malaysia, for example, has been designing highrise buildings for two decades that respond to tropical climates with “skycourts,” sunshading, and natural ventilation [RECORD March 1993, Pacific Rim, pages 26-31]. In Singapore, Tay Kheng Soon and his firm Akitek Tenggara II developed a detailed plan for a Tropical City that uses passive solar strategies and lots of natural vegetation to create a modern metropolis working in harmony with its environment. No pagoda roofs here.

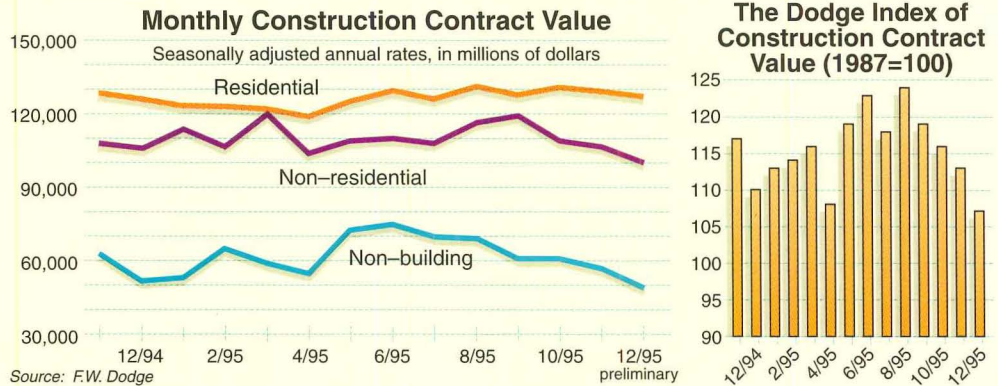
Despite Koolhaas’ projections, the generic is not the answer for downtown Beijing or Hanoi. Architectural imagination can be stirred just as well by responding to existing conditions and ancient fabric as by wiping the slate clean. Indeed, it is the messy interplay between conflicting approaches that has always made big cities “delirious” places. The future of Asian cities will be determined by the constant give-and-take between various forces: not just that of mega-capitalism, but also those of historic preservation, Modernism, green design, cultural identity, national bureaucracy, entrenched corruption, enlightened planning, and the individual architect. It’s not a tidy process and there’s no formula to balance competing forces. But as with acupuncture, acute pressure applied by skilled practitioners at key points along the way can help heal the body politic. It’s not quite a science, but it’s been practiced for thousands of years and it sometimes works.

Clifford A. Pearson

Indicators

Losing momentum

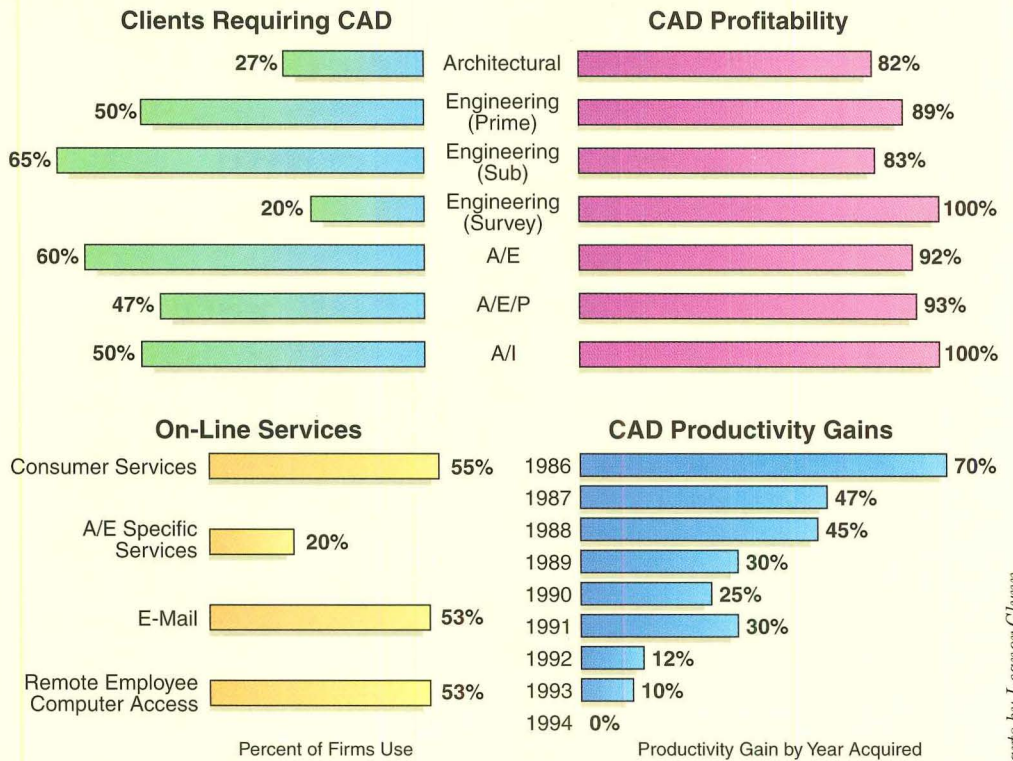
Weakening economic growth is reflected in December's six-percent drop in construction volume. While all commercial categories fell this month, the pattern of weakening retail does not seem to be offset by improving office buildings. The residential category dropped only one percent, but it will take a good cut in interest rates to generate much improvement. This month, we've enlarged the scale of our volume chart to make differences more visible. The Dodge Index replaces the "total volume" line. ■



CAD and on-line services make inroads

Architects and engineers have somewhat different experiences with CAD, according to "PSMJ's 1995 Office Automation and CAD Survey." All-architect firms find CAD less profitable than most engineers or multi-discipline firms. And fewer architects' clients require CAD. (Only 17 percent of all respondents were required by clients to use a given application.) Survey respondents (who represent larger firms than the architectural average) are increasingly using e-mail and consumer on-line services, but relatively few use A/E-oriented services like AIAOnline.

Firms that have had CAD the longest realize the greatest productivity gains, but productivity overall is improving. Firms spent more than \$3,900 on computer-related acquisition and operating costs per CAD-trained employee last year. Almost all firms expected to expand CAD. Compared to other types of firms, architects are less able to bill CAD time. The 170-page, \$239 survey report can be obtained from Practice Management Associates, 10 Midland Ave., Newton, MA 02158; 617/965-0055, 617/965-5152 (fax). ■



The Profession This Month

- Family and Work 24**
- Building Security 36**
- Software Reviews 47**
- New Products 60**
- Product Briefs 62**

Short Takes

- **An end to sealant frustration?** In an effort to improve the often-maddening selection of sealants, a "validation" program has been announced by the Sealant, Waterproofing & Restoration Institute. Independent laboratories supply test data that permit brands to be compared side by side. Information: SWRI, Kansas City, MO, 816/561-8230, 816/561-7765 (fax).
- **Improving masonry design:** The Masonry Standards Joint Committee seeks

laboratory test data from actual jobs to verify the compression strength versus that specified. They'll use the data to improve design guidance. Clayford T. Grimm, P.E., 1904 Wooten Drive, Austin, TX 78757-7702, 512/452-2354, 512/452-6315 (fax).

• **Recycling insulation:** Steven Winter Associates, a building-research firm in Norwalk, Conn., has tested insulated panels made with up to 25 percent recycled expanded polystyrene. The panels' performance, little different than new ones, suggests greater recyclability is on the horizon. ■

Charts by Eleanor Glynn

Balancing the Equation



© Amy Yoes

"His attitude changed so drastically after I had my baby."

". . . questioned my commitment."

"Everything stopped at the office since I'm a sole practitioner."

"It's difficult to guide a project over the phone . . ."

"We think of it as living at the office rather than working at home."

By Sheri Olson

As dual incomes become more necessary, and single-parenthood more common, conflicting demands of work and family are becoming more difficult and stressful. These pressures take a particular toll on women, who continue to bear the major responsibility for family life. But men are not immune, not only because many have child-care responsibilities, but because they must often negotiate care for companions or elderly parents. In the design professions, where long hours are endemic, the perception is widespread that the "glass ceiling" is thicker for those who put family first. But firm principals and industry observers see an easing of family-work conflicts as a way to reduce employee frustration and keep talented people from leaving the profession.

When Yve Hopen informed the small New York firm where she worked that she was pregnant, her news was met "with a groan from my boss." After being a project architect with the firm for five years, she returned from maternity leave to find a manager questioning not only her commitment to the firm, but also her potential future productivity and performance. "I can't help wondering why his attitude changed so drastically toward me after I had my baby," says Hopen. She was laid off after returning to work from leave. Her experience is not unusual: new mothers are 10 times more likely to lose their jobs than employees taking any other kind of leave, according to 9to5, the National Association of Working Women.

"Firms want a 200 percent commitment," says a senior level architect. He left a high-pressure New York City firm where he was asked to wear a beeper and expected to be on call 24 hours a day. "Since I was one of the few people at the office who had a family and wanted to leave at a sane hour, the firm was constantly questioning my commitment," he says. The architect has started his own firm in Connecticut and believes that he is better able to balance work and family in private practice, because "my hours are more flexible

Sheri Olson, an architect, teacher, and writer in New York City, proposed a prototype family-leave policy at last year's AIA 2nd National Diversity Conference.

The burdens of caring for a family member in need may conflict with the demands of work. Family-leave and flexible-work policies can more than pay back their modest cost in morale and productivity.

and I work from home, so that I'm here when my daughters are back from school." He prefers to remain anonymous to keep future job options open. "If firms read that I'm committed to my family, they may question my willingness to commit to them."

The stress of balancing work and family is not limited to people with children. As baby-boomers age they increasingly find themselves caring for ailing parents and relatives, sometimes over great distances. Recently, New York City architect John L. Johnston traveled 2,000 miles to help make home health-care arrangements for his ill 96-year-old grandmother and 94-year-old grandfather. "Unfortunately, everything back at my office stopped, since I'm a sole practitioner," explains Johnston.

Back in his office, Johnston calls several times a week to check on his grandparents' progress and plans to see them again soon. His story will only become more common. By 2020, it's estimated that one in three people will need to provide care for an elderly parent.

There are solutions

Juggling the dual roles of architect and family member—as mother, father, son, daughter, or domestic partner—affects everyone sometime in life. Because family pressures are felt disproportionately by women, they affect the continuing gap between the large number of women entering architecture schools and the small number who ultimately become registered [RECORD, November 1994, page 25]. The resulting divergence from the makeup of the population at large reinforces elitist stereotypes about the profession, which has real implications for its ability to attract clients.

A report from the Federal Glass Ceiling Commission, created by the Civil Rights Act of 1991 to study women and minorities in business, concludes that policies that help people balance their work and family lives support diversity.

Recognizing the stress family obligations can cause, a small but increasing number of firms is providing and supporting family-leave policies, alternative work schedules, tele-

Components of a Family Leave Policy

A formal leave policy can demonstrate a firm's commitment to balancing work and family, ensure even-handed treatment of requests, and relieve employee anxiety. Although a small firm may not be legally required to comply with federal or local leave requirements, it's still important to have a formal framework, incorporated in the office's manual. The policy should be periodically reviewed and updated.

What a successful leave policy includes

- **Eligibility.** The policy should not be gender specific, even for child care. The definition of family member should include domestic partner.
 - **Duration.** Some state and local laws require leaves longer than FMLA's 12 weeks. Allow a reasonable recuperation period from childbirth and time to adjust to child-rearing demands. You want the employee to return to work in good health and with high morale.
 - **Notification.** Require reasonable advance written notice of intent to take leave, except in case of medical emergency or unexpected adoption. Requests should be handled by a designated person within the firm. Discretionary approval should only be required for extending leave beyond spelled-out durations. Criteria for discretionary decisions should be described.
 - **Transitions.** Clarify expectations and address how work will be handled, both prior to leave and upon return to work.
 - **Benefits.** The leave's impact on benefits and promotion should be addressed. Benefits should not be curtailed completely during leave. The firm should state that individuals who take leave will not be held back in their progression within the firm.
 - **Reduced work schedule:** Offer a reduced-work schedule for a limited time period for those returning after a birth or adoption. Reduced work schedules may also be offered for child or family care-givers or for employees with chronic illnesses who can still work.
- Sources:** "A Guide to Drafting and Implementing Workplace Policies for Lawyers," from the American Bar Association's Commission on Women in the Profession (312/988-5522). AIA also offers leave-policy guidance: 800/242-3832. *S.O.*

commuting, and dependent-care assistance. Some firms have adopted family-leave policies in response to the Family and Medical Leave Act (FMLA), passed in 1993. The FMLA requires firms with 50 or more employees to provide up to 12 weeks of unpaid leave a year for any of the following: birth, adoption, placement of a foster child, serious illness of a family member, or the employee's own illness (details, next pages).

Although only large firms are required to comply with the FMLA, family leave benefits any size firm. A 1990 study by the Small Business Administration suggests that family leave may save small firms money by reduc-

ing hiring and retraining costs. Small offices may have a greater stake in the success of leave policies, since they are more likely to operate with a family-oriented atmosphere.

Businesses are beginning to realize that success at work often depends on success at home. According to Alexander R. Shapiro, human resources manager at Stone Marracini Patterson, San Francisco, "Work places are become increasingly competitive in attracting and retaining good employees. Better benefits in areas where people need them help us to compete in the marketplace for talented and skilled architects." Employers often stand to gain the most from family

policies. The stress of meeting demands at the office as well as those at home can affect a worker's health and productivity. When employees don't have to hide or neglect family responsibilities, motivation, dedication, and productivity increase.

One firm's leave policy

Zimmer Gunsul Frasca Partnership (ZGF), the Portland-based 1991 AIA Firm of the Year has had a successful family-leave policy for over 25 years. "Our policy is brief but flexible, and provides latitude," says Janice Finney, business manager and associate partner at ZGF. In addition to family emergencies and parental leave, the 180-person firm will also consider leave for educational opportunities and travel. Their policy exceeds FMLA requirements by offering up to six months of leave and continuing to pay life and disability coverage during absence.

Firms without leave policies wonder how they will juggle workloads and whether they can guarantee a job on return. These have not been a problem for ZGF. "The impact of someone on leave is not that great because of the size of the firm," explains Finney. "Professional staff may be shifted around to cover someone on leave and a temp may be hired to cover administrative staff on leave." An employee returning from leave, according to Finney, "may not return to the same project (since that job may be completed), but we haven't experienced difficulties maintaining a place for someone returning from leave."

Short leaves and working leaves

Sue Kerns, director of interior design services and an associate partner at ZGF, is currently on a three-month "working leave." This is her second leave during 14 years with the firm and she's noticed a change in attitude. "Eight years ago, I was the first person in my office to go on leave and return. Most people at that time didn't come back to work. Now it's accepted practice that you take leave and return," says Kerns.

Kerns is in contact with the office every day either by phone or modem, doing marketing or working with clients. She believes the firm would have been supportive even if she had chosen to take a complete break from work. "Three months before my leave, I began to

meet regularly with the people in my department to discuss how work would be handled during my absence." While Kerns made the effort to assure smooth handling of her responsibilities, she credits her peers willingness to ease her transition into leave for its success. She finds that "clients are very understanding, because most of them have children, too."

Many managers assume that women won't return after the birth of a child, even if leave is offered. But women with paid leave and other benefits are twice as likely to return to work within six months after childbirth as women without, according to 9to5. Whatever the reasons—family-friendly policies, financial necessity, or dedication to their careers—growing numbers of mothers with infants are in the workforce.

Not all leaves are taken for child care or are of long duration. "More people, men as well as women, are taking leave to care for an ailing parent," explains Susan Appel, human resources director at Kohn Pedersen Fox in New York City. Perhaps a couple of weeks are needed, for example, to help parents through a hospital stay or to assist in the transition to a nursing home. Research by 9to5 shows that more than 10 percent of all elder care-givers quit their jobs because of the pressure of balancing work and family. Leave policies can be especially beneficial to those with AIDS—which usually strikes during prime working years—or those caring for someone with AIDS.

Adjusting benefits to suit family needs

In addition to leave policies, some firms have replaced their separate sick and vacation time policies with paid time off (PTO) to align benefits with workers' changing needs. According to Julie Sprint, director of human resources at Ellerbe Becket's Minneapolis headquarters, "Before instituting a PTO policy, we saw an increasing number of situations that weren't addressed by our separate sick and vacation policies. People needed to take time off to care for children, a sick parent, or even take a pet to the vet. PTO policies give employees the ability to determine the use of their time off with no questions asked." The PTO account combines vacation time (which varies depending on

tenure with the company), a floating holiday, and an average of five sick days. Accumulated unused sick days can be used for family emergencies or taken as vacation. To prevent a lengthy illness from eating into vacation time, employees receive short-term disability for illnesses of more than five consecutive days.

It is possible for some parents with young children to use all their vacation time for childhood illness, but the firm's records indicate that on average the PTO policy gives people more vacation time.

"It's ridiculous how easy family-friendly programs can be to implement and administer," claims Alexander R. Shapiro, manager of human resources at SMP's headquarters in San Francisco. The firm began a PTO policy in 1994 to offer employees more flexibility in balancing professional duties and family needs. Up to one year of unpaid leave can be taken under the company's family-care and parental-leave policies. Like other firms, SMP has found the cost of family-leave policies to be minimal, even when the cost of "ramp-up" time for the substitute player is factored in.

Flexibility as a way of life

There is more to a family-friendly workplace than leave policies; firms can also offer alternative work schedules or flex-time. The arrangement might include working at varying levels of intensity at times, depending on the demands of the practice, a compressed work week, or flexible start and end times.

Another option is to reduce or limit workload. A combination of flex-time and telecommuting, regularly or as-needed, can provide the flexibility that allows people to attend to family needs and still get the job done. Firms considering these options should check state and local laws regulating hours and wages, as well as insurance-company coverage requirements.

Since the birth of her second child five years ago, a senior associate at a large Chicago firm has successfully worked a flexible schedule. She prefers to remain anonymous because "our competition could use this against the firm, playing to clients' fears that I won't be

in the office." Indeed, some firms decide not to draw clients' attention to alternative work schedule arrangements, and instruct staff on how to handle calls. "Some of our clients know, but some don't," says the senior associate. "With new clients there is really no reason to tell them until we've shown them that it has no impact on the service the firm provides." She attributes the success of her arrangement to the good relationships she developed with the firm and clients. Her firm recently updated its employee manual, and no longer sets fixed office hours.

When best-laid plans fail

For many parents, quality, reliable child care is the key factor in relieving the stress of balancing work and family. But finding decent and affordable child or elder care remains a problem, since there is a chronic and severe shortage of quality care centers. Companies can help by means of resource and referral services for dependent care. To help staff handle costs, firms can offer employees a Dependent Care Assistance Program or DCAP. This allows employees to set aside pretax dollars (up to \$5,000 annually) for dependent-child or elder-care purposes. (Funds unused, though, are lost.) Large firms, or associations of firms, can offer on-site child care or help organize day care in the community.

A child too sick for day care, or a child-care provider who is sick, can throw a wrench in a carefully orchestrated day. Recent advances in technology can help, says Larry Marner, a studio head at Butler Rogers Baskett in Manhattan. "When our baby-sitter calls in sick, my wife and I take turns staying home with our two kids. I use my computer and modem at home to access files over the firm's network." He believes that his senior position in the firm makes this arrangement possible, but he doesn't feel that it's feasible to telecommute for long periods: "It's difficult to guide a project over the phone." Although, he adds, "clients don't care where you're calling from as long as they can reach you."

Some aspects of the profession are particularly well suited to telecommuting, such as specifications writing, shop-drawing checking, or working on a defined portion of a project. Work-at-home can be agreed-to for

Understanding the Family and Medical Leave Act

The Family Medical Leave Act (FMLA) was the first law signed by President Clinton, and its final regulations became effective August 1993. The FMLA requires that employers with 50 or more employees must provide up to 12 weeks of unpaid leave a year for any of the following: birth, adoption, placement of a foster child, serious illness of a family member, or the employee's own illness.

What employees are eligible

- Employees must have worked for a public or private employer with 50 or more people during at least 20 work weeks in the current or previous calendar year.
- They must have worked at least 12 months for the same employer and at least 1,250 hours during the previous 12 months.
- They must be able to certify the need for leave.

What FMLA guarantees

- Reinstatement to the same or an equivalent position with equivalent benefits at the end of leave. This does not apply to key employees (those earning in the company's top 10 percent) if it would cause grievous economic injury to operations.
- Maintenance of any pre-existing health insurance during leave at the same level and under the same conditions as prior to leave.
- Leave can be taken intermittently or on a reduced schedule to care for a sick family member or for a serious personal illness.

Restrictions and requirements

- Employees ordinarily must provide 30 days notice when the leave is foreseeable.
- Leave may be denied or limited for key employees or employees who work in a branch office of less than 50 people. An employee located more than 75 miles away from other employees is excluded.
- When spouses share an employer, the total amount of leave is limited to 12 weeks.
- An employer may elect or require the employee to substitute any available paid leave, including vacation, as part of family leave.

The FMLA does not supersede any law or agreement providing more generous benefits. The FMLA is enforceable by civil action; complaints are filed with the

fixed days of the week or for time periods defined by workload. Benefits of telecommuting include reduced time and travel expenses; the disadvantages can be lost networking opportunities and the isolation of working at home. For the most part, work-at-home arrangements still call for some form of child care, since the image of an architect working at a computer while baby plays quietly nearby is fantasy.

Living at the office

Some architects successfully balance work and family by challenging these terms. Claire Weisz and Ursula Warchol of the Weisz Warchol Studio, New York City, partners in a

thriving architectural practice and mothers, live in adjacent lofts. During the day they run their practice out of one space while a shared child-care provider watches the children in the other. The provider is considered another member of their six-person firm. "We believe that consolidating our resources has allowed us to produce better work," says Weisz. Projects include community centers for the New York City Housing Authority as well as commercial and residential work. Their arrangement is successful because home and office worlds are bounded, but each realm is readily bridged when necessary. "We think of it as living at the office, rather than working at home," jokes Weisz. ■

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Berlin's New U.S. Embassy: Safeguarding a Symbol

Berlin's 1788 Brandenburg Gate, today the worldwide symbol of Communism's collapse, is just a stone's throw from the site of a proposed U. S. embassy. Located on the south side of the Pariser Platz that fronts the gate, the project could make a potent statement about America's commitment to the reunification of Germany and the end of the Cold War. Though America's embassy occupied this location prior to the city's division, the fact that it straddles the former Berlin Wall makes it even more meaningful. (The old buildings, severely shelled, were long ago leveled.)

The U.S. Department of State's Office of Foreign Buildings Operations (FBO) recognized the unique importance of Berlin's embassy by doing something it has not done since 1955—select the architect by a competition. The entries by six design teams—winnowed in two stages from a field of 30—aren't heroic statements; they are exercises in architectural diplomacy—each striking a careful balance among competing program issues. Chief among the design challenges was security. Protecting personnel had to be reconciled with State's desire to offer a facility that is inviting to the public, a good civic neighbor, and a register of American values. Writ large, this is the same—often contradictory—charge architects face more and more as fear of crime and terrorism rises.

Secure, but publicly inviting

Competitors prepared unusually detailed entries to demonstrate that they had met a range of constraints. Berlin zoning regulations limit heights and setbacks, mandate flush-to-street walls, even dictate the stone cladding and the punched-window facade patterns. FBO required compliance with a range of energy-conscious and environmentally sustainable criteria. Then there was the program itself, mostly for office space, but encompassing some 28 departments and functions ranging from visa processing to diplomatic receptions.

It is the public nature of an embassy that makes it so difficult to secure, and the reason embassy architecture can be a security-design proving ground. The design criteria developed by the Bureau of Diplomatic Security seek a "tiered defense," according to

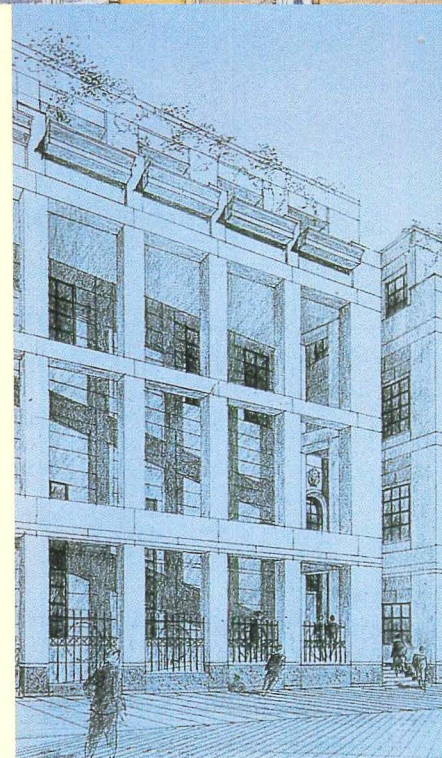
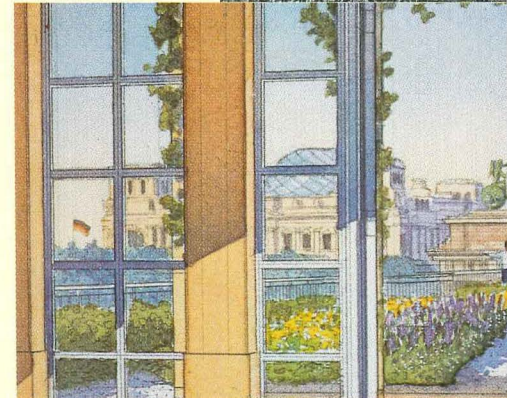
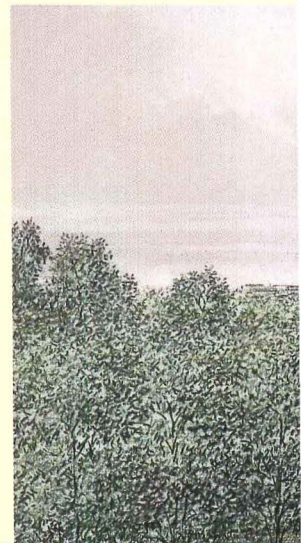
Sandra Donovan, a project officer with FBO. The building site deters terrorist or criminal acts through fences or walls, guards, cameras, and control of vehicles and pedestrians. "Mob-type attack" is a concern at the building perimeter, says Donovan, so construction must resist forced entry, small-arms fire, and those who might try and scramble up the facade. "Hard lines" within the building resist physical penetration.

Diplomats can't "live behind walls"

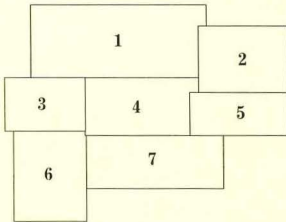
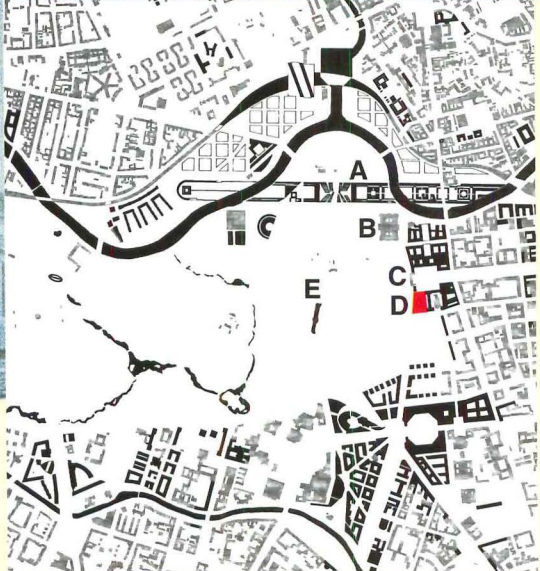
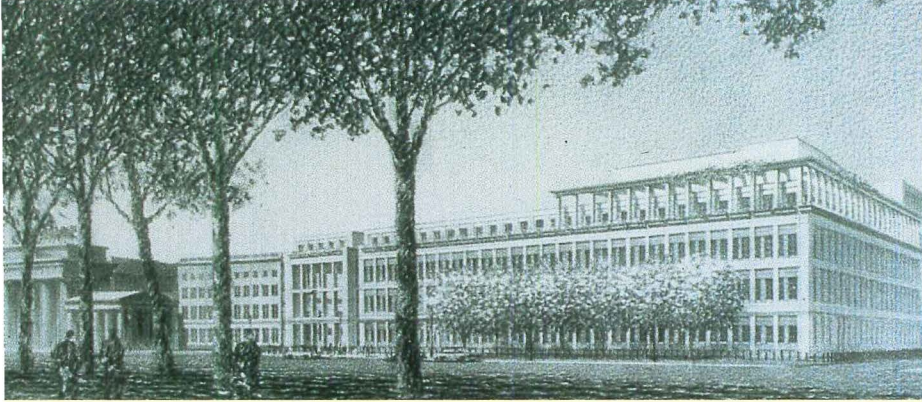
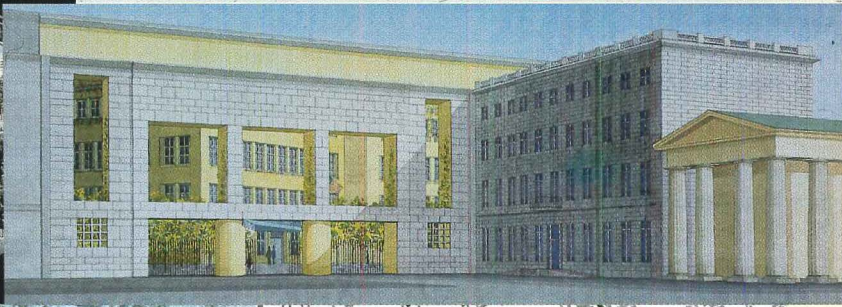
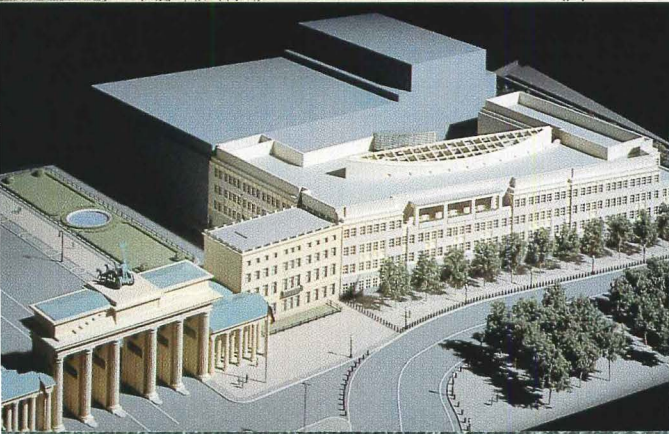
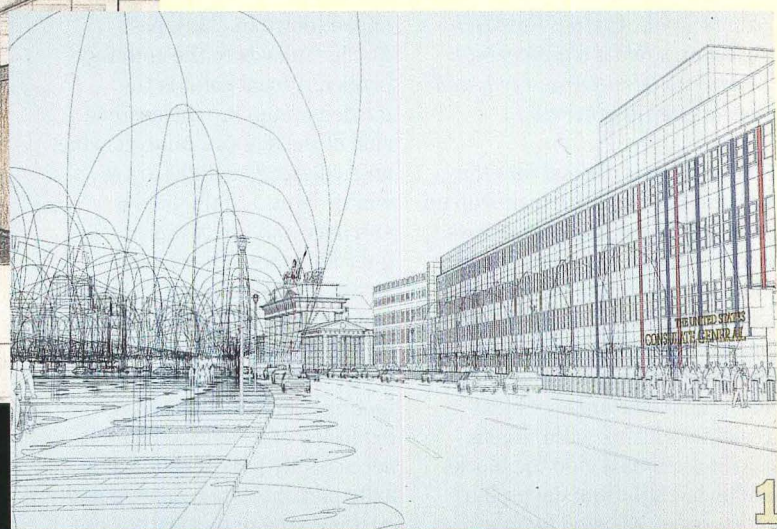
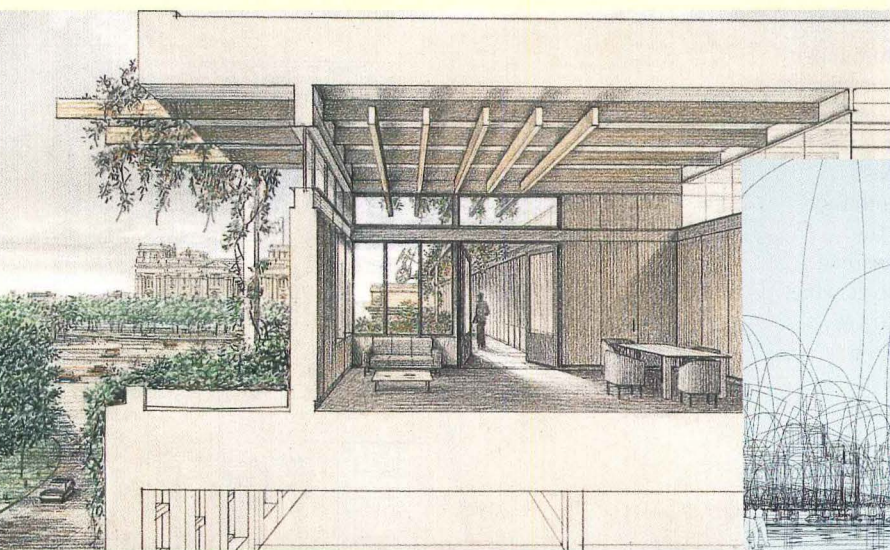
The site of the Berlin embassy is far from a security manager's ideal. It does not allow the 30m (100-ft) setbacks preferred in recent years to absorb car-bomb blasts. It has a prominent elevation on the Pariser Platz, and is exposed on Ebertstrasse to the west (3, opposite) and Behrenstrasse to the south.

Indeed, the return to Berlin's central site represents a turning point for the State Department. Diplomatic personnel increasingly resisted "living behind walls," comments Patrick W. Collins, chief architect at FBO. Many of the facilities constructed during a sustained (and nearly complete) building program in Latin America and the Middle East were criticized—both within and outside State—as too bunkerlike. Officials found themselves in fortified compounds far from the diplomatic and commercial centers the facilities were intended to serve. These projects had been built following the "Inman standard," pursuant to a 1986 law passed after the bombing of an embassy and Marine barracks in Lebanon. Also, says Collins, the standard "became prohibitively expensive to apply worldwide." Among standards eased in Berlin was the requirement that glazing comprise no more than 15 percent of street-facing walls.

Now, says John Tato, FBO's project manager for Berlin, "there's greater emphasis on specific risk assessment." With limited funds, State will need this flexibility to provide consular facilities in the newly independent states of the former Soviet Union and its satellites. Though the Berlin project is not expected to require appropriated funds (other assets will be sold), the legislative process has delayed announcement of the competition winner, first promised last October. *James S. Russell*



An embassy that represents American values in a post-Cold War world while offering a high level of safety is the kind of design paradox architects must more often resolve as security rises in importance. Six competitors make their case.



- 1. BCJ and Swerdrup
- 2. VSB and Einhorn
Yaffee Prescott
- 3. MRY with Gruen
- 4. Stern with Leo Daly
- 5. Roche Dinkeloo
- 6., 7. KMW
- A. Future govern-
ment center
- B. Reichstag
- C. Brandenburg
Gate
- D. Site
- E. Tiergarten

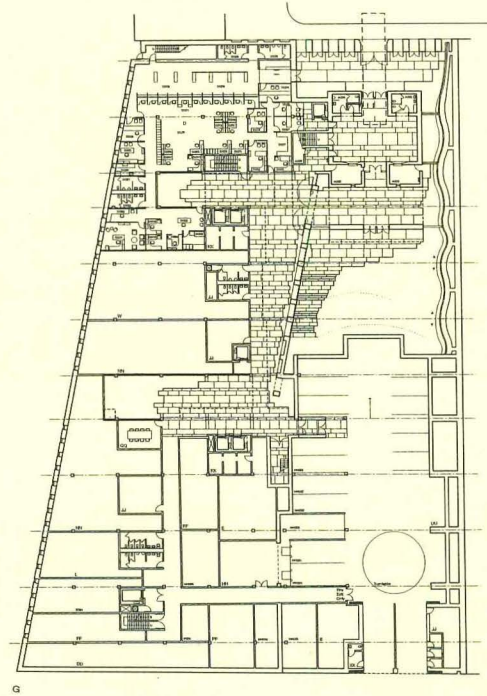
“The State Department was very open to innovative ways to meet security criteria, because a less-defensive looking architecture benefits its mission.”—Bernard Cywinski

Bohlin Cywinski Jackson and Swerdrup Facilities

Burt Hill Kosar Rittelmann Associates (environmental design, energy use); Michael Vergason (landscape); Applied Research Associates (blast engineering), Swerdrup (structural, civil, and mechanical engineering).

The scheme is divided into three palazzo-like blocks, which step up in height along the Ebertstrasse and away from the Brandenburg Gate (1). To handle blast-resistance criteria on this elevation and along the Behrenstrasse, the architects carved large openings, but set smaller areas of blast-resistant glazing within them. Daylit atriums divide the blocks and bring light into deep-plan office areas, assisted by fabric reflectors. The gaps between the buildings can also cushion blast pressures. Beyond a gated

screen wall on the Pariser Platz (top in plan right), visitors move into a visa-processing area facing the square, a stair to a second-floor exhibition area, or straight ahead (down in plan), past Marine guards to the embassy proper. A focal point is the garden occupying the eastern side of the site (2). A fabric panel and a sloping skylight draw winter light into the public entrance and the two-part guarded lobby. The garden slopes up (3), creating an emblem of American wide-open space, screening an outdoor staff-dining area from visitor view, and protecting occupied areas from explosion of a vehicle should it successfully pass the guarded sally port into the receiving and parking area underneath. Less-stringent blast-pressure criteria applied to walls facing the garden. *J.S.R.*

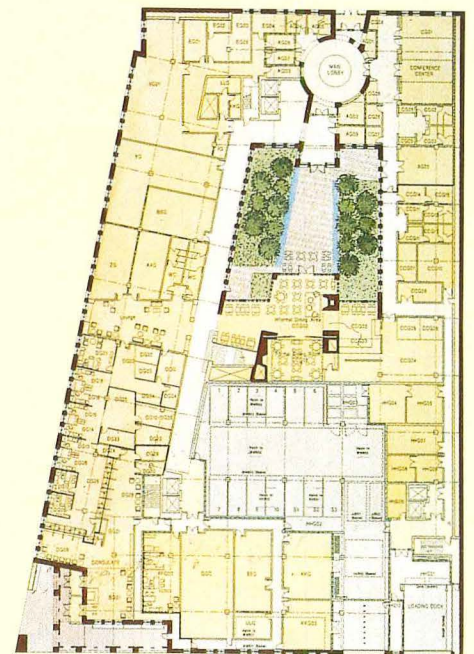


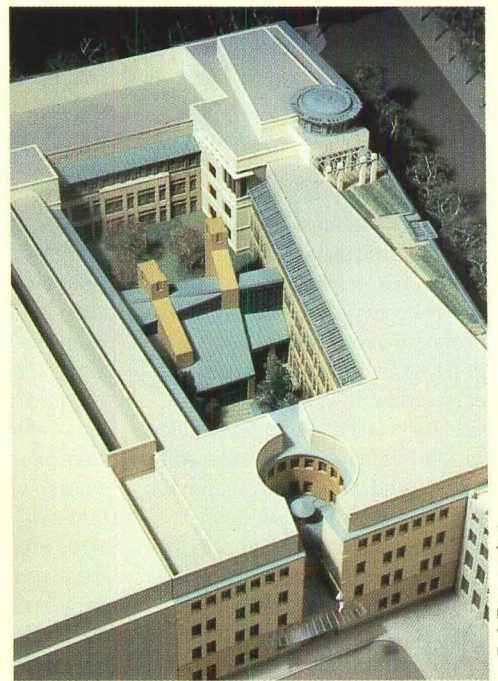
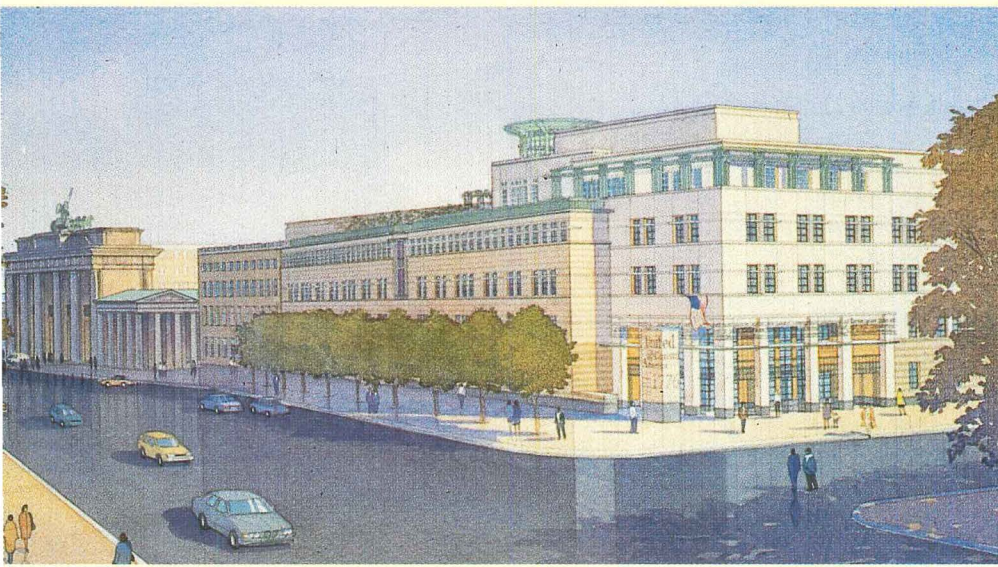
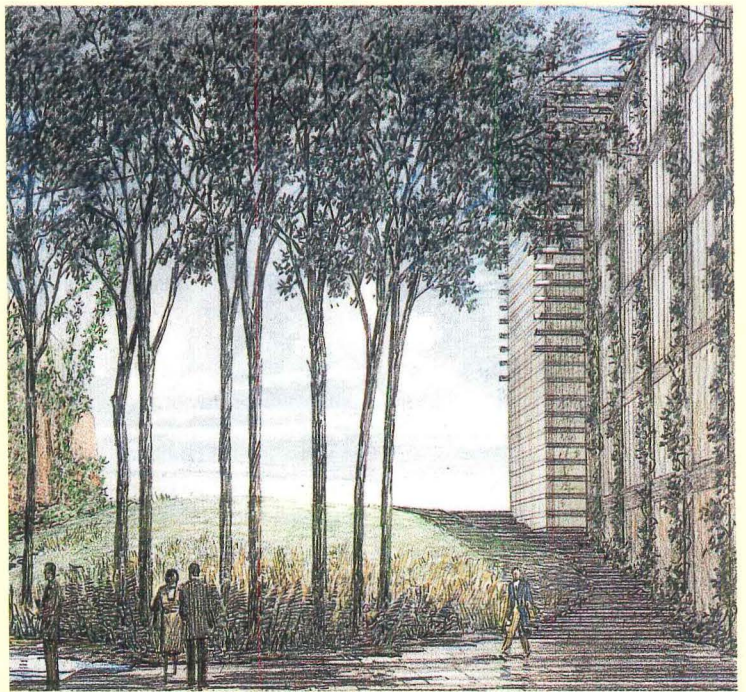
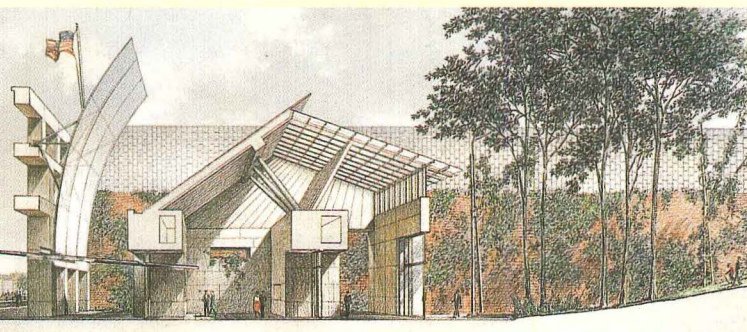
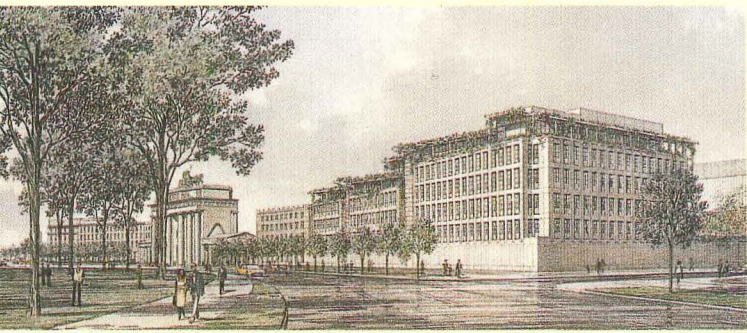
Moore Ruble Yudell with Gruen Associates

Weidlinger Associates (structural and blast engineering); Flack & Kurtz (environmental/sustainable design); Jaycor (security and telecommunications).

The design wraps a courtyard with a low, street-wall building, surmounted by a block aligned to the Brandenburg Gate and Behrenstrasse (4). At this southern side of the scheme, a re-entrant corner and portico greet users of visa and other consular services. Consistent with other schemes, bollards and a parking prohibition limit car-bomb opportunities. The entrance facing the Pariser Platz (plan) is for users of the conference and exhibit center and for important visitors. Users enter a rotunda, which is set into the building mass to protect the

courtyard (5). The danger posed by a glass canopy at this entrance was debated, says MRY project architect Cecily Young, among many ideas “security people hadn’t encountered.” A structure dubbed “the lodge” by the architects, divides the inner courtyard into a lower, public, northern part, and a private southern garden, one level higher. Since FBO prohibited occupied building areas above the parking and loading areas, the upper garden surmounts these areas. The lodge contains staff and private dining, and links all the program areas by bridges and balconies, encouraging interaction among staff, many of whom might otherwise rarely see each other. Because occupied space faces a party wall, the architects turned the requirement for an inspectable, separating void into a narrow, toplit atrium. *J.S.R.*





© Del Zoppo photo

Building Security

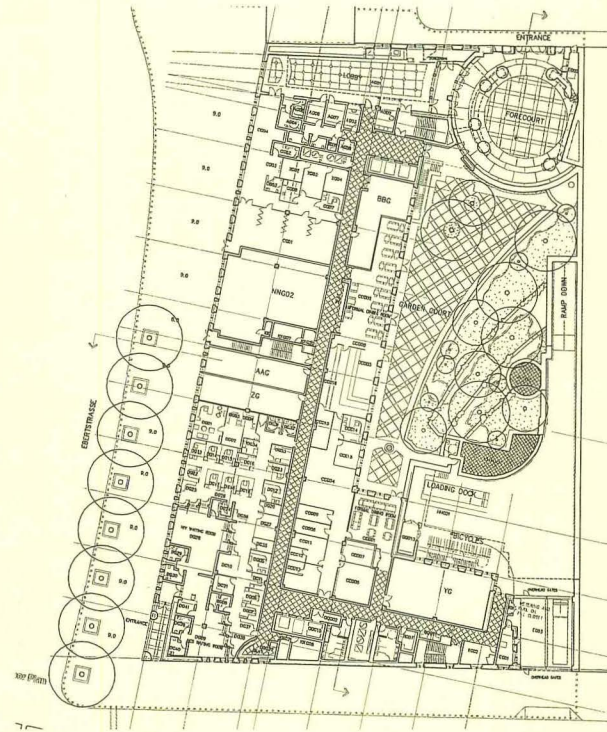
"You looked for confluences: Berlin zoning requirements, like facade treatments, certain datums—and the need to reinforce structure for blast requirements."—Rayford Law, Kallmann, McKinnell & Wood

Venturi, Scott Brown and Associates with Einhorn Yaffee Prescott

Leslie E. Robertson Associates (structural engineering); Einhorn Yaffee Prescott (mechanical, electrical, plumbing engineering); Andropogon Associates (landscape); Mueser Rutledge Consulting Engineers (geotechnical)

Robert Venturi likens this scheme to "a generic loft building," a simple, slablike building aligned to Ebertstrasse that anticipates changing program needs. He adds that the similarly flexible "tradition of the Italian palazzo," has served embassies well. Among the advantages of the scheme is that party walls, requiring inspectable gaps, are minimized. Office areas are arranged along a double-loaded corridor, like MRY/Gruen, but

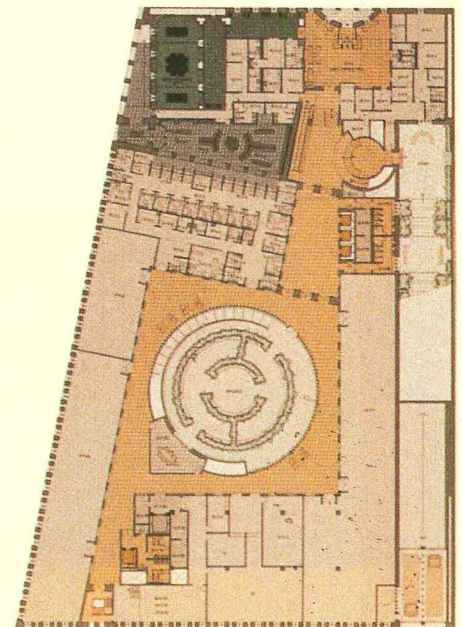
the corridor here is offset, placing larger departments on the outside (plan). A small, open circular courtyard at Pariser Platz splits visitors bound for the conference and exhibit areas (greeted by an inscription in stone) from escorted embassy guests (6). The blast-proof courtyard walls offer a glimpse of the garden beyond; an LED sign uses "a hype-20th century method," says Venturi, to express American culture through electronic posters and announcements. A tiered garden within the courtyard backs up to the guarded auto/delivery entrance (7). Consular users enter at the southwestern corner. The superficial similarity of all the schemes comes from local zoning that promotes stone elevations with punched windows. Here the rhythm is enriched by vertical red and blue stripes. *J.S.R.*

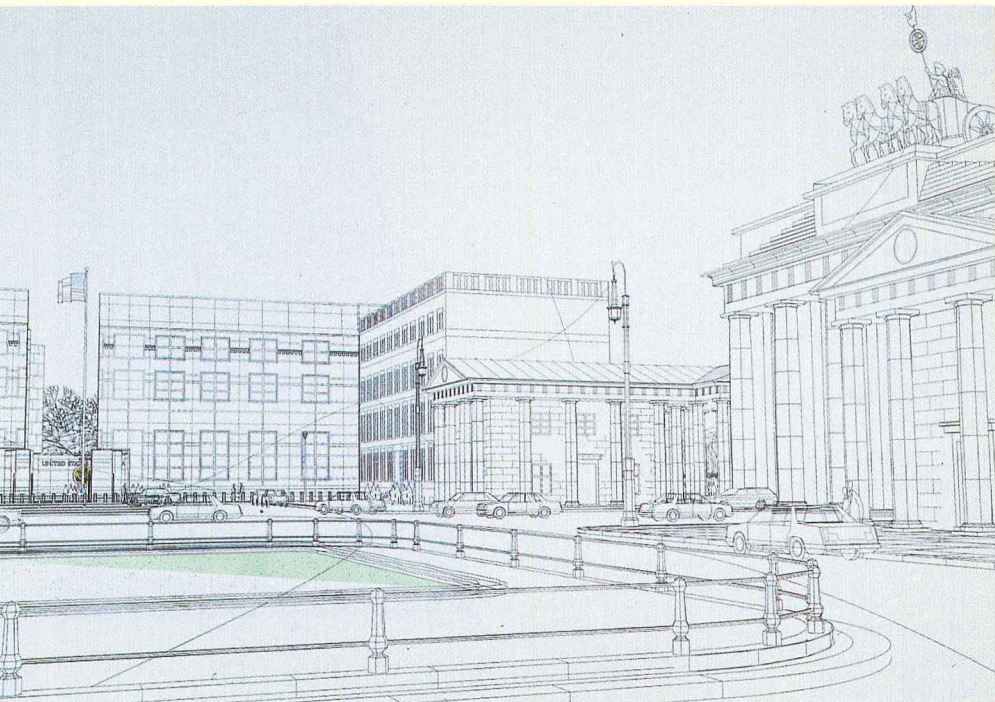


Kallmann McKinnell & Wood Weidlinger Associates (structural and blast engineers); Flack & Kurtz (mechanical, electrical, plumbing engineers); Jaycor (security).

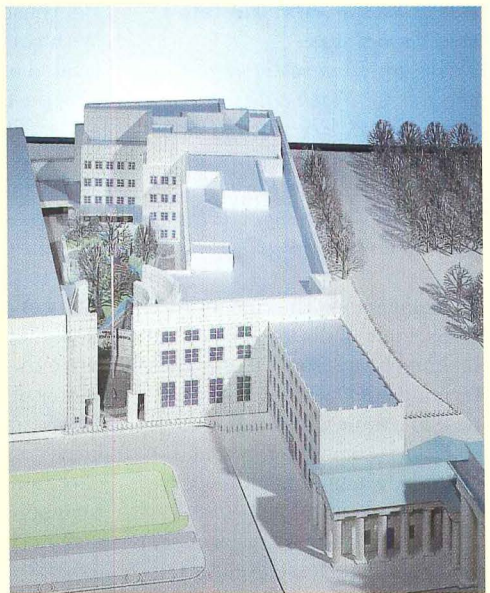
Arguably the most "palazzo-like" scheme, this proposal ranges program areas around a grand, central courtyard. The carefully proportioned Pariser Platz elevation (8) most literally evokes the palace that once stood on the site; its "closed" style is dignified without being overly fortresslike. The arched window is an emblem of a Karl Friedrich Schinkel building that once stood nearby. A small, apsidal porch leads to a double-height reception area. The public conference and exhibit areas face the Platz; other visitors are escorted through the security checkpoint to other areas in the embassy. Visa seekers and other users of

consular services enter from Ebertstrasse through a wedge-shaped opening just south of the public areas (visible as a slot in the elevation—10). The office areas are arranged within two L-shaped slabs, one with its base aligned to the consular areas, the other with its base along Behrenstrasse (plan). Thus, outside light penetrates either from the street sides, where narrow, readily reinforced windows are set within recesses that define a larger-scale grid; from the courtyard side; or from a narrow garden on the site's east side. Service vehicles enter a guarded sally port on Behrenstrasse, and move to parking and service docks located beneath the larger courtyard. The squarish corridor areas around the glassed courtyard walls (9) allow plenty of areas for casual conversation or meetings among staff. *J.S.R.*

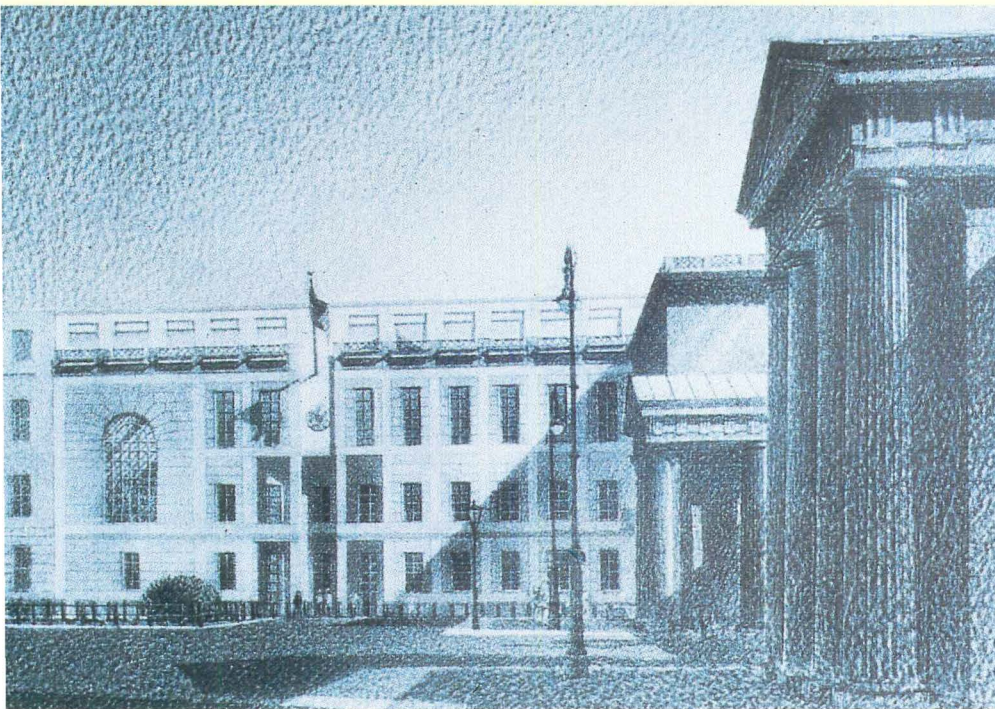




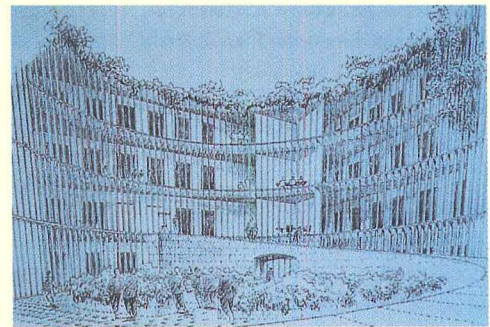
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Building Security

"That you are not allowed to have any vehicles parked under occupied spaces had a major impact on all the designs."

—Graham Wyatt, Robert A.M. Stern Architects

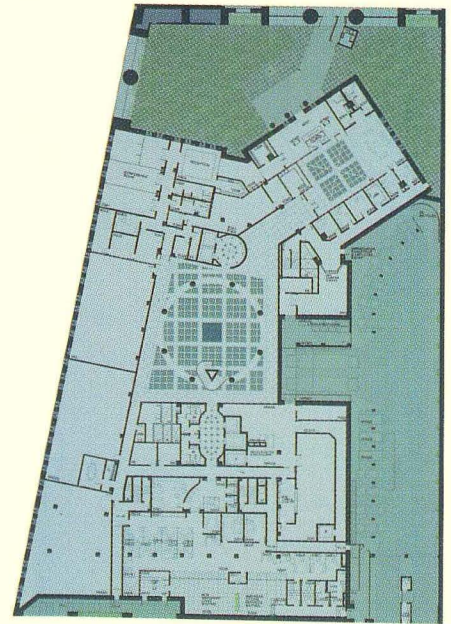
Kevin Roche John Dinkeloo and Associates

Thornton-Tomasetti (structural engineers); Flack & Kurtz (mechanical, electrical, plumbing engineers, environmental analysis); Applied Research Associates (blast engineering); Systech Group (security)

Unusual among the competitors, this scheme pulls the bulk of the building away from Pariser Platz, forming a landscaped forecourt behind a fenced and gated screen wall that wraps the Platz, and extends, via monumental openings, southward along Ebertstrasse. Among reasons for doing so, argues the architect, is to bounce light into the Platz, which will otherwise not ever see direct sun (12). Embassy and public users enter from the Platz under a canopy. Consular functions have a separate entrance on

Behrenstrasse (bottom of plan). With parking and delivery areas located on the eastern side of the site, the design avoids party walls. (The roof is landscaped.)

The plan is divided into three masses. A small atrium punctuates the canted square, drawing light to the embassy-visitors' lobby. A canted, blast-resistant skylight, surmounting a circle of columns, draws light into the center of the complex. Setbacks to east and west (visible as a large square in the middle of the elevation—11) admit more light to upper floors. A stairway in the atrium (13) links across an elevator lobby to a narrow light shaft serving the southern third of the building. Window openings on exposed facades are gathered in pairs so that they appear to be larger, the elevation more open. *J.S.R.*



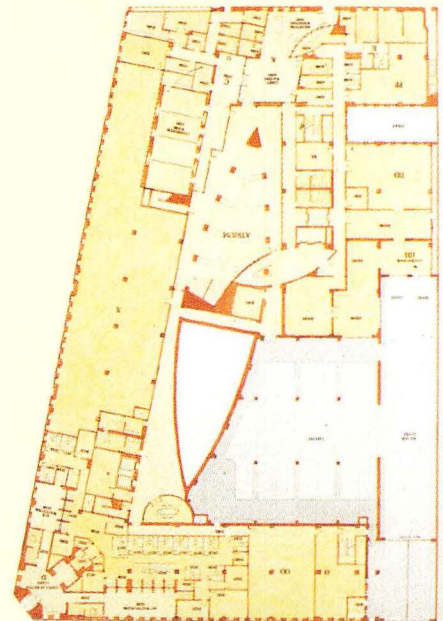
Robert A.M. Stern Architects in association with Leo A Daly

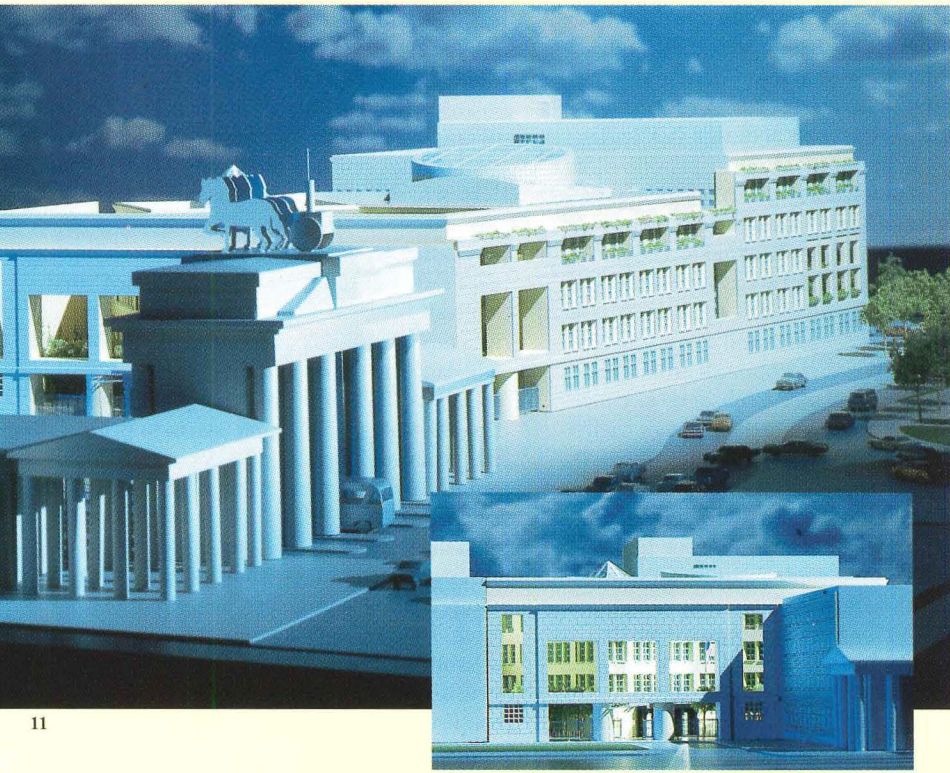
Flack & Kurtz (mechanical, electrical plumbing engineering); Jaycor (security and blast consultants)

The dynamic interplay introduced by an ovoid glass atrium is not hinted at by this project's austere Neoclassical facade. The symmetrically placed Pariser Platz door (15) leads to a reception area that splits public from staff and invited visitors. Public areas borrow light from the atrium, the floor of which is one level higher, screening it from public view. Office areas wrap the site, accessed from a single-loaded corridor that draws light from the atrium. An intersecting ovoid carries glazed stairs, permitting public events to take place in the landscaped, glass-roofed atrium (14) without cross-traffic from nonpublic

activities. The atrium faces a garden that slopes south to take maximum advantage of low winter light. Some competitors avoided glass-roofed atrium spaces due to fear that blast criteria would not be met. The narrowness of the space, however, made it easy to span with members that would not appear excessively heavy. The busy consular functions are entered from the southwestern corner of the site.

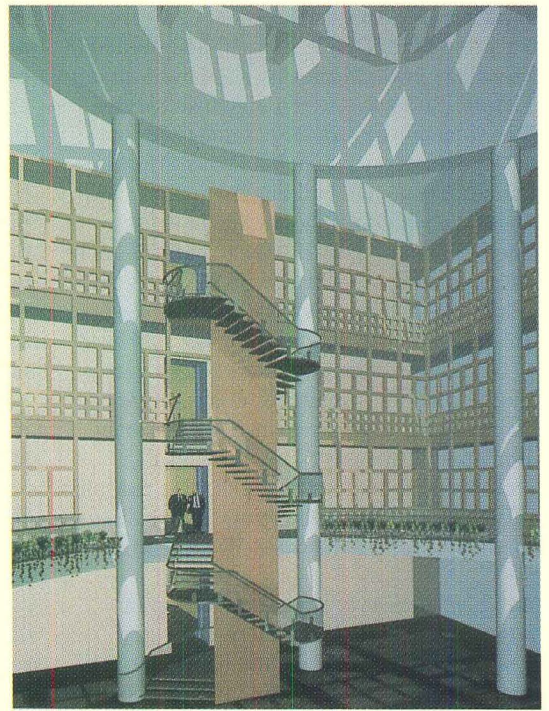
Large squares are scribed in the otherwise nearly flush facade to group the smallish windows, making a facade-scale gesture. A recessed balcony also relieves the long Ebertstrasse elevation, but it is detailed to avoid a direct line of sight from the Tiergarten to persons on the balcony. Like other schemes, the sally port leads to parking and service areas under the garden. *J.S.R.*



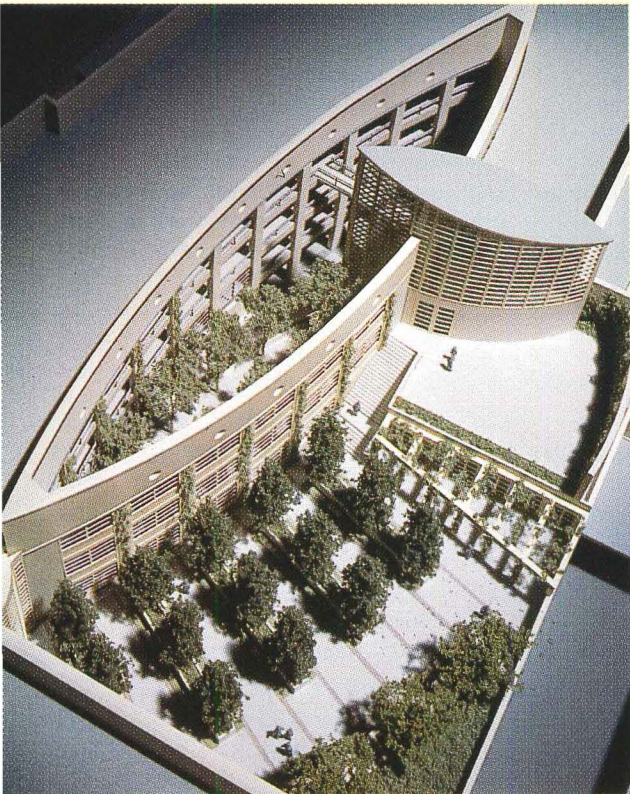


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Coping With Threats From Bombs to Break-Ins

By Elena Marcheso Moreno

First the World Trade Center, then the 1995 bombing of Oklahoma City's federal Murrah Federal Building—which killed 168 people. The Unabomber still lurks somewhere out there. Should such rare but devastating acts drive the design of buildings? However you answer, no building-security issue is easy. Terrorists have gassed subway passengers in Japan, but exploded bombs in Paris' Metro. And today's threat may not be tomorrow's. Take the Murrah building. "It was supposed to be bomb resistant," acknowledged James Loftis, one of its architects, at a conference on building security held last November in Washington, sponsored by AIA and The McGraw-Hill Companies [RECORD's parent]. "The pipe bomb was the weapon of choice in the early 1970's—it was the Vietnam era."

Still, the chances of large-scale terrorist attack remain low. Much more likely are everyday criminal acts. Until recently, architects have been wary of what they perceived as the "bunker mentality" of security consultants. Security consultants say they are stymied by architects' resistance to integrating security considerations early enough.

Crime-resistant environments

Many of the same measures employed to make a building safe from criminals will help secure it from terrorist attacks, according to

Elena Marcheso Moreno, based in McLean, Va., writes on architecture and architectural technology.

industry experts. More and more, architects and owners are turning to security consultants and professional associations to enlighten them about crime prevention through environmental design (CPTED).

Based on defensible-space concepts, CPTED principles are used to analyze the physical design of the project to avoid or reduce crime opportunities. The strategy is threefold:

- Natural access control to limit entry (and in some instances egress) and to establish a perception of risk to potential offenders;
- Natural surveillance to observe intruders;
- Territorial reinforcement through easily identified boundaries.

When the built environment itself succeeds in deterring crime, the owner needs to invest less in detection, control, and intervention systems and staff. Poor security planning not only fails to limit crime but can even be responsible for beckoning it, increasing the inherent risk.

Access-control techniques range from the 100-ft building setbacks and high walls of some recent embassies [RECORD, August 1992, pages 36-39] to concrete bollards that prevent a disgruntled employee from ramming a vehicle into a lobby. (It's happened). Parking structures can keep out unwanted users through key-card access (and key cards can also identify users); key cards for elevators in the soon-to-open American Association for the Advancement of Science headquarters in Washington not only

open elevators, they direct users to a preset floor. Since the World Trade Center bombing took place in a garage under a building, owners have reassessed auto access. For fear of bombs, parking was discontinued in the garage that reaches across the length of the National Air and Space Museum.

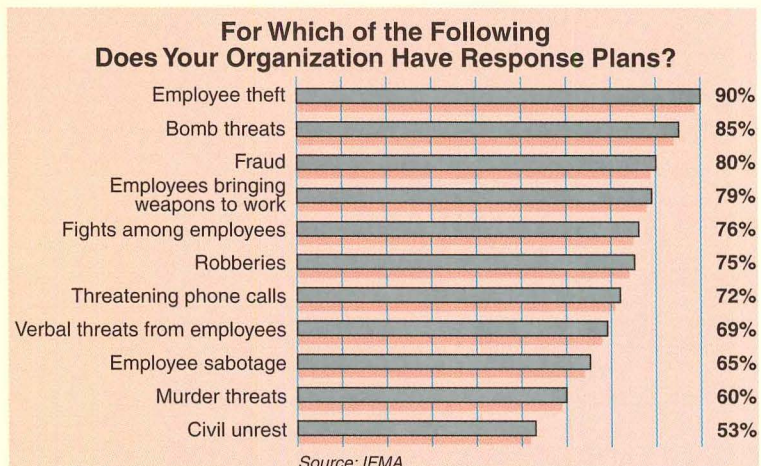
Negotiating threats and risk

CPTED philosophy requires realistic threat analysis because fitting security measures into an already-designed or built building can add excessive costs and drive fortress-like solutions. "When I can give my input about threats, vulnerability, and assets to protect at the programming stage," says architect and criminologist Randall Atlas, of Atlas Safety & Security Design, Miami, "it becomes design guidelines." If the architect takes advantage of security planning resources early in the project, Atlas says he can keep control of costs. Image is not the only thing at odds with security. Accessibility, energy conservation, and code requirements for life safety and fire can also conflict with building-security needs.

Local authorities and code officials may undermine the best-laid security plans if they perceive a threat to life safety in an emergency. The architect and security consultant went to officials early for a new building completed for Canada Life Insurance Company. "To avoid problems with the fire department and local inspection authority, potentially problematic design elements were reviewed before the overall design was completed,"

In security design, there's no base line, no one-size-fits-all approach. "Architects ask me to give them a place to start, but there's none. We start from zero each time."

Nick Hatzis, Intercon Security



says Nick Hatzis, senior consultant with Intercon Security, Chicago. “We showed them how people would be moved in and out, where fire doors were to be located, what the safety backups were.” This situation points to the key role architects can play: achieving consensus on the nature of threats and the measures that will be taken to prevent or deal with them.

Sometimes, for example, owners’ decisions can seem draconian. At the North Terminal, under construction at Washington’s National Airport to designs of Cesar Pelli & Associates, “The client required that we examine what they classified as crisis-level security strategies,” explains Phil Bernstein, Pelli’s project manager. “We looked at restricting airport usage to passengers and employees only, and conducting initial screening of these persons at security checkpoints and x-ray stations located at all building entrances.” Though such a restrictive policy was not accepted, the airport authority nevertheless instructed the designers to include cable chases for extra power at these locations, “just in case.”

Hide security measures or flaunt them?

In a federal courthouse, says Bernstein, “the problem becomes much more complicated.” Differing levels of security must be accommodated for the building’s three circulation patterns—for judges, staff and public, and prisoners. At the same time, the designers must resolve life-safety issues for all three user groups, convey the dignity of the judi-

ciary, and make the project feel part of the community.

Flaunting security where risk is perceived as high can be effective (photo bottom). Other owners choose to obscure security measures for fear that perpetrators can overcome visible measures.

Designers and clients must also consider unintended consequences, observes Stuart Knoop, of Oudens + Knoop Architects, Chevy Chase, Md. His firm has a special expertise in embassies and other high-security buildings. “Once you erect barriers or other controls on a building, it clearly becomes hardened—more risky for a criminal to attack. That can cause the attacker to go to an easier target.”

Building occupants can subvert security measures, says Knoop. Where secure areas are divided by floors, “fire stairs shouldn’t be used as convenience stairs to move from level to level,” he explains, “because that allows unrestricted movement through a building.”

The human factor

Understanding the risks involved, agreed to by all parties, is a starting point for design, says Intercon’s Hatzis. Then his firm looks at the requirements of the user and what assets need to be protected. “There are many options,” says Wilbur Rykert, director of the National Crime Prevention Institute, Louisville, Ky. “The building owner or operator just needs to be educated, and there are

no standard solutions, because each building is physically unique.”

One of the toughest issues is use of guards. Mark Shoemaker, design-team leader for Cesar Pelli’s office at National, acknowledges that guards are a “design factor” if they need podiums, desks, or storage facilities. More importantly, “The presence of guards is a management issue.” It’s not just salaries. Rykert explains, “Guards get bored, they fall asleep, they take vacations. A closed circuit television (CCTV) is much better. Other owners tell me they can’t have someone watch a TV all the time for many of the same reasons.” Technology can overcome some of these human frailties, such as periodic, random computer monitoring or devices that beep audibly when someone enters a space.

Though security technology is a necessary evil, security equipment need no longer evoke “big brother is watching” nor the county jail. Closed circuit TV cameras are now as small as 4 to 5 in.; access-card readers can be installed behind drywall, wood, or glass.

To reduce the need for guards and technology, a CPTED strategy will take advantage of as many architectural elements as possible. Appropriate lighting, landscaping, and surveillance opportunities are particularly important on college campuses and in parking structures that people may use alone or late at night. Surprisingly, few parking structures meet current lighting criteria

Continued on page 111



While terrorist acts grab headlines, the reality of much building security is crime—even that which comes from within an organization (chart opposite). A judges’ entrance at a courthouse integrates such elements as retractable bollards, a guard shack, and cameras (left).

© Courtesy Atlas Safety & Security Design

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What

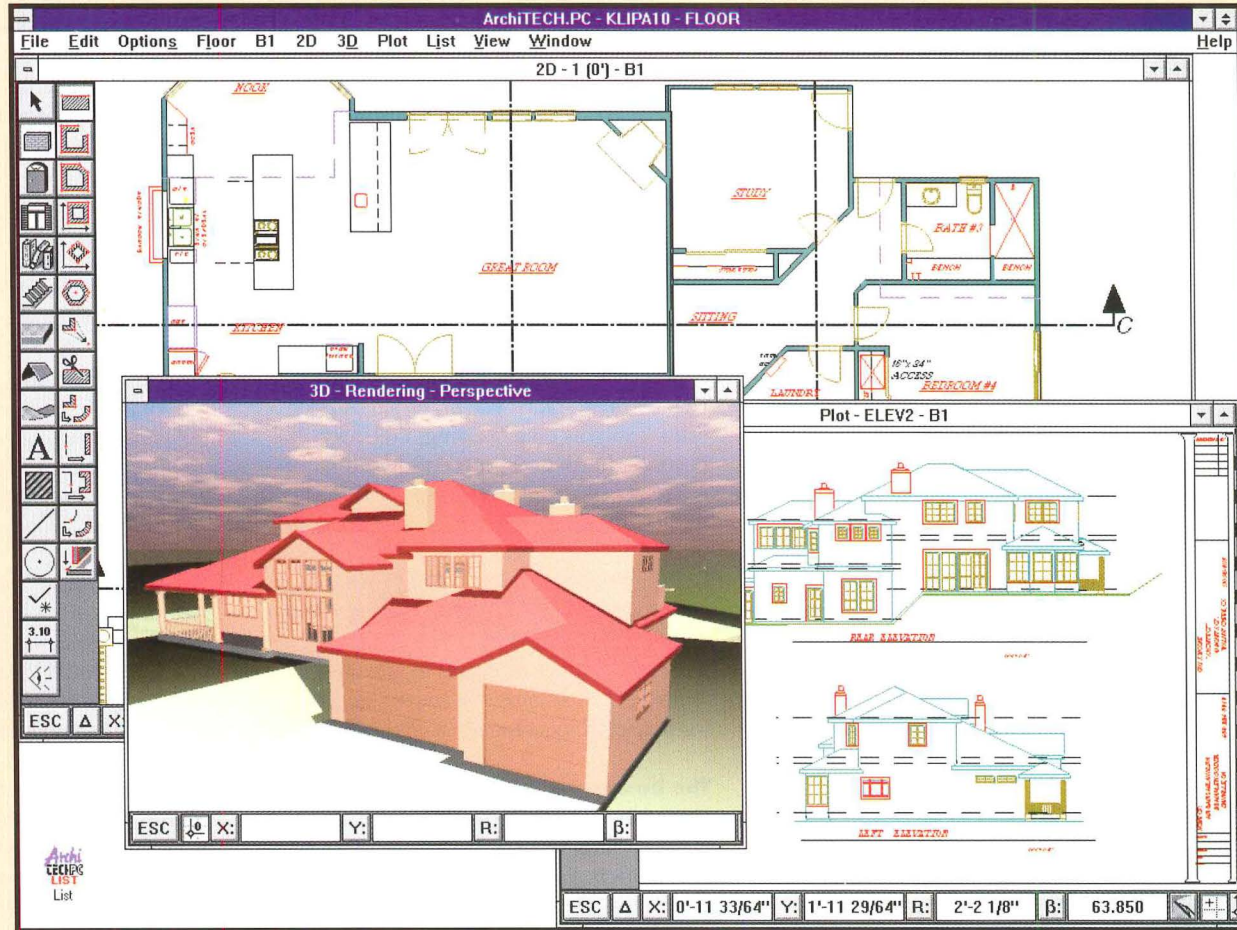
some

imagine,

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create.

Jules Verne



Simple, Yet Powerful

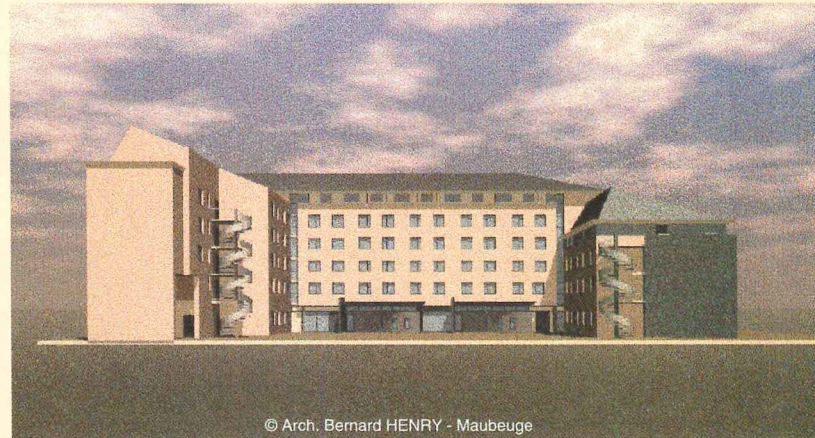
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Allplan from Germany

By Steven S. Ross

As we began to pull together our review of Nemetschek Systems' Allplan CAD software late last year, we got a well-written press release from Nemetschek, describing how Allplan had won a CAD "shootout" at the University of Illinois-Chicago last spring "in terms of modeling, rendering, and animation functionality organized into one project under a single-user interface."

We were particularly intrigued because most such tests are conducted by vendors themselves rather than independent groups, and because the test was handled by Kristine K. Fallon, FAIA. She's a consultant, an adjunct professor at the University of Illinois-Chicago, and a contributor to this magazine. She's also a no-nonsense professional when it comes to CAD and CAD training. If she has any attachment, it is to IBM's A&ES CAD software—she helped develop it at SOM. But A&ES wasn't in the shootout.

The press release was accompanied by the full test report. Ethical companies and ethical testers do that sort of thing. The full report showed that the shootout wasn't a clean win. Allplan was run on a high-powered HP Unix computer. The AutoCAD version it was competing against was 12, not 13. The MicroStation version was 5.0, before the new "PowerDraft" interface was released. They were running on less powerful Pentiums. Datacad, the other package in the test, runs only in DOS—and costs less than \$150.

An AutoCAD add-on, AutoArchitect, was unable to run on Windows NT (due to a copy-protection problem), so AutoCAD was run in Windows 3.11. On the other hand, the students had more experience with AutoCAD than anything else—the university had been using Release 11—but has now decided to switch over to Allplan as a primary CAD tool for its students.

What does this tell you? First, that Allplan held its own in the shootout test, and is worth a look. Second, shootouts are inherently unfair, because of equipment differences and because they must always compare the newest version of one package with earlier versions of something else—as vendors don't release new software simultaneously.—SSR

This month, we look at Germany's leading CAD package, now available in North America, and at two easy-to-use packages for keeping track of schedules and prospects.

Allplan 11.1

Vendor: North American office, Nemetschek Systems, Inc., 100 Shoreline Highway, Building B, Suite 125, Mill Valley, CA 94941. 415/289-3750, 800/479-0735, fax 415/289-1386. \$4,995.

Equipment required: Computers capable of running HP Unix, Windows NT (for Intel CPUs only), Windows 95. Windows computers require at least 16MB of RAM, 32MB recommended by vendor. A copy-protection lock fits into the parallel port.

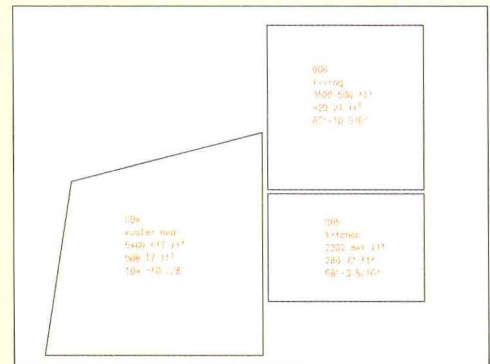
Few American architects have heard of Nemetschek Systems, but it is one of the world's largest CAD vendors—with \$100 million in annual sales. The sales come not only from the base software, but also from various add-on modules. For the American market, everything is bundled together in one easily-installed (from CD ROM) package.

Allplan is especially strong on the structural side (Professor George Nemetschek, who started the firm as an engineering consultancy in 1963, is a structural engineer). It first appeared in 1984, and is the top-selling CAD package in Germany, the company says.

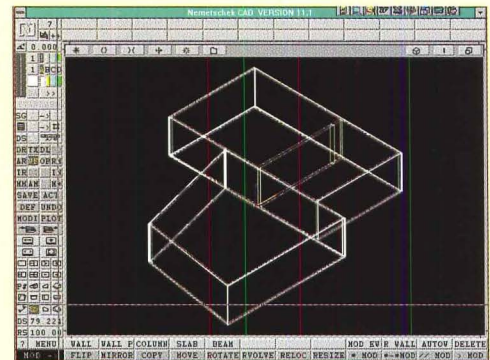
We reviewed version 10.3 on a Windows NT machine in some detail, and also looked at version 11.1. As we go to press, a Windows 95 version was due to be released, along with new documentation.

As is typical of "European-style" CAD packages such as GDS and ArchiCAD, just about everything comes in the package, usually with no add-ons necessary. You get 3-D architectural CAD—including drafting niceties that are fast becoming standard, such as stair and roof layouts—as well as 2-D or 3-D presentation, solids modeling, photo-realistic rendering (including time-of-day shadows) with ray tracing, image processing, animation, and bill of materials (there's an internal database, and easy export to Microsoft Excel spreadsheets).

You can work entirely in 2-D or in 3-D—but the objects you place are always 3-D. The menu and command structure are, well, different—most of the commands are in "horizontal" menu buttons, as well as in more



You can start a project by blocking out some rooms, then shuffle them around.



Once you get the rooms diagrammed, you can use your initial doodles to extrude a 3-D image from plan.

conventional palettes along the screen margins. There are few Windows/Macintosh-style pull-down menus.

Nemetschek Systems has joined the AEC Industry Alliance for Interoperability, pledging to help develop and use standards for data in "intelligent objects." Right now, however, files produced by Allplan require translation to be compatible with AutoCAD and MicroStation. A good DXF-translator comes with Allplan.

It's characteristic of packages with a Unix heritage that each layer in your project drawing is a different file. This can work to your advantage, making DXF translations easier.

If you are already wedded to AutoCAD or MicroStation, Allplan may not be for you—its interface is a bit different, and there are

Two "Personal Information Managers"

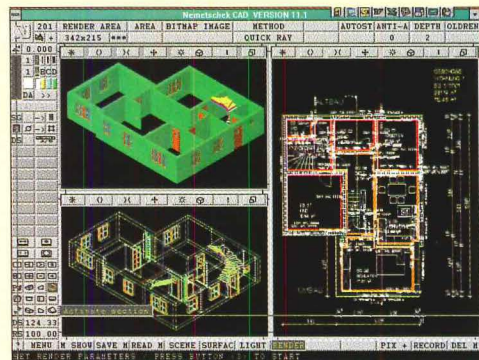
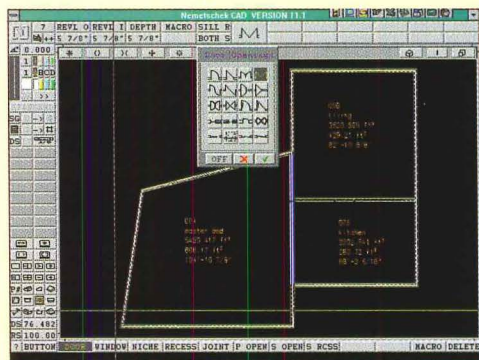
translation issues. We found it safer, for instance, to export a file from Allplan through DXF to MicroStation, than to go the other way. But if your practice has few seats, and you are outgrowing simple 2-D CAD packages, Allplan is worth a look. It is easy to learn, powerful, and command-filled.

Manuals: Complete, mixing tutorial and reference elements for each command. "American-style" manuals are promised for this spring.

Ease of use: There's no question that European-style integration works—some of the icons look strange, but all the controls for all the functions are seamless.

Error-trapping: When you sweep a surface element along a path, you get a hollow surface, but it looks like solid until you try to perform boolean operations on it. It is tough to lose data; the recovery and file restoration system is robust.

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Now you can add some doors and windows. All the objects being added are really 3-D; you can work in a 3-D view if you like (top) or have three views of a project on-screen (bottom). The rendering engine is quite fast.

Ascend 5.0

Vendor: Franklin Quest Co., 2200 West Parkway Blvd., Salt Lake City, UT 84119 800/877-1814, fax 801/978-1133; CompuServe: Go Franklin; AOL: Franklin. \$99 street price.

Equipment required: Any Windows-capable computer. An earlier version runs on Macintosh Plus or higher; a Macintosh version with Windows-product features is due later this year.

Manuals: Two paperbacks—one a quick-start, the other a comprehensive user guide. Excellent on-line, live-action tutorial.

Ease of use: The metaphor—a paper-page daybook planner—is straightforward.

Error-trapping: There's a nice set of backup utilities.

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Now Up-to-Date 1.0

Vendor: Now Software, Inc., 921 S.W. Washington Street, Suite 500, Portland, OR 97205, 800/237-2078, fax 503/274-0670, fax document retrieval 503/274-6370, ext. 3488.

\$99.95 for single-user version. Network versions are Macintosh-only (Windows versions coming); \$475 for five-user license.

Equipment required: Any Windows-capable computer. Macintosh version also available.

Manuals: One clearly-written paperback reference.

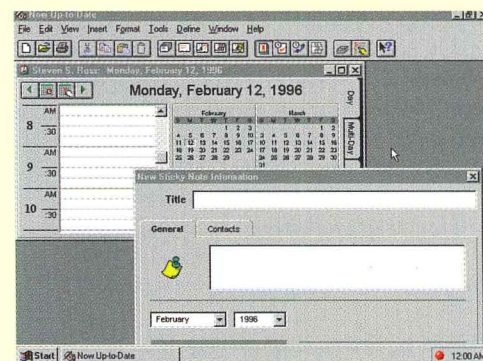
Ease of use: Everything is done through fill-in-the-blank windows, not in the screen display itself (except for the address list, which can be filled in directly).

Error-trapping: Good. Once an entry is made, it can be moved from task to appointment list, and more.

162 on Reader Service Card

What happens when your paper day-planner becomes computerized? You get a PIM—a Personal Information Manager. Only lately, however, have PIM software packages gotten cheap and good enough to be worth considering in a professional practice. Here are two good examples.

Ascend is a direct translation of the Franklin Day Planner. You get a nice contact information system that includes records of calls and



Preparing a "sticky note" to add to another document in Up-to-Date. It will appear when the other document is accessed

schedules of follow-up appointments, an address and phone book, e-mail (if you are running cc:Mail or Microsoft Mail), group scheduling, appointments, and task list.

Up-to-Date adds a search feature to a slightly less robust appointment manager that works even when the full program is not launched. It also has a form-letter and label generator and can add "sticky notes" to other files, as reminders to do specific tasks.

Ascend and Up-to-Date work with Franklin Daily Planner filler pages (and other filler brands, for that matter), if you want to print out schedules. Up-to-Date has a cleaner interface, not tied too closely to any one planner layout. But it is less intuitive, in that you cannot easily add data to on-screen calendars; instead, you edit fill-in-the-blank windows.

Both packages are remarkably powerful for the price; if your computers are networked, for instance, they can coordinate appointment schedules on all machines. (Up-to-Date also comes in a stand-alone version.) If all you need are Ascend's features, use it—there's a better tutorial, more intuitive interface, and better file utilities. But Up-to-Date has more features.

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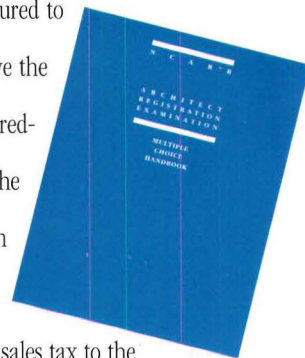
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Ceramic Tile: Expo Preview

Reviewing new ceramics in advance of this year's International Tile Expo (in Miami, April 24-27) reveals design trends. Most prominent, at least in the more commercial segment of the market, is the growing range of porcelain stoneware. After years dedicated to making porcelain tiles ever smoother and more precisely edged, the Italians upped the bar again, with true porcelain tiles that really mimic natural limestone and slate, down to the surface irregularities and soft edges of cleft materials. Tiles give an air of antiquity,

almost a patina from the wear of years of traffic, to a stain-resistant floor that was installed yesterday. These stone-like materials get their character from a blend of clays, which produces a tile body of subtle effect. Another big trend is decorative accent tiles, borders, and trims with a unique, handcrafted appearance—there's more of them.

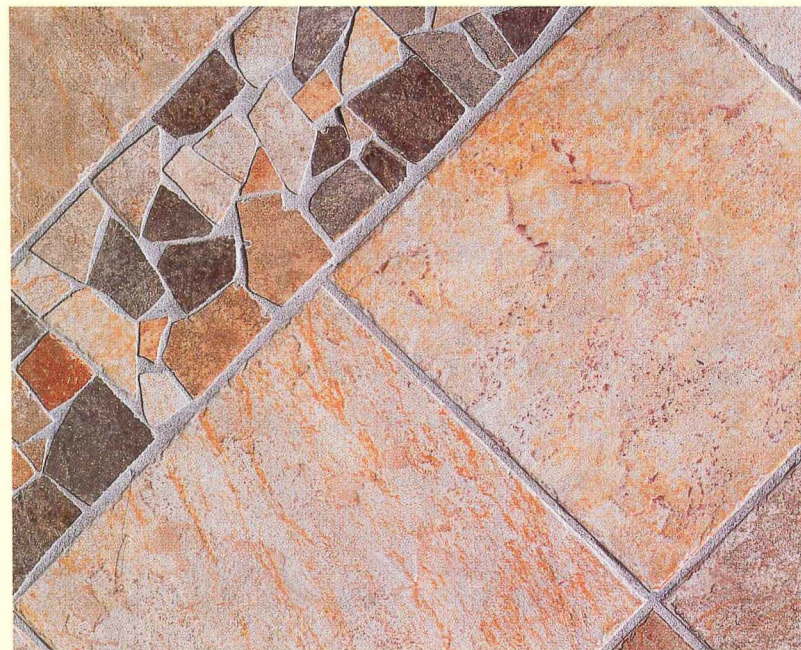
1. From Ann Sacks, brand new Terra Cotta tile that might have come from a 14th-century Tuscan farmhouse. Shown: Antique Parafeuille. *Circle 154*

2. Architectural trims from Questech Metals are made of a homogeneous combination of real metal, polymers, and ceramics that resembles solid-metal at one-fifth the weight. Now offered in a range of economical standard patterns, priced comparable to ceramic tile and trim, decorative elements come in 3/4-, 1 1/2-, and 3-in. widths and 12- and 24-in. lengths. Surface may be clear coated, or left to patinate. *Circle 155*

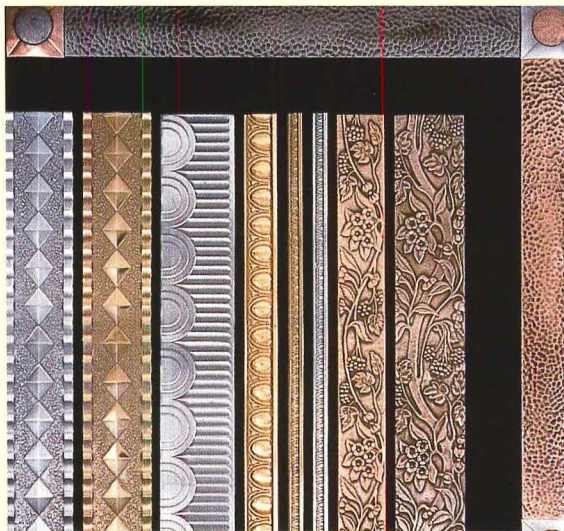
3. A durably glazed tile with rusticated texture, Saxa from Emilceramica captures a



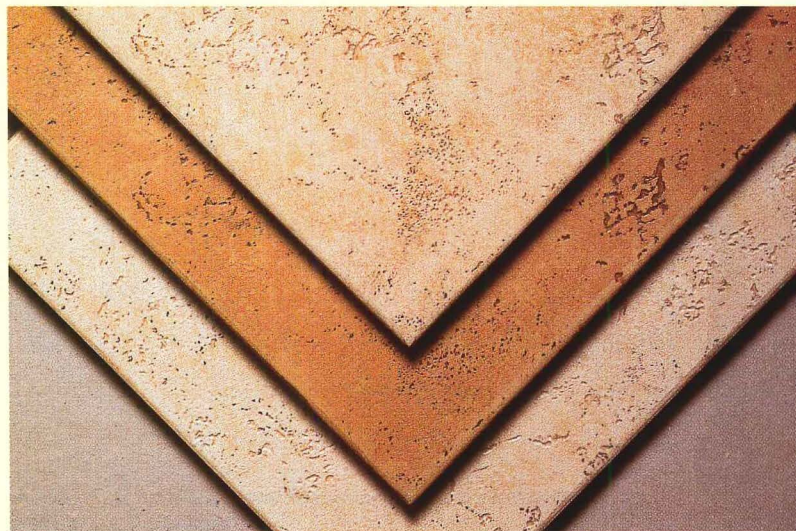
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realistic stone look in a skid-resistant unit. *Circle 161*

4. This true porcelain from ItalGraniti is a dead ringer for cross-cut Travertine—without any of its tendency to absorb water and stain. Frost-proof and scratch-resistant. *Circle 157*

5. Tactile and colorful accents by Cerdomus, genuinely hand made. *Circle 158*

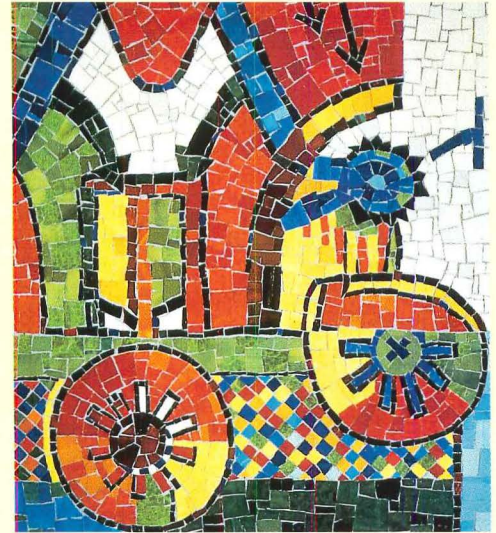
6. American Marazzi's Basilica tile has the effect of old marble in a three-rated product suitable for moderate traffic. The mosaic lis-

telli have been colored to blend with any Basilica floor. *Circle 159*

7. This hyper-colored detail from a subway mural shows off the dramatic effects created by Bisazza's glass mosaic. *Circle 160*

8. New pieces from Epro's Alexandria Collection have the soft variegated colors of Colonial-era handcrafted tile. *Circle 156*

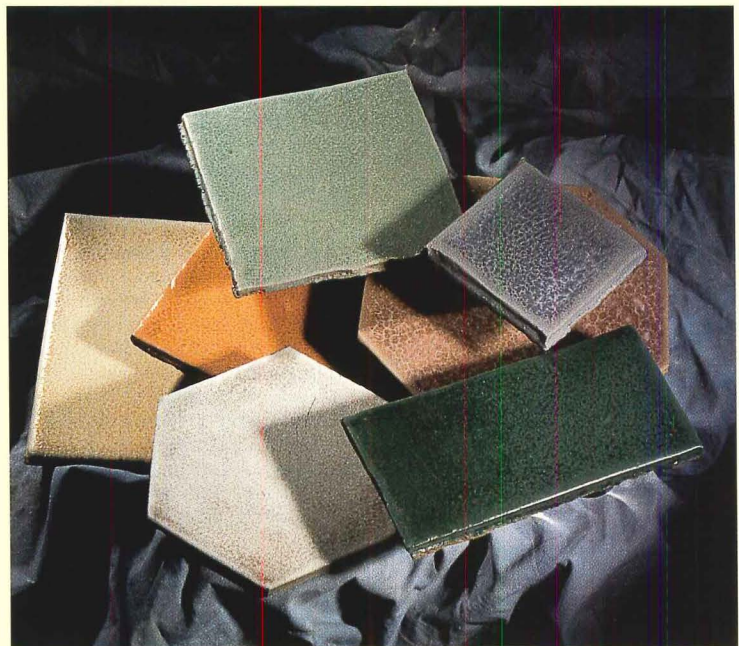
9. Daltile's Limestone floor is wear-rated for heavy commercial traffic; its minimal water absorption suits it for applications requiring good stain resistance. *Circle 162*



7



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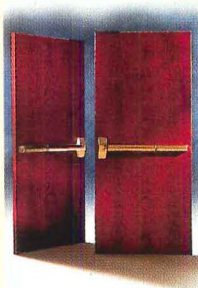
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163. Concealed-rod fire doors
Weyerhaeuser's new 90-minute wood door achieves its fire rating without requiring metal edges at the meeting stiles. Tested with a concealed-rod exit device from Yale, the fire-door design permits a closer match with other architectural doors in an office or commercial setting. Locking options meet ADA requirements. 800/869-3667. Weyerhaeuser, Door Div., Marshfield, Wis.



164. Fiberglass entry
Made with molded-fiberglass faces over an insulating urethane-foam core, the solid-feeling Fiber-Classic door replicates the look of wood but won't warp or split. The material permits a two-tone finish: paint on the exterior, as shown, and a wood-toned stain on the interior. Options include 8-ft heights, a 20-min. fire door, and patio units. 800/843-7628. Therma-Tru, Maumee, Ohio.



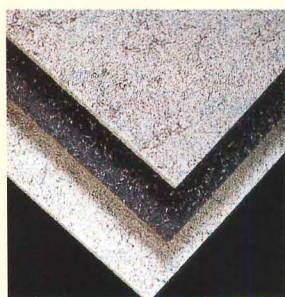
165. Stone-look porcelain
Sampleboards displaying new stone-look Caesar porcelain ceramics are offered to architects and other design professionals. Pictured: Dolomite, a granite esthetic available in six light and dark colors. Made in 12-in. modular units for floors and walls, Caesar tiles can be ordered matte or polished, have low water absorption, and can meet ADA specs. 770/442-5500. Buchtal, Roswell, Ga.



166. Detention-grade cooler
Model HWBFA8PR is one of a new line of vandal- and impact-resistant electric water coolers designed specifically for penal systems. Cabinets are stainless steel; panels are held in place with pilfer-proof screws. Ventilation louvers are screened to prevent hiding contraband. 510/525-5801. Haws Drinking Faucet Co., Berkeley, Calif.



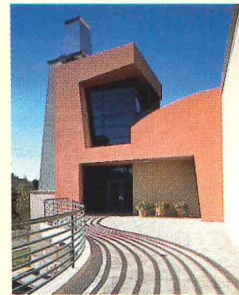
167. Decorative cedar shingles
A sample box displays full-scale decorative red-cedar shingles with distinctive edge profiles. These and other shingle and shake products meet new ICBO Evaluation Services requirements, certifying code-compliant quality standards; fire-retardant and preservative-treated shakes and shingles are also available. Kit free to architects and specifiers. 800/663-8707. Clarke Group, Sumas, Wash.



168. Abuse-resist sound control
A colorful finish option now available for the Image line of Tectum acoustical panels, Chroma-Spec seamless coating can be applied in virtually any color without compromising the sound-control and abuse-resistant qualities of the classic panels. 614/345-9691. Tectum, Inc., Newark, Ohio.



169. Hyper-realistic rock
A geologically-correct sandstone cliff face is shown here in a Kew Gardens Evolution House exhibit recreating Silurian, Devonian and Jurassic-era landscapes. Made of glass-reinforced concrete using CAD modeling and direct-impression molds, artificial rocks contribute to the "retained image" produced by landscapes and educational exhibits. 818/334-8211. diGiacomo, Inc., Azusa, Calif.



170. Rainscreen-technique EIFS
David Hester of S.F.A. Architects used a new Dryvit product, the Infinity PE System, on the Mayerson Academy, Cincinnati (left). Said to neutralize the air-pressure differences between exterior and interior that help moisture penetration, the cladding has integral drainage channels and is installed over a watertight substrate. 800/556-7752. Dryvit Systems, Inc., W. Warwick, R.I. ■

Short Takes

New owner for Knoll. Warburg, Pincus Ventures, L.P. has bought The Knoll Group from Westinghouse for \$565 million. A grand name in design—since its founding in 1938, the office furnishing manufacturer expects record-breaking profits for fiscal 1995.

In the same marketplace, Jami, Inc. has acquired Fixtures Manufacturing (Fixtures Furniture), Kansas City. Jami already owns The Harter Group and ABCO Office Furniture.

Gearing up. Responding to existing and anticipated global demand for its solid surfacing, DuPont will nearly double its Corian production capacity with a new continuous-casting sheet line at its Buffalo, N.Y. plant.

Mod-bit empire. Schuller International of Denver is acquiring Nord Bitumi U.S., Inc., headquartered in Macon, Ga., as well as that firm's Italian parent, Nord Bitumi SpA, Verona. Though not yet finalized,

Schuller also anticipates purchasing Dibiten USA, another modified-bitumen manufacturer, with plants in this country and Mexico.

Who recycles wood? The National Wood Recycling Directory lists more than 650 recovered-wood receiving sites—firms that make products such as insulation, fiberboard, and landscaping material. Free after \$5 handling from the AF&PA, 1111 19th St., NW, Suite 800, Washington, D.C. 20036. ■

Large-scale developments with different architects working on parcels and projects side-by-side are nothing new. So when the Mexican government announced its ambitious plan for the National Center for the Arts in 1992, and organized a design competition among six architects, eventually awarding each team a building or more, the scenario seemed fairly predictable for an economic boom-time. But then the bottom dropped out of the Mexican economy, and the project staggered toward completion. As realized, the Center is proof that major architectural projects are shaped as much by economic and political forces—then-President Carlos Salinas' desire to assure his legacy would be built before the end of his administration—as by their architects, no matter how talented (pages 78-91). Economics and politics are at the heart of the work of an entirely different group: the Auburn Rural Studio. This band of students, guided by their teacher, architect Samuel Mockbee, are taking their architectural skills on the road to those who need it most, designing and building for people living below the poverty level (pages 74-77)—unorthodox teaching practiced in the service of the local community. Independent spirit also figures in the Garden Quadrangle at St. John's College in Oxford, England by MacCormac Jamieson Prichard (pages 92-97). It's the British tradition of "maverick Classicism," as London correspondent Hugh Aldersey-Williams calls it, that both visually connects and sets apart this building from its historic neighbors. This month's Building Types Study 735/Judicial Facilities (pages 98-107) taps a traditionally-rich vein from courthouses to prisons. It depicts a thriving market changed by technology (courthouses are incorporating monitors to allow jurors to view evidence) and the needs of special populations (prisons must increasingly accommodate an aging inmate population). Mark Rios of Rios Associates has more than accommodated special needs in the MCA/Universal Child Care Center in Los Angeles (pages 70-73)—he has turned them into an architectural primer. *Karen D. Stein*

*Manufacturers' Sources
listed on page 120*

Child's Play

Mark Rios has made a child-care center in Los Angeles into a giant toy for its users.



*MCA/Universal Child Care Center
Los Angeles
Rios Associates, Architect*



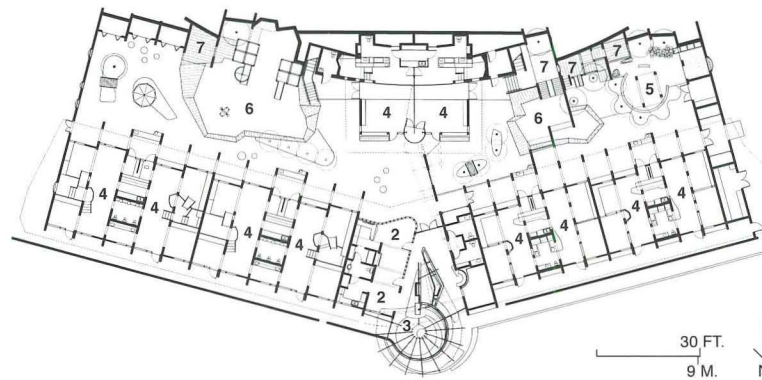
If teaching is best accomplished by example, then Mark Rios has become an unofficial instructor of architecture to the young. A series of day-care center commissions for competitive entertainment conglomerates, including the MCA/Universal Child Care Center shown on these pages, has provided the Los Angeles-based architect with a growing audience for his playful combination of childlike forms, which both accommodate and amuse. It's architecture made easy for beginners.

While the site, a leftover sliver of land abutting the Hollywood Hills and surrounded by a sea of parking lots, provided little obvious inspiration, Rios was able to boost his prospects by creating a platform for his building on a low, earthen ledge. From the street, the center appears as a low-slung concrete-block bunker—a protective image that is reassuring to parents dropping their children off on their way to work.

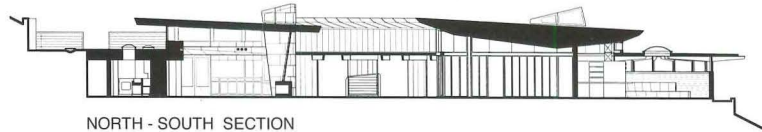
Inside, an overall sense of security gives way to spatial freedom as classrooms, with nap and changing areas tucked in between, open up to a sunny, south-facing courtyard that more than doubles the size of the 10,000-square-foot building. The modest size of the rooms is a deliberate attempt to recreate a home environment, explains Rios. The classrooms are connected on the outside by an arcade of stocky stucco-covered columns topped by a chunky red-stained douglas fir beam trellis—a primer on structure. Another message here is that teaching (or learning) doesn't occur only inside.

Play areas are a combination of formal and informal spaces made specific to age and supervision requirements: sand boxes, infant-crawl areas, wood climbing decks with balconies overlooking classrooms are all meant to incite children's curiosity, as are artist Paul Hershfield's porcelain-enamel panels of outdoor vignettes, which are positioned throughout. The forms are simple and exaggerated for effect—the boomerang-shaped structure and tilted metal roofs meant to resemble airplane wings. They inspire children's imaginations, but also fulfill programmatic requirements: the single-corridor of classrooms is easy to monitor and thick roof planes contain hvac equipment, while clerestories in between admit daylight. Rios used a neutral, and nearly indestructible, palette of materials so that the children and their art projects and toys can literally take over. Furniture, including Rios-designed stackable plywood chairs with giant bolts that call attention to their assembly and oversized upholstered armchairs that fit one adult and two or more kids during story time, reinforce a sense of wonder while withstanding heavy use.

For Rios, the series of child-care centers has allowed him not only to refine an emerging program-intensive building type, but also to show-off the breadth of his 10-year-old practice, which, he reports, is 40 percent architecture, 40 percent landscape design, and 20 percent interiors and graphics—a diversity he models after his heroes Ray and Charles Eames. Achieving the right balance among all the disciplines is a constant challenge for Rios. "The office," says Rios, "is my biggest design problem." *Karen D. Stein*



- | | | |
|--------------|-----------------|---------------|
| 1. Reception | 3. Staff lounge | 5. Crawl area |
| 2. Office | 4. Classroom | 6. Sand area |
| | | 7. Play deck |



Boomerang-shaped, the 10,000-square-foot building, located at the edge of Universal City Studios, perches on a new hill made from the excavation of a nearby site. Classrooms open to a series of outdoor play areas carved into the hillside. These are south-facing (and, as a result, usable year-round) and are screened from the adjacent freeway and parking lots (plan top and photo opposite top). The staff lounge bulges out from between the two wings (below left and bottom right, opposite) and overlooks the entrance (bottom left, opposite).

Credits

MCA/Universal Child Care Center
Los Angeles

Architect: Rios Associates—Mark Rios, principal; Julie Smith, project architect; Frank Clementi, senior designer; Jonathan Black, job captain; Polly Furr; Tom Marble, Guido Porto, Richard Prantis, Dale Wall, project team

Engineers: Stephen Perlof Consulting Structural Engineer (structural); Mike Salazar & Associates (mechanical); VIRTEC Engineering (electrical); IWA Engineers (civil)

Consultants: Burud & Associates (child care); Associated Irrigation Consultants (irrigation); Converse Consultant West (geotechnical); Ralph P. Mellman & Associates (specifications); Paul S. Veneklasen & Associates (acoustics)

General Contractor: Pacific Southwest Development



Postcards From The Edge

Samuel Mockbee is part architect, part country doctor. The maladies he treats are of the housing variety and though no cure-all is imminent, strides are shown on these pages. In recent years, Mockbee has transformed his teaching post at Auburn University in Auburn, Alabama, into his own traveling rehabilitation center, and his students, participants in the school's five-year architectural program, are interns—trained for duty and on round-the-clock call.

In 1989, at the behest of a Madison County, Mississippi nun, Mockbee started doing small projects for families living below the poverty level near Canton, where he lives. Mockbee already had a successful firm of his own (in 1983 he began collaborating with Coleman Coker and the duo formed Mockbee Coker in 1986). Though Mockbee Coker had captured attention in architectural circles for its work—mostly single-family residences that imbue rural vernacular forms with an otherworldly elegance [RECORD, April 1992, pages 132-139]—both principals supplemented their practice with teaching stints at a variety of Southern schools.

Five years ago, on one of his frequent interstate drives between Canton and Auburn, Mockbee conceived the Rural Studio: an architectural clinic *in situ*. Along with his department head, D.K. Ruth, Mockbee appealed to Alabama Power for financial support and was granted some \$200,000, partly in matching-gift grants, over a five-year period. They chose as their base the cotton “black-belt” town of Greensboro, Alabama, (population 3,000), where the local nursing home donated an abandoned antebellum mansion as a live/work space: “redneck Taliesin South,” Mockbee calls it. He turned to the

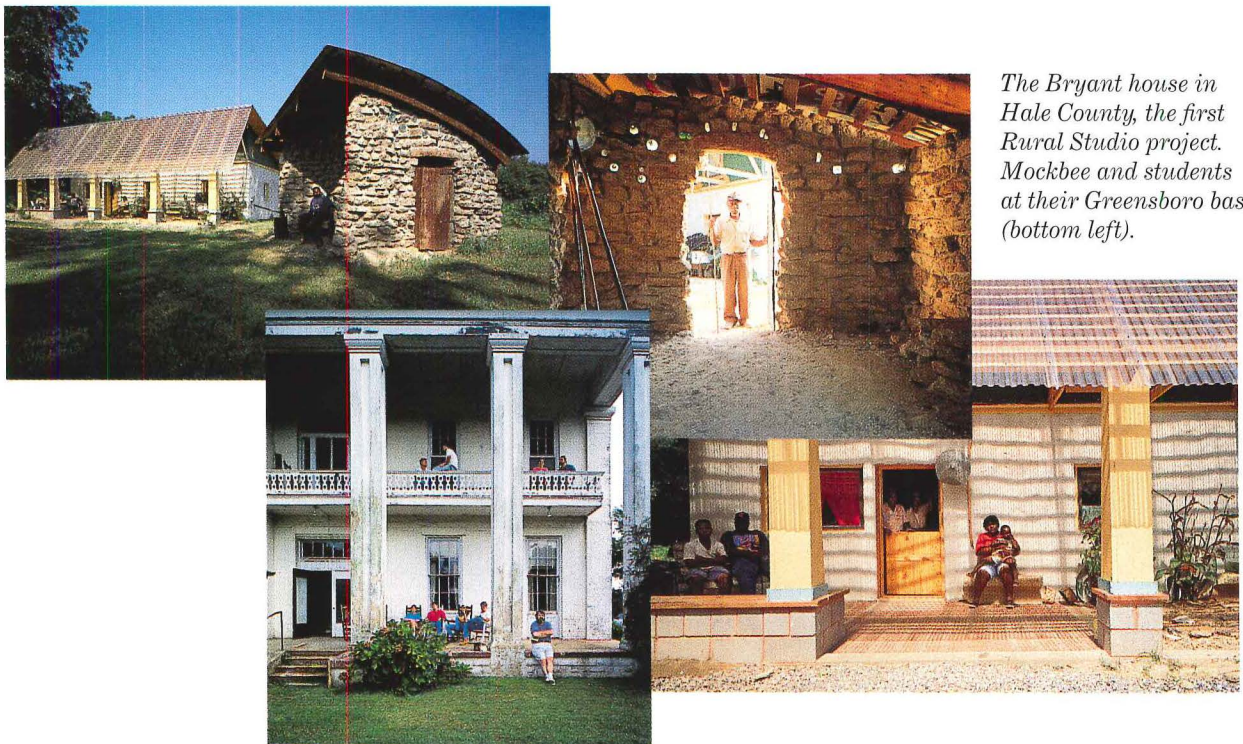
Samuel Mockbee and his Alabama Rural Studio take architecture schooling on the road.

Hale County Department of Human Resources for guidance in selecting clients.

They found Shepard Bryant and his family (photos below). Before the project began, the Bryant family was living in a shack lacking heat, plumbing, weatherproofing, and structural integrity. The design of the new Bryant house was completed during a design charrette. One group of students researched inexpensive materials, and another group did construction work the following academic quarter. Walls are hay bales coated in stucco. The floor is a concrete slab topped with brick. An acrylic awning screens the front porch—stylishly practical. Another student built an adjacent smokehouse of stone with glass-bottle portholes and a metal roof made of old road signs. “We’d have died without them [Mockbee and the students],” says Bryant.

“What I look for are projects that have a moral sense. Architects can have a profound effect on a community and vice versa,” says Mockbee of the Rural Studio’s goals. “It’s not about the architect’s passion, but the architect’s compassion.” Another house is underway. Meanwhile, Mockbee maintains his practice with a virtual studio: Coker, now at the American Academy in Rome as a 1995-’96 Rome Prize recipient, normally lives across state lines from Mockbee in Memphis.

While Mockbee is quick to credit his students for each project, his presence is felt. “He’s papa,” says former student Ruard Veltman, who stayed on in Greensboro to build a community chapel as his thesis project (opposite). “Whether we like it or not, he’s always there to remind us of what we need to do.” *Karen D. Stein*



The Bryant house in Hale County, the first Rural Studio project. Mockbee and students at their Greensboro base (bottom left).

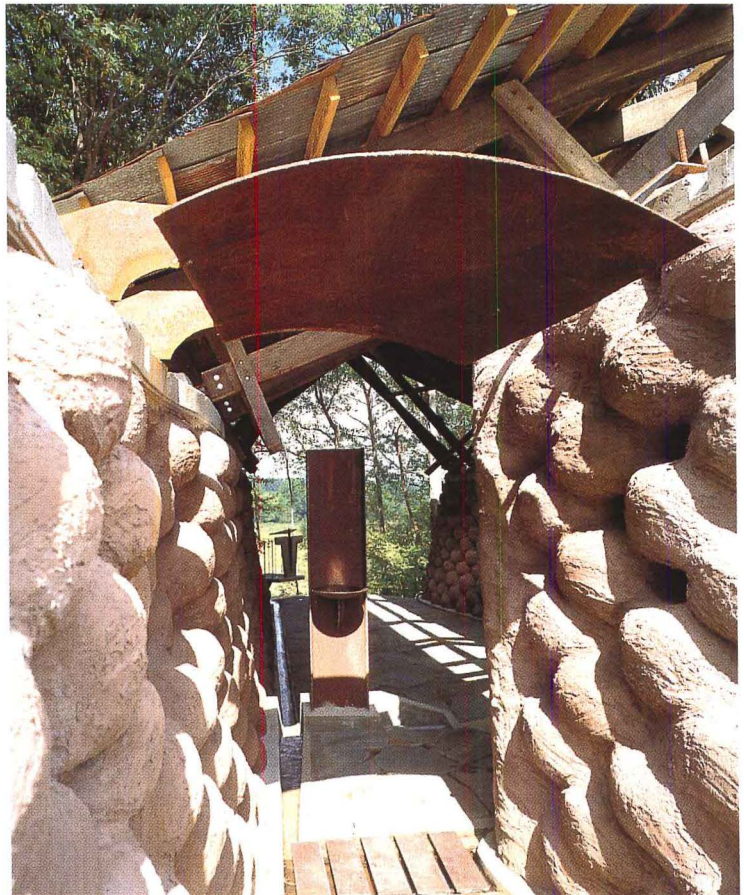
Yancey Chapel Hale County, Alabama

After an academic quarter with Professor Samuel Mockbee's Rural Studio in Greensboro, Alabama, working on the Bryant House (opposite), Ruard Veltman proposed a building rather than what he calls a "typical paper project" for his fifth-year thesis. Thomas Tretheway and Steven Durden joined him and the three students eventually received approval for their proposal from the architecture faculty of Auburn University.

"It went backwards," recalls Veltman of the design process. The trio had the idea of constructing a chapel—"something for the community," says Tretheway—and then went about finding a client and funding. Managers of a dairy farm outside of Greensboro heard of the project and offered a parcel of land. Knowing that construction would have to be done as cheaply as possible, the students researched low-cost materials, settling on used tires, which were plentiful in the area and at the right price—free. Central Tire in Selma, Alabama—an unofficial landmark on the twice-weekly route between the Rural Studio's Greensboro outpost and the University campus in Auburn—was under court order to clear its lot, so it donated some 1,000 tires to the project. Tretheway says the "longevity of tires" appealed to the three designers.

The students sited the chapel on a ridge overlooking a riverbed and excavated a slice of land so that visitors descend into a long, narrow space. Tires were packed with the excavations: as the tires filled with dirt, which was pounded with sledge hammers, they inflated, stabilizing and strengthening the structure.

This technique of rammed-earth construction proceeded at a slow pace, about 10 tires per day per person, Veltman reports. Rebars were planted to reinforce the frame. The tires were then wrapped in wire mesh and coated with stucco. Concrete beams provide a frame for the roof structure, which was built from salvaged lumber. Veltman, Tretheway, and Durden cut tin from old barns into 18-



© Timothy Hursley photos

inch square shingles, and used scrap steel donated by the Hale County Department of Transportation to fashion a font and a pulpit. In all, less than \$10,000 was spent on the project.

Intended to fit into its rural surroundings, at first glance the chapel intentionally resembles a dilapidated barn. After stepping down into the compressed entry way, visitors face a sculptural assemblage of materials: above, an 85-foot-long ridge beam supported by wood rafters, which Tretheway likens to "oars in motion;" on the floor, a puzzle-work of slate was culled in part from a nearby river bed. The sagging roof rises at the south end, admitting daylight into the end of the darkened space, where a wood deck is suspended over the bluff (opposite). Says Veltman of the procession from darkness to light: "It's like a jaw that opens wide to let you out. You're released back to nature."

Credits

Yancey Chapel

Hale County, Alabama

Owner: *The Estate of J.L. Morrison*

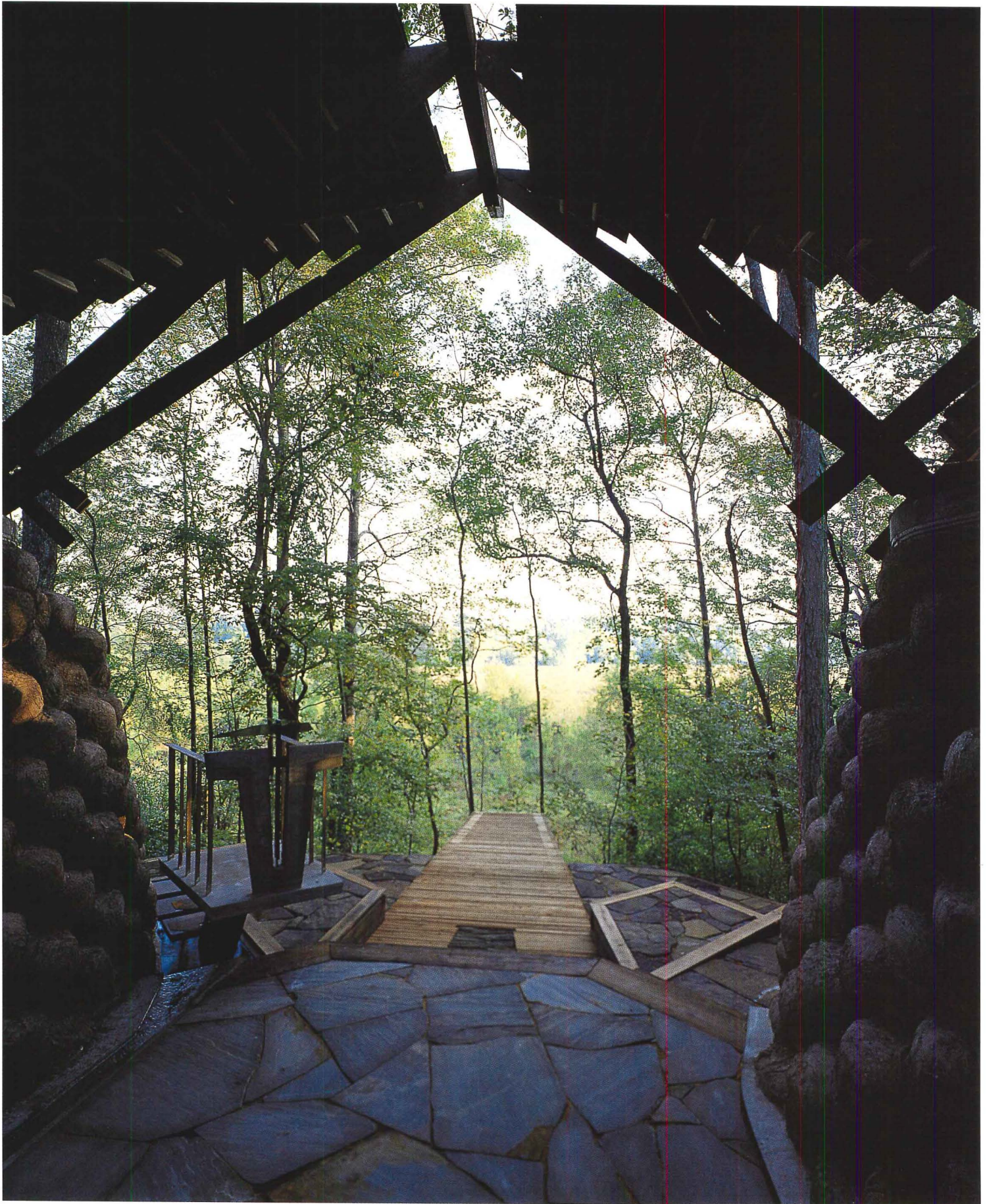
Designers, Builders: *Ruard Veltman, Thomas Tretheway, and Steven Durden*

Faculty Advisors: *D.K. Ruth, Samuel Mockbee, Richard Hudgens*

Consultant: *Paul Darden (structural)*

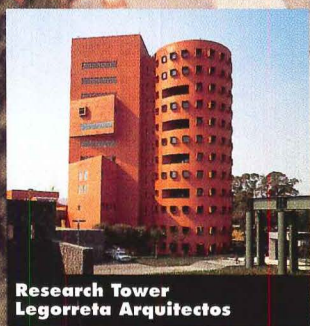
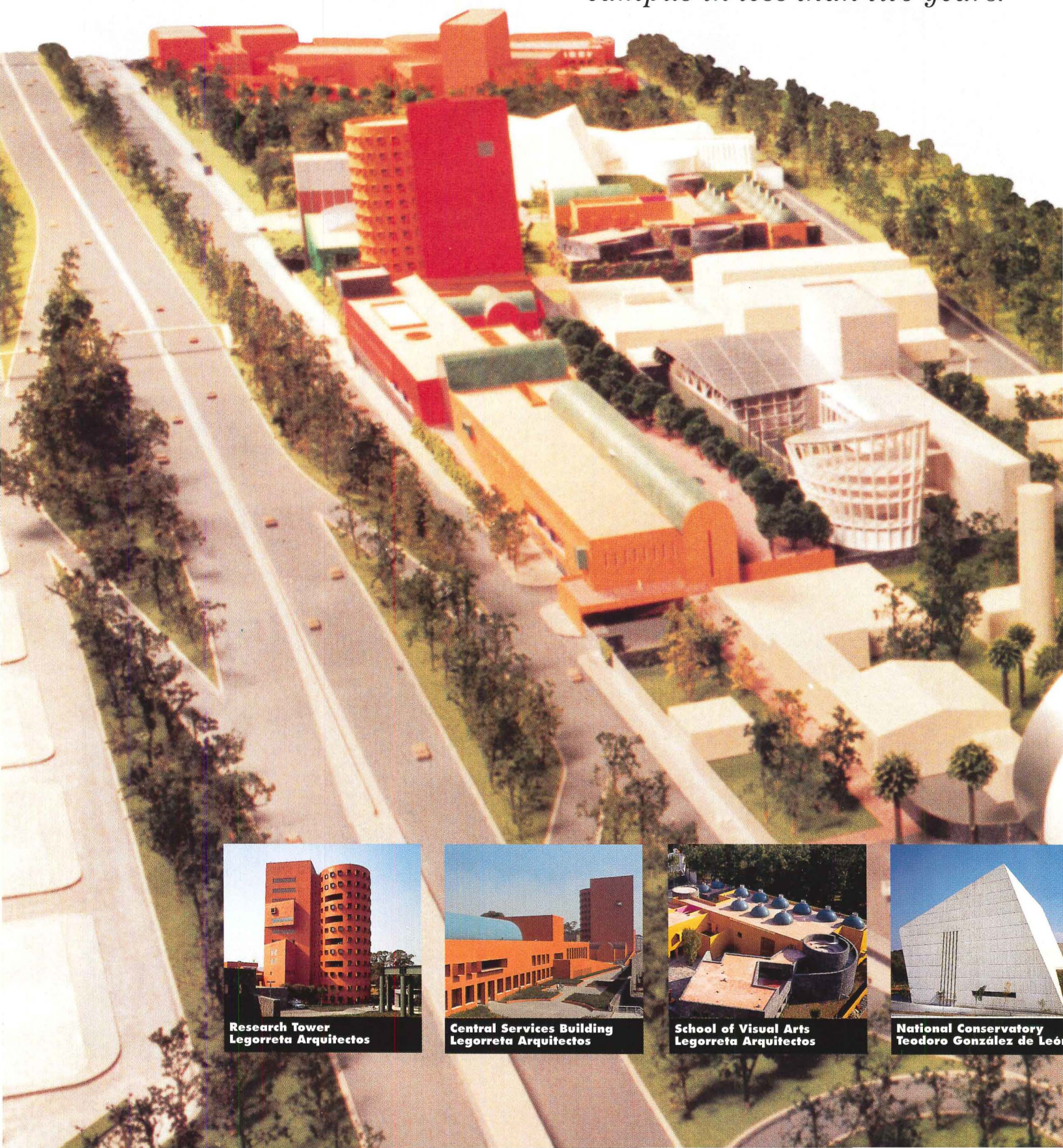
Project Team: *Gary Owen, John Tate, David Brush, Scott Rae, Lindsey Lee, Scott Holmes, Timothy Burnett, Tiffini Lovelace, Charles E. Martin, Jamie Phillips, Andy Sharpe, Brandon Jones, Laura Durden, Jeff Tate, Ben Mosley, Charles Jay, Dennis Langford, Allen Jeffries*



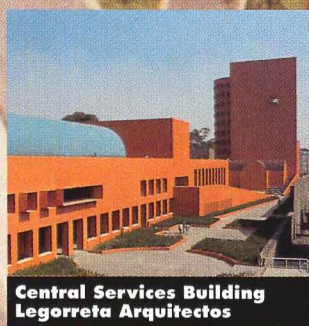


Instant Campus: Just Add Students

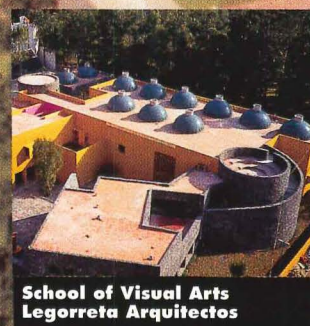
With a masterplan by Ricardo Legorreta, six Mexican architects designed and built a national arts campus in less than two years.



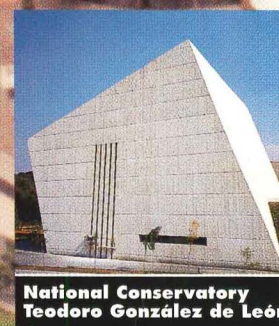
Research Tower
Legorreta Arquitectos



Central Services Building
Legorreta Arquitectos



School of Visual Arts
Legorreta Arquitectos



National Conservatory
Teodoro González de León

It was President Carlos Salinas's very own *grand projet*—a national campus of arts schools that would rival the great buildings commissioned by François Mitterand in France. Conceived in 1992, when the Mexican economy was soaring, the project would bring together national schools of music, dance, fine arts, drama, and cinematography that had been scattered around Mexico City, and allow students of the various disciplines to learn from and collaborate with each other.

In December 1992, the government announced that Ricardo Legorreta had won a competition for the masterplan of the National Center for the Arts and that the five other Mexican architects involved in the competition had been invited to design individual buildings in the complex. Altogether there would be 1.7 million square feet of construction on a 1.3 million-square-foot site south of downtown where the national school of cinematography and some large film studios already made their home. Because Salinas wanted to cut the ribbon on the project before leaving office at the end of 1994, the design and construction of the entire campus had to be done in less than two years.

Despite the outrageous time constraints and the collapse of the Mexican economy at the end of 1994, the project was completed, basically, on time. But by all accounts, the process wasn't pretty. Fast-track design and hurried construction have left all of the architects feeling that corners were cut, details left undeveloped, and quality sacrificed. "It was absolutely crazy" says Legorreta, shaking his head half in awe that it all got done and half in regret that it had to get done so fast. "Sometimes we had 20,000 workers on the site!" But the client, the National Council for Culture and the Arts (the Mexican equivalent of a ministry of culture), was committed to the project. Its president, Rafael Tovar, "was the soul of the project," says Legorreta, and never lost faith. Also helping to make the situation manageable was a trio of engineers who were the top officers of Mexico City's department of public works, which served as the general contractor for the entire complex.

Two different models of architects working together

Because time was in such short supply, Legorreta set just a few design guidelines (for example, restricting each building's footprint to 40 percent of each site and limiting building heights to 66 feet) and then let each architect work on his own project. Legorreta compares this process to the one used on a different job he worked on at the same time—a multi-building complex in the heart of Mexico City commissioned by the Reichmann family and involving Aldo Rossi, Fumihiko Maki, Charles Correa, Skidmore, Owings & Merrill, and others. For the Reichmann

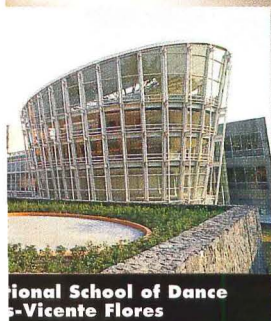
project, strict design guidelines were set and the architects got together on several occasions to critique each other's work and coordinate their designs. Legorreta much prefers this more collaborative model. But the Reichmann project exists only on paper, due to the collapse of the Mexican real-estate market, whereas the National Center for the Arts—for all its faults—is up and running.

Other than time, the greatest challenge was the long narrow site. Hemmed in by two major roads and the existing film-studio buildings, the arts campus was an extruded piece of land that made it difficult to knit individual facilities into a cohesive fabric. Instead of fighting the site's geometry, Legorreta designed a long, low Central Services Building in the middle of the campus and from it spun off a series of plazas, courtyards, and terraces (see following pages). While a colorful Research Tower serves as a visual landmark for the entire campus, retaining walls and a continuous strip of paving made of local black lava stone act as a common thread running from one end of the site to the other. The distinctive black stone, which also shows up on parts of the Legorreta-designed Fine Arts School, turns out to be an excellent device for highlighting circulation through the campus.

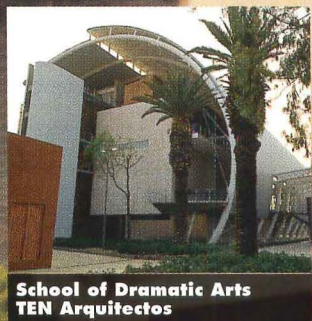
A pedestrian campus built on a raised plaza

Legorreta had originally hoped to place parking at the periphery of the campus, but the tight dimensions of the site forced him to bring at least some cars into its center. To minimize the impact of the automobile, the architect placed a garage for 600 cars under the Central Services Building and then built the main plaza level of the campus above it. A three-story structure for 1,000 cars adjacent to a multiplex cinema is at the east end of the campus, separated from the art schools by a small park. Once on the plaza level, visitors discover a pedestrian campus where paths, ramps, covered arcades, and stairs make it easy to get around. The Achilles' heel of the masterplan, though, is getting into the campus on foot. The intersection of the two main roads at the west end of the site would seem to be the logical location for a main entry, especially since it is close to bus and subway stations. But the primary gate is halfway down the long north side of the campus, so people can enter at the Central Services Building.

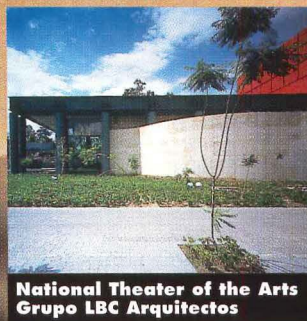
Viewed as individual projects, the buildings are a showcase for important ideas that have long pervaded Mexican architecture—such as blurring the distinction between outdoors and indoors, using strong geometric forms to stand up to the powerful sunlight, and experimenting with color and texture. But each building makes its own bold statement, so the overall effect of the campus is much like that of a World's Fair: all foreground and no background architecture. *Clifford A. Pearson*



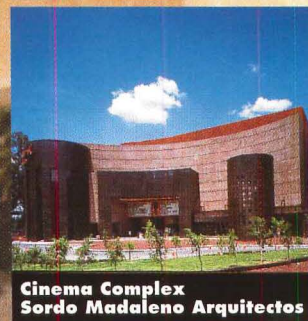
National School of Dance
Vicente Flores



School of Dramatic Arts
TEN Arquitectos



National Theater of the Arts
Grupo LBC Arquitectos



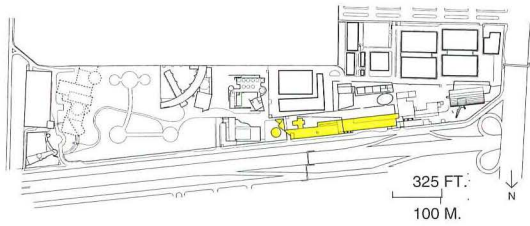
Cinema Complex
Sordo Madaleno Arquitectos

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Central Services Building and Research Tower

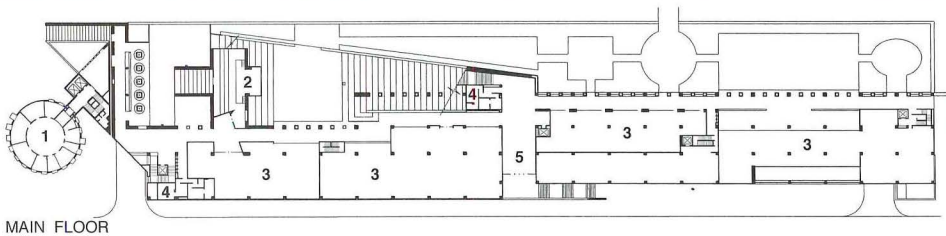
Legorreta Arquitectos



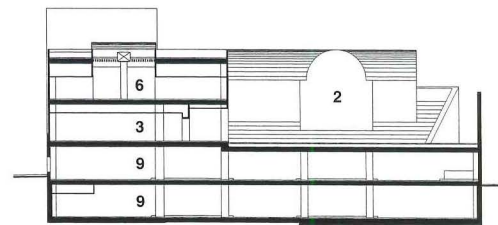
Located at the heart of the campus, the Central Services Building and the Research Tower serve as shared facilities for all of the schools at the National Center for the Arts. The library, multimedia center, auditorium, shops, and parking are housed in the 700-foot-long, three-story Services Building (right in photo below). Administrative offices and research cubicles fit in the 12-story tower (opposite, 2).

Because the campus is at its narrowest here, "We decided to take a more urban approach to circulation," explains Ricardo Legorreta, whose firm master-planned the entire campus and designed these common facilities. This approach resulted in a Services Building that acts as a Main Street for the campus, incorporating shops and a covered walkway for most of its great length. Gentle ramps and stairs

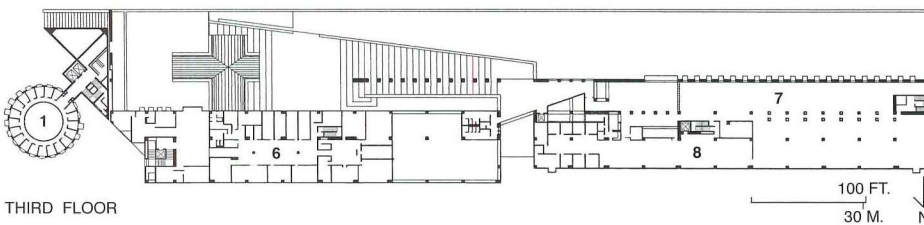
© Bryan Whitney photos, except as noted



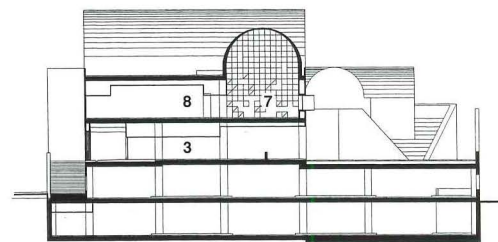
MAIN FLOOR



NORTH - SOUTH SECTION



THIRD FLOOR



NORTH - SOUTH SECTION

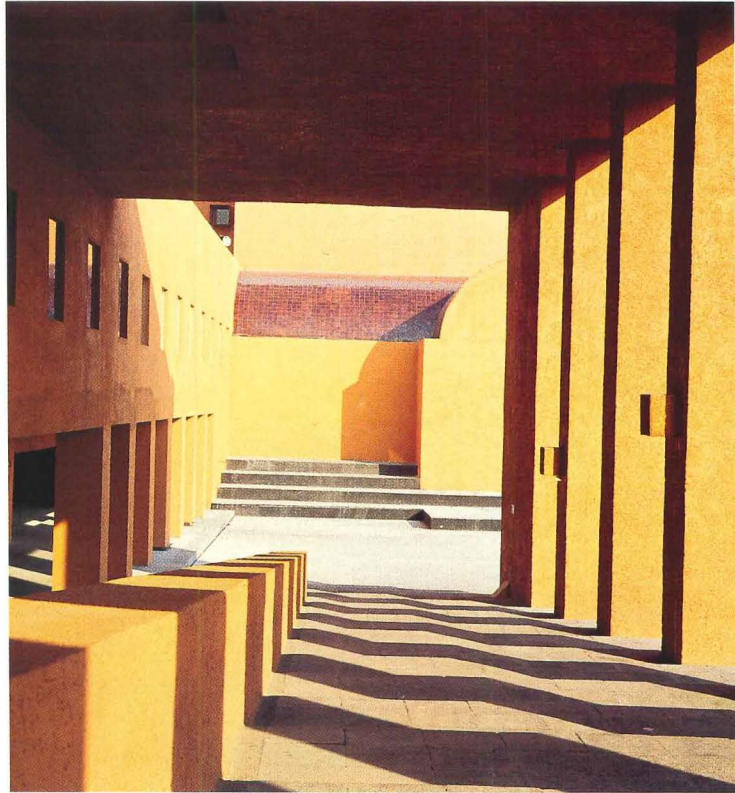
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|-------------------|----------------------|------------|
| 1. Research tower | 4. Restrooms | 7. Library |
| 2. Auditorium | 5. Entrance | 8. Offices |
| 3. Retail | 6. Multimedia center | 9. Parking |

connect the arcade to other levels of the building and to a variety of plazas and outdoor spaces (1). The multimedia center and barrel-vaulted library (3) sit on the third floor, while parking for 600 cars is tucked on the lowest level. A concrete-frame structure, the Services Building is clad in stucco like most of Legorreta's buildings. While some of the harder-edged buildings on campus may not age well, Legor-

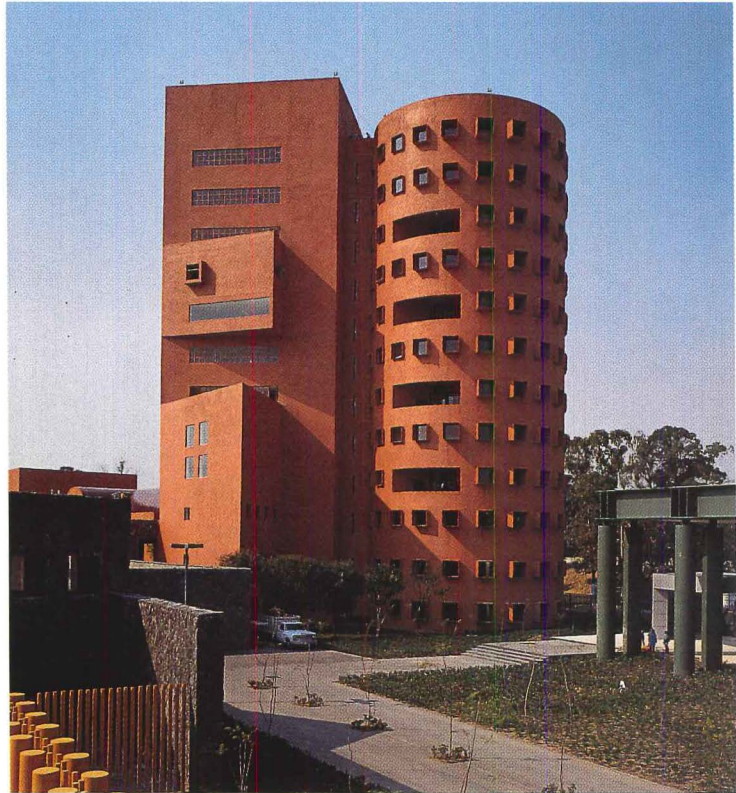
reta's vibrantly colored stucco can take a lot of wear and tear. East of the Services Building, the Research Tower provides a vertical anchor for the campus. A sculptural presence in the landscape, the structure is a pair of engaged towers: a triangular one for vertical circulation, multipurpose rooms, and services, and a circular one with offices and research cells (4). Each research group occupies two floors—a

lower one with common spaces and offices and a mezzanine with cubicles around the periphery. Each group also has its own outdoor space, a wedge-shaped terrace sliced from the 12-story cylinder. For sun protection, metal shades project from windows—extending farthest on the south face and staying almost flush on the north. A concrete structure, the tower is “built like a silo,” says Legorreta. C.A.P.

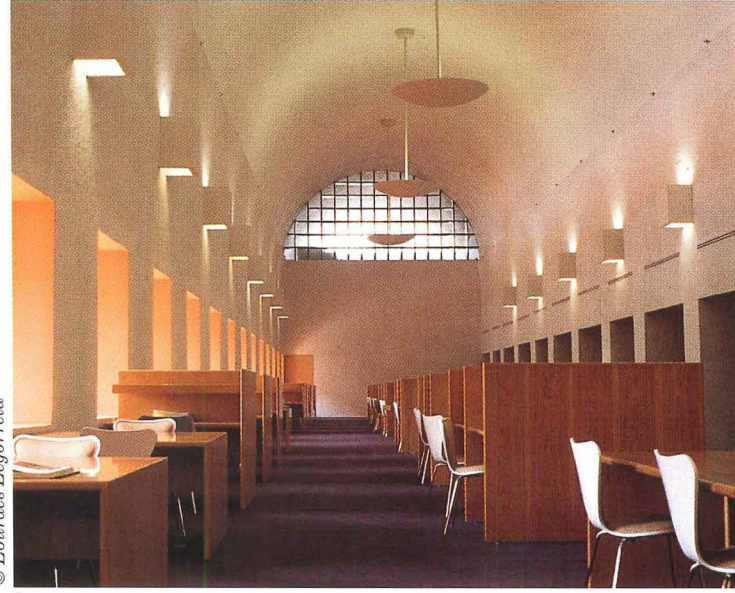
Credits
Central Services Building and Research Tower
Architect: Legorreta
Arquitectos—Ricardo Legorreta, Victor Legorreta, Noe Castro, architects; Max Betancourt, project manager; Miguel Almaraz, Benjamin Gonzalez, Francisco Vivas, design team
Engineers: DYS (structural); DIIN (M/E/P), Dypro (hvac)



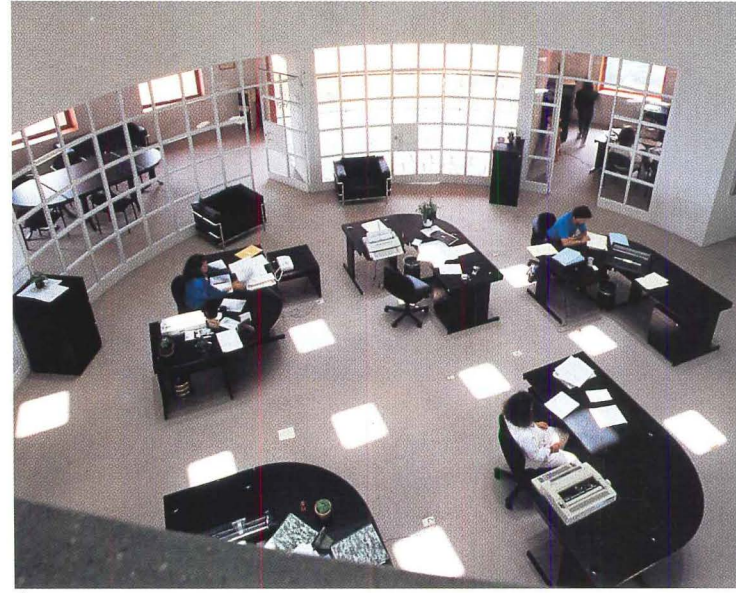
1



2



3



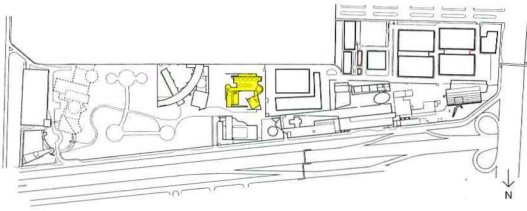
4

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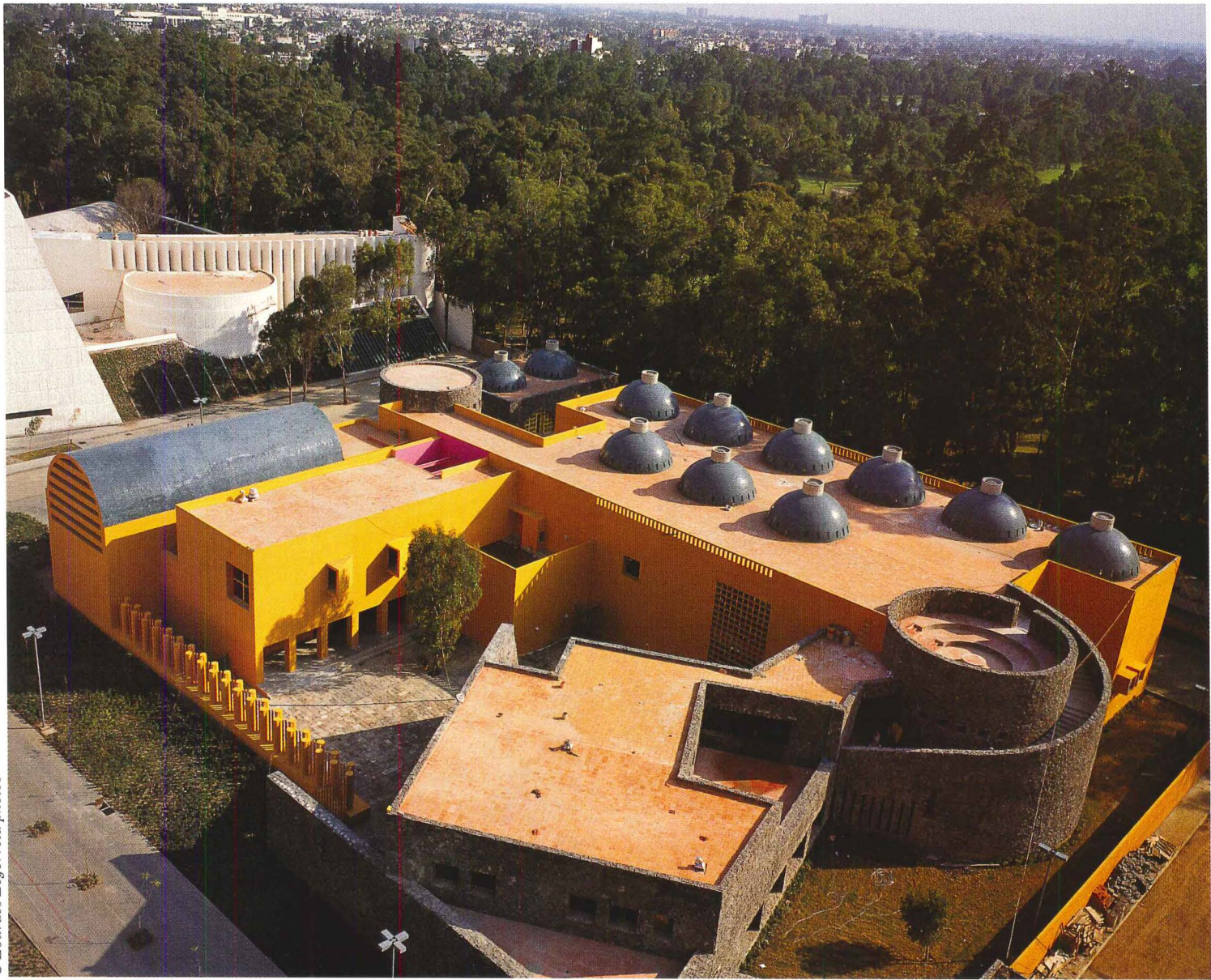
School of Visual Arts

Legorreta Arquitectos



Inspired by the ruins of 16th-century Mexican convents, the School of Visual Arts is a 62,660-square-foot building that wraps around a series of courtyards and patios (below). Thick walls of black lava stone (opposite top) and a rambling plan that gives the impression of being a progression of additions help give the school a sense of history without literally imitating old architecture. Like most of the

buildings on campus, this one does an excellent job of blending indoors and out. Instead of sealing the building and air conditioning it, the architects merely covered or shaded common spaces such as the first-floor lobby and terraces off some of the art studios. Natural ventilation and thick walls keep the indoors remarkably cool. Flexibility was a key demand in designing this building, in part



© Lourdes Legorreta photos

because the school client changed a couple of times during the design phase, and in part to accommodate the changing ratio of students in the various arts—painting, sculpture, textiles, engraving, and photography. “We wanted all kinds of artists to mix with each other,” says Ricardo Legorreta. “We wanted to push it to the limit of chaos.” Because visual artists love studios with daylight, but too much direct

sunlight can create problems with heat gain, Legorreta Arquitectos brought light in from domes above the studios and used vaults and interior arches that allow rooms to borrow light from one another (bottom). According to Max Betancourt, the project manager for the building and for all of Legorreta Arquitectos’ work on campus, the domes were originally supposed to be poured concrete. When that

proved to be too expensive, Betancourt found traditional masons who could build the domes faster and cheaper using brick and no framework. “It was amazing watching the domes go up!” says Betancourt. In addition to front and back courtyards, outdoor areas used by the students include covered studio spaces on the first floor, terraces off second-floor studios, and even the dome-studded roof. *C.A.P.*

Credits

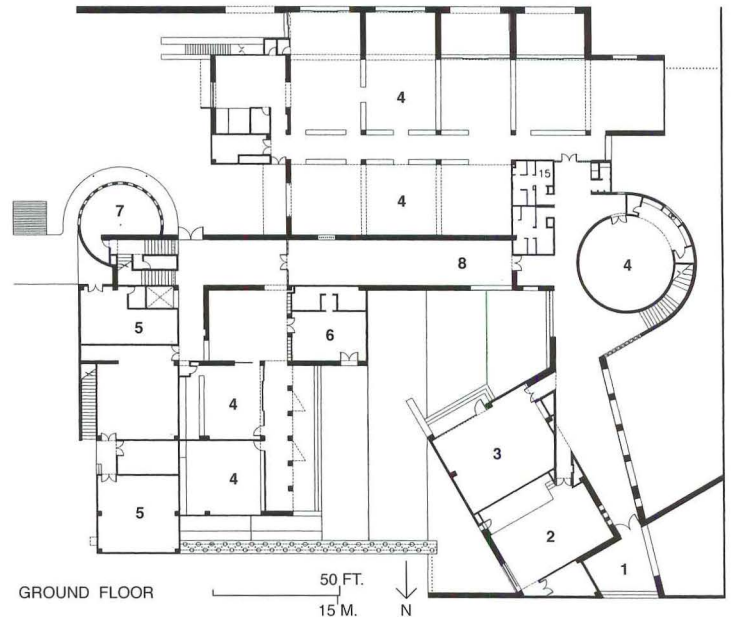
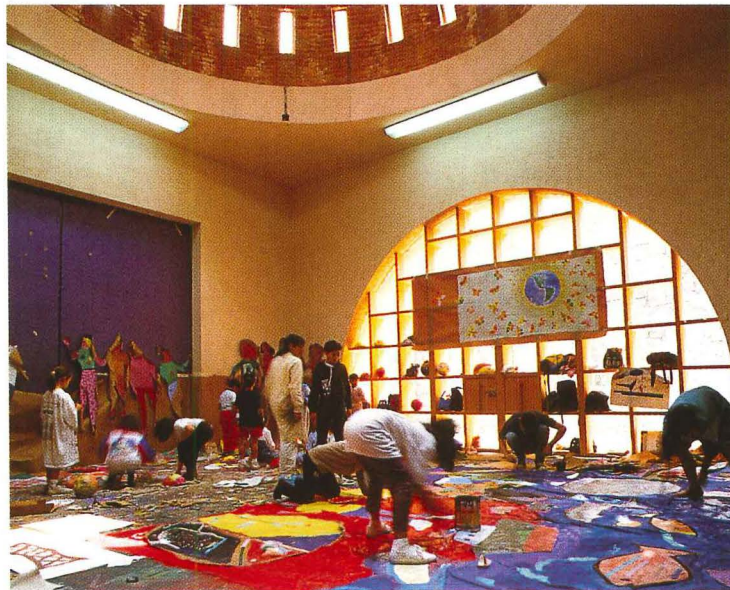
School of Visual Arts

Architect:

Legorreta Arquitectos—Ricardo Legorreta, Victor Legorreta, Noe Castro, architects; Max Betancourt, project manager; Miguel Almaraz, Benjamin Gonzalez, Francisco Vivas, design team

Engineers:

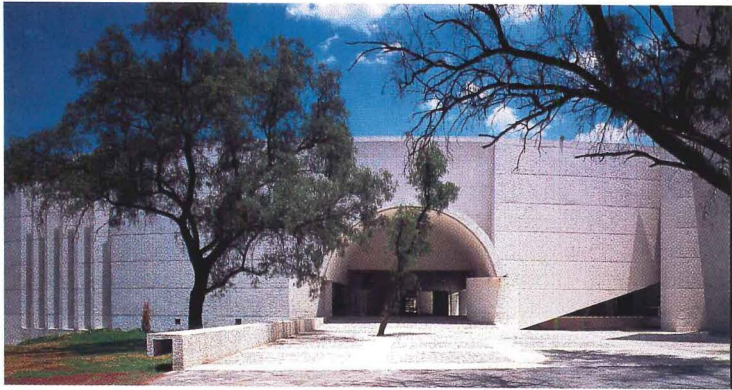
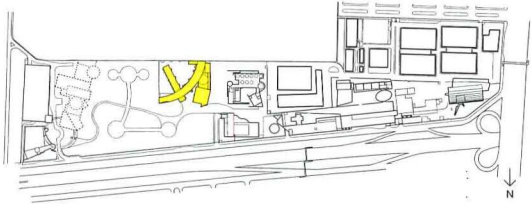
DYS (structural); DIIN (M/E/P); Dypro (hvac)



- 1. Entrance
- 2. Multipurpose
- 3. Library
- 4. Studio
- 5. Support
- 6. Photography
- 7. Classroom
- 8. Galleria

National Conservatory Of Music

Teodoro González de León Arquitecto

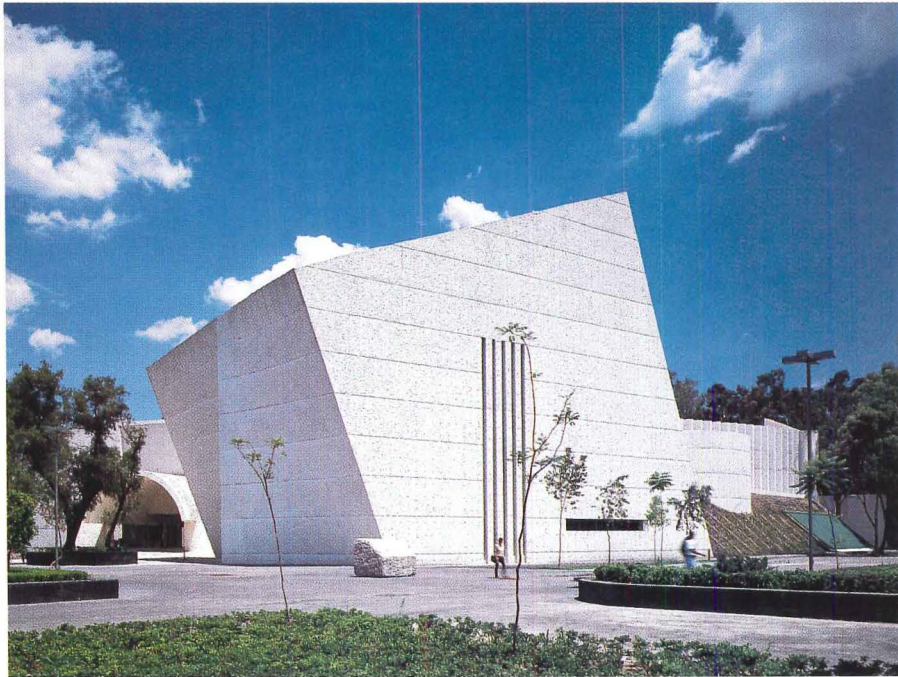
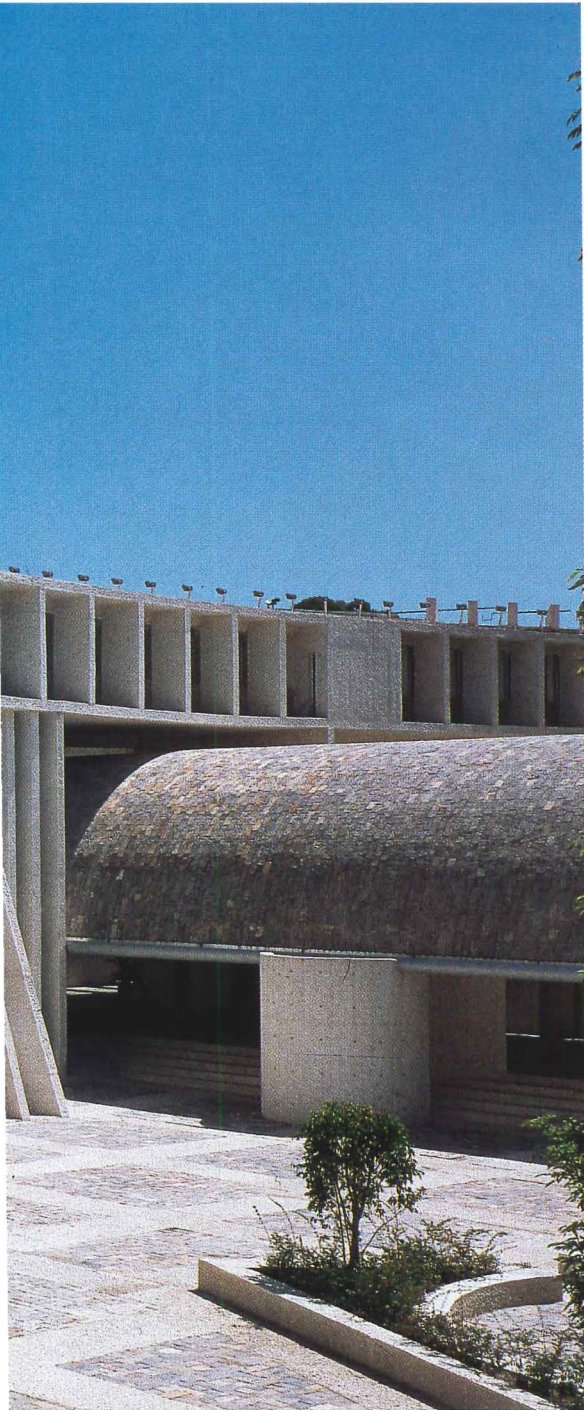


© Pedro Hiriart photos

An 84,240-square-foot facility, the National Conservatory derives much of its visual impact from a combination of opposing elements—the solidity of its concrete construction and the seeming instability of its irregular forms. “We wanted an assemblage of forms,” says architect Teodoro González de León, his arm sweeping past the barrel-vaulted entry canopy (opposite top), the curving north facade of

the school, and the angled cube of the attached concert hall (bottom right). “We wanted to exploit the plastic quality of architecture.” Asked about the building’s canted and angled walls (below), González de León explains that acoustics were a driving force in their design. Since nonparallel surfaces disrupt sound waves, the irregular geometry of the walls helps diffuse the sound in each room,

says the architect. Of course, there are other ways of achieving the same end, but they might have been less dramatic. For all its dynamic elevations, the building’s plan is remarkably straightforward: three floors of practice rooms line the curving main wing, the library/media center intersects it at the entry, and the concert hall (with its accompanying backstage and support spaces) touches it at the west



end. The structural system is also direct—all unclad concrete walls are load-bearing. The concrete is hand-chiseled and exposed on both the exterior and interior of the building. The result are highly textured walls that can take a lot of wear and tear with little maintenance. Because “we always remember great stairs,” says González de León, he and his collaborator Ernesto Betancourt (a cousin of

Legorreta’s collaborator Max Betancourt) made sure visitors don’t forget those at the National Conservatory. Skylit and paved with Santo Tomas marble from the town of Puebla, the main stairs here (below and opposite left) curve along the north edge of the building’s main wing. Feeding off the stair hall and adjacent corridor are 12 group practice rooms on the first two floors and 44 individual practice

rooms on the third floor—all facing south, where there is less noise. The concert hall accommodates 700 people in steeply raked seats that allow everyone to be close to the stage. Like the building as a whole, the concert hall exploits a limited palette of materials: chiselled-concrete walls, wood stage, bright-red upholstery. While the concert hall and the library are air-conditioned, the rest of the building is cooled

by keeping air moving and direct sun out. The results are so good, says González de León, that a visitor once remarked, “Finally, a building where the air conditioning works!” Natural ventilation and shading allow interior spaces to flow directly outdoors. For example, no walls or doors or panes of glass separate the main lobby (opposite right) from the spacious patio in the rear of the building. *C.A.P.*



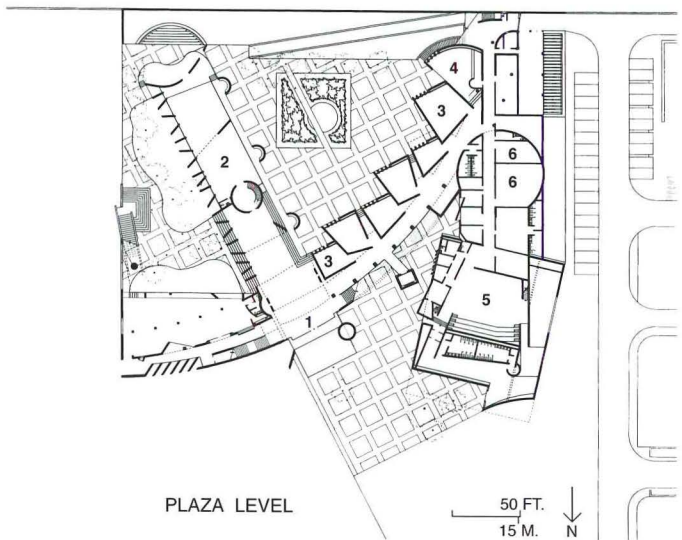
Credits

National Conservatory of Music

Architect: *Teodoro González de León Arquitectos—Teodoro González de León, principal; Ernesto Betancourt, collaborator*

Engineer: *DYS (structural)*

Consultants: *Jaffe Holden Scarborough (acoustics); Tecnoproyectos (air handling, electric, hydraulic, sanitation)*

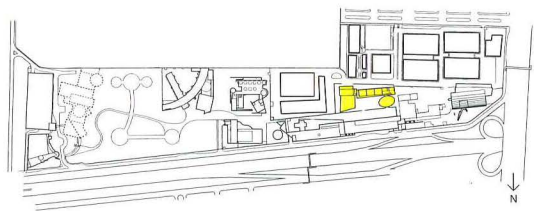


PLAZA LEVEL

1. Lobby
2. Library
3. Rehearsal
4. Cafeteria
5. Concert hall
6. Backstage

National School of Dance

Luis-Vicente Flores Arquitecto



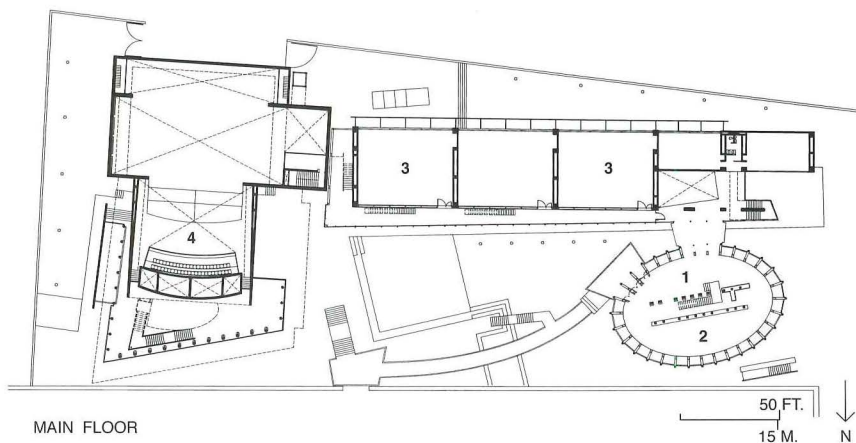
Facing the long Central Services Building at the narrowest part of the arts campus, the National School of Dance takes one step back and one flight down so it doesn't crowd the project's main plaza. Although the 92,000-square-foot school sits on its own terrace one level below the main plaza, its energetic forms and glass-and-steel architecture give it a strong presence at the heart of the national arts complex. To

reduce the bulk of the school, architect Luis-Vicente Flores says he "decided to fragment the building into several parts." The result is a trio of attached structures: a curved-roof theater (opposite bottom), a rectangular block with studios (left in photo below), and an elliptical building with a small black-box theater on the first floor, cafeteria on the second, and offices on the third (right in photo below). Because



© Gabriel Figueroa Flores photos

1. Lobby
2. Café
3. Studio
4. Theater (below)



time was so short during development of the project, Flores built simple concrete boxes for each of the three components, then designed glass-and-steel fronts while the concrete was being poured. So each building is really two structural systems attached to each other. The transparent portico of the studio building and the roof of the theater are suspended from cables, while the curtainwall of

the elliptical building is supported by angled tubular-steel columns on the outside. "The buildings clearly show the construction process," says Flores. Since the buildings face north, shading for the glass facades was not critical. As with other schools on campus, this one depends mostly on circulating, rather than conditioned, air to keep everyone cool. For the inner-concrete structures, Flores designed

double walls so the space between them acts as a cooling chimney and brings air into the rooms. For the glass-and-steel-enclosed spaces, the architect devised a cooling system in which air flows along the interior surface of the curtainwall. C.A.P.

Credits

National School of Dance

Architect: Luis-Vicente Flores
Arquitecto—Luis-Vicente Flores,

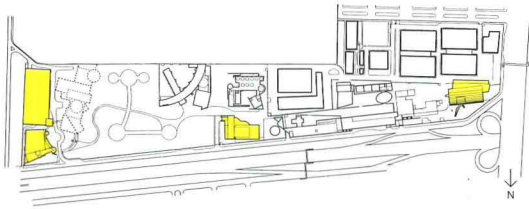
principal-in-charge; Ariel Rodas, Pedro Sepulveda, Erick Rios, Lina Grij, design team
Engineers: Pablo Peña Carrera & Associates (theater and studio buildings); Garcia Jarque & Associates (elliptical building); Ove Arup & Partners/NY (structural concepts)
Consultants: Christopher Jaffe (acoustics); Jules Fisher (theater mechanics)
General Contractor: Rioboo



The school's 260-seat main theater is in the curved-roof structure at the east end of the site (left). In the studio building, a long interior wall is made of insulated glass panels with fluorescent lamps set behind them (above). The wall serves as the only light fixture in the long portico.

School of Dramatic Arts

TEN Arquitectos (Taller de Enrique Norten)

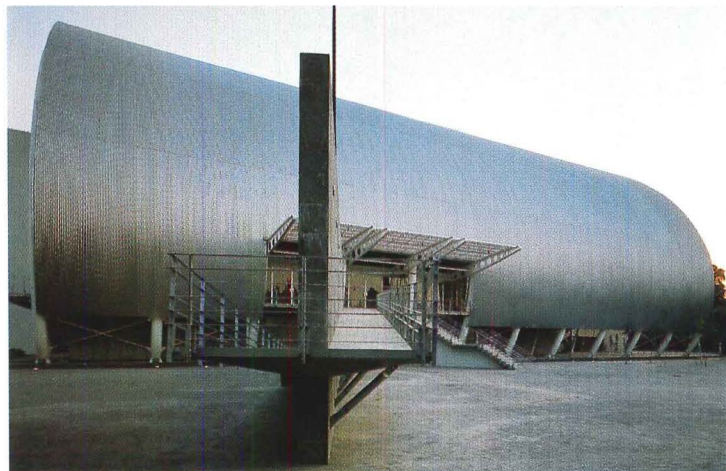


Rather than organize the various components of this school (theaters, library, classrooms, offices, etc.) into several small buildings, TEN Arquitectos brought them under one cable-tensioned bent-steel-tube roof so the project reads as one easily identifiable icon from nearby highways. Within the great space under the roof, various components appear as discrete forms. For example, a library wrapped in redwood sits

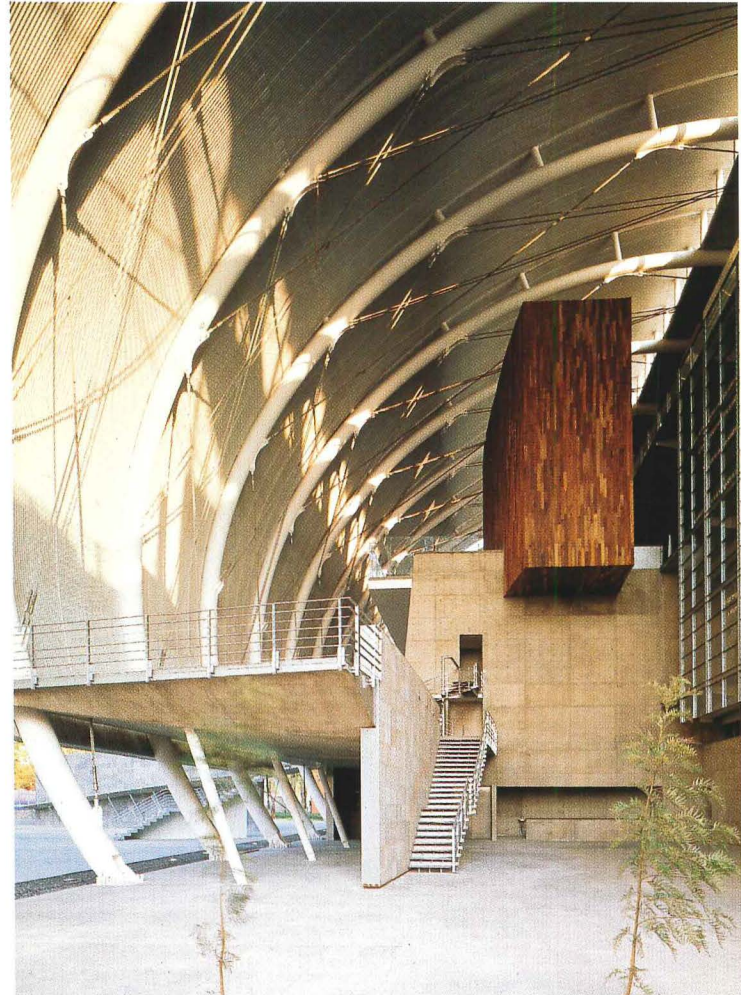
above a travertine-clad theater (below). C.A.P.

Credits

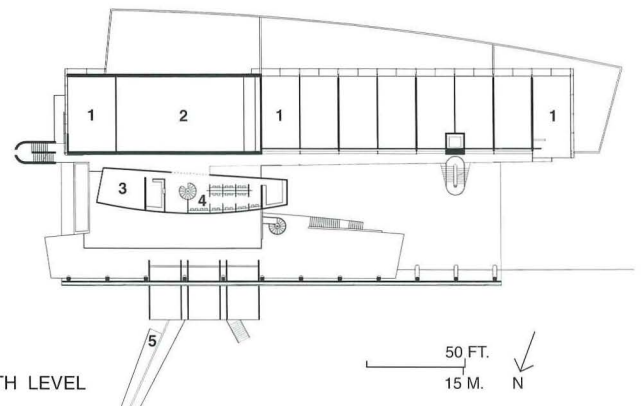
Architect: TEN Arquitectos (Taller de Enrique Norten)—*Enrique Norten, Bernardo Gomez-Pimienta, principals; Gustavo Espitia, Héctor Gámiz, Miguel Angel Gonzalez, Armando Hashimoto, Miguel Angel Junco, Carlos Valdez, Oscar Vargas, project team*



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1. Classroom (below)
2. Auditorium (below)
3. Video library
4. Audio library
5. Access ramp (below)



National Theater of the Arts

Grupo LBC Arquitectos

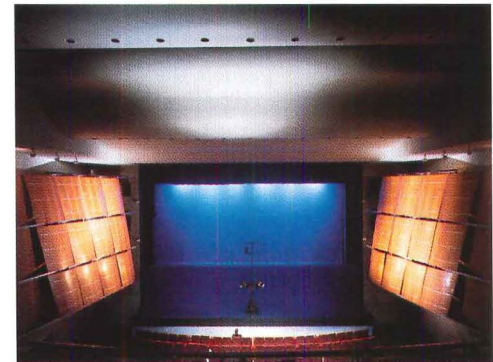
A concrete-framed structure encloses this 550-seat multi-use theater, while an attached steel-framed structure houses a grand foyer and “whale”-shaped mezzanine (top right). In the foyer, large glass panes are suspended from the ceiling and barely enclose the space. A columned front portico (below left) was inspired by Classical architecture and theater, says architect Alfonso Lopez Baz. Curved wood

panels close to the stage and flat ones farther back move to accommodate various acoustical needs (bottom right). *C.A.P.*

Credits

Architect: *Grupo LBC Arquitectos—Alfonso Lopez Baz, Javier Calleja, principals; Humberto Ricalde, collaborator*
Interior Designers: *Claudio Gantus, Simon Hamwi, Christian Gantus*

© Fernando Cordero photos



Cinema and Parking Complex

Sordo Madaleno Arquitectos

Separated from the academic parts of the campus by a park, this multiplex cinema and adjacent parking structure anchor what is planned as a commercial sector. On the boards are designs for a 1,000-seat live theater and a 40,000-square-foot shopping center. The concrete-framed cinema building (right) is clad with Cor-Ten steel and local Queretaro stone. *C.A.P.*

Credits

Architect: *Sordo Madaleno Arquitectos—Jorge Isaías Guerrero, principal-in-charge*



© Sebastian Saldívar

History Lesson

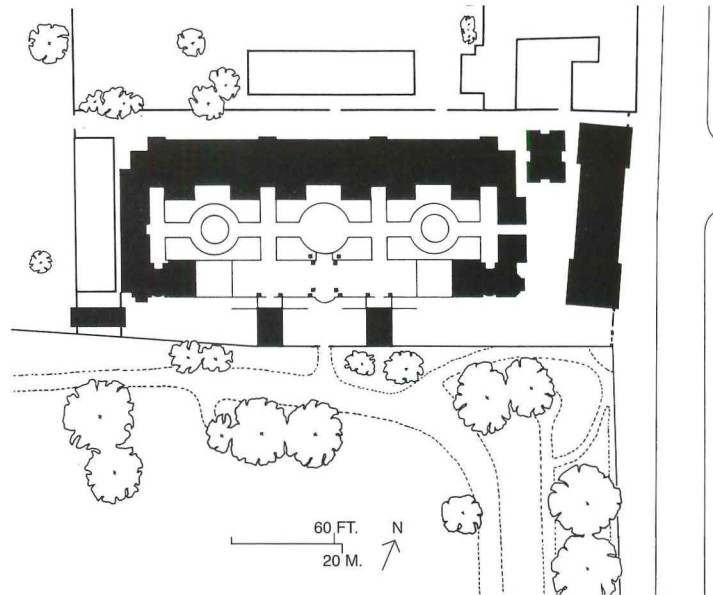
Garden Quadrangle
St. John's College, Oxford, England
MacCormac Jamieson Prichard
Architects

The conventional models for 20th-century additions to ancient colleges have been reinterpretations of the Medieval, often ecclesiastical, vernacular: courtyards, cloisters, monasteries. It is rare for a single formal influence to dominate. At MacCormac Jamieson Prichard's Garden Quadrangle student accommodation at St. John's College, Oxford, however, the central reference is to Hardwick Hall, in Derbyshire. This conceit arises from architect Richard MacCormac's wish to engage with the magnificent Fellows' (faculty members) Garden that adjoins the site. Ideas of the English country house and garden of various periods inform a number of aspects of the design.

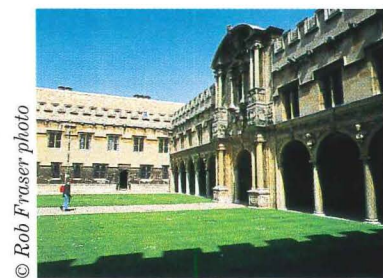
Hardwick Hall was built to the design of Robert Smythson in the last decade of the 16th century, some 40 years after the foundation of St. John's. Its most spectacular feature is a lively facade of glazed square bays. "Hardwick Hall/more glass than wall" was a much quoted rhyme in praise of the architecture. MacCormac's building has a still more frenzied facade, with six square bays and three kitchen belvederes squeezed in between them. The best student rooms crown these six bays and are like light-filled temples complete with glazed pediments. They overlook three more free-standing temple-like features—two short towers of fellows' rooms flanking a central summer house—as well as a new formal garden and the more picturesque Fellows' garden, the whole ensemble amounting to a compressed version of the Arcadian landscape of a country estate (two cylindrical lanterns for the lower-level conference rooms even resemble attenuated temples of the winds). The conventional organization of a country house such as Hardwick—a main stair and interconnecting rooms on each floor—has been rejected, however. Unlike at Hardwick, the verticality of the towers gives logical expression in the traditional Oxbridge arrangement of student rooms off a multiplicity of staircases.

The lower level represents an attractive solution to what must have been one of the main puzzles in the program: how to conceal a money-making conference center without destroying the college atmosphere. This facility is all but hidden from the casual passerby, yet conference-goers should have no cause to complain of being treated as second-class citizens, and they will doubtless go about their meetings oblivious to the happy symbolism in this level's being given over to base commerce, while the students' thoughts soar skyward above.

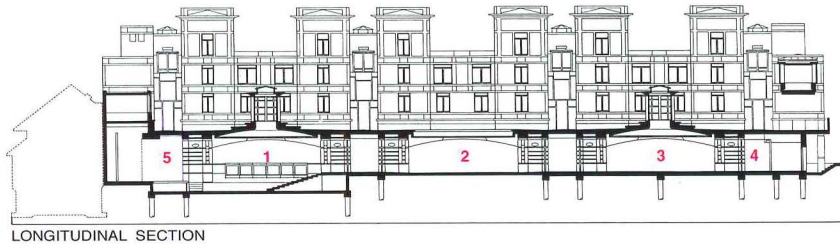
MacCormac invokes in his work the British architectural tradition of "maverick Classicism" of John Vanbrugh, John Soane, and the noted Scottish architect, Alexander "Greek" Thompson. He might have added Hawksmoor, Lutyens, James Stirling, and Terry Farrell. This is a British thread, sure enough, but perhaps also a rather British evasion of Modernity. After all, the French have made a rather good line in Neoclassical *jeux d'esprit*. But this has not made their architecture subservient to that tradition, as some British architecture appears to be. If the French reconcile the Classical and the Modern to occasionally produce the bombastic, architects like MacCormac humanize the Classical by reducing it in scale and giving great attention to details. For some, the result is, in a word of Hardwick's Elizabethan time, euphuistic: elegant but given to symmetry, antithesis, alliteration, and other stylistic devices. *Hugh Aldersey-Williams*



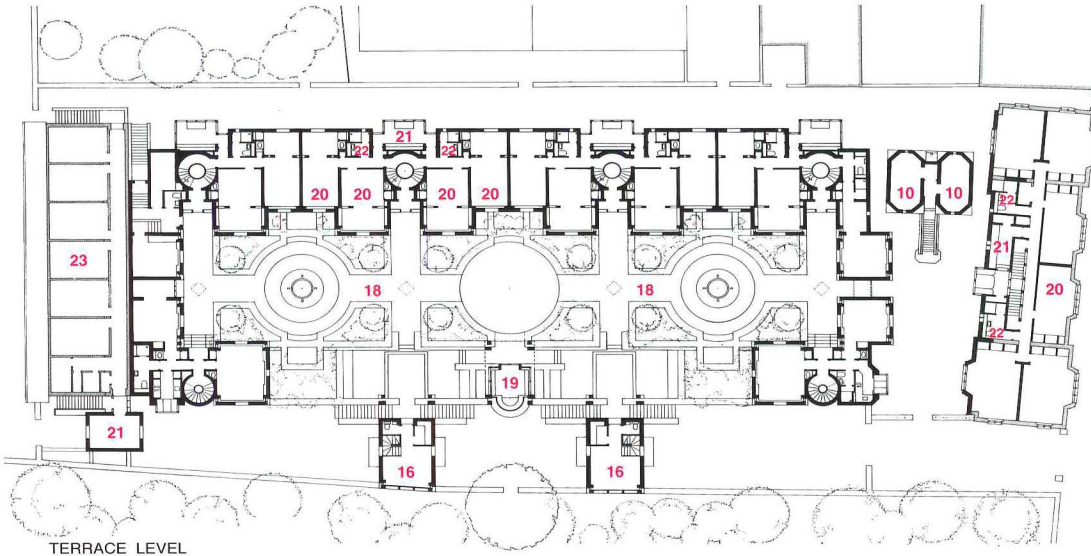
Three pairs of towers, such as those opposite, form the building's Hardwick Hall-like facade. This compelling silhouette makes a fitting addition to Oxford's "dreaming spires." The best rooms are temple-shaped glazed boxes at the tops of the towers. A shared kitchen has a scenic overlook, and the window seat on the second floor and the windowed entrance are stacked below to form a glazed slot between the twin towers.



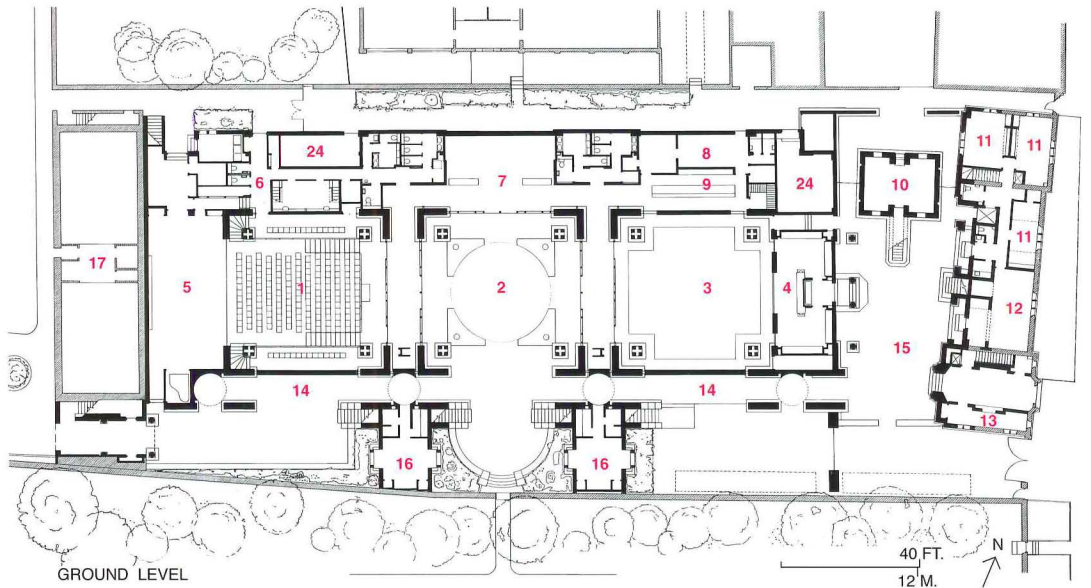




LONGITUDINAL SECTION



TERRACE LEVEL

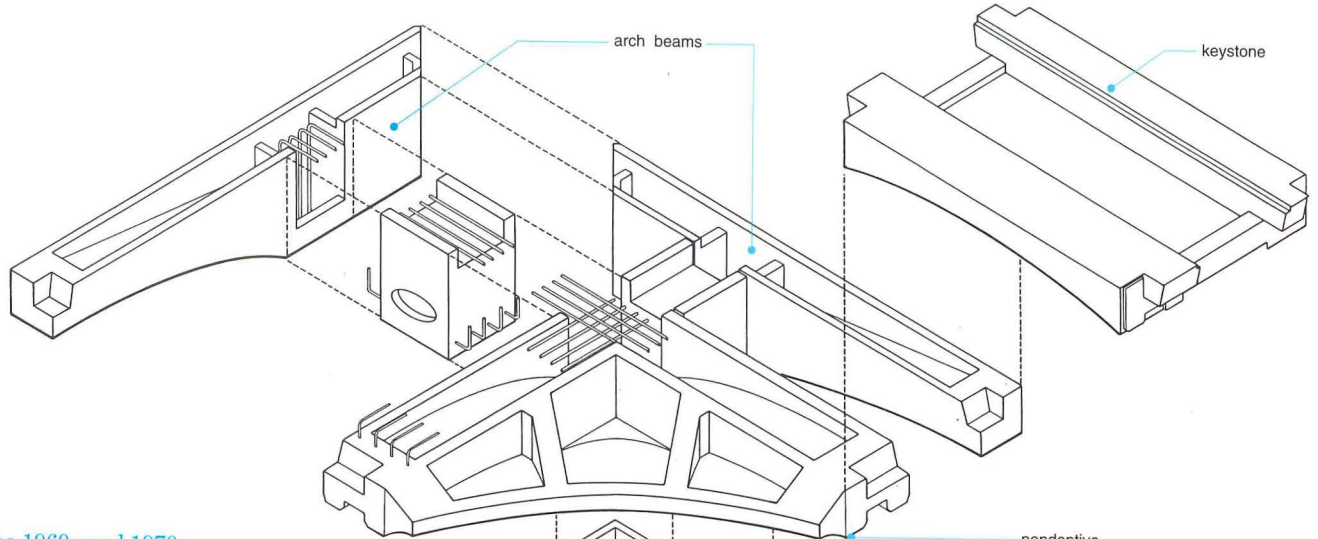


GROUND LEVEL

While it is the formalism of Mac-Cormac Jamieson Prichard's design that impresses both in plan and in elevation, the experience of the building itself is less oppressive, offering vistas that are almost picturesque. Project architect Jeremy Estop believes his firm wins its generous share of college commissions precisely because it promises such explicit references to the past.

But however grand the historical allusions, nothing can disguise the fact that those commissions must fit smaller, more awkward sites as colleges seek to fit more onto existing property. The surprisingly recent requirement that rooms have bathroom facilities en suite (a concession to visitors, not students) puts further constraints on architects.

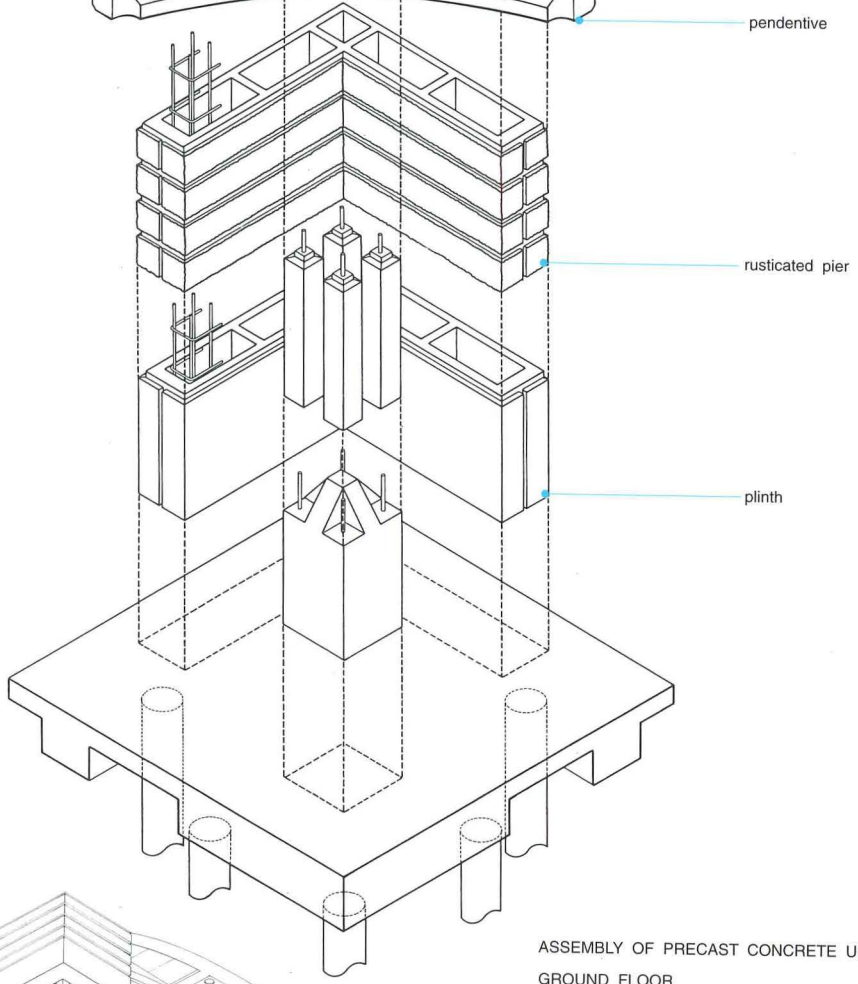
- | | | | | |
|----------------|-----------------|--------------------|--------------------|-----------------------------|
| 1. Auditorium | 6. Backstage | 11. Teaching room | 16. Fellows' rooms | 21. Kitchen |
| 2. Atrium | 7. Foyer | 12. Computer room | 17. Squash courts | 22. Shower room |
| 3. Dining room | 8. Kitchen | 13. Porter's lodge | 18. Terrace | 23. Existing study/bedrooms |
| 4. Museum | 9. Serving line | 14. Cloister | 19. Belvedere | 24. Plant room |
| 5. Stage | 10. Music room | 15. Courtyard | 20. Study/bedroom | |



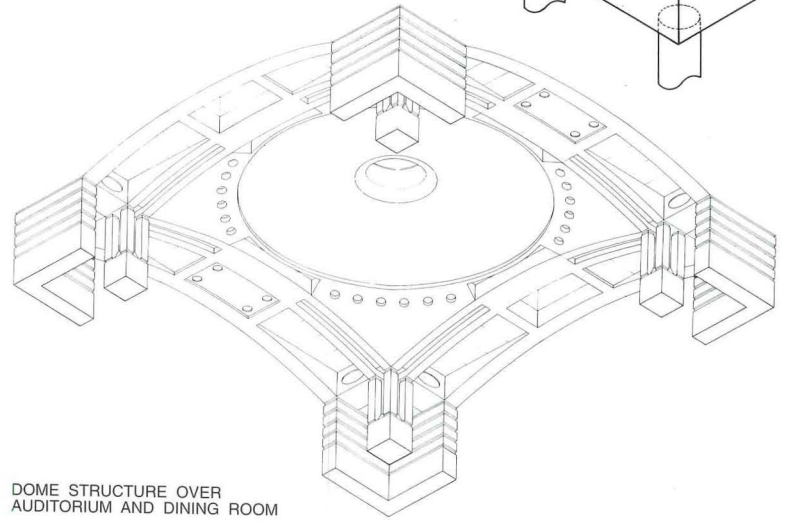
Up Close

Craft and concrete. The 1960s and 1970s generation of Oxbridge college buildings by architects such as Denys Lasdun, Arup Associates, and Powell & Moya made prominent use of precast concrete, a material that did much to discredit an entire architectural era. MacCormac's building makes abundant use of the same material, but new compositions and treatments, such as polishing, render it closer in appearance to stone and correspondingly more acceptable.

MacCormac has written: "Contrasts in finish...are intended to find a rhetoric for a material which has been misunderstood and undervalued in the past." The reproduction of traditional architectural features in these new materials leads to some awkward details, such as when the rusticated concrete piers of the meeting rooms abut directly into glazing cut to fit. Other "craft" materials produce some elegant features such as the lead-covered stainless-steel flashings that project from the cornice line of the towers. The difference between the two generations of college architecture is, perhaps, the fact that where craft content was once robust, yet understated, it is now both fussy and obtrusive.



ASSEMBLY OF PRECAST CONCRETE UNITS
GROUND FLOOR



DOME STRUCTURE OVER
AUDITORIUM AND DINING ROOM



A second-floor window seat (far left top), has a marvellous view of the gardens below. The apartments are compact but carefully detailed (left).

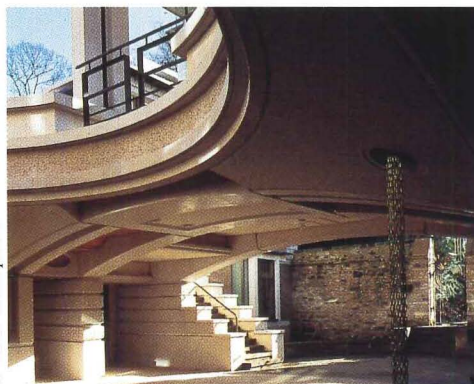
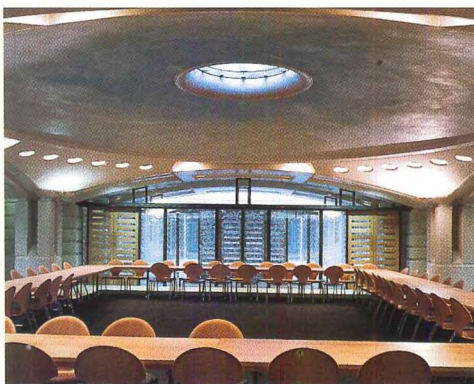
On the lower level, the mood is somber, with bays of low-slung arches somewhat like the undercroft of a Palladian villa. They articulate three large spaces—a theater and a refectory/meeting room (bottom left), both of which open onto a central courtyard (middle left and lower left). The chamber interiors are like jewel boxes, rich in color and detail, such as the reference to Soane in the lights over each wall. The gently-domed “lid” provides a rare glimpse of the contemporary use of fresco. Separate from the main building lies a two-story music-practice suite (opposite), heavily rusticated as if it were a Medieval fortified gateway—it is the folly without which no grand English garden would be complete.

Credits

Garden Quadrangle
St. John's College
Oxford, England

Architect: MacCormac Jamieson Prichard—Richard MacCormac, Peter Jamieson, partners; Jeremy Estop, project architect; Stephen Coomber, Nick Dodd, Toby Johnson, Reiner Langheil, Andy Lanham, Elspeth Latimer; Julian Lewis, Peter Liddell, Andrew Llowarch, John Paul, and Christian Uhl, project team

Consultants: Price and Myers (structural); The SVM Partnership (services); Northcroft, Neighbor, and Nicholson (quantities)
General Contractor: Try Construction Ltd.



© Peter Cook photo

© Peter Cook photo



From Courthouse to Prison

Courthouse Design: Growth Field Forms A Sure Market

By Tom Ichniowski

"There are a lot of local courts built between 1920 and 1960 that are now dysfunctional and in need of replacement," says David Hobstetter, a principal with Kaplan McLaughlin Diaz, San Francisco. For architects, that means "an immense amount of work coming up over the next 10-to-20 years," predicts Don Dwore, partner with Spillis Candela & Partners, Coral Gables, Florida. F. W. Dodge reports contract value for non-federal courthouses, capitols, and city hall projects hit \$1.3 billion in 1995, up from \$996 million the year before.

The state and local court market is enticing, but it poses challenges. Unlike the federal program, there is a lack of standardization. Sometimes local decision-makers aren't familiar with courts' special design requirements or the latest developments. And with the work so decentralized, it can be difficult to identify prospective projects.

Still, the needs are clear. Once-sleepy rural counties "are now turning into these booming bedroom communities," says Gary P. Haney, director of architecture in Skidmore, Owings & Merrill's Washington office. Drugs, drunk-driving, and domestic disputes fill local dockets. And with more people jailed, the need for courts and space for probation departments, district attorneys, and public defenders expands.

There are big differences between federal and non-federal court projects. At the local level, courtrooms and support spaces tend to be smaller. For example, Dwore calculates it takes 9,000 to 9,500 square feet to support one federal district judge, including a 2,400 square-foot courtroom with 14- to 18-foot ceilings. Local judges need 6,000 to 6,300 square feet, including 1,400- to 1,800-square-foot courtrooms with 12- to 14-foot ceilings. But *local* doesn't mean *little*. For example, Kallmann McKinnell & Wood Architects is designing a \$74-million, 400,000-square-foot Suffolk County Courthouse in Boston. It's just one project in a \$360-million Massachusetts court renovation and construction program. Another \$583 million is before the legislature.

Tom Ichniowski is the Washington, D. C., bureau chief for Engineering News-Record.

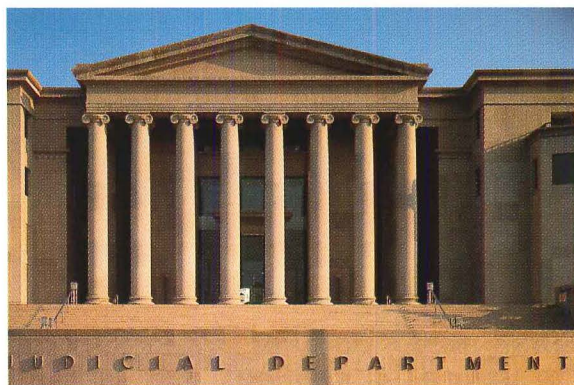
Tighter controls and looser standards

For state courts, "first cost is usually more tightly controlled" says Thomas G. Pinkerton, justice-architecture director of Hansen Lind Meyer's Charlotte, North Carolina, office. And federal court planners usually add more space for future expansion. Initially, this is for judicial-related offices, but is designed for eventual conversion to courtrooms. To hold costs down, judges share courtrooms. Dwore also sees a trend towards court-sharing by multiple jurisdictions. His firm is on a design-build team for a three-city justice center in Georgia.

Architects on federal courts use the design guide issued by the Administrative Office of the U. S. Courts. Local officials may have lots of experience with other types of construction, but they may need a new courthouse once in a generation. In some instances, "They need expert advice they may not know they need," says SOM's Haney. Although the National Center for State Courts, Williamsburg, Virginia, does issue a design guide, jurisdictions' specifications vary. But HLM's Pinkerton sees the lack of standardization as a plus: It allows more flexibility of design for a given use. Gyo Obata, design principal of Hellmuth, Obata & Kassabaum, notes, "Federal security guidelines are very strict. There must be three means of circulation" to separate public, judicial staff, and prisoners." But, many states are tightening security too.

A local desire to be open to the community can work against security, notes Theodore Prudon, a principal with Swanke Hayden Connell, New York City. He recalls that the local police wanted such security features as bulletproof materials and panic buttons for one project. But the judges decided against them. They didn't want to be that separated from their constituents.

New courts incorporate new technology. Some use video conferencing for arraignments, says Don Hardenbergh, president of Court Works, a Williamsburg consultant. Another development: monitors that allow jurors to view evidence. HLM's Pinkerton also says some facilities will have machines similar to automatic bank tellers inside their lobbies, which people can use to file motions or look up cases. Some courts, he says, are permitting personal electronic codes instead of handwritten signatures. Judges revere tradition. But particularly at the state level, Pinkerton says, "Technology is almost taking them by storm now."



The State of Alabama Judicial Building (following pages) carries through local expectations of justice's dignity.

But, despite reasonable costs, the building may appear too extravagant for many jurisdictions' tastes.

"The phenomenal growth in jail and prison construction reflects the dynamic social, political, and economic forces of the 1990s," says Barbara Nadel (below). The same can be said of courts, but

Tom Ichniowski sees far less growth (opposite page). The two authors explore the opportunities and problems for architects who seek and design such projects. C. K. H.

Prison Design: Elusive Opportunities In a Big Field

By Barbara A. Nadel

"Curing crime is and will remain a major growth industry, especially if we continue to lock people up and throw away the key," says architect Jon Gomberg with the Federal Bureau of Prisons. From rural North Carolina to Minnesota's flatlands, prison populations are rising, while new maximum-security facilities house increasingly older and sicker inmates. As courts pass longer sentences, the need for additional beds in prisons and county jails will grow.

The numbers tell the story. In June 1995, American federal and state prisons housed over 1.1 million inmates, up by 90,000, or 9 percent, from 1994. That doesn't include the 500,000 people detained or awaiting trial in county jails. According to the National Institute of Corrections, 40 to 60 new state prisons go on-line annually, with over 100,000 new prison beds planned in 74 new facilities and 78 renovations in 1994, at a cost of over \$6 billion. The 1994 Federal Crime Bill includes \$8.5 billion for new prison construction. Construction costs for new maximum-security facilities range from \$80,000 per bed in rural areas to a high of \$125,000 in New York City.

Emphasis on low cost

"The 1994 Crime Bill was not designed to be the architects' relief act," Marlene Beckman, U. S. Department of Justice special counsel, told last year's AIA Prison Construction Summit. Architects are now only one of many groups in this booming, highly competitive, specialized market. They benefit when new projects are bid competitively by various levels of government. Agencies with large in-house design and construction staffs, however, prefer to carry out their own projects, reducing private sector opportunities. Some private companies, contracted by governments, use a small in-house staff to design, build and operate standardized facilities across the country, eliminating local design and construction opportunities. Others, like Nashville-based Corrections Corporation of America, hire local consultants.

Barbara A. Nadel is principal of Barbara Nadel Architect in New York City, and specializes in programming, planning, and design of correctional, health, and institutional facilities.

In any case, correctional departments are seeking fast, cheap ways to add more beds and relieve overcrowding. "Our clientele doesn't appreciate a normal environment," says Gomberg. "We're building more austere federal prisons, using clean sight lines, durable materials, and electronic security." Double bunking, for example, requires minimal capital investment, while doubling bed capacity. Standardized, prefabricated-steel or concrete components and especially cells, designed and installed by outside manufacturers, are another low-cost route to enlarging capacity.

"County correctional facilities offer more opportunities for architects than state prisons," says New York architect and corrections consultant Curtiss Pulitzer. "County jails are often downtown, near the courthouse, requiring unique urban design solutions." At the state level, adapting cookie-cutter designs to specific sites offers fees of 1 to 1.5 percent, although fees for facilities designed from scratch are higher. Using a prototypical kit-of-parts has been a trend since the mid-1980s in California, Tennessee, Pennsylvania, and Florida.

Specialized needs are most promising for architects:

- Mental-health facilities—especially substance-abuse centers—are being built by the Federal Bureau of Prisons, among others.
- New regional prison hospitals operated by correctional departments bring health facilities closer to prisons and reduce transportation costs, security risks, and officer overtime.
- Recycling buildings can answer these needs and more. The Federal Bureau of Prisons is developing regional medical-detention centers on closed military bases. At Fort Devons, Massachusetts, an \$85-million conversion project includes renovation of a 30-year-old Army hospital to a prison hospital, new psychiatric hospital, and staff housing.
- Geriatric-care facilities result from longer sentences and a larger, graying inmate population. Prison nursing homes and hospices for this typically nonviolent group may be viable alternative uses for surplus community hospitals.
- The percentage of women behind bars is also rising rapidly, exceeding 6 percent of the total state inmate population. Most women are nonviolent offenders with shorter sentences because they are more frequently convicted of drug and property offenses than violent crimes. But as more women enter the correctional system, additional medical and mental-health facilities will be needed to address the needs of pregnancy, substance abuse, and nursery care. ■

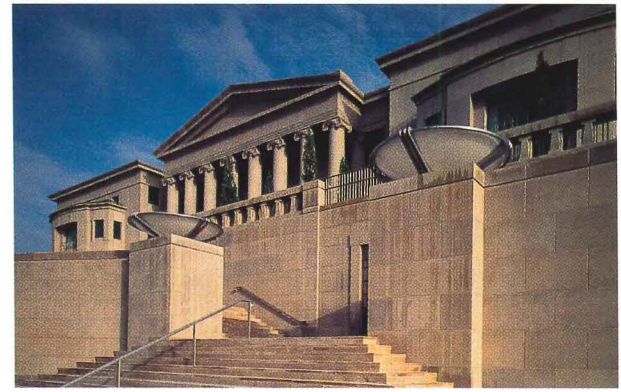


The Kent County Correctional Facility (following pages) embodies many of the operational economies that administrators expect.

But its high-profile design is a special case because its conspicuous location is on a gateway artery leading into Grand Rapids, Michigan.

The Alabama Judicial Building

Montgomery, Alabama
Barganier Davis Sims Architects Associated
Gresham Smith & Partners, Associated
Architects

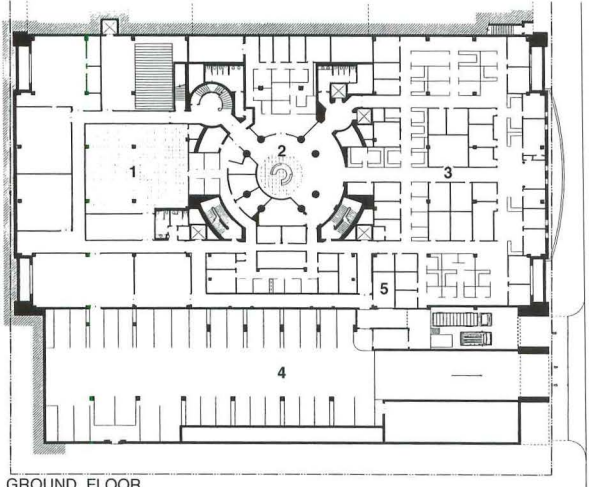
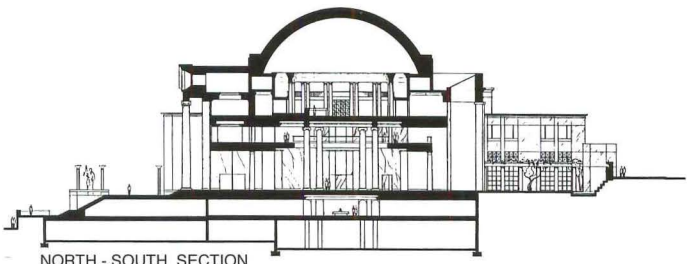


© Gary Knight & Associates photos

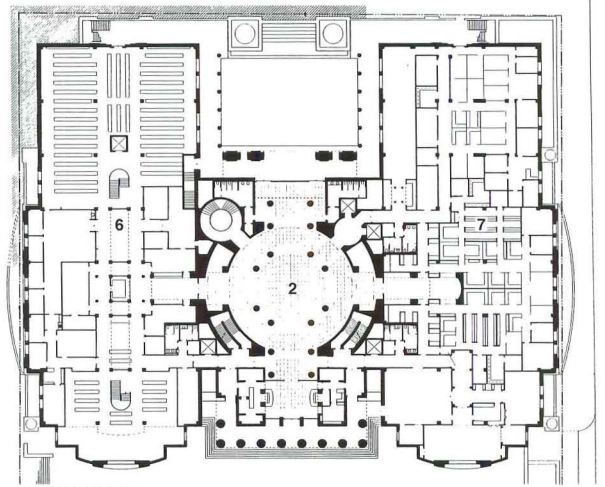


For the highest court in Alabama, architects Barganier Davis Sims, together with Gresham Smith & Partners, met local expectations of a dignified judicial edifice on a surprisingly modest budget, and produced a thoroughly modern building at the same time. The \$33-million, 241,000-square-foot, poured-concrete structure is clad in granite and Indiana limestone. The central portion takes as its prece-

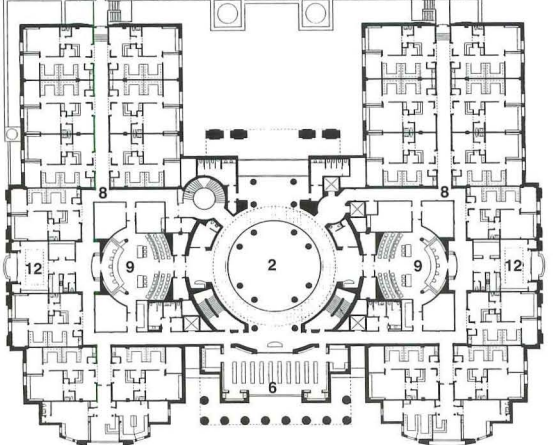
dent John Russell Pope's Jefferson Memorial. Its 45-foot-high solid-stone columns were shipped in seven-foot sections so heavy that a flatbed could carry only two at a time. The flanking wings, however, are designed in a contemporary vernacular that manages to blend with the classic into an integrated whole. Inside, the central organizing element is an imaginary 100-foot-diameter sphere centered under the dome.



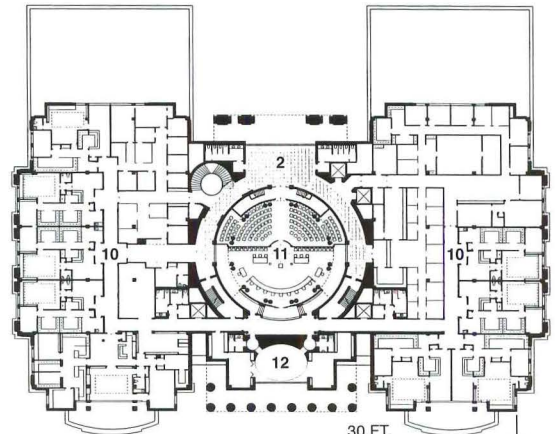
GROUND FLOOR



LOBBY FLOOR



SECOND FLOOR



THIRD FLOOR

- 1. Backup services
- 2. Lobby
- 3. Administration
- 4. Parking
- 5. Security
- 6. Library
- 7. Clerks
- 8. Judges
- 9. Appeals court
- 10. Justices
- 11. Supreme Court
- 12. Conference

The top half contains the third-floor supreme court chamber (opposite) and the bottom half defines the rotunda below, the main space accessible to the general public (section and plans, previous page). Two other courtrooms on the second floor are for civil and criminal appeals, although the majority of cases is decided in deliberation among the 10 justices of the supreme court or the 22 judges of the

appellate courts. Accordingly, the architects have made the conference rooms (opposite, top) as comfortable as possible for prolonged periods of use. The lobby floor contains the state law library (opposite, bottom) and offices for the appeals clerks.

One particular challenge was absorbing the echo of the domed supreme-court chamber. Smooth-surfaced, perforated-metal

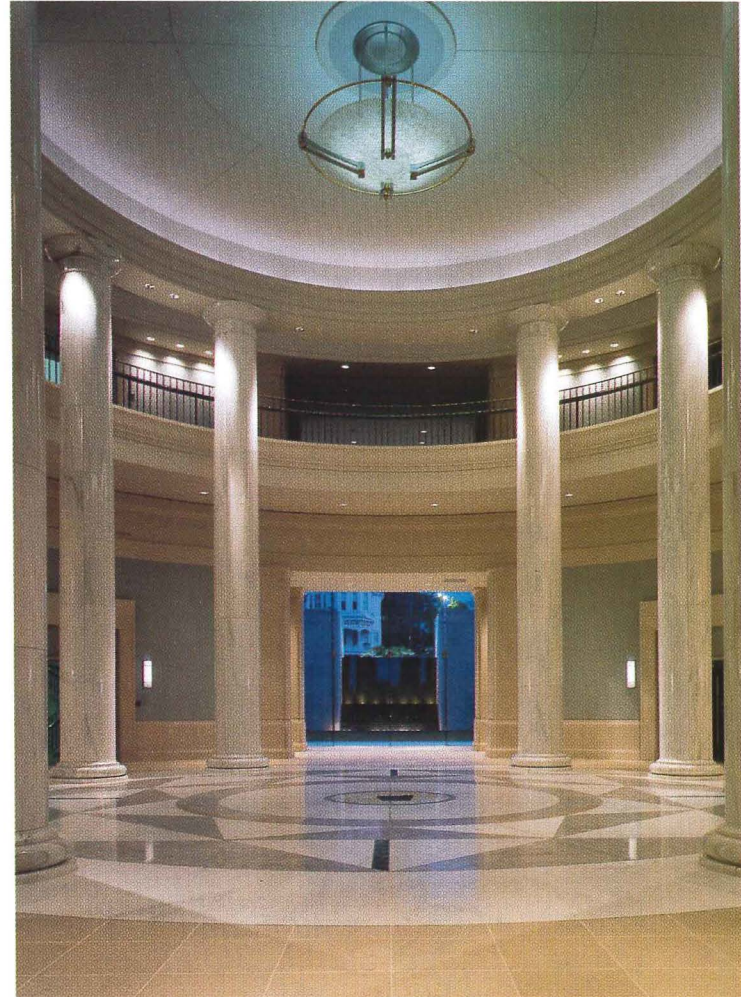
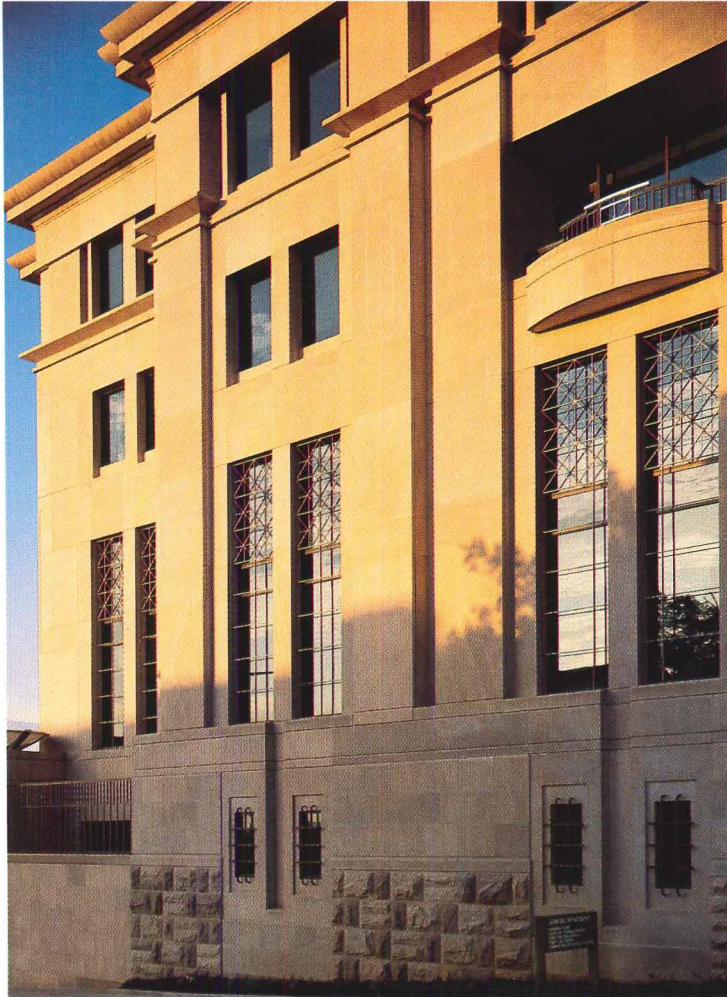
panels backed by acoustical fabric similar to those used in planetariums solved the problem. The building contains the latest in electronic security controls including an elaborate video/key-card system that monitors all doors from a central location.
Charles K. Hoyt

Credits

Alabama Judicial Building
Montgomery, Alabama

Associated Architects:

Barganier Davis Sims Architects Associated—James Barganier, Dart Davis, Lee Sims, principals-in-charge; Lee Sims, design principal; Jeffrey Owens, Ray Williams, associate designers; Tom Tillman, Jules Thornton, construction administrators; Gresham Smith & Partners—Robert Gower, president; Charles Alexander, principal-in-charge;





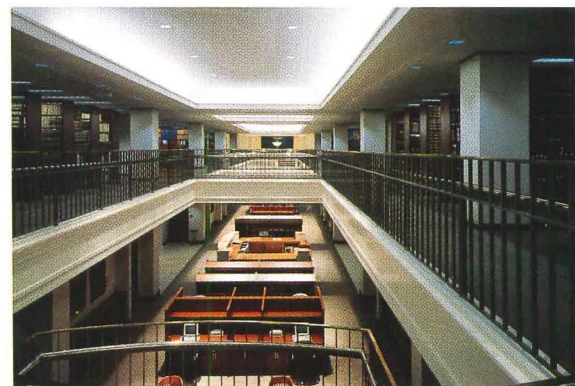
Tim Barron, project architect; Kusrin Dhamawongse, Carl Exford, Laura Harchelroad, Diane Luhrs, Holden McCurry, Oscar Pardue, Benita Petty, Wallace Williams, production team; Charles Sowell, landscape architect

Engineers: *Gresham Smith & Partners—Jack Deuss, Carl Samppala (structural); Rick Wilson (mechanical); George Johnson (plumbing); Mike Flynn*

(electrical); Goodwyn Mills & Cawood, Inc. (civil)

Consultants: *Dr. R. Wayne Drummond (courts); Space Management Consultants, Inc.—Dr. Michael Wong (programming); Gary Steffy Lighting Design, Inc.—Jeff Brown (lighting); The Joiner-Rose Group, Inc. (acoustical)*

General Contractor: *Brasfield & Gorrie*

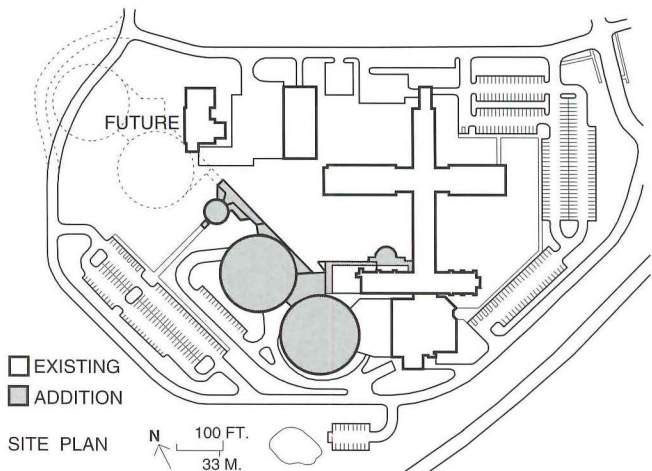
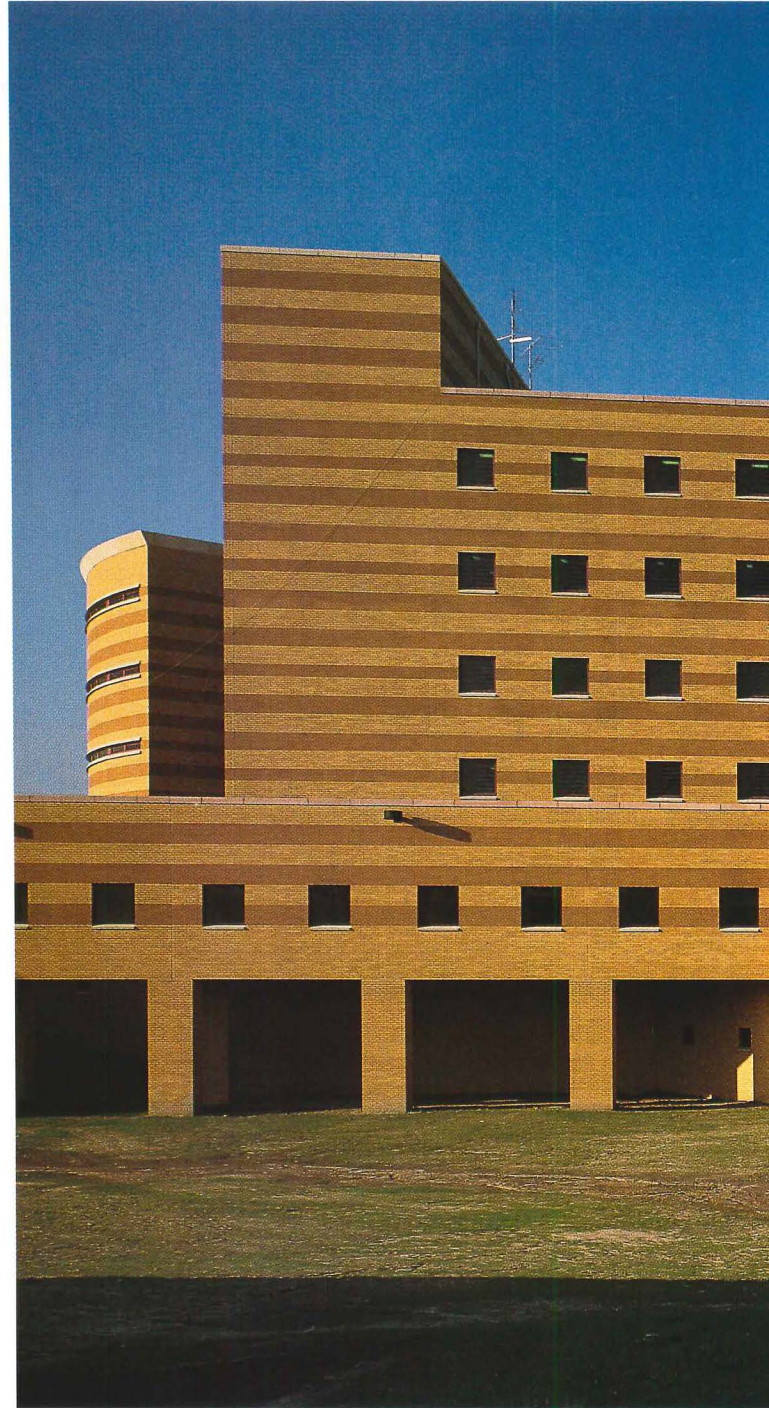


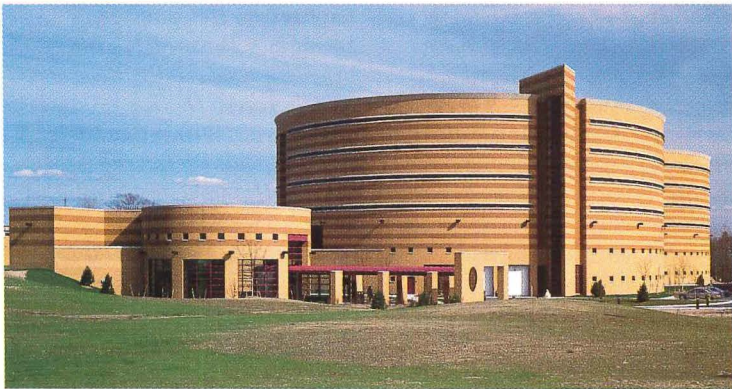
Kent County Correctional Facility

*Grand Rapids, Michigan
Kenneth Neumann/Joel Smith and
Associates, Inc., Henningson, Durham &
Richardson, Inc., and The Design Forum,
Associated Architects*

With this addition to a county prison for short-term inmates, associated architects Neumann/Smith, the Design Forum, and HDR met the most sought-after criteria of administrators today: security, economy, efficiency, and speed of construction. The project is unusual by current detention-facility standards, however, because its highly visible location on a main artery leading into Grand Rapids called

for outstanding design. Basic criteria are met by circular cell blocks. One guard in a central control booth monitors 96 cells located on two levels (plans and section overleaf). Requirements to segregate prisoners by age, sex, and seriousness of crime are met by walls radiating out from each booth. The pie-shaped divisions are self-contained units, where prisoners live, eat, and are released in shifts through elec-





tronic doors to a mesh-enclosed exercise area. This further reduces the need for guards who would normally have to escort prisoners to dining halls and distant playing fields. Low-risk prisoners can also be released through remote-control doors to psychiatric-counseling, substance-abuse rehabilitation, and job-training facilities. These are located in the triangular central core of the addition (see plans,

following pages), where they pass a second control point at the apex. Separate circulation routes for prisoners and visitors are provided in this core area by confining visitors to mezzanine-level corridors and prisoners to the cell-blocks' main floor levels. Prisoners are brought up or down to visitation rooms by a separate elevator.

To accomplish design in three



© Glen Calvin Moon photos

months, two teams from Neumann/Smith and HDR worked closely with the prison administration on site during intense programming and early design charettes in which they quickly worked out the circular floors and triangular core area. Neumann/Smith then went on to refine the overall building design while HDR worked out the detailed technical and security requirements. The program was

to more than double the previous capacity to 880 inmates and contain all prison services for an eventual capacity of 1,200.
Charles K. Hoyt

Credits

*Kent County Correctional Facility
Grand Rapids, Michigan*

Associated Architects:

*Neumann/Smith Associates—
Kenneth Neumann,*

*principal-in-charge; Kenneth Neumann, Art Smith, project designers; Patrick Macoska, project architect; Henningson, Durham & Richardson, Inc.—
Su Cunningham, principal-in-charge; Sharon Schmitz, project manager; Roger Stewart, programmer; Robert Price, project designer; The Design Forum—Neale Bauman, contract administrator; Bill Skallos, field architect*

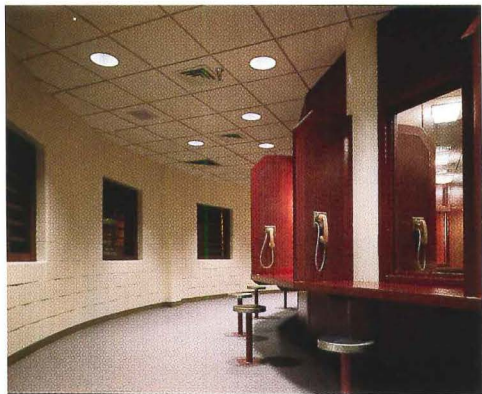
Engineers: *Henningson, Durham & Richardson, Inc.—
Vince Ellwood (civil); Steve Punch, Teresa Dellies (structural); Steven Chandler; Wilma Dohanich (mechanical); Charles Hyman (electrical); Cliff Isom (security)*

Consultants: *Foodesign (food, laundry); Hopper/Sheeran, Inc. (soils)*

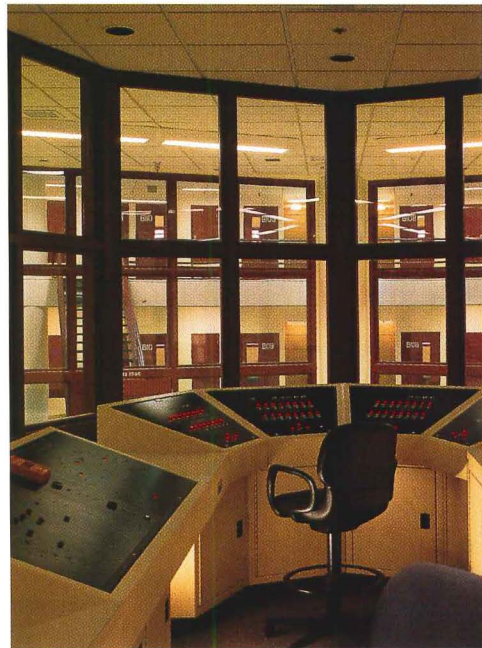
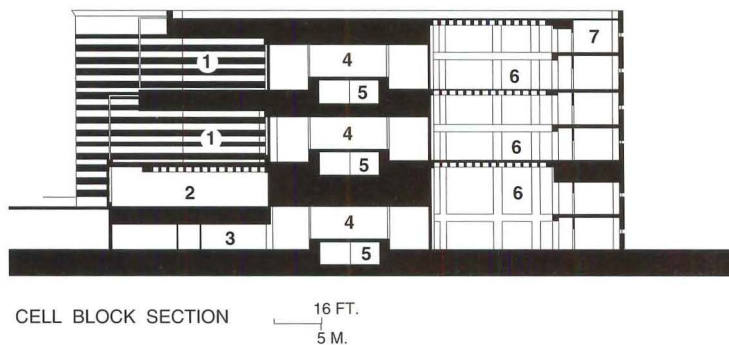
General Contractor: *Perini Building Company*



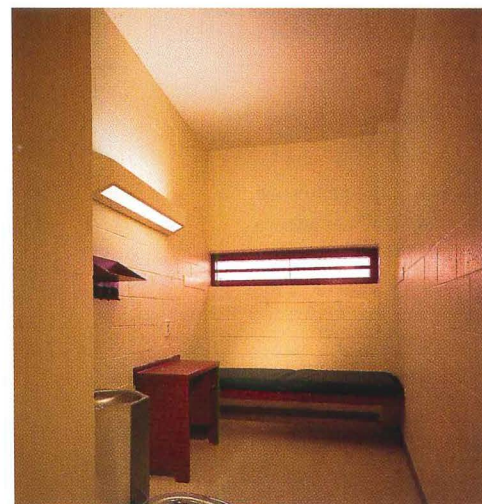
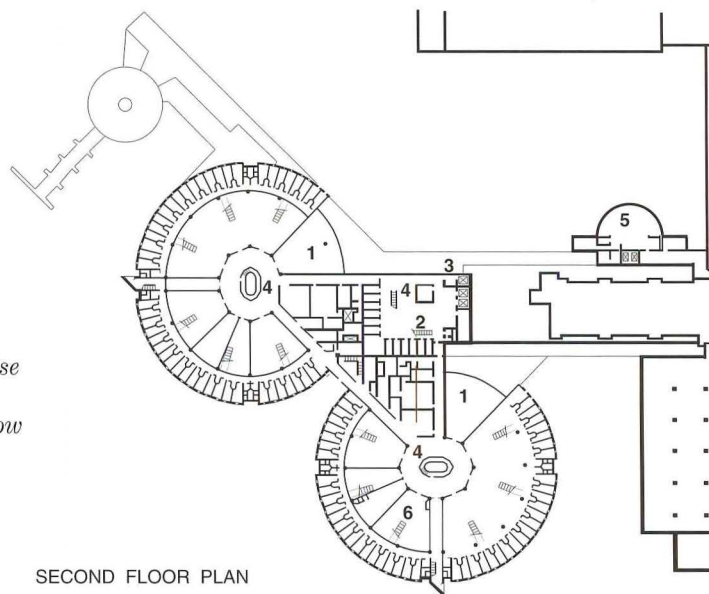
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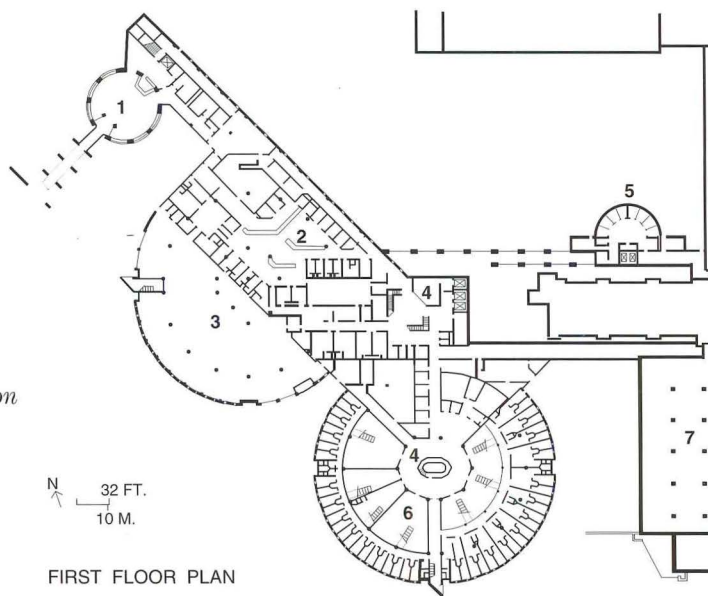
1. Outdoor exercise
2. Mechanical
3. Lobby
4. Control
5. Electrical
6. Day room
7. Cells



1. Outdoor exercise
2. Interview
3. Public hall below
4. Control
5. Visitation
6. Day room



1. Visitor lobby
2. Inmate reception
3. Sallyport
4. Control booth
5. Visitation
6. Day room
7. Existing



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Letters continued from page 4

aware of the potential overcrowding and is hard at work to develop a masterplan for the future development of the Mall. However, it is the U.S. Congress that has pushed, or at least approved, the placement of all the memorials on the Mall. If the design community wants to proffer objections, we need to do so to the Congress and the National Park Service, not to other designers.

As to the approval process for projects on the Mall, yes, it is cumbersome, but we shudder at the thought of where we would be if it were not in place. The Commission of Fine Arts, and some of the other reviewing agencies, have the capacity, as well as the obligation, to rise above political pressure and the frequent cargo of bad taste that may come with it. Maya Lin's concept for the Vietnam Veterans Memorial was immediately recognized by the design community as a potentially great work of art almost from the moment it was presented to the public. It was vehemently attacked by a few powerful political figures, not the least of whom was the Secretary of the Interior at the time. As architects for that project, we desperately needed help from the Commission of Fine Arts and its chairman, J. Carter Brown, to get it approved as designed. And we got it. Had that review and approval process not been in place, I have no doubt that the design would have been radically altered or never built at all.

The Korean War Veterans Memorial was just the reverse problem. It was selected through a similar process to Vietnam (e.g. a national design competition), but the competition and the winning composition both had some serious flaws. All the reviewing agencies had severely criticized the competition winning design as too big, too cumbersome, so fraught with obscure symbolism as to mystify the visitor, and totally chaotic in circulation. With the Vietnam Memorial, the problem was how to use the review and approval system to save the design; with Korea, the question was how to use that same system to improve the design.

Unfortunately, the original designers had not previously faced the labyrinth of the D.C. approval process and withdrew from the contract rather than make changes. And we at Cooper•Lecky, now in the role of architects and designers for the project, went through multiple designs, multiple presentations, and daunting heartache along the way. We were faced with the problem of trying to retain some of the thematic content from the original competition while also attempting to create a memorial which honored the Korean

Veterans but also offered a universal message about the concept of service to country.

In the end, it was Carter Brown and his Commission that pushed the design toward its present configuration. That is not to suggest that they brought pencils and tracing paper and made hard design proposals, but they provided the taste test that all designs had to satisfy. This is not said to disparage the original competition winners, nor is it said to lay praise on the present design, but this is one case where the "cumbersome review process" saved the day. As long as the men and women who make up those reviewing entities are people of both vision and good taste, they deserve our praise, not our criticism.

*W. Kent Cooper, William P. Lecky
Cooper•Lecky Architects
Architects of Record for the Vietnam Veterans Memorial
Architects for the Korean War Veterans Memorial
Washington, D. C.*

Calendar continued from page 4

Conference and Trade Show on April 12 and a Conference on Alternative Transportation April 10-12. Call 818/906-2700; fax 906-0367 for details.

April 17-18

Buildings/New York exhibition and trade show of building products from 450 manufacturers; New York Coliseum. Call 203/840-5608 (attendees) or 203/840-5808 (exhibitors).

Through April 14

"A Recent View of Architecture: Photographs by Paul Warchol" exhibition; National Building Museum, Washington, D.C. Call 202/272-2448; fax 272-2564 for more information.

Through April 19

"Six Bridges: The Making of the New York Megalopolis" at the PaineWebber Art Gallery, 1285 Avenue of the Americas (51st Street), New York City. An exhibition of the six bridges designed by Othmar H. Ammann. Call 212/713-2885 for information.

Through April 30

"The Chicago and Midwest Villa," an exhibition of new residential architecture and restorations in Chicago and the midwestern states, will be held at the Chicago Athenaeum. Call 312/251-0175.

continued on page 124

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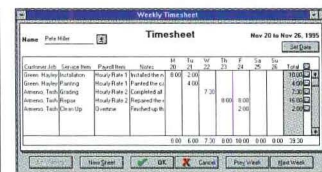
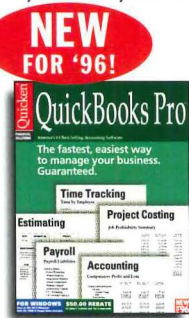
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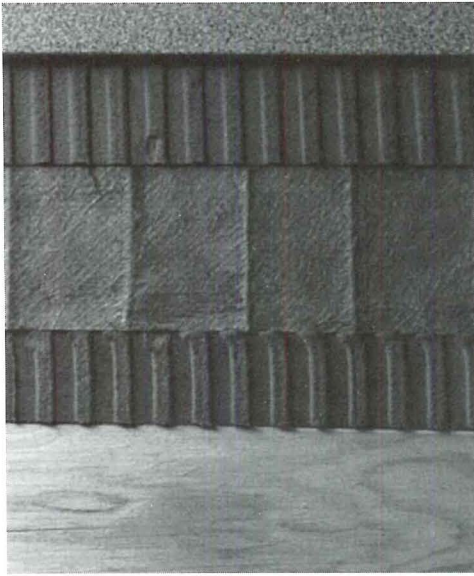


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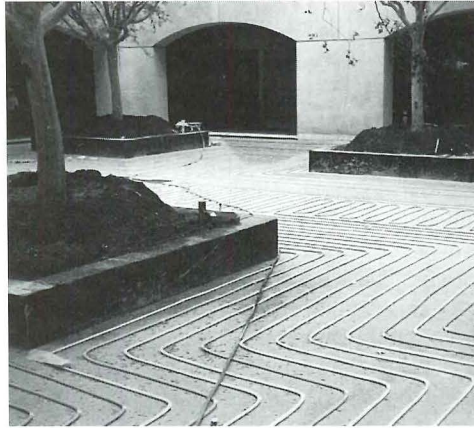
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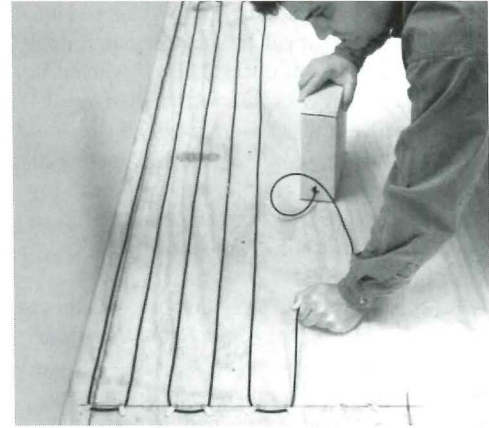
New Products



171. Under-tile radiant heat. The Nuheat system, a UL- and CSA-listed electrified mat that draws 12W psf, needs only 1/8-in. of depth, and can be installed as part of a thin-set tile floor, as shown. Mats come in sizes up to 9-ft-sq, and provide all the heat usually needed in a smaller space such as a bathroom; can be custom ordered to fit the angles of a supplied floor plan. 800/778-WARM. Nuheat Industries, Blaine, Wash.



172. Horizontal radiator. Capable of cost-effectively supplying the heat needed for an entire house, the Heatway under-floor system distributes heat-transfer liquids via an industrial Entran hose, a UL-listed component that resists high temperatures, long-term exposure to concrete, and hydrostatic pressure. (Photo shows the system installed in a courtyard at the Armand Hammer Museum, Los Angeles, prior to the concrete pour.) Tubing can be placed in the mud bed of tile floors, and stapled to the underside of plywood subfloors. Technical binder offered. 800/255-1996. Heatway Radiant Floors/Snowmelting, Springfield, Mo.



173. Electric underfloor system. A new product from a manufacturer of electrical-resistance heating cable for many commercial and residential applications, Warm Tiles has been designed to heat ceramic, marble, concrete, and similar cementitious or stone floors—but not as the primary source of space heat. Cables come in lengths to warm up to 120 sq ft of floor, and are placed before the setting bed (top). A 120V thermostat (above) allows a number of operating modes. Technical information for Warm Tiles and more commercial systems available. 219/654-3144. EasyHeat, Inc., New Carlisle, Ind.

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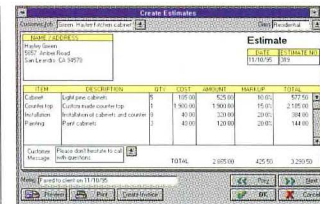
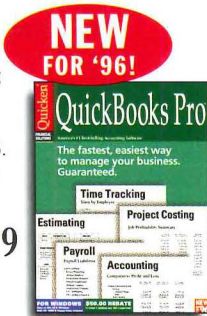
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174. Sheltering roofs. A vendor specializing in curving profiled metal panels offers a selection of roof designs particularly suited to transit applications, such as this bus shelter. The architect may specify almost any desired radius or angle of curvature. 800/899-0311. Curveline, Inc., Ontario, Calif.
Continued on page 117

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FROM THE MAKERS OF QUICKEN®

Security *continued from page 45*

according to Mary Smith, a security expert with Walker Parking Consultants, of Indianapolis, even though 8.5 percent of violent crime occurs in parking facilities. Other CPTED strategies include open or glassed-in stairs and elevators, open, clear plans with as few columns, walls, and other hiding places for criminals as possible. Site plans should focus pedestrian activity rather than disperse it.

A building amenity can become good defensive architecture. A high-tech learning center will adjoin the library at Temple University, in Philadelphia. Because the building will be in operation around the clock, the Philadelphia office of Bohlin Cywinski Jackson arranged study areas around an open atrium that connects all floors. The light-filled space is not only a celebratory beacon to the campus at large, it gives clear visual field across all floors and offers attractive gathering places.

In security design, there's no base line, no one-size-fits-all approach. That frustrates designers, says Hatzis. "Architects ask me to give them a place to start, but there is none. We have to start from zero each time." There's no "bible" of CPTED, no minimum standards about what entry points should be controlled, what kind of vertical control for visitors and tenants is necessary, or even what controls should accomplish, he says.

Designing for the worst case

Knoop designed the U.S. Embassy in Somalia, which, in 1989, had only been occupied for a few months when the government collapsed, provoking an uprising. "It was one of the first buildings that complied with the Omnibus Diplomatic Security and Antiterrorism Act of 1986," explains Knoop, "which required 100 feet of standoff distance between embassy buildings and any unsearched vehicles." The compound was successfully evacuated by helicopter.

"At an abortion clinic," says Rykert, "you can't have people walking in off the street, even though this philosophy is at odds with the intended purpose of such facilities and of the people who work in them." Such a dilemma faces a number of groups, according to Bruce Hoffman, a security expert at St. Andrews University in Fife, Scotland. The Murrah Building was apparently targeted in retaliation for deeds done by the Bureau of Alcohol, Tobacco, and Firearms; other targeted groups have included the Internal Revenue Service and Jewish community organizations. It is not out of the question,

Rykert says, for threatened clients to consider biometric access controls, such as fingerprint scanning, hand-geometry patterns, voice-pattern scanning, or in extreme cases, eye-retina scans. (These use low-level lasers to compare blood-vessel patterns against a database.) But Rykert recognizes that many clients will find risks too high to accept or too costly to alleviate, forcing the shelving of a project or a move.

While some facilities are potential targets due to the philosophies or activities of the groups that inhabit them, others become targets because they are centrally located or highly visible (the World Trade Center). "Many buildings are potential targets just because they are big or owned by multinational companies," says Knoop.

Can you bombproof?

Damage inflicted to building structures from the detonation of explosive devices has only recently come under scrutiny by the building industry. Before that, it was exclusively a military domain. Focusing on the structural system makes sense, since damage to the building structure can lead to progressive collapse as in the Murrah building, reports Knoop. Since World War II, a large body of

information has been collected on the effects of blasts on military facilities. Although less is known about the performance of office buildings, "there is sufficient knowledge and technology available to assist skilled designers in developing structural systems to resist at least some of the effects of a blast," says Knoop. Lorrion's Massa has developed BombCAD, an architectural analytical security tool that estimates a building's blast vulnerability and helps to plan its defense.

Unless the world becomes a much safer place, the decision as to how much security is needed will remain difficult. "The point is," says Rykert, "to use the least amount of security, restricting operations as little as possible, and still protect people, property and premises."

Further information

AIA offers abstracts of a conference and four monographs on CPTED, each \$2.50. AIA Research 202/879-7750.

"Violence in the Workplace," item 145998, \$50 member, \$100 non-member, published by the International Facility Management Association, 1 East Greenway Plaza, Suite 100, Houston, TX 77046-0194; 800/359-4362, 713/623-6124 (fax). ■

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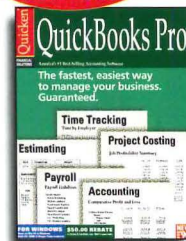
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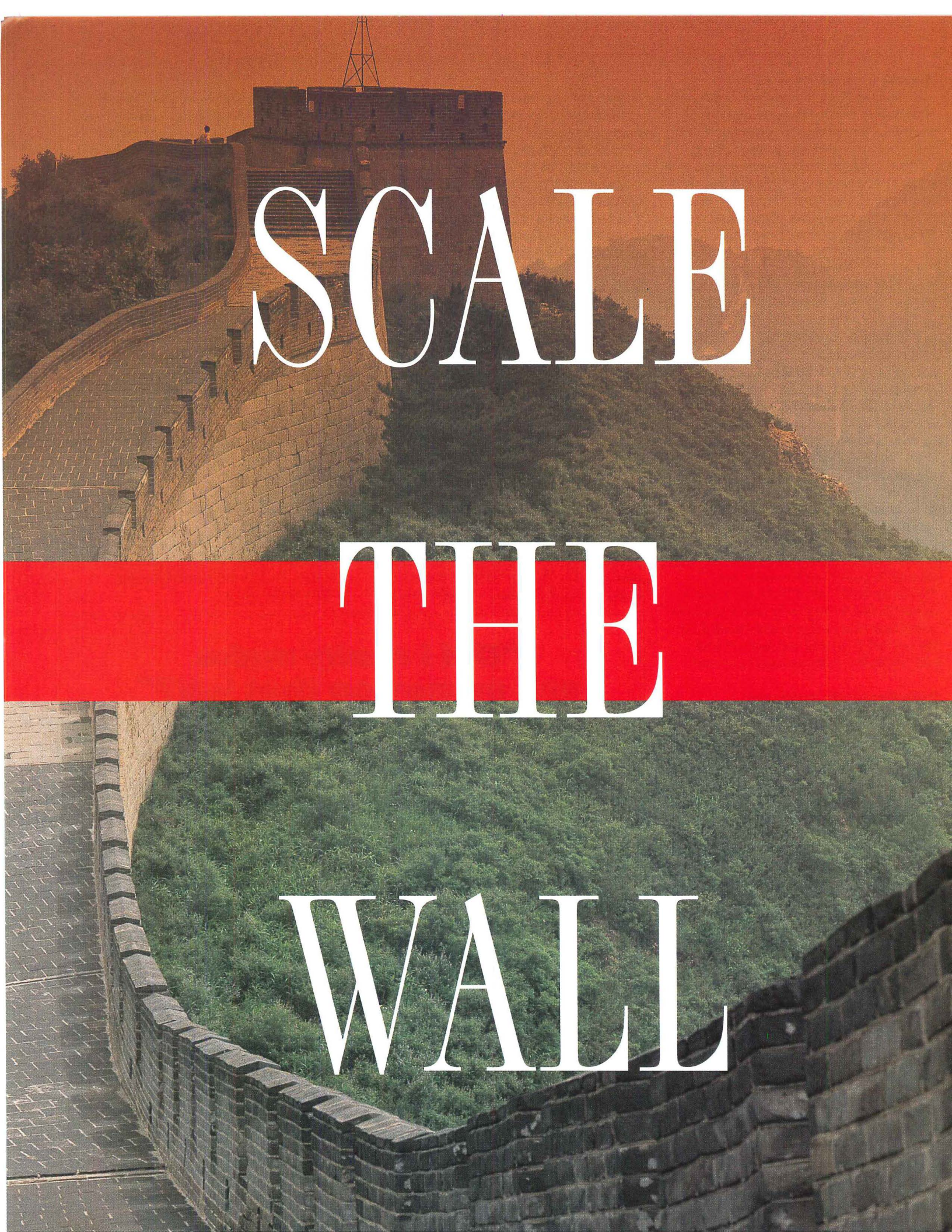


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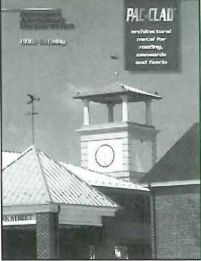


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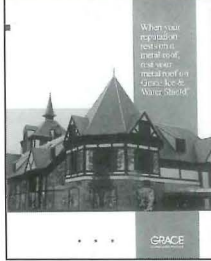
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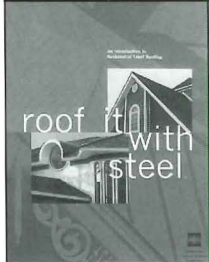
Product Literature/Metal Roofing



190. Architectural aluminum
A free 1996 catalog has 32 pages on prefinished sheet, coil, and accessory products for roofs and cladding. Application photos of built projects illustrate effects achieved by different seam profiles and color options; metal choices also include steel, lead-coated copper, and terne/stainless. 800/PAC-CLAD. Petersen Aluminum Corp., Elk Grove Village, Ill.



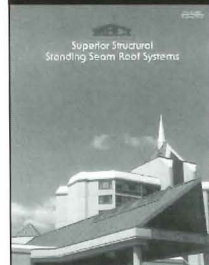
191. Metal-roof underlayment
A folder demonstrates how Ice & Watershield, a self-adhesive polyethylene/rubberized-asphalt membrane, supplied in rolls or sheets, helps prevent damage caused by ice dams and wind-driven rain under metal roofing. It stops leaks through fasteners and other penetrations. 617/876-1400. Grace Construction, Cambridge, Mass.



192. Steel roofs for homes
A 10-page brochure includes color photos that illustrate how metal roofs look on single-family homes and apartments. Sections cover the history and benefits of metal roofing; codes and standards relevant to steel roof panels; and roof-replacement and installation suggestions. 202/452-7100. American Iron and Steel Institute, Washington, D.C.



193. Architectural zinc
Modern continuous-cast technologies produce zinc roofing and cladding in a range of gauges and widths. A design guide illustrates "bright" and pre-weathered finish options, and includes drawings that detail correct rain-screen installations for roofs and walls; suggests compatible substructures. 905/822-2022, x286. Cominco Ltd., Mississauga, Ont.



194. Standing-seam systems
An eight-page technical and design guide explains how this maker's "articulating clip" attachment accommodates real-world misalignments between purlin and panel, letting the roof panel respond to thermal movement without binding. Both site-made and preformed structural standing-seam profiles are described. 713/445-8555. MBCI, Houston.



195. Traditional terne roofing
An architectural guide stresses the design and long-term performance advantages of easily soldered, ductile terne metal as a weatherproof roofing material. Drawings detail standing-seam and batten installations; a color chart shows various Terne-Cote finish options. 800/624-6906. Follansbee Steel, Follansbee, W. Va.
Continued on page 119

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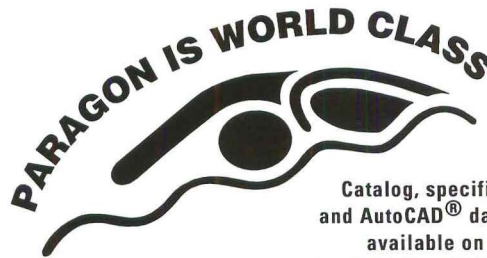
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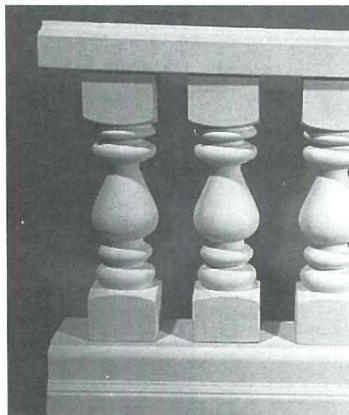
Submissions should be mailed to:

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1221 Avenue of the Americas
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175. Lightweight precast. A new exterior cladding, stud-backed Slenderwall panels are said to provide the decorative and weatherproofing performance of conventional precast panels at a significant weight savings. Architect Ken Rubsam of Rothe/Johnson Corporation used 1/2-in.-thick tiles to match a new Technology Center with other buildings at Essex College in New Jersey. The panel has 2-in. of reinforced precast, with steel studs cast into the concrete and held by stainless-steel Nelson anchors. System is said to save on footings, framing, and heating costs. Finish options include face brick, clay tile, and exposed aggregate. 800/364-3981. Smith/Midland, Midland, Va.



176. Balustrade replica. Made of a lightweight, high-density foam that has been molded around steel pipe at top and bottom rails, the baluster shown is one of a line of decorative and functional architectural elements for use indoors and out. Other designs include different rail styles, bases, and risers for stairways. 800/835-4400. Architectural Products by Outwater, Wood Ridge, N.S.



177. White microsilica. A new, all-white formulation, Elkem's microsilica additive (foreground) will not discolor architectural concrete as does grey microsilica. Microsilica used in concrete improves the mixture's chloride- and chemical resistance and increases its compressive strength. The new white product is produced by smelting zirconium sand in open-arc electric furnaces, and has no carbon-containing raw materials. Available in 50-lb bags to the concrete admix, ready-mix, and precast-concrete industries. 800/433-0535. Elkem Materials, Pittsburgh.

Continued on page 118

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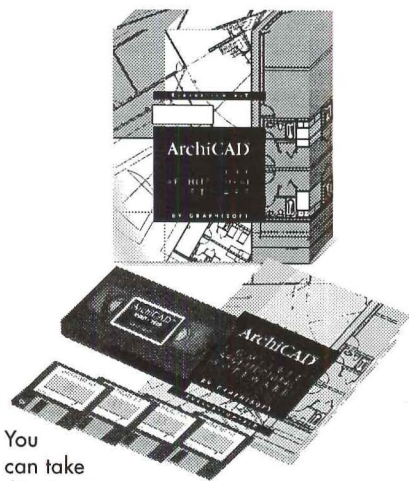
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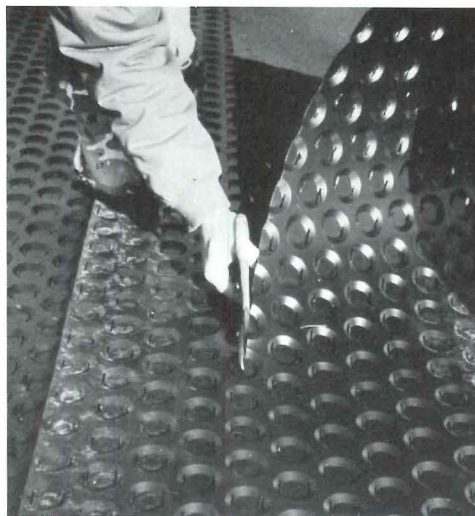
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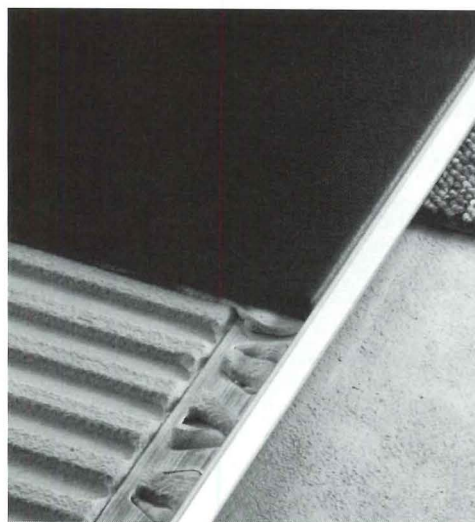
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New Products *continued from page 117*



178. Plaza and deck drainage.

Described as a solution for performance and longevity problems with exterior tile, pavers, brick, and stone set on balconies, plazas, walkways, and other suspended decks, Laticrete's plaza system employs a new drain mat (pictured). Saving the weight of a gravel bed, the mat provides for rapid elimination of infiltrated water and reduces the chance of frost damage and efflorescence. Studs on the sheet create mortar-holding cups resting on the structural deck, transferring live loads and permitting high traffic ratings. Details on-line at <http://laticrete.com>. 800/243-4788. Laticrete Int'l., Bethany, Ct.



179. **Tile-edge reducer.** Part of a wide range of installation products for the ceramic tile and marble industry, the Reno-TK is a sloped-transition profile that protects both the edge of a ceramic-tile floor and the adjacent floor covering, whether carpet, vinyl, or wood. Made of solid extruded brass, or aluminum in clear, gold, chrome, or brass finishes. 800/361-3127. Schluter-Systems, Plattsburgh, N.Y. ■

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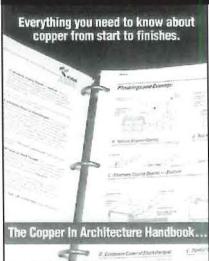
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Product Literature/Metal Roofing



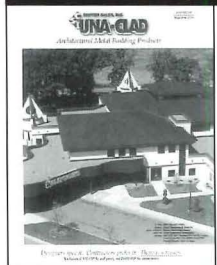
196. Copper handbook

A data sheet describes *The Copper in Architecture Handbook*, prepared for the design professional. Available in both text and AutoCAD-compatible formats, the *Handbook* details almost every use of sheet copper in building construction, including roofing, flashings, rain-handling systems, and claddings. 800/CDA-DATA. Copper Development Assn., New York City.



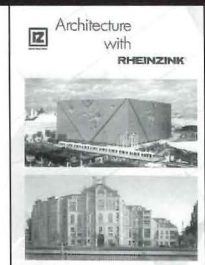
197. Galvalume specs

A building survey cites the superior corrosion resistance of pre-painted Galvalume sheet roofing in acid-rain environments. Compared to pre-painted galvanized sheet, Galvalume is said to exhibit minimal blistering and red rusting along roof drip edges. References and other technical support available. 800/352-5700, x400. Bethlehem Steel, Bethlehem, Pa.



198. All types of metal roofing

A 12-page catalog highlights installation details and color options for an extensive architectural-metal product line, including roofing, soffits, and honeycomb- and composite-core cladding panels. Metals offered include steel, aluminum, copper, colored stainless, Muntz metal, and anodized aluminum. 800/UNA-CLAD. Copper Sales, Inc., Anoka, Minn.



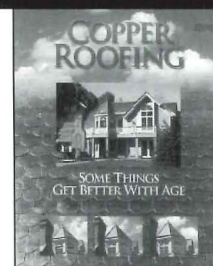
199. Zinc roofs and facades

Illustrated by European applications of zinc-alloy roofs and wall claddings, an *Architecture with Rheinzink* brochure discusses the metal's environmental and weathering advantages. An available thermoplastic-core composite panel is described. 604/291-8171. Rheinzink Canada, Ltd., Burnaby, B.C.



200. Snap-together roofing

The AR-1200/AR-1800 is a new architectural standing-seam metal-roof system designed for slopes of 3:12 or greater. For use either over wood or metal decks, or over open spans, the new systems can be specified with a UL Class 90 wind-uplift rating. 800/998-7663. Butler Roof Division, Kansas City, Mo.

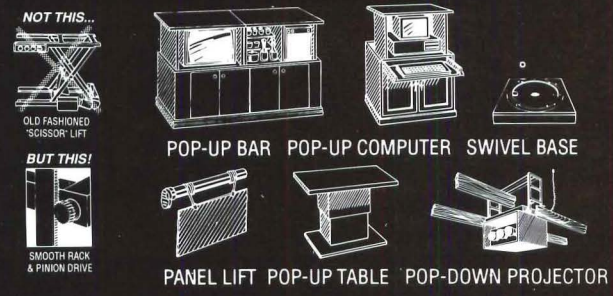


201. Copper-top shingles

Prestige roofing is made with a fiberglass-reinforced asphalt base and a copper weathering-surface. A brochure shows three styles—fish-scale, butt, and tile-look—used on residential and commercial roofs in the U.S. Said to patinate like standard copper. 800/598-8936. Tegola of North America, Denver. ■

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Manufacturer Sources

For your convenience in locating building materials and other products shown in this month's feature articles, RECORD has asked the architects to identify the products specified.

Pages 70-73

MCA/Universal Child Care Center
Rios Associates, Architect
Unit masonry: Burns & Russell (Spectra Glaze). Siding: Redwood. Area light and exterior recessed downlight: Lithonia. Storefront framing: US Aluminum. Wood windows: Clouston Sash and Door, Inc. Glass entrance: Herculite. OSB beams: MacMillan/Bloedel (Paralam). Desk lamp: Luce-Plan (Berenice). Linear fluorescent over desk: Hubbell. Tripod lamp: Fontana Arte. Bent-ply seating: ICF (Aalto).

Pages 74-77

State of Alabama Judicial Building
Barganier Davis Sims, Design Architects
Gresham Smith & Partners, Associated Architects
Windows: Profile Systems. Limestone columns and cladding: Indiana Limestone. Window grilles, interior column cladding: Construction Services, Inc. Roofing: Carlyle Roofing. Precast (dome): Lazenby Concrete Co. Glazing: Nelson-Brantley. Interior lighting and custom fixtures: Gary Steffy Lighting Design, Inc. Chandelier: design by Lee Sims, fabricated by Sims Corp. Conference room chairs: Victorial Classics. HID downlighting: Edison Price. Paints: Benjamin Moore & Co. Courtroom carpet: custom, woven by Edward Fields. Judicial bench: custom by architect, fabricated by Woodcraft Mfg.

Law Library cove lighting: Lithonia Lighting.
Carpet: Shaw Industries. Ceilings: Armstrong
World Industries.

Pages 104-107

Kent County Correctional Facility
Kenneth Neumann/Joel Smith and Associates, Inc., in association with Henningson, Durham & Richardson, Inc., and The Design Forum
Veneer brick: Belden Brick. Precast sills: Michigan Precast. Single-ply roof: Carlisle SynTec. Steel detention windows: The William Bayley Co. Aluminum storefronts: Tubelite. Security glazing: Globe Amerada. Insulating: Tempglass. Sallyport sectional door: Overhead Door Co. Detention metal doors: Johnson Fireproof Door Co. Acoustic ceiling: Tectum, Inc. Tile ceiling: USG Interiors. Reinforced CMU: Grand Blanc. Glazed base: Burns & Russell. Terrazzo: Crossfield Products, Inc. (Dex-O-Tex). Paints and epoxy coatings: Glidden. Dayroom furnishings: Southern Steel. Exterior lighting: Kim.

Corrections

• To obtain architectural, technical, and product information from the Owens-Corning Corporation, please call 1-800-GET-PINK. The telephone number listed in the December Desktop Directory is not correct.

• In Aaron Betsky's article "Stanford's New Style" [RECORD, January 1996, page 71], Harry N. Cobb of Pei Cobb Freed & Partners was incorrectly identified as the architect for one of the new buildings at Stanford. James Ingo Freed of the same firm is

the design partner in charge of this project.

• The citation about the AIA award for the Michigan State Capitol [RECORD, January 1996, page 15] omitted the other three architects involved in the project. In addition to Richard C. Frank, they are David S. Evans of Quinn Evans; Eugene C. Hopkins of Architects Four; and John Meyer of Wigen, Tincknell, Meyer.

• In the article on St. Paul [RECORD, January 1996, page 13], the correct name for the research center is Design Center for American Urban Landscape. The mayor's correct name is Norm Coleman. The 1917 plan was created by Edward Bennett, a colleague of Daniel Burnham. The science museum is not yet under construction and has yet to be fully funded. Primary team members in the Design Center's projects are Assistant Professor Julie Bargman, a landscape architect, and her research assistants, Don Vehige and Gayla Lindt.

• A model photo on page 26 of the January 1996 RECORD should have been credited to Tom Bonner.

• The list of 1996 AIA Honor Awards [RECORD, January 1996, page 15], failed to note in the urban design category that Smith Edwards Architects along with Herbert S. Newman & Partners were the recipients of the award for urban design for the Ninth Square Project in New Haven, Connecticut.

Clarification

An Indicators page item in January implied that access to GreenClips, a free e-mail service, required America OnLine. It does not. ■

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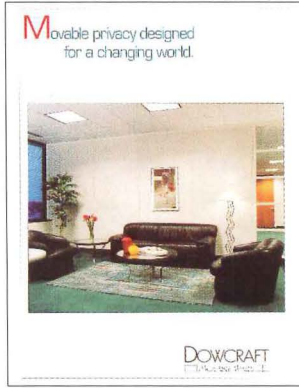


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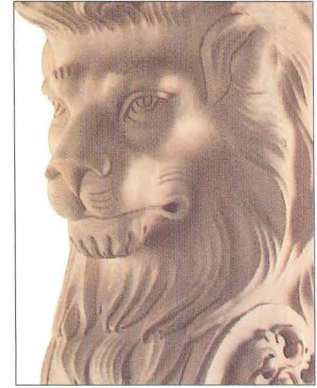


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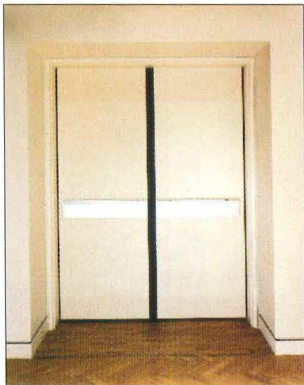


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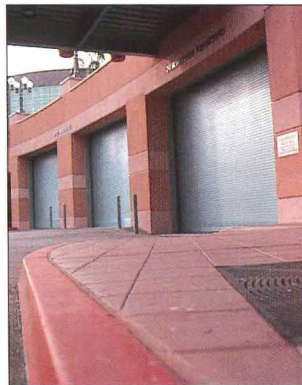
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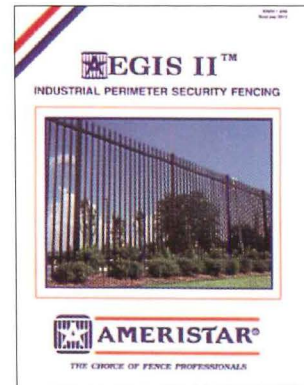
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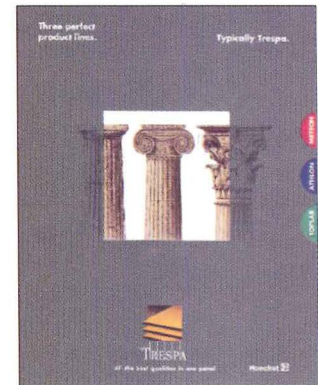


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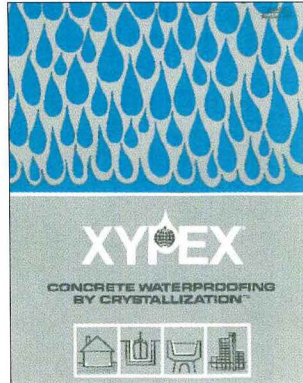


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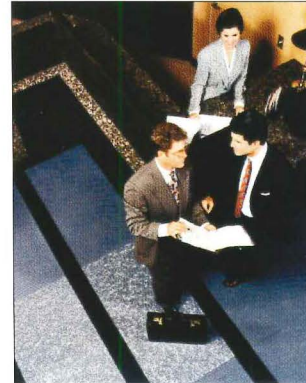
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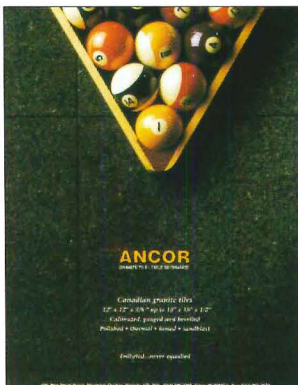
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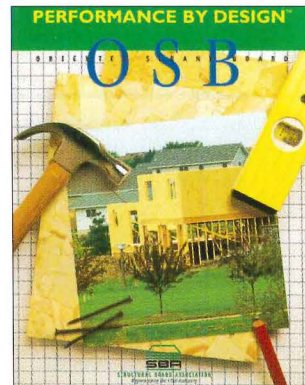


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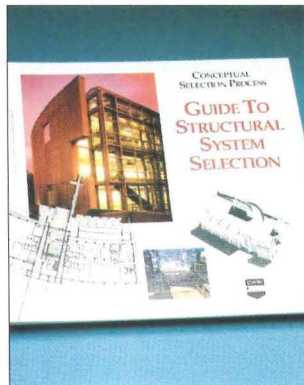
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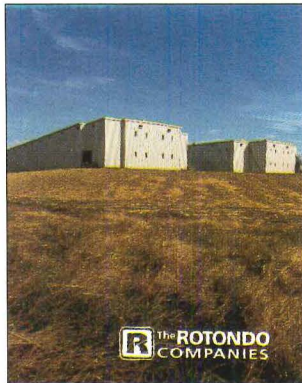
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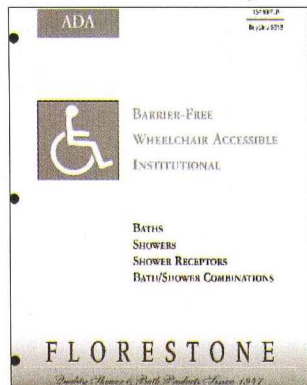


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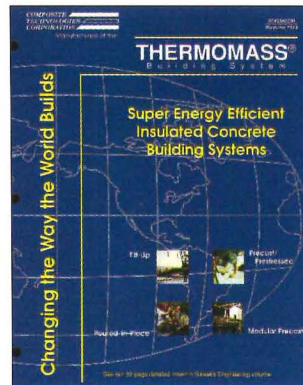


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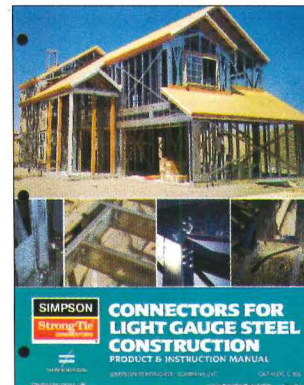


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Calendar continued from page 109

May 3-11

New York Interior Design Week includes a week of programs at various museums and cultural institutions. An interior-design showcase at The Ansonia will involve a team of designers recruited to solve common interior problems in apartments at the Upper West Side landmark. Call American Society of Interior Designers/Metro New York Chapter, 800/338-4411, for further information.

May 10-13

AIA National Convention & Exposition, Minneapolis Convention Center, Minneapolis-St. Paul. This year's theme is "the value architects and allied professionals provide the building industry." Over 100 seminars, workshops, and consultations are scheduled. Call 617/859-4475 for more information.

May 14-16

LightFair International, Moscone Center, San Francisco. A trade show and lighting seminars will be offered. Call 404/220-2217; fax 220-2442 for details.

June 9-11

Jerusalem: Technology, Place & Architecture will be the theme of the third Jerusalem Seminar in Architecture. Tadao Ando, Enric Miralles, Glenn Murcutt, Jean Nouvel, Patricia Patkau, and Renzo Piano will present their most recent work related to the seminar theme. Call 972-2-611-563; or Fax 972-2-610-028 for details. ■

Competitions

- Entries to the Benedictus Award competition for architectural projects using laminated glass are due March 1. Call 202/393-5247 for information.
- Hong Kong international competition for a monument commemorating its return to Chinese sovereignty in 1997. Entry deadline: May 1. Write The Oval Partnership Ltd., 6/F, Wing On Cheong Building, 5 Wing Lok St., Central, Hong Kong, Attn.: Ms. C. Wong.
- The fourth annual USA Institute International Design Competition solicits investigations for architecture, and new uses for Governor's Island in New York City Harbor.

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- The 1996 Van Alen Fellowship in Public Architecture is sponsoring a competition for ideas for Governor's Island in New York Harbor. The entry deadline is April 2, 1996. For inquiries, write, fax or email: Van Alen Institute 30 West 22nd Street New York, NY 10010 Fax 212/366-5836 vanalen@pap.designsys.com

- The 1997 Southern Home Awards are sponsored by *Southern Living* magazine. To be eligible for the awards, homes must have been completed after January 1, 1993, and be located within the magazine's primary circulation area. This year's competition will have a preservation emphasis. Entries must be postmarked by May 31, 1996. Phone 205/877-6000 for detailed information. ■

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Washington, D.C.

Architects: Duane, Elliott, Cahill, Mullino & Mullino
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Roofing Redesign:
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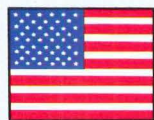


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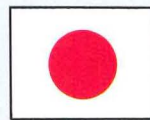
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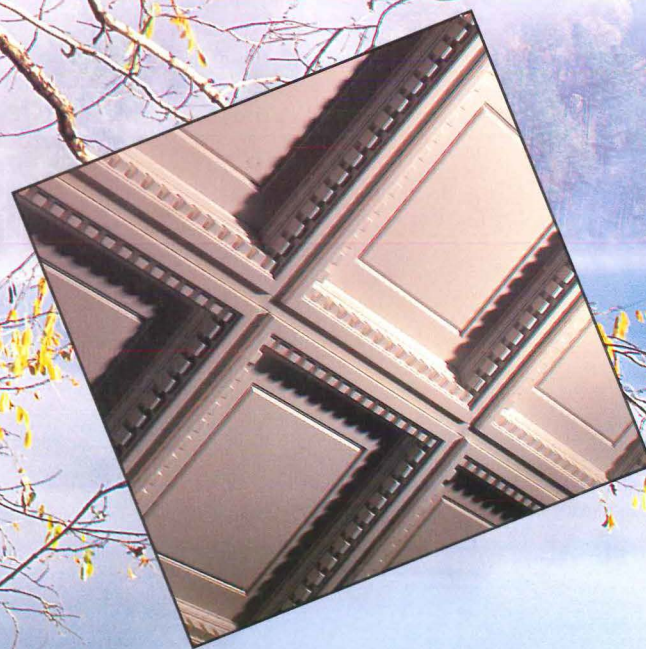
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