

# ARCHITECTURE®

APRIL 1995

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## Rebuilding America's Cities



**Michelangelo**

*Of all the world's great ceiling masters, only one answers*

**Da Vinci**



## Toward a New Urban Policy

*Cities must look beyond ballparks and aquariums to improve their prospects for future survival.*

What does the future hold for American cities? As shown in this issue, the outlook appears to be positive. Cities such as Cleveland, Atlanta, and Phoenix have built new sports venues, museums, and libraries to improve their economies, boost their cultural and civic stature, and lure suburbanites back downtown. But upon closer inspection, such measures are not enough to ensure a stable future.

Cleveland (pages 58-63) may take pride in its revitalized downtown, complete with a new ballpark (pages 64-69) and Rock 'n' Roll Hall of Fame, but its public school system is nearly broke and was put under state control last month. The 1996 Olympic Games may be a boon for Atlanta (pages 70-75), but its new sports facilities are too scattered to reunite the city's fragmented core. Phoenix (pages 76-85) is building a trio of new museums and a library, but will its citizens travel across the vast sprawl of this desert capital—19 cities incorporated into one—to look at art or read a book?

The new amenities in these cities and others are only a dressing applied over deep urban wounds—increasing crime, derelict schools, failing services, racial tensions, and a shrinking tax base. Suffering the most are the inner-city neighborhoods that lie between old downtowns and newer suburban cities, where no high-profile ballparks or aquariums will ever be constructed.

In today's cost-cutting political climate, these urban neighborhoods can hardly count on federal or state monies to improve their lot. Last month, the U.S. House of Representatives voted to eliminate \$7.2 billion from the housing budget of the U.S. Department of Housing and Urban Development. Although the Senate has yet to vote on the measure, HUD's programs will surely be diminished, given the agency's own recommendations (ARCHITECTURE, February 1995, page 15). And states such as New Jersey plan to fund urban revitalization through private contributions.

But inner-city neighborhoods, blighted as they are, present opportunities. They are already equipped with utilities and transportation systems, and are located close to downtowns. Some cities are already recognizing their potential. In Cleveland, for example, new single-family housing is being built in neighborhoods not far from the city's reinvented core. And in the South Bronx, new housing, schools, and civic buildings are harbingers of positive change for New York City's poorest borough (pages 86-95).

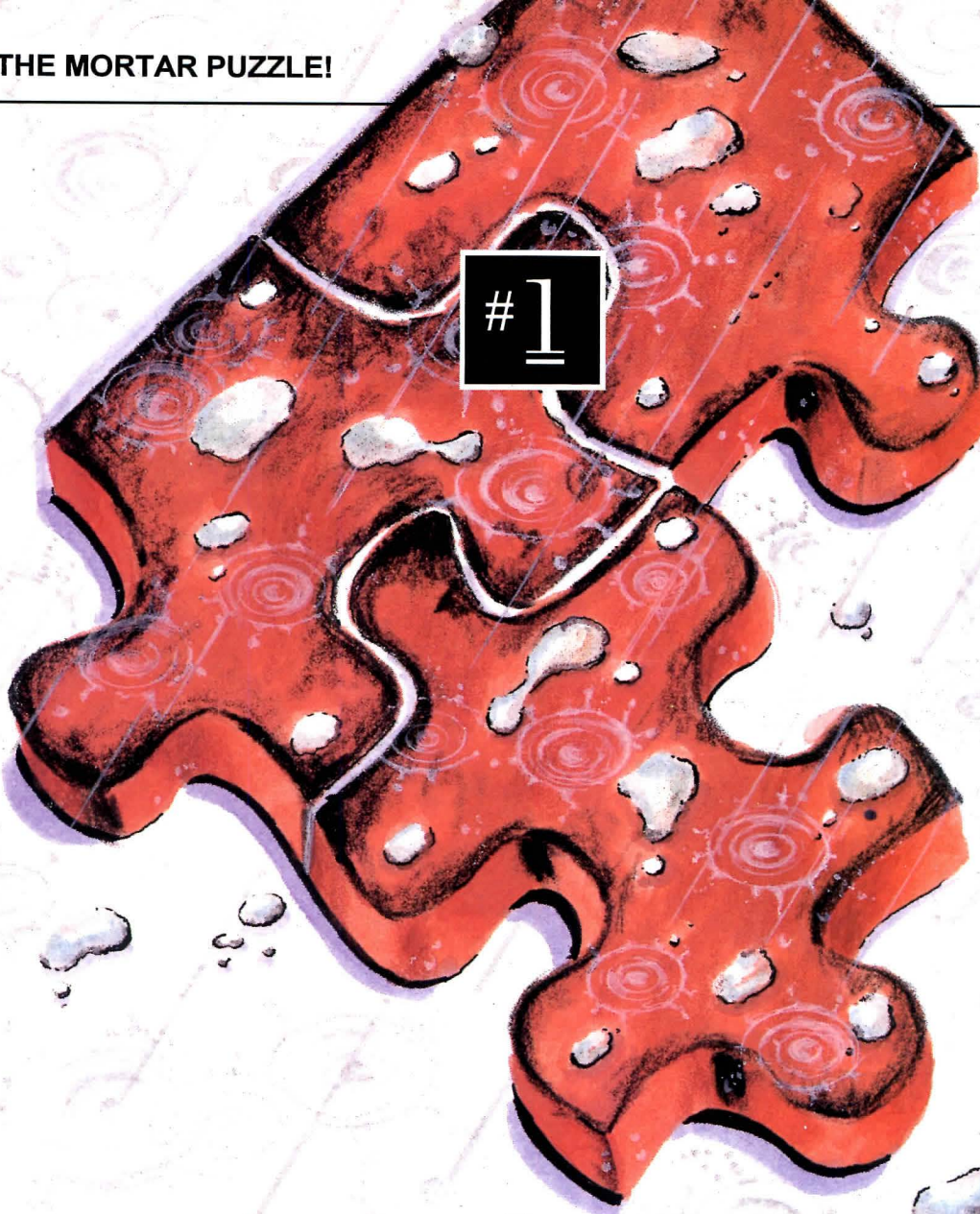
For these transformations to be successful, however, planners and architects must learn to work side by side with local residents to identify a vision for the future. New York City officials learned this process the hard way in planning the Melrose area of the South Bronx without community participation. Local residents fought back so forcefully that the city agreed to scrap its proposal and involve them in the process. The result is a plan for revival that is more sensitive to the community's needs.

With public subsidies and public commissions drying up, this grassroots, small-scale approach to urban revitalization is a practical way of improving our downtowns. Architects and planners can help carry it out, encouraging an urban dialogue between citizens and government, as our articles on Seattle's new plan (pages 45-49) and the AIA's Regional/Urban Design Assistance Teams (pages 105-111) point out. Such consideration of community issues could foster a new urban policy, one that makes a bigger difference to our cities than the ballparks, museums, and aquariums now taking shape on our skylines.

Deborah K. Diekmann



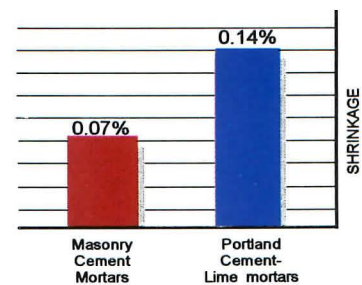
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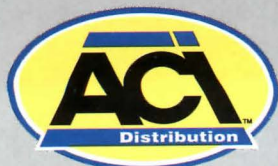
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### Irresponsible architecture

The house described in "Building on the Edge" (January 1995, page 105) is an example of the worst kind of human arrogance. The effects of recent floods, fires, earthquakes, and mudslides should have taught us the futility of ignoring the physical realities of the earth. The house is unstable, even if it did get under construction before official codes reflected natural law.

New codes do not restrict the designer's imagination; observing and building in harmony with nature requires great insight and creativity.

We should rebel at paying for federal disaster assistance for people and communities that build without regard for the environment. We should support codes that stop developing sensitive, vulnerable sites. The final line of this article should more accurately read "any site can be built on with enough money." Success will be judged after the next earthquake, mudslide, or wildfire.

*Sue Lani W. Bonstrom, AIA  
Reardan, Washington*

The Carmy house on a steep site in Los Angeles (January 1995, page 105) is irresponsible. Every time there is a natural disaster in California, a wave of that state's residents moves to Colorado, bringing along a preference for unaccountable building practices: houses spring up on ridgelines, steep slopes, along river banks. Please run an article on selecting appropriate building sites.

*Jackie W. Powell  
Lakewood, Colorado*

### Online on call

Douglas McLeod's "Information Networks" (January 1995, page 121) is an excellent synopsis of the state of architecture on the information superhighway. Although manufacturers' computer programs are helpful to designers, they all have one characteristic that inherently causes architects a problem: They take up too much room on our hard drives.

There is one area about to explode on the Internet that will change the way architects retrieve and access construction product information.

By setting up a toll-free number that we can access online in real time and by sending us a front-end setup program activated only after connected through our modems, manufacturers will enable us to access up-to-the-minute information when we need it—be it CAD details, specifications, or product literature.

I am an architect with computer knowhow, not a computer professional with architectural knowledge. If computer industry manufacturers can deliver a useful system with transparent operation, both they and architects will benefit.

*Paul Doherty, AIA  
Garden City, New York*

### The value of protest

I was about to write that I enjoy the "Protest" section you feature in ARCHITECTURE. Really what I should say is that I value it. The contributed essays sharpen my sensitivity to new buildings, particularly their contextualism. Please continue them.

*Andrew C. Ruppel  
Charlottesville, Virginia*

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## Events

### Exhibitions

**NEW YORK CITY.** "Mutant Materials in Contemporary Design," May 25-August 22 at the Museum of Modern Art. Contact: (212) 708-9400.

**WASHINGTON, D.C.** "Temple of Liberty: Building the Capitol for a New Nation," through June 24 at Madison Gallery of the Library of Congress. Contact: (202) 707-8000.

### Conferences

**ASPEN.** "New Business: Redefining the Idea of Design," June 8-11. Contact: International Design Conference in Aspen (303) 925-2257.

**ATLANTA.** "Revisoning," the AIA Convention and Expo, May 5-8. Contact: (800) 305-7737.

"Creating a Future for Quality Architecture," June 7. Sponsored by AIA Computer-Aided Practice PIA. Contact: (202) 626-7488.

**A/E/C Systems '95** computer and management exposition, June 5-8. Contact: (800) 342-5718.

**CHICAGO.** "Design and Marketing: Working Together and Getting Results," May 18-19. Sponsored by the American Center for Design. Contact: (800) 257-8657.

"MechanCAD," computer-aided mechanical design conference, May 1-3. Sponsored by Miller Freeman. Contact: (415) 905-2354.

Lightfair International, May 23-25, sponsored by the Illuminating Engineering Society of North America. Contact: (404) 220-2217.

**NEW YORK CITY.** "Innovation in Courthouse Design," May 4. Hosted by Lehrer McGovern Bovis and sponsored by AIA. Contact: Jerry Pasichow (212) 685-2883.

International Contemporary Furniture Fair, May 20-23. Contact: (800) 272-7469.

Summer design program of the Institute for the Study of Classical Architecture, June 10-July 22. Contact: (212) 570-7374.

### Competitions

Competition for Scottish Architecture and Design Center, sponsored by *The Architectural Review*. Application deadline: **April 18**. Contact: (71) 837-1212.

Western Home Awards for residential design in the Western U.S., sponsored by AIA and *Sunset* magazine. Submission deadline: **May 15**. Contact: (415) 324-5527.

Energy-efficient panelized building competition. Entry deadline: **May 22**. Contact: Structural Insulated Panel Association (202) 347-7800.

National Trust for Historic Preservation's Great American Home Awards. Entry deadline: **June 30**. Contact: (202) 673-4283.

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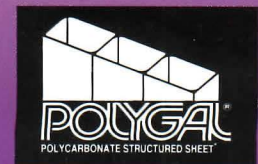
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### Henry Cobb's Academic Record

1960-1966	Design critic, School of Architecture, Yale University
1967-1971	Cooper Union Advisory Council
1967-1972	Visiting design critic at Harvard, Columbia, Princeton, University of Pennsylvania, and Washington University
1969-1971	President, Harvard Graduate School of Design Association
1970-1972	Visiting Committee, Harvard GSD
1972-present	Trustee of American Academy in Rome
1973	Bishop Visiting Professorship at Yale
1975	Davenport Visiting Professorship at Yale
1978	Bishop Visiting Professorship at Yale
1980-1985	Chairman of Department of Architecture at Harvard GSD
1985-present	Advisory Council member at Princeton University School of Architecture
1990-present	Chairman of Committee for Prizes in Architecture, American Academy of Arts and Letters
1992	Architect in Residence, American Academy in Rome
1993-present	Board of Directors, American Academy of Arts and Letters

### Henry Cobb Awarded Topaz Medallion

Henry N. Cobb, principal of Pei Cobb Freed & Partners, is this year's recipient of the Topaz Medallion for Excellence in Architectural Education. The award, cosponsored by AIA and the Association of Collegiate Schools of Architecture (ACSA), was presented to Cobb last month at ACSA's conference in Seattle. The New York architect was nominated for the Topaz Medallion by the Boston Society of Architects.

### AIA Scrutinizes Intern Compensation

The employment of interns has become a hot topic in the profession. In 1993, the American Institute of Architecture Students (AIAS) passed a resolution requiring potential lec-

turers and jury critics at AIAS-sponsored events to verify that they do not employ unpaid architectural interns. (Peter Eisenman, for one, could not speak at the AIAS convention last November after refusing to attest his office paid its interns.)

Last month, the AIA's Board of Directors charged the AIA Executive Committee with developing policies similar to those of AIAS. The institute will require that architects considered for AIA-sponsored awards, publications, speaking engagements, elected or appointed office, or fellowship appointments follow federal wage and hour laws.

The AIA is also planning to educate architects on how to follow federal employment laws and to inform interns of their rights. The board will vote on the specifics of the measure at the AIA's annual convention in Atlanta next month.

Since 1990, the AIA has awarded

practices that consistently provide comprehensive training, encouragement, and mentoring of architects-in-training with its annual Intern Development Program (IDP) Outstanding Firm Award.

This year, a jury comprised of educators, NCARB officials, IDP committee members, and an AIAS representative honored a trio of architecture firms with the IDP Outstanding Firm Award. They are: the Washington, D.C., office of Albany-based Einhorn Yaffee Prescott, which currently employs seven interns; BSW Architects of Tulsa, Oklahoma, whose active interns number 97 of the firm's 600-person staff; and the Naval Facilities Engineering Command in Alexandria, Virginia, of which 13 officers are active in the IDP. The AIA plans to distribute case studies of the three award-winning firms as models for other offices.—Ann C. Sullivan





GALLERY: Precast concrete surrounds entrance framed in poured concrete.



INTERIOR: Galleries are precise cubes with plaster walls and oak floors.



ROOF DETAIL: Steel grille above skylights in roof screens daylight.

## Cy Twombly Gallery Opens in Houston

It's been a banner year for Renzo Piano. His Kansai International Airport finally opened last September, its interminable delays and overruns of billions of dollars momentarily forgotten in a burst of critical acclaim. In February, his jewel-box Cy Twombly Gallery was unveiled in Houston—a gift of arts patron Dominique de Menil, whose other good deeds include the 1987 Menil Collection, also designed by Piano.

Though the Cy Twombly Gallery and Menil Collection sit across the street from one another in the Montrose section of Houston, they couldn't be more different. The Menil is an elongated arts villa, complete with loggias and lush courtyards. Piano's newer gallery is an austere, gridded box, with few win-

dows and a discreet side entrance; only a floating, cantilevered roof hints at the lyricism within.

The \$5 million project was designed as a permanent home for Twombly's abstract and enigmatic paintings, drawings, and sculptures, of which the Menil and the associated Dia Center for the Arts in New York City own more than 50. Twombly participated in the preliminary design—reportedly, he nixed a stone facade as too “precious”—but the completed building is Piano through and through.

The gallery's 9,300 square feet are divided into eight cubes, one of them double-sized to accommodate Twombly's larger paintings, such as *Treatises on the Veil* (1970). The interiors combine precision and subtle allusion, from the entrance's simple, poured concrete columns and lintels of a Greek temple to the hand-trow-

eled plaster walls and rich oak flooring. A master of crisp, Modern detailing, Piano subtly changes the dimensions and orientations of doorways to create a sense of variety within enveloping uniformity.

Light is Piano's theme in the Cy Twombly Gallery, and he handles it exquisitely in an intricate system of grilles, louvers, and tinted glass panels developed with engineer Ove Arup & Partners and architect Richard Fitzgerald & Associates. Together, these elements transform Houston's intense light into a soft luminescence that washes the walls of the galleries. The bottom layer of this solar sandwich is a white cotton scrim, like those found in 19th-century Beaux-Arts studios, that has been stretched like canvas to make the ceiling. The fabric was loomed in Belgium and installed by local sailmakers using grommets and

turnbuckles. Translucent during the day, it looks like hard plaster at night.

Always capable of fetishizing technology, Piano has underplayed it here. Gallery visitors are aware only of the soft, even light on the artwork, never of the machinery above that makes it possible. From the outside, the elaborate roof appears, in Piano's words, “like a butterfly alighting on a firm surface.”

Dense and solid though it appears, the Cy Twombly Gallery respects the scale and character of the surrounding neighborhood of 1920s bungalows. It does not loom or challenge, and its entrance faces a square of green in a patchwork of green spaces stretching from the Menil Collection to the Rothko Chapel two blocks away. Airy and allusive, the Cy Twombly Gallery is an ideal complement to the art that it contains.—David Dillon





**DENVER MUSEUM:** Design galleries are boldly identified by pediment and stripes.

## Denver Art Museum Unveils Design Galleries

In February, while the Museum of Modern Art in New York City celebrated the 60th anniversary of its design and architecture department, the Denver Art Museum unveiled new galleries for its design collection. The two museum departments couldn't be more different: While MoMA holds fast to founder Alfred Barr's European Modernist orthodoxy, Denver's new galleries focus on Postmodernism and a more inclusive view of design.

R. Craig Miller, former associate curator of 20th Century Art at New York City's Metropolitan Museum of Art, heads Denver's five-year-old Department of Architecture, Design, and Graphics. Since 1990, Miller has enriched the museum's small decorative arts collection by

nearly 1,000 new acquisitions. He is intent on using his collection to convey the historical context and geographical range of Modern design.

Given the cramped spaces assigned to his collection, however, achieving this goal won't be easy. Located on the second floor right off the elevator, some of the new galleries could be mistaken for a decorated lobby. Miller has managed to overcome this limitation, however, orchestrating his collection to underscore historical comparisons.

The opening exhibition traces historicism from 1750 to the present, beginning with glass, ceramics, and metalwork, small objects that are appropriately displayed in the smallest spaces. The largest gallery extends this perspective with Neoclassical and Victorian furniture cleverly juxtaposed against recent designs by Michael Graves, Philippe Starck,



**GALLERY:** Historicism from NeoClassicism (right) to Graves and Starck (left).



**ITALIAN DESIGN:** Collection includes furniture by Sottsass and Memphis school.

and Venturi, Scott Brown. The Postmodern theme continues in the Italian design gallery, which displays colorful furniture and glassware by Ettore Sottsass and other Memphis School designers.

The only evidence of architecture in the collection are Colorado-based Elizabeth Gill Lui's photographs of 20th-century art museums, sandwiched between historicist and Italian furniture. This small dose of architecture, however, is enough to differentiate Denver's collection from MoMA's. As Miller explains, "Design departments treat architectural photography as documentary material rather than as a work of art in itself. But photography is an important means of showing historic buildings." In addition to architectural photography, Miller is collecting drawings and models, including the conceptual model of the new

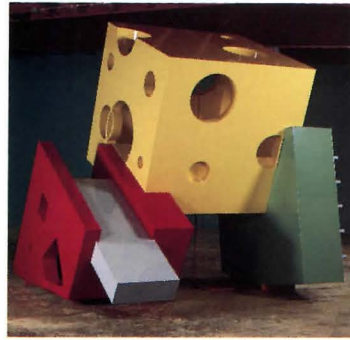
Denver Airport, and plans to mount one-building shows.

Miller is building his collection nearly from scratch and plans to use his shows to acquire new work. He wants to revive the type of Good Design shows originated by MoMA and others with "masterwork" exhibits of design from Japan, Europe, and the U.S. Above all, he wants to challenge our notions of design. "It's been almost three-quarters of a century since there was fundamental rethinking of policy in this field by a major American museum," Miller maintains. This inertia is partly due to the fact that art museums are reluctant to devote precious space and resources to collections outside the fine arts mainstream of painting and sculpture. *It is heartening that the Denver Art Museum is one of the few willing to invest in architecture and design.*—D.K.D.





J. TIMOTHY FELCHLIN: Castle for kids.



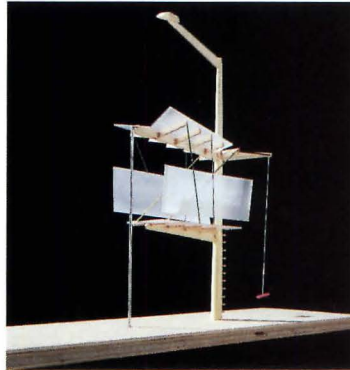
KANNER ARCHITECTS: Colored cut-outs.



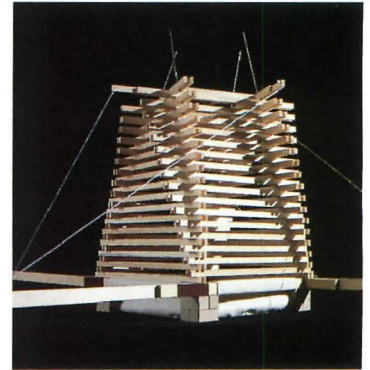
JERRY BRAUDE: Roundhouse.



MULDER-KATKOV: Metal shed.



DALY, GENIK: Street lamp and platform.



ROTO ARCHITECTS: Adjustable logs.

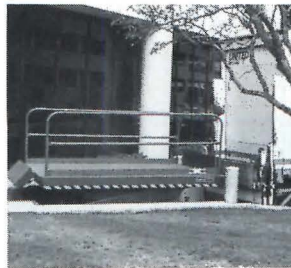
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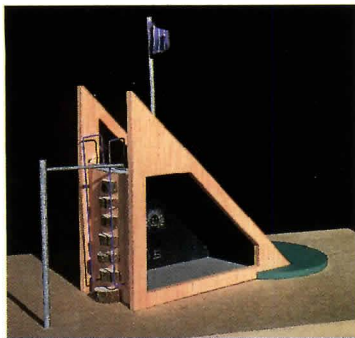


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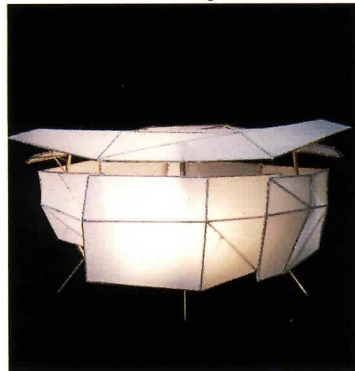
HODGETTS + FUNG: Canopied periscope.



COFFMAN & LOEB: Triangular slide.



MICHAEL MALTZAN: House of mirrors.



RICHARD WARNER: Lit canvas.

## Architects' Playhouses Benefit L.A.'s Needy

For the past six years, a small group of Los Angeles professionals called "Architects for Shelter" have raised money for Santa Monica's Ocean Park Community Center (OPCC) by conducting architectural tours of L.A. landmarks. This year, the group shifted gears and enlisted local architects to design a series of children's playhouses. The playhouses were auctioned off to raise funds for OPCC shelters for battered women and runaway teens and to sponsor programs for homeless families. "It's a sad coincidence that we designed playhouses, because children are the fastest growing part of the homeless population," observes Architects for Shelter Organizer Richard Katkov. The 12 firms participating in the project were: Barbara Coffman & Tracy Loeb; Daly, Genik; Wolf Architecture; Hodgetts + Fung; J. Timothy Felchlin; Jerry Braude Design Office; Kanner Architects; Michael Maltzan; Mulder-

Katkov Architecture; Narduli/Grinstein Architects; ROTO Architects; and Richard Warner Architects.

Most of the architects focused on celebrating childhood fun. Kanner Architects, for example, constructed brightly painted wood volumes with a rope swing, a slide, and climbing posts. The notched wood construction of ROTO Architects' playhouse, which recalls Lincoln Logs, allows children to tug on tension ropes to alter the shape of the structure. And Hodgetts + Fung illustrates childhood discovery with an observation post fitted with a searchlight and a submarine periscope. Some schemes, though, focused instead on political commentary: Daly, Genik fastened platforms to an old street lamp to symbolize where homeless children sleep.

This year's event brought in almost \$25,000 for the OPCC, and Executive Director Vivian Rothstein hopes to top that amount in 1996. Architects for Shelter are already working on next year's design project: gazebos for grownups.—R.A.B.

AutoCAD Macintosh Users...

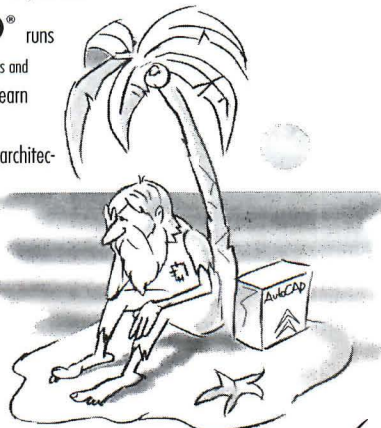
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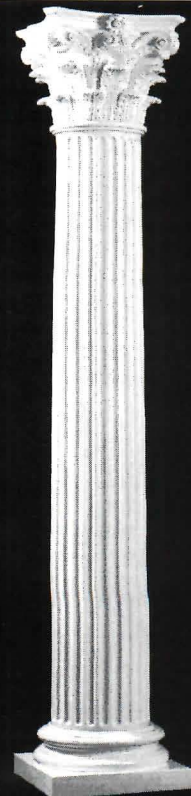
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**Times Square hotel competition**

Three architectural stars—Arquitectonica, Michael Graves, and Zaha Hadid—teamed up with local developers and major hotel chains to compete for a blockbuster hotel and entertainment complex on a \$35 million site near Times Square.

The Graves/Marriott scheme contrasts a Classically staid hotel tower with schmaltzy street-level signage, including a giant Perrier bottle and a big red apple on the corner of 42nd Street and 8th Avenue. Hadid's Hilton, an assembly of signature glass-sheathed volumes, is surprisingly more subdued. Arquitectonica's collaboration with Disney pulls out all the stops: The firm's apocalyptic scheme features an illuminated "comet" crashing through a glass hotel high-rise. Where the meteor has landed, the architects inserted a 10-story entertainment block with glass mosaic facades depicting the Statue of Liberty and the Guggenheim Museum.

When they select a winner later this month, however, city and state

development agencies will be looking at dollars and sense, not architectural one-liners.

**Architectural research**

Living up to its promise to make building research a top priority, the AIA and the Association of Collegiate Schools of Architecture (ACSA) launched the new **American Institute for Architectural Research** (AIAR) in February. This new research division of the AIA—headed up by AIA Vice President **Deane Evans**—replaces the AIA/ACSA Council on Architectural Research. Boasts Evans, "We want to make the AIAR a national voice for building-related research, and to tackle issues like urban development, the environment, and housing the elderly."

Evans plans to secure ties between academic and market research, and to join forces with the National Institute for Standards and Technology, the U.S. Department of Energy, and the Environmental Protection Agency. For more information, call Deane Evans at (202) 626-7751.

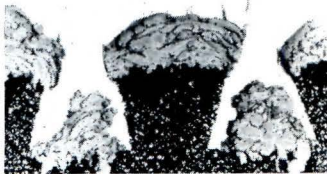
**Dream house**

New York architect **Dennis Wedlick** is designing this year's affordable dream house for *Life* magazine, following in the footsteps of **Robert A.M. Stern**, who designed last year's model. Published in the June 1994 issue of *Life*, Stern's design prompted so many calls that the magazine set up a toll-free number to field requests for information.

**Wright on ROM**

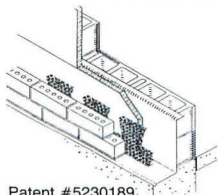
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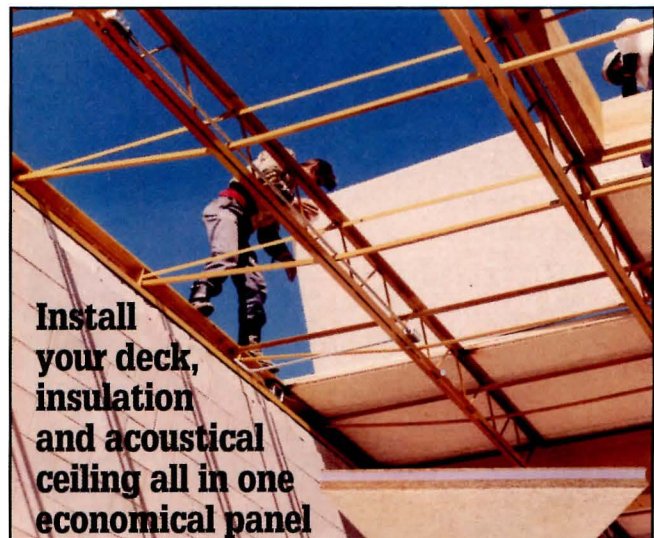
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even artistic medium. Was it graphite or gouache? Contact the Oxford University Press at (800) 451-7556.

### Student-designed cities

A group of elementary school students—the urban designers of tomorrow—from St. Mary's Parish School in Hales Corner, Wisconsin, captured first place at the **National Engineers Week Future Cities Competition**. Their design for Magnetic City was generated on SimCity software and addressed such grownup concerns as taxes, crime, infrastructure costs, and traffic and pollution estimates. Three much older students from the School of Architecture at New Jersey Institute of Technology, meanwhile, won the Architectural Urban Renewal Challenge for their schemes to convert an abandoned railroad trestle in Jersey City into a community center. **Arthur Henn, Andrew Guzik, and Sean Edwards** placed first, second, and third, respectively. The program was sponsored by AIA Newark and Suburban

**Architects**, and Public Service Electric & Gas Company.

### Tibetan solar power

Solar design in the Himalayas? Pittsburgh-based **Burt Hill Kosar Rittelmann Associates** is designing a solar-powered medical dispensary in Katsel, a remote region of Tibet without electricity or running water. Photovoltaic cells, solar collectors, and trombe walls will supply heat and enough electricity to operate lights, medical equipment, and even a refrigerator.

### Lottery for architecture

Never mind the billion-dollar collapse of Britain's oldest bank, Barings. The British government has already started thinking of how to spend profits generated by the new national lottery it kicked off in November, and architects are excited. A whopping 20 percent of lottery profits (expected to top \$3 billion over the next 5 years) are earmarked for the **Millennium Commission**, which will fund the construction of

large-scale civic and cultural projects. One of the first projects to benefit from these funds (if it isn't scrapped by local opponents) is **Zaha Hadid's** new Cardiff Bay Opera House in Wales. Other potential lottery-funded projects include the restoration of the British Museum's main reading room, and "Albertopolis," a massive cultural campus that plans to knit together such institutions as the Victoria & Albert Museum in London's South Kensington area. The government has yet to award any funds or draw the slightest comparison to France's Grand Projets across the Channel.

### Berlin embassies

In other news from London, the British government has selected **Michael Wilford**, partner of the late **James Stirling**, to design its new embassy in Berlin. Scheduled to open just in time for the German government's move to Berlin in 1999, the proposed embassy will be constructed on the site of August Orth's 1868 Wilhelmstrasse palace,

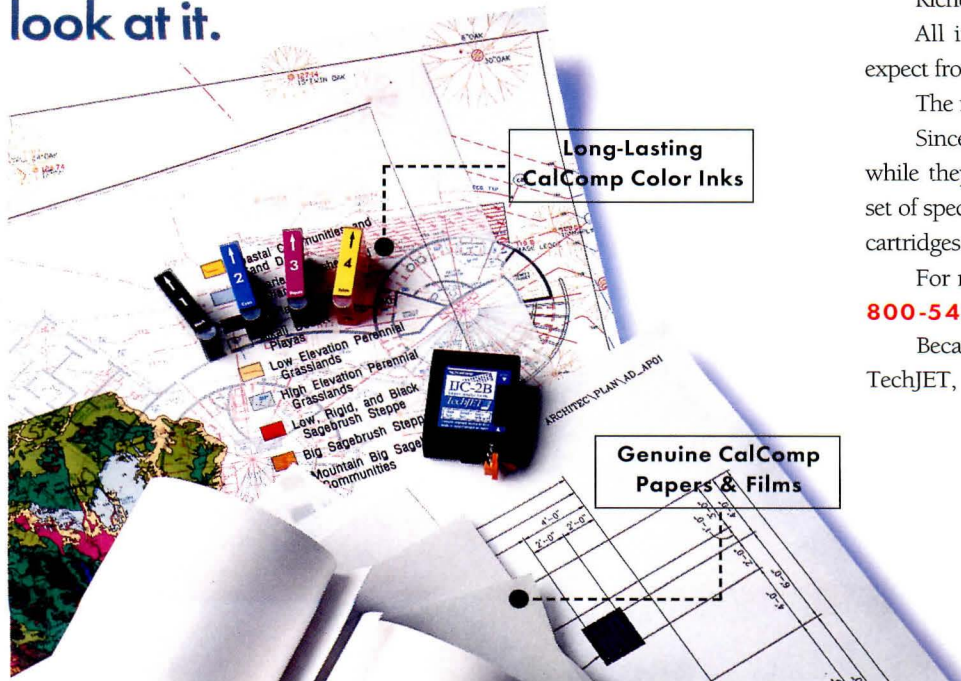
which housed the British Embassy prior to World War II.

Meanwhile, the U.S. State Department's Foreign Buildings Operation recently announced the six firms that will advance to the final (paid) competition to design the new U.S. Embassy in the German capital. The new structure will occupy the bombed-out site of the former American embassy adjacent to the Brandenburg Gate. The American finalists are: **Bohlin Cywinski Jackson; Robert A. M. Stern Architect; Venturi, Scott Brown and Associates; Kallmann McKinnell & Wood Architects; Kevin Roche John Dinkeloo; and Moore Ruble Yudell**. These firms edged out six other competitors, including **Kohn Pedersen Fox Associates, Richard Meier & Partners Architects**, and **DMJM/Keating**.

### Firehouse fixups

New York's Department of General Services has selected **Lehrer McGovern Bovis** and local architect **Richard Dattner** to renovate 10 of

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the city's historic firehouses under the watchful eye of the city's art and landmark preservation commissions. The \$10 million rehab plan will follow a two-year, fast-track schedule designed to update firehouses in Brooklyn and Queens to meet current building codes.

**Capitol architect retires**

Nixon-appointed Architect of the Capitol **George M. White** has announced that he will not seek reappointment when his term expires in November, ending his 24-year tenure. The AIA is currently compiling a list of potential candidates for a congressional commission, which will recommend at least three candidates to **President Clinton** for consideration. Clinton will appoint White's successor to a 10-year term.

**Architects in Hollywood**

Architects clamoring for public exposure finally got some—in Hollywood. "**Maya Lin: A Strong, Clear Vision**," a documentary by Freida Lee Mock on the work of the 34-year-old designer, was nominated for an Academy Award in the category "Best Documentary Feature." Though not a box office smash, the 105-minute film portrays a 10-year period of Lin's work, beginning with the Vietnam Veterans Memorial and concluding with her design for the women's sculptural table at Yale University. Also in Hollywood, the Discovery Channel is producing an episode on Arizona environmental guru **Paolo Soleri**. The eco-architect and his Arcosanti school will be featured in an upcoming episode of the cable channel's "Inventions" series. No air date has been set.

**Cultural commissions**

Boston-based **Schwartz Silver Architects** has won a competition to design a master plan for the National Children's Center in Baltimore with local architect **Cho**,

**Wilks & Benn**. The scheme will include offices for children's advocacy groups and a new children's museum with glamorous Disney-designed exhibits. The South Carolina State Ports Authority has chosen **Ehrenkrantz & Eckstut Architects** to design the 60-acre master plan for the historic Union Pier redevelopment project in Charleston. In New York, **Polshak and Partners** is transforming the American Museum of Natural History: A new Hall of Planet Earth will connect the museum's renovated Hayden Planetarium with expanded galleries and educational resources. The Chicago Academy of Sciences commissioned **Perkins & Will** to design a 75,000-square-foot nature museum in the city's Lincoln Park. **Hardy Holzman Pfeiffer Associates** is designing the Colburn School, a new music conservatory in downtown Los Angeles. Another L.A. institution, the Los Angeles Craft and Folk Art Museum, was recently renovated by local architects **Hodgetts + Fung**. This refurbished museum, transformed by the firm's signature industrial materials, opens next month. And in San Francisco, renowned Mexican architect **Ricardo Legorreta** has been tapped to design the Mexican Museum, in the city's burgeoning Yerba Buena Gardens district.

**Academic currents**

Dean of Howard University's School of Architecture and Planning, **Harry G. Robinson III** has been appointed to the United States Commission of Fine Arts. In California, the Department of Architecture at Woodbury University in Burbank has received NAAB accreditation; **Louis Naidorf** has been named dean of Woodbury's architecture and design school, while **Geraldine Forbes** has been appointed its new chair.

**Beirut boom**

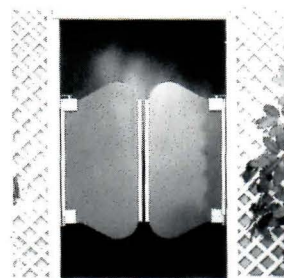
Looking for exciting new commissions in exotic lands? Head to Beirut. Following the recent ceasefire in Lebanon, the city is looking for architects to build new structures and, more interestingly, complete those that were still in construction when war erupted in the 1970s. **Norman Foster**, for example, recently won a developer-sponsored competition to design a high-rise around a concrete core erected for a tower that was never built.

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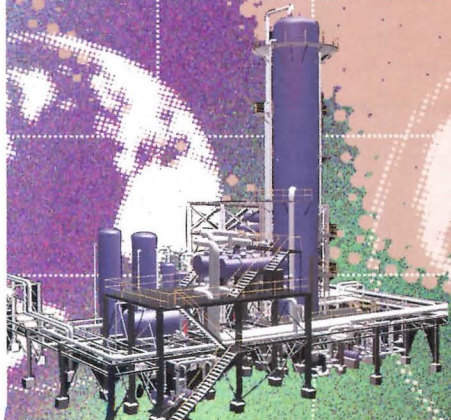
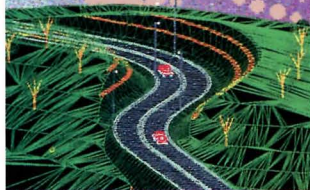
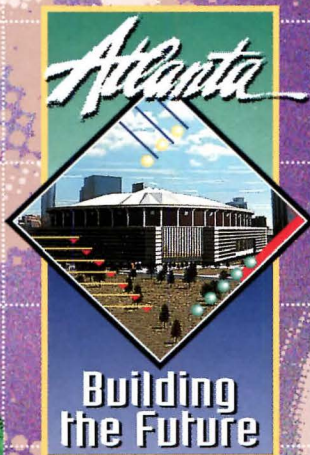
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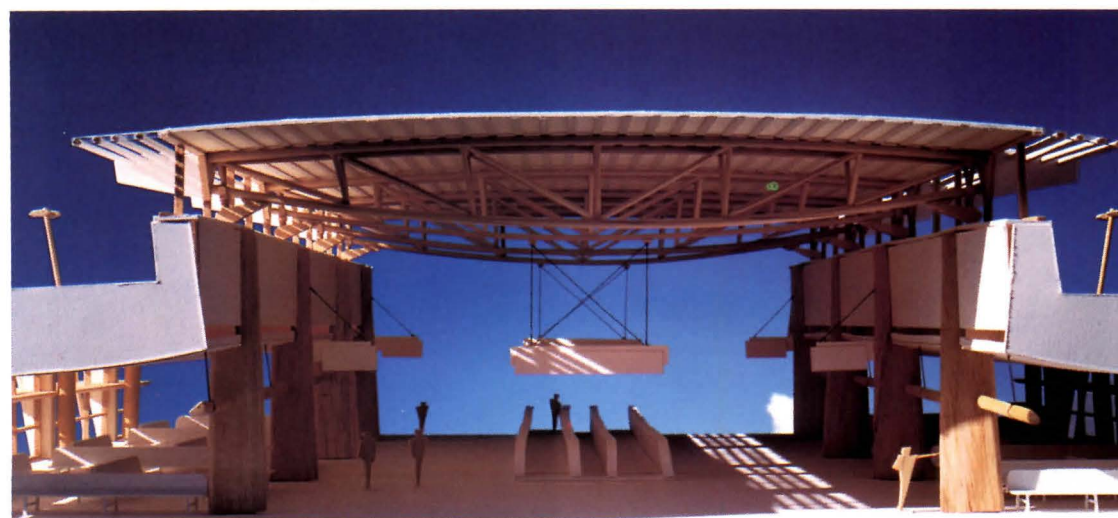
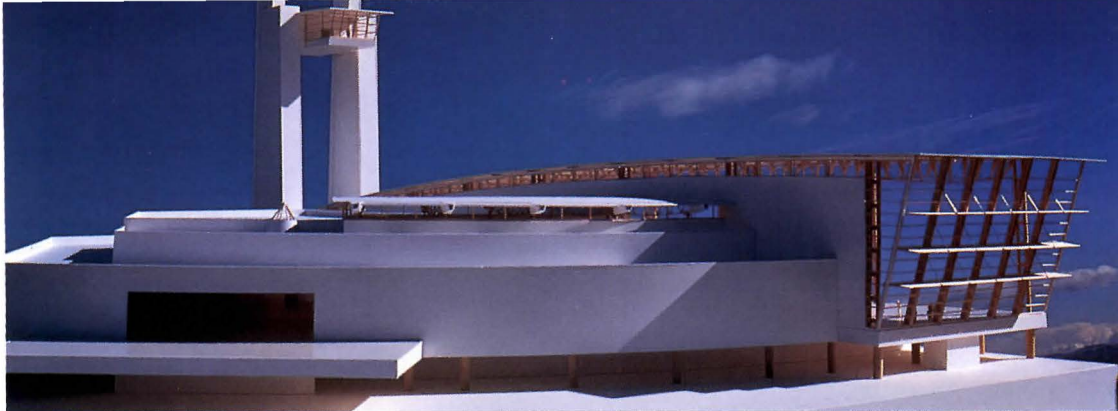
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## On the Boards

*An addition to Las Vegas's airport will accommodate the city's burgeoning tourism.*



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To handle an annual volume of more than 22 million air travelers, Nevada's Clark County Aviation Department has commissioned Las Vegas architect Tate & Snyder to design a 52-gate satellite terminal at McCarran International Airport.

The X-shaped terminal will provide four boarding piers extending from a central "Great Hall," which will be crowned by a new control tower. Below ground, an automated subway system will transport passengers to and from the current airport terminal, located one-half mile west of the new structure.

The one-million-square-foot building's structure of exposed steel trusses supporting a corrugated

metal roof recalls the heroicism of historic train sheds and airplane hangars. Large, glazed facades shaded by perforated metal sunscreens will virtually eliminate the need for artificial illumination during the day. Construction of the \$180 million project—which will be funded by casino profits, not tax dollars—is scheduled to begin next year, and should be completed by late 1997.—R.A.B.



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*A telephone company headquarters dwarfs its historic neighbors.*



## Nashville Tower Bullies Downtown Neighbors

An architectural crime has occurred on the Nashville skyline and it's called the "Batman building"—a nickname that has dogged South Central Bell's headquarters ever since its design, topped by two spired "ears," was unmasked in December 1991 during the relentless advertising campaign for the movie *Batman Returns*.

The presence of South Central Bell's headquarters has been painfully obvious since the building's May 1994 completion. Located among historic low-rise structures and outdoor plazas in the city's center, the 30-story tower—designed by Nashville's own Earl Swenson Associates—is the tallest and broadest in town. Unfortunately, the building's distinctive presence does not translate into architecture of distinction.

Up close, the 633,000-square-foot volume falls apart. The gable of the street-level atrium slams into the back of the tower—like a truck ramming the loading dock—in a totally unresolved transition. The red granite base is a gesture to the surrounding red brick buildings, but it lacks integration into the tower's midsection, making the building look like it's been planted in a flower pot. The relationship is visually unstable between the pink granite faceted set-back towers that "bookend" the glass box within; the glass is so massive in relation to the granite that it appears to push the bookend apart. This horizontal thrust is echoed at the top of the tower by the too-low arch over the too-tiny Bell logo, which optically spreads the building's "ears."

The Bell tower also fails urbanistically to positively influence and harmonize with Nashville: South Central Bell has taken great care to

emphasize to the public that its atriums and plazas are accessible to all. But an office tower surrounded by plazas does not contribute much to the life of a city, especially if that tower stands over nine levels of below-grade parking, thereby keeping employees off the city's streets. Atriums and plazas are amenities without an anchor when an employee cafeteria is the only retail draw.

Located on a sloping site between the 19th-century warehouses on the Cumberland River and the Grand Ole Opry's former home in the Ryman Auditorium, the South Central Bell building visually crushes these historic red brick landmarks, not to mention the rest of Nashville's downtown towers. A skyscraper is supposed to scrape the sky, not throw its weight around like the neighborhood bully.—*Christine Kreyling*

*Christine Kreyling is the architecture critic of The Nashville Scene.*



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## People Make Our Plans



NORMAN RICE: Mayor of Seattle

*Planning must involve citizens to rebuild community, argues Seattle Mayor Norman Rice.*

All across America, cities are wrestling with critical planning and development issues. In some cities, these concerns center around rebuilding urban communities that have fallen into decline. In other cities, like Seattle, the challenge is maintaining a high quality of life for our citizens in the face of population growth and numerous development pressures.

No matter what specific problems a community faces, planning must be more than just an exercise in land use and transportation management. To truly address the needs of the community, planning must engage a broad cross-section of the community's population in a profound discussion of its values and aspirations as a whole.

Over the past five years, my administration has been part of a communitywide process to draw up a road map to guide growth and development in the Seattle area for the next 20 years. It hasn't always been easy. Our desire to preserve our traditional neighborhoods has been challenged by population growth and private property rights. At times, we've had to struggle to balance our twin goals of a strong economy and a healthy environment. Our community's commitment to ideals like affordable housing, social services, and public transit have been drowned out by "not in my back yard" sentiments and our nation's continued addiction to the automobile.

During these five years, however, we have engaged thousands of Seattle residents in an unprecedented discussion about the kind of future we want for ourselves and our children. Even more importantly, we have identified the steps we must take—as individuals and as a city—to create this future. To this end, my administration has founded an exciting new partnership of communities and local government. Together, we have drawn up a comprehensive plan for our city and its surrounding areas called "Sustainable Seattle." Our mandate was given by Washington state's 1990 Growth Management Act

(GMA), which charged every major municipality in the state to prepare rigorous plans for the future and prescribed many elements those plans should include.

Sustainability means that our commitment to saving our forests and fisheries must be matched by a commitment to protecting and developing our precious human resources. We had to develop a plan that would contain those factors that work against sustainable cities—urban sprawl, overcrowded transportation corridors, crime and violence, inadequate housing, growing concentrations of poverty, and the flight of the middle class. We had to find ways to let the growing population live and interact at greater densities while maintaining the individual's quality of life.

When our mandate was issued, Washington was undergoing rapid growth and losing great tracts of forest, farmlands, wetlands, and shorelines at unprecedented rates. Many jurisdictions—including Seattle—were developing plans which, however meritorious, were not being coordinated from one municipality to another.

GMA required all jurisdictions to plan for the statewide goals of encouraging economic development to accommodate anticipated population growth. These plans had to be internally consistent by addressing the interconnections of land use, transportation, housing, infrastructure, economic development, and environmental systems. Each area plan also had to be consistent with the plans of neighboring jurisdictions and those of the region as a whole.

Faced with such an enormous task, Seattle could have chosen to meet the minimum requirements of GMA with a technical document that addressed the areas mandated; instead, we challenged ourselves to go deeper, to make a plan that comes out of our profoundly held values. We vowed also to go wider, stretching to include not just Seattle within the city limits but the entire region from which we draw our resources, many of





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our workers, and much of our quality of life. And we found the courage to go farther, to develop a vision of fairness and opportunity for our entire community that would take us far into the next century.

From the outset, we worked hard to involve every segment of our population. We knew we could not build a plan that reflected only a portion of our community and we knew that many people are often left out of traditional planning exercises. To address this disparity, we conducted meetings with people whose voices are not heard: homeless people, non-English speakers, youth, elderly, single parents, people of color, gays and lesbians, and many others and ensured that their views were reflected in our plans.

That early outreach paid off: In 1992, the Seattle City Council unanimously adopted a series of framework policies to guide the development of our city's Comprehensive Plan. These policies consisted of the following four decisions:

- We want to maintain the character of single-family neighborhoods, even as our city continues to expand;
- We want to provide attractive alternatives to single-passenger vehicles, which endanger our environment and create serious traffic problems;
- We want to reduce the urban sprawl that

chews up forests, farmlands, and open space all across western Washington state; and — We want to ensure employment and decent homes for all the diverse people who make up our community.

One of the cornerstones of our plan is the development of sustainable city neighborhoods that will offer families and individuals a real alternative to the suburban communities that are fueling ever-increasing urban sprawl. Our goal is to encourage the development of "urban villages" within Seattle — neighborhoods that combine attractive residential areas with healthy commercial districts, schools, parks, and all the other amenities that make up a vibrant community. Urban villages would make it possible for people to live, work, shop, go to school, and have fun—all within walking distance.

Despite all the work we've put into developing the plan over the past years, it remains just the blueprint for the sustainable community we hope to create. Throughout this process, we have always been aware that neighborhood planning is the key to implement the plan, resolve concerns about growth, and preserve our quality of life. Through neighborhood planning, city planners, architects, and residents will work side by side on the issues that affect people's lives most immediately—issues pertaining to their



**Locations:** About 25 are identified, ranging from NE 152nd St. to W Duwamish W, to 42nd ESE Madison, to Sirocco Way SW and Edge Way SW, to S Oglethorpe Place S.

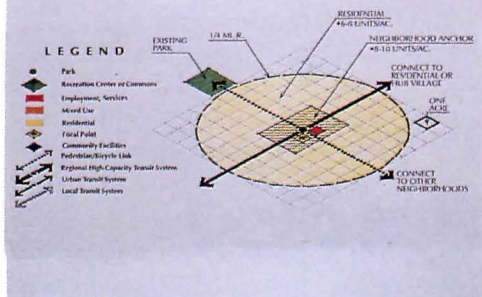
**Locational Criteria:** Neighborhood Villages will have transit service to the nearest Hub or Urban Center Village, good pedestrian and bike connections, opportunities for residential infill, adequate public facilities and a "neighborhood anchor" or focus of commercial services.

**Size:** 2-3 blocks of commercial and/or multifamily zoning allowing for modest development in the "neighborhood anchor."

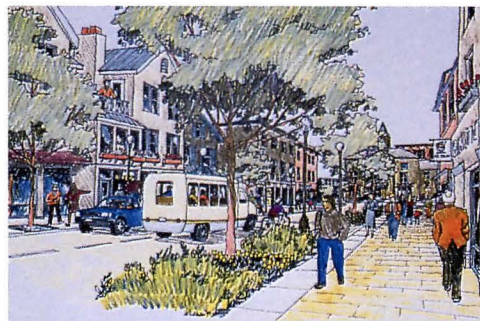
**Function/Mix of Uses:** Primarily residential, with some commercial to serve neighborhood needs.

**Density:** Within the core area, 6-10 housing units per acre; outside, 6-10 units per acre.

**Transportation:** The core area will be the focal point for transit. Pedestrian-oriented improvements to benefit residents and transit riders will be preferred.



**NEIGHBORHOOD VILLAGE:** Zoned to focus residential development on hub of commercial services.



**Locations:** Aurora 37th, 85th Greenwood, Holman Road 10th, Greenlake Roosevelt, Wallingford, Eastlake, Upper Queen Anne, 32nd Union, 23rd Jackson, Easton Hill, Columbia City, MLK Way/Cherry, Rainier Beach, Aki, Admiral Callahan, California/Morgan, Barton 25th, Youngstown.

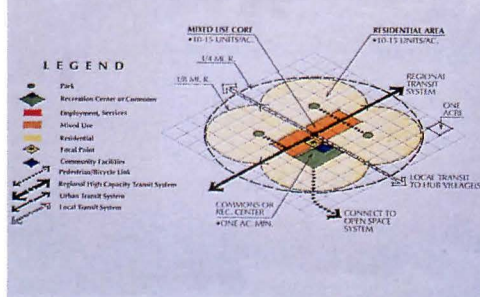
**Locational Criteria:** Areas with a concentrated mix of residential development, located on a principal transit route with direct service to at least one Center or Hub Village, readily access from arterials, with a full-range of retail services. Areas will be contiguous to pedestrian use and connected by bike and pedestrian facilities.

**Size:** Comparable for walking, encompassing at least 125 acres.

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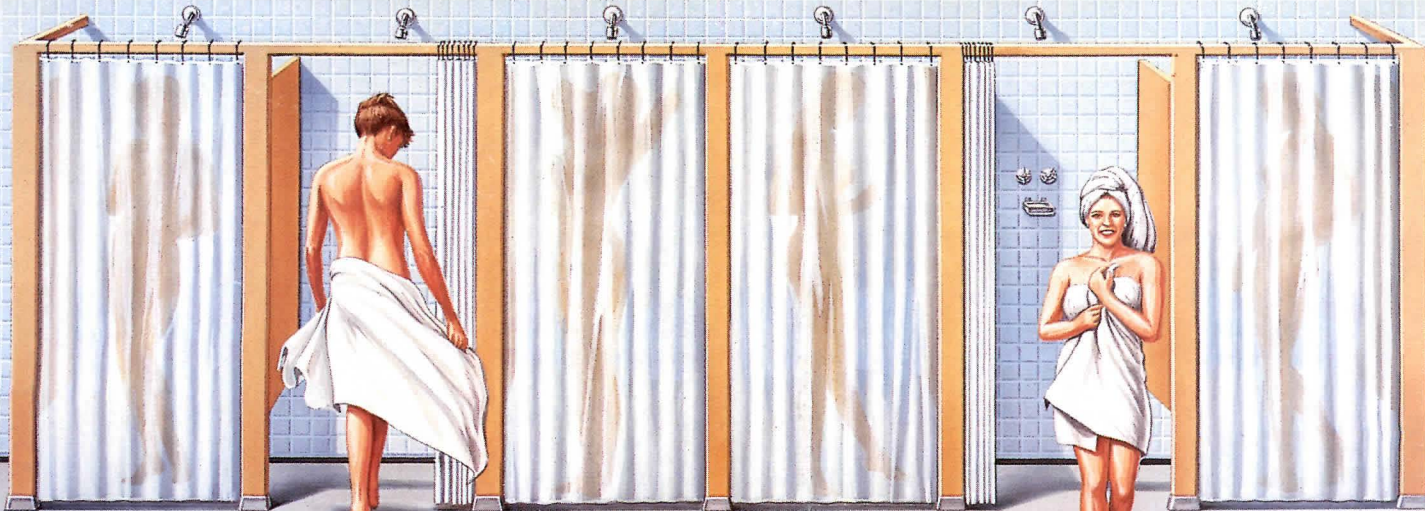


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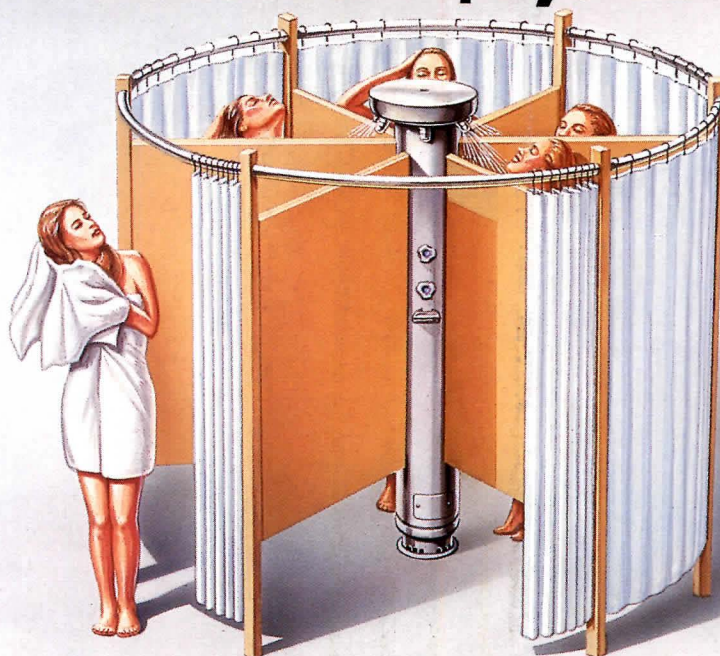
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*We will not travel the road that has claimed so many other U.S. cities: more sprawl, more cars, more pollution, more people fleeing the central city, greater isolation within our communities.*

houses, schools, day care, transportation, and other necessities for daily living.

To provide the resources for this collaboration, my administration has created the Seattle Neighborhood Planning Office, staffed by the best project managers from inside and outside the city government. Moreover, the city has allocated more than \$2 million for the next two years to allow neighborhood groups to hire outside experts in design, planning, transportation, and other areas to help implement their community development plans. Throughout this process, architects have provided a valuable resource to their fellow citizens by using their unique skills to help envision the real possibilities that arise from community values and desires. Citizens can further benefit from including architects and planners in future stages of neighborhood development planning, drawing consistently on architects' and planners' insight and experience. I have always been a believer in the power of design. Those involved in neighborhood planning

will have to face the difficult challenge of balancing sustainability against the attitude of "not in my back yard." But in Seattle, we are writing a new script for the future of our region; we will not travel the road that has claimed so many other U.S. cities: more sprawl, more cars, more pollution, more people fleeing the central city, greater isolation within our communities.

In Seattle's urban villages, people will live comfortably and closer to where they work. They will rely less on cars and more on alternative means of transportation. People will want to live in the city and, consequently, our essential open spaces, farmlands, wetlands, and forests will be preserved for future generations. Above all, we will rebuild a sense of community.—*Norman Rice*

*Norman Rice has been mayor of Seattle since 1989 and is vice president of the U.S. Conference of Mayors. Time magazine named Seattle's Comprehensive Plan among its "Best Designs of 1992."*

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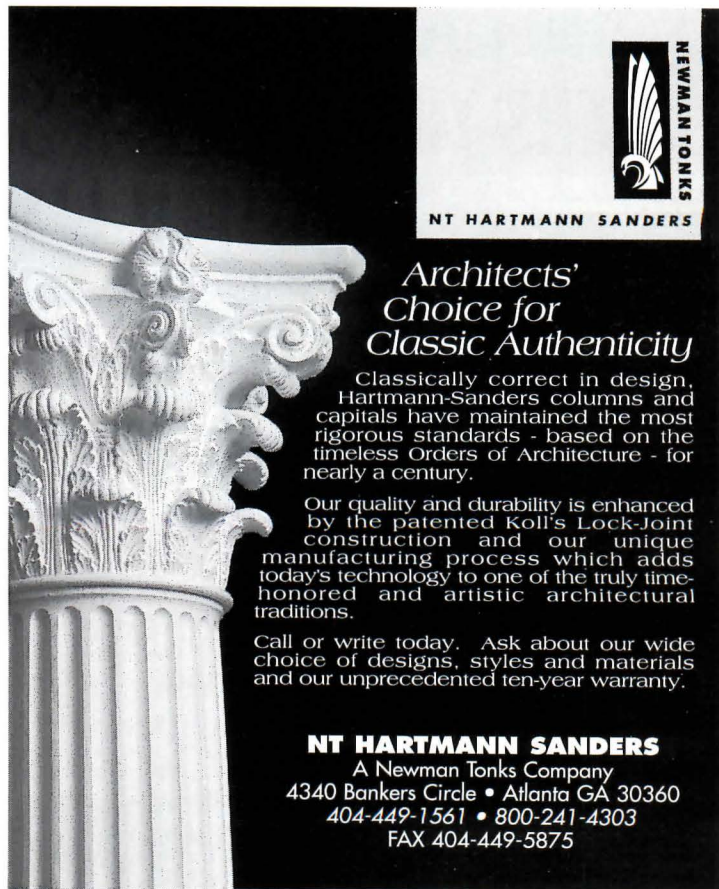
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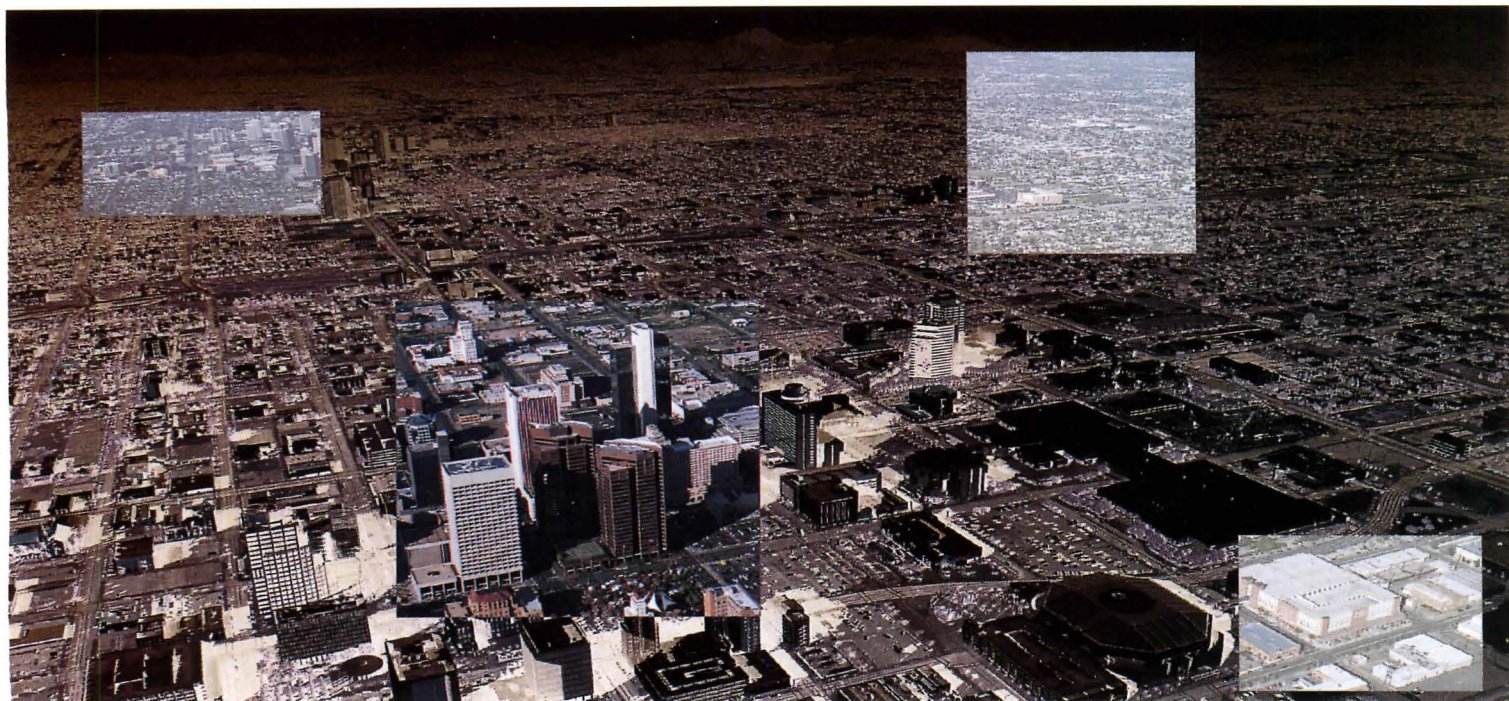
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**America's cities** are splitting apart, dividing into old cities and new cities, cutting across the familiar separations between rich and poor neighborhoods, between city and suburbs. The old city of central skyscrapers and leafy suburbs where people commuted downtown to work is epitomized by the world's tallest building, the Sears Tower. Sears, Roebuck and Company has now moved 37 miles away to Hoffman Estates, part of a new urbanized area of office parks, shopping centers, garden apartments, town houses, and single-family tracts centered around Schaumburg and O'Hare airport. Residents of Chicago's affluent northern and western suburbs can commute to Sears in its new location, but it is out of the reach of people living south of the Loop and on the Near West side of Chicago—a consequence



that cannot have escaped the notice of Sears executives when planning the move.

This split between the old city and the new city is happening everywhere in the United States: Schaumburg is to Chicago as Perimeter Center is to Atlanta, Bellevue to Seattle, Bloomington to Minneapolis, Towson to Baltimore, and Coral Gables to Miami. Even a relatively small metropolitan area like Charleston, South Carolina, has split into Charleston and North Charleston, and many a Main Street has been deserted for new, outlying shopping malls. Some metropolitan areas have more than one new city; it is possible to describe three near Washington, D.C., and four around New York City.

What is happening in the nation's metropolitan areas is frequently described as the marketplace at work; but Sears' move to Hoffman Estates was supported by some \$186 million in government subsidies under a new Illinois tax increment-financing law that permits this technique (originally invented to help cities compete with suburbs) to be used in green-field locations.

In Minnesota, the pioneer of metropolitan planning and regional revenue-sharing, \$200 million in public money for garages and highway improvements subsidizes the 4-million-square-foot Mall of America in suburban Bloomington, countering years of government support for preserving retail sales in downtown Minneapolis and St. Paul.

Urbanization of former suburban areas is always supported by a network of new highways and roads, local investment in infrastructure and public services, and favorable zoning decisions. The Virginia legislature was willing to pay for the new highways needed for Disney America precisely because it would have brought about development of the rural parts of Prince William County, drawing people and businesses from the District of Columbia and the Maryland suburbs.

In older cities, development subsidy has been the norm for almost 50 years. Cities assembled land; built parking garages; manipu-

lated the tax code for office buildings and hotels; constructed cultural centers, convention centers, and festival marketplaces; promoted downtown housing; and improved the streetscape. Cities also used subsidies to retain industry or to lure it back. These efforts often worked. The rapid expansion of urbanized areas in the 1980s was accompanied by a downtown development boom. But the shiny new skyline and elegant downtown mall draw attention away from devastated inner-city neighborhoods and from schools and social services struggling to keep up with rising numbers of people in need.

Although the split between the new city growing up in former suburbs and the traditional central area, or old city, is irreversible, it demonstrates only a phase in a continuous evolution. Because every significant urban and suburban development is controlled by government regulation and subsidies, the future of America's cities is a subject our governments are deciding right now.

Many voters in the new city no longer feel a sense of involvement in the problems of older cities and suburbs: there is no need to go downtown for work, shopping, or entertainment; relatives and friends have left the old neighborhoods. There seems to be a political assumption that old cities and neighborhoods are beyond help. "It is time to stop throwing money at urban problems" is the phrase often used. But only a very rich country could adopt a national policy of writing off the buildings, institutions, and infrastructure of older areas. It is not at all clear that the United States is rich enough to do this.

As offices and industry continue to move out of the central city, the population falls and the percentage of people on welfare rises. When a city's social problems increase and its tax base goes down, it enters a downward spiral of deteriorating maintenance, services, and public safety. Will Philadelphia turn into Camden, St. Louis into East St. Louis? Big metropolitan centers have serious problems but also tremendous resources. The sto-



*As long as political geography allows people to escape community responsibility, old cities will be in trouble.*

ries of Cleveland and Phoenix—told in this issue of ARCHITECTURE—are examples of the creative entrepreneurship that cities have been using to ensure survival.

The new city has problems of its own: traffic congestion on both highways and local roads, long distances to destinations, and the destruction of the natural environment. Garden apartments—little better than cheap motels—clusters of badly built town houses, and shoddy buildings strung out in ugly commercial strips could easily become slums in another generation.

But for most of its residents, the new city works well. The vitality can continue to drain from old cities for a long time and urban sprawl can progress much farther before the new city reaches unsustainable levels of congestion and fragmentation and the old city's property values become a bargain that can no longer be ignored.

Do we want to live through this process? Do we want the society produced by a separation of the haves from the have-nots, with the guard houses and defended enclaves you see in Rio de Janeiro and Mexico City?

The responsibility to care for most of the people with problems falls on older cities. Through accidents of history and geography some cities are better able to assume this burden than others. David Rusk, former mayor of Albuquerque, argues convincingly in his recent book, *Cities Without Suburbs*, that the key to the economic health of older cities lies in either metropolitan consolidation or regional revenue sharing. There are neighborhoods in Houston as devastated as any in Detroit. However, Houston has been able to annex its new city areas and is in a better position to cope with its urban future than Detroit, where the new city is in separate jurisdictions. As long as political geography allows people to escape community responsibility, old cities will be in trouble.

Should government continue to supply services to urban development as it leapfrogs farther and farther away from established

centers? In Oregon, developers are on notice that the state and cities give priority to supporting improvement inside legislated growth boundaries. Portland has taken powerful redevelopment initiatives that increase both the activity and the amenity in central areas, and there is the beginning of a regional light-rail transportation system. Portland's recently adopted 2040 Plan shows how to absorb projected population growth within current boundaries using denser development and new transit. Such growth boundaries are needed if developers are going to consider opportunities in older areas.

During the planning for Model Cities and other 1960s urban renewal initiatives, it was difficult to propose major changes in old cities because of the need to relocate businesses and residents. Today, there are immense areas of abandoned industrial land and many open tracts in residential neighborhoods; the infrastructure is already in place and the departure of industry has usually reduced the pollution problems. Government could accelerate reinvestment by assembling land, creating amenities like the new parkland along the Mystic River in Boston, and dealing with front-end costs such as the abatement of toxic wastes—public investment in these areas would be paid back in increased economic activity and property values.

Experts agree that public housing projects built originally as holding areas for poor people need to be redesigned and rebuilt as mixed-income communities, with some of the previous low-income tenants receiving vouchers to live in other locations. Columbia Point in Boston is an example of a failed housing project converted to a successful community. Restoring community and amenity to inner-city areas and enacting growth limits are parts of the same policy; one works to reinforce the other.

Building regional transportation systems can help create a new kind of metropolitan city, particularly if suburban office and retail development becomes denser in key loca-

tions, forming centers that can be served by public transportation. Atlanta's Perimeter Center is about to be linked into the city's metropolitan rail transit system. Arlington County, Virginia, has directed its growth to take advantage of the Washington, D.C., Metro system. Seattle, like Portland, is in a state with growth boundary legislation and will have a citywide and regional transportation network (pages 45-49).

One new piece of federal legislation is helping to target the problems of older cities. Atlanta, Baltimore, Chicago, Detroit, New York, and Philadelphia are to receive federal block grants under a new Empowerment Zones and Enterprise Communities Program that simultaneously makes businesses situated in the zones eligible for special tax credits and tax deductions. Zones in Boston, Cleveland, Houston, Kansas City, Los Angeles, and Oakland will get block grants but not the tax benefits.

Defining growth boundaries, sharing regional revenues, investing in bypassed areas, restoring urban neighborhoods, and creating a regional transportation system are needed to consolidate the new city with the old. These measures make sense even in a period of budgetary stringency because there is a payback: Money is saved by not financing inefficient fringe development; money is gained from taxes on economic activity and property values created in older areas. Letting old cities deteriorate and continuing to subsidize increasingly fragmented fringe development will in the end cost far more: Metropolitan areas will be much more spread out and harder to service, and the old city will be beyond repair. The sooner we act, the less it will cost to put our cities together again.—Jonathan Barnett

*Jonathan Barnett, FAIA, is director of the City College of New York's Graduate Program in Urban Design and author of The Fractured Metropolis: Improving the New City, Restoring the Old City, Reshaping the Region.*





**Cleveland** was never a place Americans thought of as a tourist destination. Although prosperous in the 1920s as a financial and cultural center, the Ohio city that straddles the mouth of the Cuyahoga River at Lake Erie is better known for its recent period of ruin and decay. Home to a renowned art museum, a Daniel Burnham–designed government center, and a celebrated symphony, Cleveland by the late 1960s had become a down-at-the-heels steel town, so polluted that even the Cuyahoga River caught fire. Citizens fled the “inner-ring” neighborhoods that surround the downtown, the public school system deteriorated, and most large downtown department stores moved to the suburbs. In 1979, Cleveland became the first major city in the United States to default on its debt since the Great Depression.





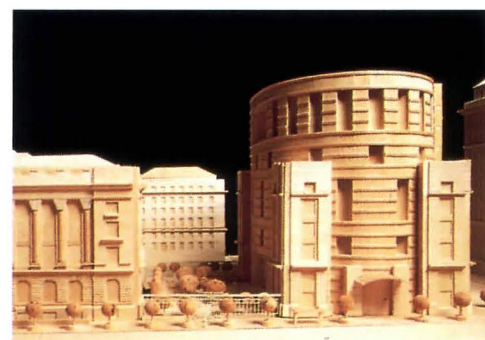
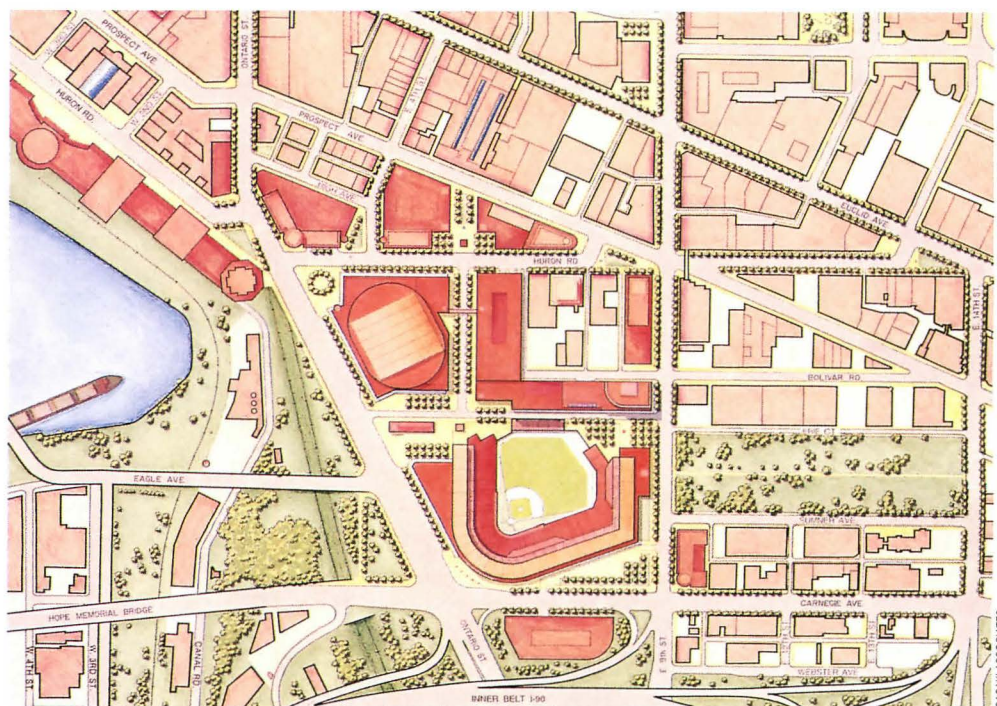


## Cleveland Gateway Northcoast Harbor

Planned to bring Clevelanders and tourists into the urban core, the Northcoast Harbor development, Cleveland Gateway, and Tower City multipurpose complex embrace downtown. The 1990 renovation of Terminal Tower—now known as Tower City—incorporates an office tower, hotel, and skylit retail complex. The next phase of this project is the creation of two department stores, more hotels, and housing that will reach to the banks of the Cuyahoga River. Tower City is linked by a covered walkway to the \$400 million Cleveland Gateway sports complex, master-planned by Sasaki Associates, which incorporates HOK Sport's muscular Jacobs Field baseball stadium (pages 64-69) and Gund Arena, a state-of-the-art basketball arena and hockey rink designed by Ellerbe Becket. An 8-acre park by Sasaki Associates unifies the sports facilities with urban open space. A few blocks away on Superior Avenue, a contemporary addition by Hardy Holzman Pfeiffer to Cleveland's Beaux-Arts public library is under way, to be completed in 1997.

On Lake Erie, Cleveland's working port is soon to be joined by a museum and entertainment complex modeled upon Baltimore's Inner Harbor. The focal point of the harbor complex is I.M. Pei's Rock 'n' Roll Hall of Fame, which will house interactive exhibits on rock music and its stars. The music museum, scheduled to open this September, is expected to draw 800,000 to 1 million visitors a year. A science museum by E. Verner Johnson & Associates will open to the public next year. Once funding is secured, the \$100 million Great Waters Aquarium by Esherick Homsey Dodge and Davis will complete the city's investment in its waterfront. Cleveland's retail and restaurant proprietors are already vying for space on the new public harbor.

**BELOW:** Sasaki's master plan for Gateway emphasizes open space.  
**CENTER LEFT:** Terminal Tower is now a mixed-use complex.  
**CENTER RIGHT:** Hardy Holzman Pfeiffer's addition to the Cleveland Public Library (right) will open in 1997.  
**BOTTOM LEFT:** Gund Arena is a state-of-the-art sports facility.  
**BOTTOM RIGHT:** Arena addresses plaza.





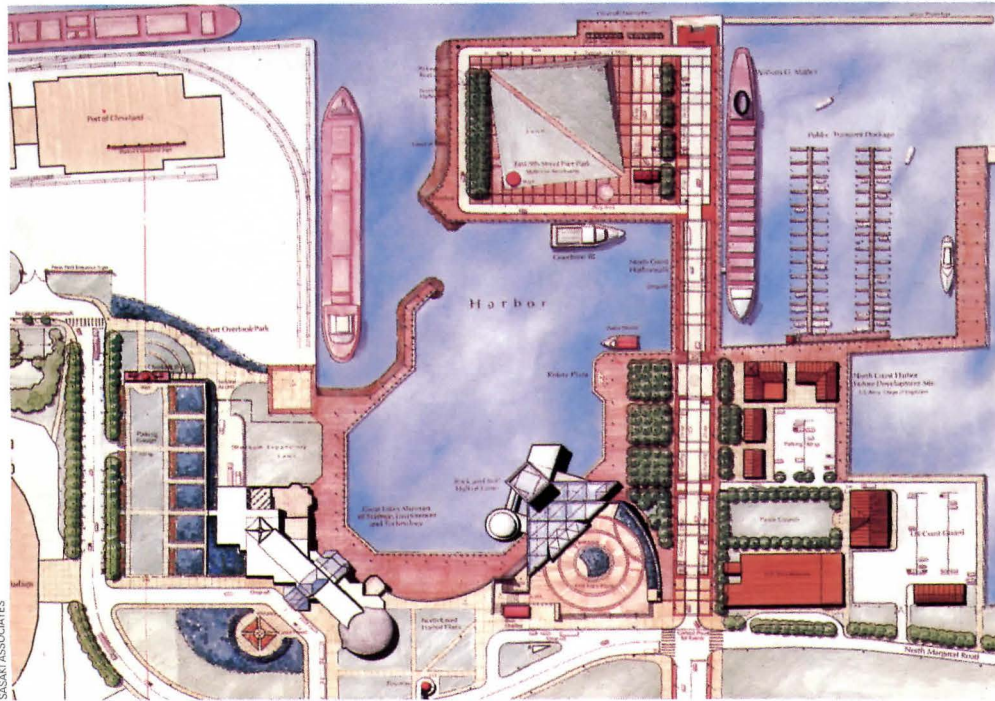
**BELOW:** Northcoast Harbor, also master-planned by Sasaki, will accommodate museums and retail.

**CENTER LEFT:** Rock 'n' Roll Hall of Fame is constructed at the end of large plaza facing downtown Cleveland.

**CENTER RIGHT:** Rock 'n' Roll Hall of Fame is anchored by a 16-story tower.

**BOTTOM LEFT:** Science Museum by E. Verner Johnson houses a planetarium.

**BOTTOM RIGHT:** Science Museum's atrium faces lakefront walkway.



In 1980, encouraged by Mayor George V. Voinovich (now governor of Ohio), Cleveland's political and business leaders set out to revive the city's downtown through tourism. According to Joseph D. Roman, executive director of Cleveland Tomorrow, a public-private partnership formed to implement the city's makeover, "When you talk about the future of American cities, you have to concede that there really is no reason for downtowns to exist any more." Because of the advances in telecommunications over the last decade, Roman believes, there is no physical need for companies to locate downtown, where crime is high, parking expensive, and space for creating modern headquarters limited. Therefore, Cleveland's downtown revival strategy, based on a 1988 master plan conceived by the city's planning department, is designed to draw tourists and local residents into the city's heart.

The model is a common one for the American city of the 1990s: Build a ballpark, renovate the theater district, create a lively waterfront with an aquarium, and people will come. Baltimore, Denver, Chattanooga, and other urban centers have followed similar strategies. In Cleveland, attractions include a new retail, hotel, and office complex tucked into Terminal Tower, a restored 1930 landmark; Cleveland Gateway, a 28-acre downtown sports complex linked to an improved theater district at Playhouse Square; and, for the first time in the port city's history, a public waterfront, complete with E. Verner Johnson & Associates' new science museum, an aquarium designed by Esherick Homsey Dodge and Davis, and I.M. Pei's Rock 'n' Roll Hall of Fame (sidebar, these pages).

As good development should, Cleveland's building boom has stimulated growth in adjacent downtown neighborhoods. In the Warehouse District, a former industrial/manufacturing area between the downtown and the Cuyahoga River, old industrial buildings are being renovated into lofts, offices, and



## Playhouse Square Master Plan

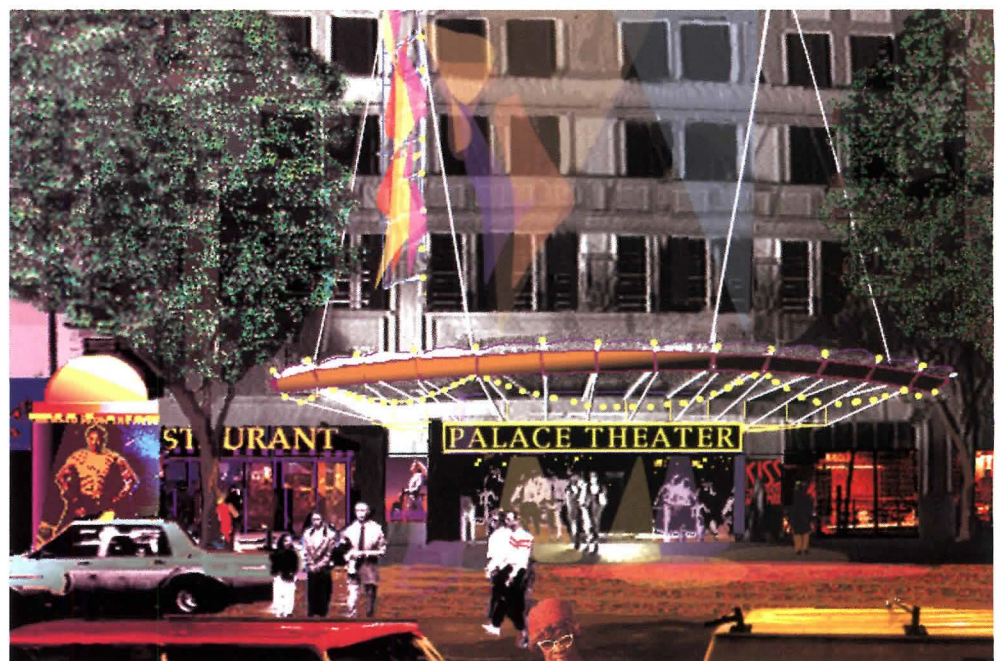
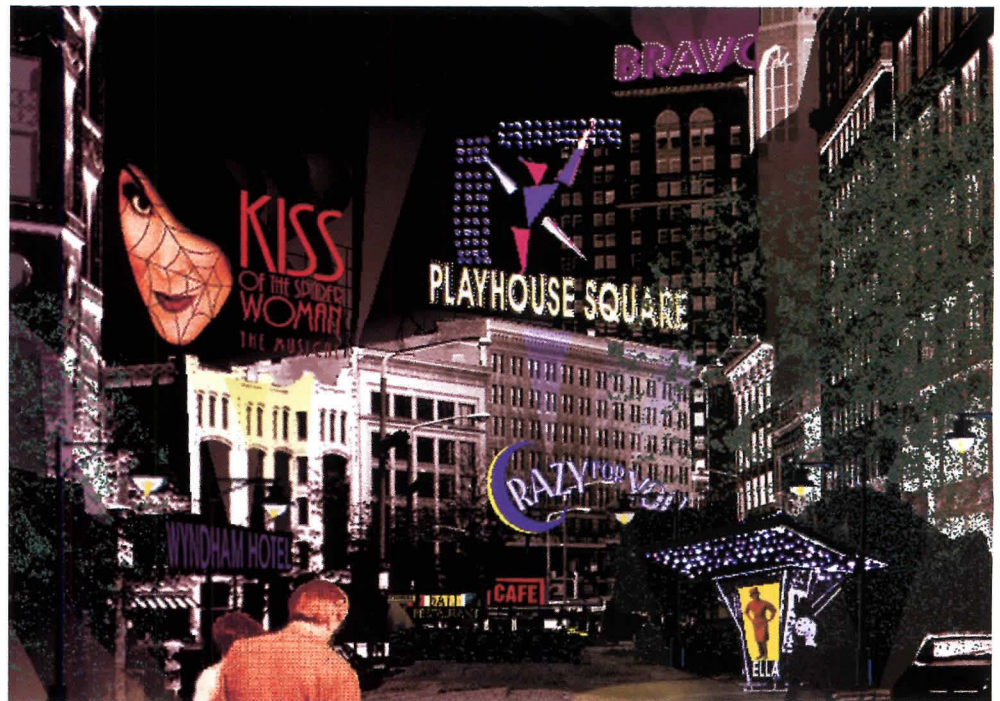
The 1920s marked vaudeville's heyday and the beginning of a fledgling film industry. In Cleveland, then the nation's fifth-largest city, five ornate theaters were erected between 1920 and 1922 along Euclid Avenue, one of the main streets leading from Cleveland's heart at Public Square. The theaters drew performers with top billings, and the area's nightlife attracted more than five million patrons a year. The fashionable district, dubbed "Playhouse Square," served Cleveland's theatergoing public for 30 years.

But as suburban-style entertainment grew in postwar decades, Playhouse Square declined; by 1971, the Ohio and the State theaters were scheduled for demolition. The Playhouse Square Foundation was formed to save them, and the Ohio, the State, and the Palace were eventually renovated in the mid-1980s. These three theaters, seating between 1,699 and 3,000, feature local companies and touring shows. Plans are on the boards to renovate a fourth theater to accommodate long-running Broadway shows.

The enlivened theater district spawned a new office building by Richard Bowen & Associates, completed in 1991, and a new 205-room hotel by RTKL Associates. In 1993, the foundation retained Thompson & Wood of Cambridge, Massachusetts, to design an urban master plan. The architects conceived a rearrangement of five intersecting streets that would permit the development of open space in the heart of this district.

According to the master plan, buses along Euclid Avenue will be rerouted to facilitate a pedestrian-oriented environment. To encourage people to park and dine in the district before attending sports events at the Gateway (a five-minute walk away), Huron Road will be transformed into a tree-lined public boulevard.

**BELOW:** Thompson & Wood's computer drawings of Playhouse Square reveal how new marquees and lighting will animate Cleveland's theater district.  
**BOTTOM:** Twenty-one-foot glass canopy with reflective metal fins and thousands of lights will reach over the sidewalk in front of the Palace Theater. The marquee, designed by Thompson & Wood, will be erected this fall.





*"I have a very basic prescription for the city of the future: Compete or die."*—Mayor Michael R. White

galleries, and new housing is under construction. An industrial parcel across the river is slated for an entertainment district, possibly with new housing. Last summer, the Cleveland chapter of the American Institute of Architects organized a Regional/Urban Design Assistance Team to plan improvements for the streets between the city's sports and theater districts. And construction has begun on a light-rail line that will start at Terminal Tower, proceed to the Warehouse District, and deliver passengers at the Rock 'n' Roll Hall of Fame. "In terms of revival," notes Director of City Planning Hunter Morrison, "I don't think you'll find another American city that's come as far as Cleveland."

The city's skyline attests to renewal. Recent towers by Cesar Pelli and SOM dominate, cranes are a common sight, and several of the numerous bridges across the Cuyahoga are undergoing repairs. In a move reminiscent of Budapest's bridges over the Danube, plans are under way to artistically light the bridges for the city's bicentennial next year.

Cleveland's glitzy, entertainment-based downtown revival is obvious to visitors, but it hides frightening realities: Forty percent of Clevelanders live below the poverty line; the city's public school system, which is still under court-ordered busing, is in disarray, and school buildings are deteriorating. According to a recent study of 14 cities across the nation, Cleveland's disparity between rich and poor citizens is the widest. In the Hough and Fairfax neighborhoods, selling drugs is the major economic activity.

Some observers believe Cleveland's new downtown development, despite private investments, has been heavily subsidized and tax-abated by the city at the expense of its poor neighborhoods and public schools. Roldo Bartimole, editor of *Point of View*, a local alternative newsletter, calls Cleveland "Subsidy City" and blames city hall for the state of Cleveland's schools. Others point out that as upscale office buildings and entertainment venues dominate downtown, blue-collar

jobs—for which the majority of Cleveland's workers are trained—increasingly move to the suburbs. Even *The Cleveland Plain Dealer*, the city's major newspaper, recently moved its production plant to Brooklyn, a distant suburb. Christopher Warren, the city's director of community development, admits, "Cleveland is hardly a city that is finished with its comeback."

Mayor Michael R. White, Warren's boss, contends that Cleveland is embarking on two growth programs simultaneously: the downtown development, and an equally ambitious program of new housing construction in neighborhoods surrounding the core. "We are building more new housing now than at any time since the Korean War," White proclaims. Warren adds that, because of this housing, people who left these neighborhoods 20 years ago are returning. "That change in attitude," he contends, "suggests Cleveland is not past the point of no return."

But detractors complain that this new housing—aided by the more than \$1 billion investment Mayor White wooed from local banks—comprises mainly market-rate, single-family structures that ignore the urban poor. Warns Norman Krumholz, Cleveland's director of city planning in the 1970s, "With a 40 percent poverty rate, you need low-income housing. This is a two-society environment we are building, and we are building it as fast as we can."

Mayor White has also tackled the school system, though he admits that solving its problems is "like teaching an elephant to tap dance." His slate of candidates was elected to the school board, but the system's new superintendent, Sammie Campbell Parrish, recently quit, saying she was exhausted from trying to deal with the district's chaos. The schools were placed under court-ordered state control. Voters, for their part, have failed to approve a levy for much-needed resources to improve their schools. Clevelanders voted to impose a "sin" tax on cigarettes and alcohol that helped pay for Gateway, only to

see property taxes reduced on the sports complex to the detriment of their schools. Perhaps Cleveland's citizens have grown wary of city hall and uncertain of what value they will get for their money.

A cheerleader for Cleveland's successes is President Bill Clinton, who recently awarded the city a \$90 million economic development grant for its empowerment zone, an area that includes Hough, Glenville, and Fairfax, the city's poorest neighborhoods. Warren, who was recently appointed interim director of the empowerment zone, plans to spend 70 percent of the grant on job training and social services such as family therapy and drug counseling. "The critical issue is how we connect our physical economic development strategy—the construction of housing, stadiums, shopping centers, rock 'n' roll halls of fame—to our labor force development strategy," he says.

There is no doubt in anyone's mind that Cleveland's downtown looks better today than it did five years ago, with many new buildings and at least some of its impressive architectural heritage restored. Perhaps this Midwestern port town will indeed become the tourist mecca that planners envision—one million visitors a year are expected to tour the Rock 'n' Roll Hall of Fame alone. But although architecture can contribute to a city, buildings alone cannot empower its economy or make Cleveland a better place to live for all its citizens.

As Mayor White maintains, "You can't have a great town with only a great downtown." White's agenda for a "good set of public services, a great quality of life, and a good educational system" will indeed help Cleveland compete with its suburbs. Migration away from the downtown is already at its lowest in 25 years, according to the mayor. Now all Mayor White has to do is elevate almost half of his citizens' incomes; build them durable, affordable homes; and manage the crisis in his city's public schools.—Heidi Landecker



# Steeling Home

Cleveland didn't want a ballpark like Baltimore's. Even though the city hired HOK Sport's Joseph Spear, designer of Baltimore's 1920s-style Camden Yards (ARCHITECTURE, July 1992, pages 64-71), "Cleveland didn't need a Baltimore knockoff," according to Hunter Morrison, Cleveland's director of city planning. What the city needed was a baseball venue that would fit the gutsy, industrial character of this Ohio steel town, harmonize with the 28-acre sports complex that would be the cornerstone of the city's downtown revival, and—most importantly—keep the Cleveland Indians from hitting the road for a town with better facilities.

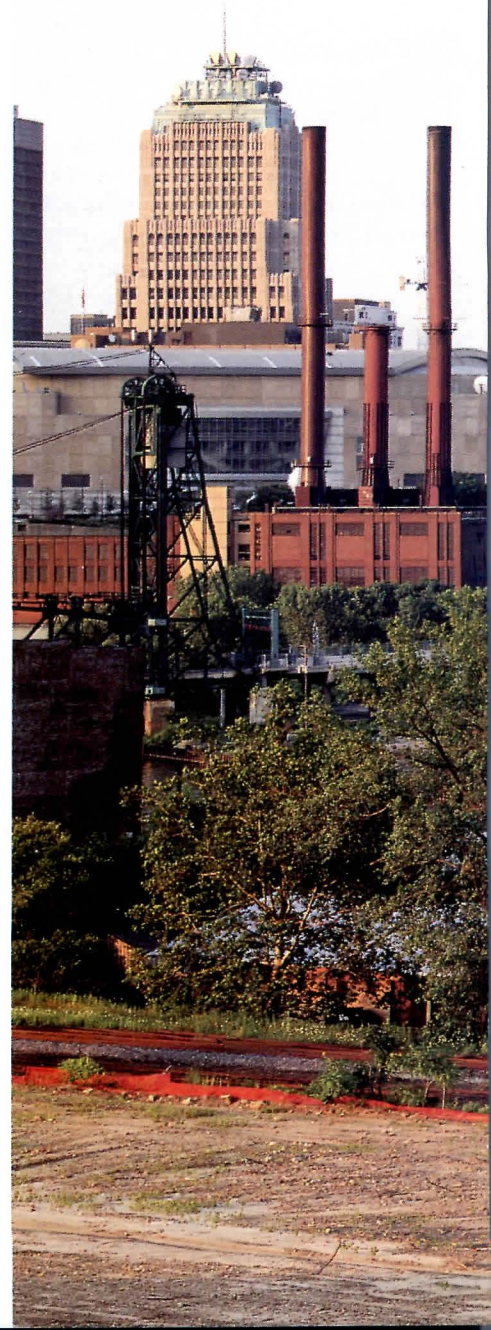
In 1984, Cleveland voters had rejected a multipurpose stadium that would accommodate both the Cleveland Browns and the Indians. The football and baseball teams had by necessity been sharing Municipal Stadium on Lake Erie and it had never been a happy relationship. Moreover, Clevelanders, who endure a blanket of snow for six months out of the year, wanted a genuine summertime ballpark with real grass. "They wanted a beautiful building, but not a 1928 retro ballpark," notes Spear. "They said, 'This is Cleveland, we want to move forward.'"

What HOK Sport gave Cleveland is not a knockoff but a whole new ballgame. Jacobs Field, named for Indians' owner Richard Jacobs, has little in common with Camden Yards and much in common with Cleveland. For inspiration, Spear and project designer James Chibnall took cues from several Cleveland buildings. For example, the ochre color of the ballpark's bricks and their pattern on the elevator towers are clearly meant to echo a much-loved 1912 building across the river, the West Side Market. Spear explains that Cleveland's Old Arcade, a glass-roofed 1890 shopping arcade not far from the site, influenced the design of the building's main concourse. "The concourse is a tall vertical space," Spear describes. "Recalling the arcade, we tried wherever possible to keep light coming from above in that space."

But the element of the ballpark truest to Cleveland is its expressed steel structure, painted white to accentuate its ornate yet muscular character. Spear recalls that as Camden Yards was under construction in Baltimore, people commented on the beauty of its structure, which was eventually enclosed with brick. "We thought, here's a steel town, what an opportunity to let that steel show through," he recounts. Many of Cleveland's steel drawbridges, lift bridges, and a bridge that pivots are visible from the entrance to Jacobs Field; the ballpark's round steel columns, beams, and trusses recall the bridges' forthright structure. "We tried to make the steelwork of the ballpark progressive and interesting and articulated, like those bridges," Spear explains.

The architect also considered Cleveland's urban character. Ever since the city's grand Terminal Tower complex was finished in 1930, visitors approaching the city by car have been greeted by its solid masonry wall along Ontario Street. Sasaki Associates' master plan for Cleveland Gateway, as the sports complex is named, called for continuing that solid edge along the southern border of the ballpark's site, creating a boundary for the urban core. This was consistent with HOK Sport's other goal—to make the dramatic Cleveland skyline to the north of the site a backdrop for the outfield.

Jacobs Field has one flaw that has bothered local and national critics, if not Clevelanders: the definitive segregation of the Indians' wealthy fans and those in the stands. A restaurant for club members might have been discreetly tucked out of sight; instead, its glassy, terraced volume hangs ostentatiously over left field. Perhaps such class stratification is also true of Cleveland, long a society of extremely wealthy patrons and blue-collar factory workers. Baseball, after all, is for everyone, and today everyone can enjoy it in the style he or she can afford. As Joseph Spear will tell you, "Ballparks have changed a lot since 1928."—Heidi Landecker





**THESE PAGES:** Cleveland Gateway, a 28-acre sports complex designed to revive downtown Cleveland, includes Jacobs Field and Ellerbe Becket's Gund Arena (left, behind smokestacks). Viewed from across the Cuyahoga River, the sports complex echoes the city's industrial character.

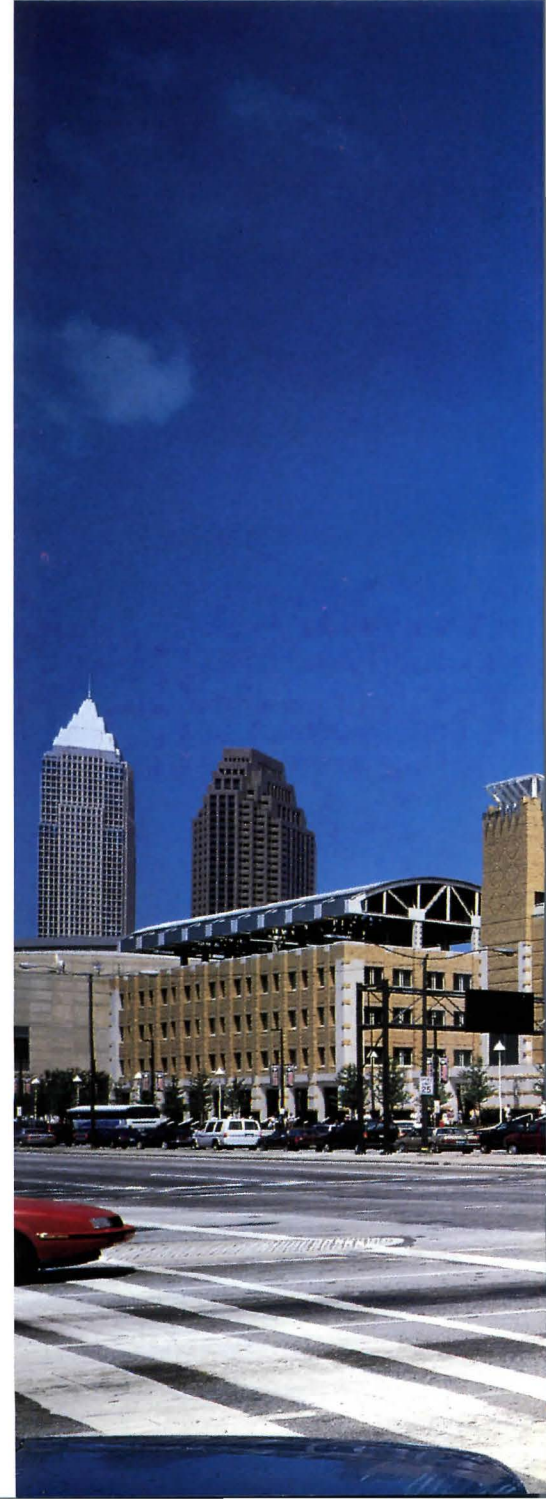




**BELOW:** The truss-topped rectangular office building for the Cleveland Indians continues a masonry wall along Ontario Street.

**BOTTOM:** Club lounge is located in glass box facing Carnegie Street. Brick color evokes the West Side Market, a well-known Cleveland landmark.

**FACING PAGE:** Main entrance to Jacobs Field reveals the ballpark's exposed and painted steel structure.









**BELOW:** Irregular field evokes past ballparks, seating 42,000 fans.

**FACING PAGE, TOP:** Gateway Plaza, designed by Sasaki Associates, links Gund Arena and Jacobs Field.

**FACING PAGE, BOTTOM:** Elevated, enclosed walkway to parking garages skirts ballpark's northern edge.

**PLANS:** Irregular shape of ballfield was determined by adjacent streets.

**SECTION:** Ballpark accommodates (bottom to top) field seating, club seating, press suite, and upper deck.



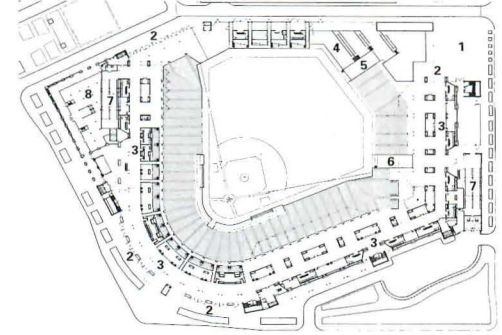


**JACOBS FIELD  
CLEVELAND, OHIO**

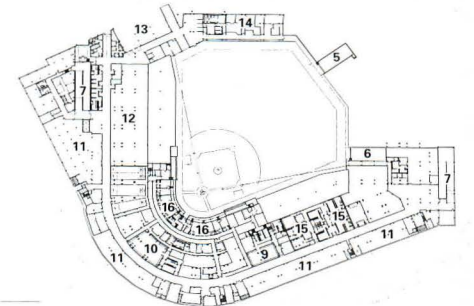
**ARCHITECT:** HOK Sports Facilities Group, Kansas City, MO—Joseph E. Spear (principal-in-charge); Stephen C. Evans (senior project manager); James A. Chibnall (senior project designer); Michael H. Westerheid (senior project architect); David Alexander, Craig Meyer, Steve Karr, Ed Roether, Darren Varner, Tristan Anderson, Susan Carter, Joe Berlekamp, Brad Burgoon, Bryan

Burns, Bobby Carter, Sharon Chibnall, John Kemuel Cravens, Craig Deister, Guy Despatis, Craig Elliot, Marilyn Feris, David Gile, John Greenlee, Kenton Higgins, Jerry Holmes, Lee Hoover, Michele Kiehl, Lori Larson, Steve Leuthold, Lyle Miller, Kirk Minton, Kate Sinnott-Beaver, Delvin Stevenson, Nancy Weitzel, Jenny Wilmot (design team)  
**LANDSCAPE ARCHITECT:** Sasaki Associates  
**ENGINEERS:** Osborn Engineering (structural); Polytech (MEP engineering)

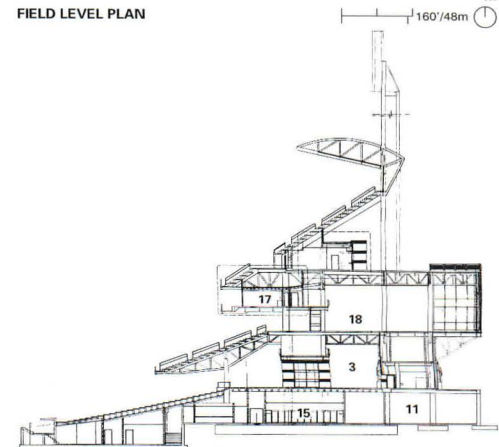
**CONSULTANTS:** Triadesign Associates (interior design); Wrightson, Johnson, Haddon & Williams (acoustics/video); The Bigelow Companies, Cini-Little International (food service); Grenald Associates (lighting); Thompson, Ross & Associates (telecommunications)  
**CONSTRUCTION MANAGER:** Huber, Hunt and Nichols  
**COST:** Withheld at owner's request  
**PHOTOGRAPHER:** Timothy Hursley



**MAIN CONCOURSE LEVEL PLAN**



**FIELD LEVEL PLAN**



**SECTION NEAR FIRST BASE**

- |                         |                             |
|-------------------------|-----------------------------|
| 1 PLAZA                 | 10 VISITING TEAM CLUB HOUSE |
| 2 BALLPARK ENTRANCE     | 11 MECHANICAL               |
| 3 CONCOURSE             | 12 KITCHEN                  |
| 4 PICNIC AREA           | 13 TRUCK DOCK/RECEIVING     |
| 5 HOME TEAM BULLPEN     | 14 GROUNDSKEEPING           |
| 6 VISITING TEAM BULLPEN | 15 LOCKERS                  |
| 7 CIRCULATION           | 16 DUGOUT SUITE             |
| 8 TICKET OFFICE         | 17 PRESS SUITE              |
| 9 HOME TEAM CLUB HOUSE  | 18 CLUB LOUNGE              |

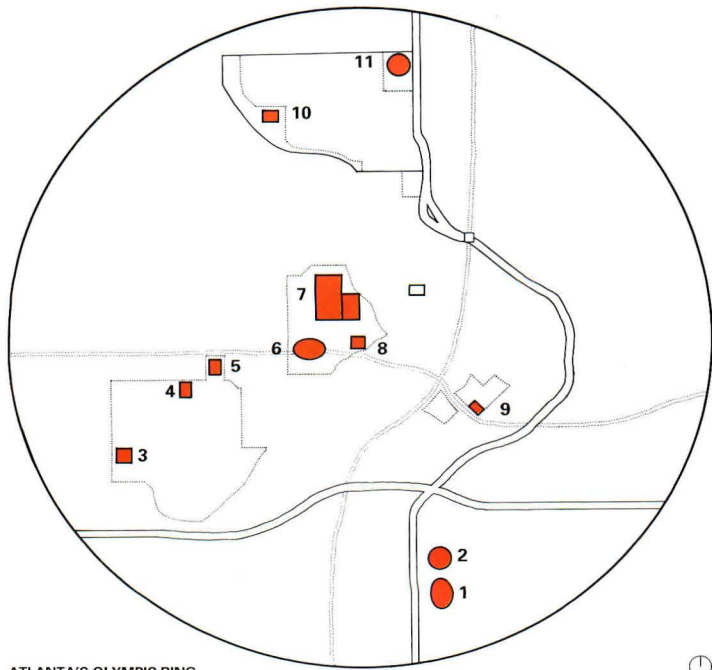




**Atlanta** is racing to get ready for the 1996 Olympics. With only 15 months left until the torch is lighted for the 17-day event, the city's preparations have drawn the criticism that civic leaders haven't taken full advantage of the opportunity presented by the Games to enhance Atlanta. Critics point to the 1992 Olympics in Barcelona and lament that they see far fewer architectural gold medal winners emerging this time around.

The 26th Olympiad represents a defining moment for Atlanta, an event that is forcing the city to take stock of its assets and figure out where and how it wants to go in the years ahead. "Our entire goal is to ratchet up the quality of life in the city and state, using the Games as the vehicle," explains Richard Monteilh, executive director of the Metropolitan Atlanta Olympic Games





ATLANTA'S OLYMPIC RING



- |                                 |                                 |
|---------------------------------|---------------------------------|
| 1 OLYMPIC STADIUM               | 7 GEORGIA WORLD CONGRESS CENTER |
| 2 ATLANTA FULTON COUNTY STADIUM | 8 OMNI COLISEUM                 |
| 3 MOREHOUSE COLLEGE             | 9 GEORGIA STATE UNIVERSITY      |
| 4 CLARK ATLANTA UNIVERSITY      | 10 GEORGIA TECH AQUATIC CENTER  |
| 5 MORRIS BROWN COLLEGE          | 11 ALEXANDER MEMORIAL COLISEUM  |
| 6 GEORGIA DOME                  |                                 |



*Hosting the Games will confirm Atlanta as an international city that continues to strive for all its citizens.—Mayor William Campbell*

## Sports Venues

Authority (MAOGA), a state agency involved in the physical preparations. "We're trying to put the money where it can do the most good."

One aspect of Atlanta's rebuilding that can't be disputed is the sheer magnitude of work under way: The metropolitan area is now the site of more construction activity than any other region in the U.S.—\$2 billion worth of public and private improvements in all, according to the Metro Atlanta Chamber of Commerce. When the nation's architects arrive in Atlanta for the AIA convention from May 5 to 8, they will see construction activity at its peak.

The reason for the push is pure dollars and sense: Scheduled to run from July 19 to August 4, 1996, the Olympics are expected to draw more than two million visitors to Atlanta and have a \$5.1 billion impact on the state of Georgia from 1991 to 1997. It will be an unprecedented one-time boost for the state capital. But in order to accommodate the deluge of visitors, the city of 395,000 will have to increase in size for three weeks.

Sports venues are spread throughout the city. Two stadiums for field hockey have been built at the Atlanta University Center complex west of the business district. A 19,000-seat aquatic center is nearing completion at the Georgia Institute of Technology, north of the downtown. The Olympic Stadium is rising next to the Atlanta-Fulton County Stadium, south of the downtown. Several other venues are in outlying areas as far away as Savannah, site of the yachting races. Games-related commissions also include a wide range of temporary structures by FTL Associates of New York and a comprehensive package of graphics for signs and banners that will unify the disparate buildings.

Beyond the actual sports venues are public projects such as street improvements, pedestrian corridors, parks, and open spaces. MAOGA is guiding a series of community revitalization efforts, including the construction of 1,000 residences in low-income areas near sports venues. Eleven boulevards that

link sports venues with the Olympic Village in Atlanta are being upgraded with new trees, lights, and wider sidewalks. They include the most important corridors in the city: Auburn Avenue, the gateway to the Martin Luther King, Jr., Historic District; the Atlanta University Center corridor; and Capitol Avenue, linking downtown and the Olympic Stadium.

Coordinating the city improvements is the Corporation for Olympic Development in Atlanta (CODA), a small city agency whose director of planning and design is H. Randal Roark. CODA is working on 46 different building projects, ranging from visitors' centers to pedestrian bridges to landscape architecture commissions, funded largely by a \$150 million bond issue approved by city voters specially to get the city ready for the Games. While the Atlanta Committee for the Olympic Games (ACOG) builds individual structures, CODA and MAOGA are making a special effort to provide the lacking connective tissue between sports venues. "Where these Olympics will make their mark is in the way they will help the city enhance the public realm and set the stage for future investment," Roark notes.

In addition to the civic projects, many spinoff developments are on the rise, including privately funded initiatives launched by companies and organizations that want to take advantage of the Games for their own gain. The Hyatt Regency Atlanta is one of several hotels expanding downtown. The apartment building where Margaret Mitchell wrote *Gone With The Wind*, run by the non-profit Margaret Mitchell House, has been targeted as a public attraction to be restored by architect Surber and Barber, with funding from Daimler-Benz of Germany. Ebenezer Baptist Church, the historic congregation where King and his father preached, has commissioned Stanley, Love-Stanley to design a larger sanctuary across the street to accommodate the crowds it has been drawing. House of Blues, the popular night club chain, is coming to Underground Atlanta.

To create a legacy of permanent projects that serve the community, planners of the 26th Olympiad have dispersed sports venues throughout Atlanta and surrounding environs rather than grouping them in one location. Each facility has been matched with an "end user" that has agreed to assume operation and maintenance after the Games end.

The aquatic center will be given to Georgia Tech for conversion to a new intercollegiate aquatic center. The rowing facility will be given to the city of Gainesville and Hall County. The Olympic Stadium will be partially demolished and turned into a 45,000- to 48,000-seat ballpark for the Atlanta Braves. Siah Armajani's "cauldron," a free-standing work of art that will house the Olympic flame during the Games, will remain standing just beyond the outfield. Morris Brown College will use one field hockey stadium for football, and Clark Atlanta will inherit the second for use as a soccer field and track. The 16 tennis courts, including a stadium with 8,000 permanent seats, will be given to Stone Mountain Park. In this way, planners say, they are ensuring that the physical investment made for the Olympics will continue to benefit Atlanta for years to come.

In each case, the end user participated along with the Olympic planners in the design process to make sure the structures can be adapted easily for post-Olympic use. Because the buildings are in different parts of the city, often on or near college campuses, the architects made an effort to fit them into the context of the immediate setting rather than to adhere to any predetermined "look." As a result of this strategy, the buildings constructed for the 1996 Olympics exhibit no stylistic unity, except for the common graphics that will be used to identify them as Olympic sports venues.

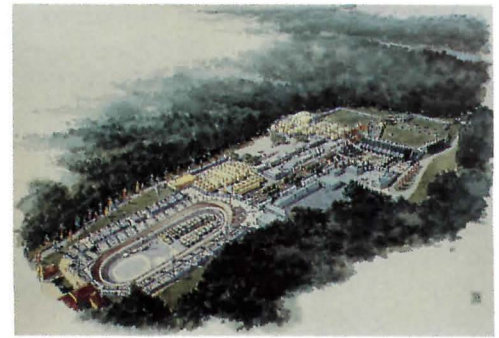
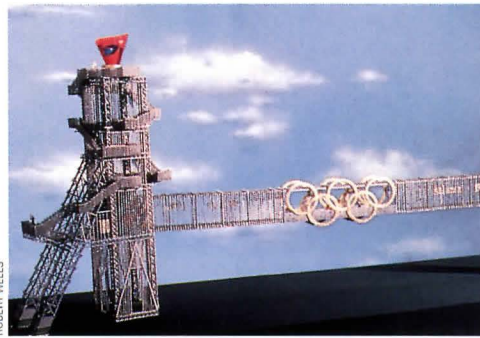
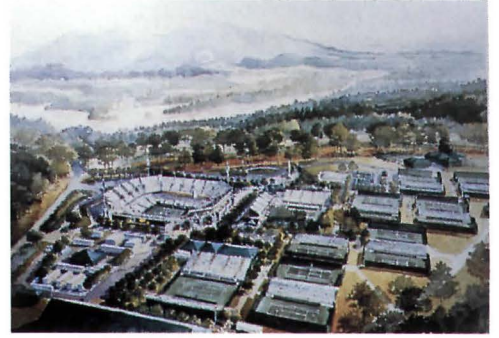


**TOP ROW, LEFT TO RIGHT:** Aquatic center at Georgia Tech by Stanley, Love-Stanley and Smallwood, Reynolds, Stewart, Stewart and Associates; Olympic Stadium by Heery International, Rosser Fabrap, Williams-Russell and Johnson, and Ellerbe Becket; tennis center in Stone Mountain Park by R.L. Brown and Associates, Nichols Carter Grant Architects, Rosser Fabrap, and Tunnell-Spangler & Associates.

**CENTER ROW, LEFT TO RIGHT:** Rowing and canoeing boathouses by Armour, Cape

& Pond and B. & E. Jackson; Olympic Hockey Center by Turner Associates and HNTB; Wolf Creek Shooting Complex in Fulton County by Harrington George & Dunn, Lowe Engineers, CTA Architects/Engineers, Roy Ashley and Associates, and Duckett & Associates.

**BOTTOM ROW, LEFT TO RIGHT:** Olympic "cauldron" by Siah Armajani; archery facilities and cycling velodrome by Bishop Planning Consultants with M. Paul Friedberg & Partners.



ROBERT WELLS



Many young firms that were too small to win sports commissions from ACOG are finding work by riding the coattails of the Olympics. Smith Dalia, a 10-person office, for example, is converting a group of seven buildings near Centennial Olympic Park into a sales center and hospitality complex for Adidas America.

This Olympics-related spinoff activity, some locals contend, will revitalize downtown Atlanta. But skeptics wonder what will happen after the Games are over. Have the buildings, parks, and infrastructure enhancements been coordinated in a way that will make a difference to Atlanta's future? Or are they merely a series of fragmented projects without a unifying vision?

In response to such ruminations, planners for ACOG and the city have crafted an urban design strategy unique in Olympic history. Their objective is to provide facilities that are suitable for the Games in the short term, and then convert them to a permanent "legacy" that will position the city and state for continued growth in the long run. Furthermore, they specifically wanted to use the Games to focus attention on neighborhoods bypassed in previous rounds of the city's rebuilding effort.

To achieve this dual mission, planners sought to match each sports venue with a permanent "end user" who would assume responsibility for its operation and maintenance for years to come. According to MAOGA's Monteilh, this two-pronged strategy is a way to stretch Atlanta's limited dollars for maximum effect. Unlike other countries that support the Olympics with large funding commitments, the U.S. has not done much to support the effort in Atlanta, leaving it up to local governments and the private sector. The event "is a catalyst," Monteilh maintains. "Some of these neighborhoods probably would not be rebuilt without the Olympics."

The same strategy applies to the public infrastructure improvements and other physical investments such as housing. Although

improved corridors and new parks will initially accommodate the crowds that flock to the Olympics, they will remain in place for the public to use after the Games are over. And at Georgia Tech, site of the Olympic Village residential complex, the state is building 4,000 housing units for up to 8,000 athletes, coaches, and team officials, which will be transformed into dormitories for Georgia Tech and Georgia State University after the Games, with students' room payments covering construction costs.

Consistent with the idea of using the Olympics as a vehicle for revitalizing the city was the decision to steer as much work as possible to local architects and contractors. ACOG also wanted to see a high percentage of work go to minority- and women-owned firms. Roark had another goal: To make sure some of the city's best design firms are represented with projects in the public realm. Among CODA's commissions are a visitors' pavilion by Scogin Elam and Bray; a park pavilion by Anthony Ames; and a suspension bridge by Thompson Ventulett Stainback in conjunction with Ove Arup & Partners.

But for the most part, the quality of work in Atlanta is all over the field. If there were a gold medal for Olympic architecture in these Games, it probably would not go to the sports venues but to the affordable housing near the stadium, the corridor facelifts, the small-scale spinoff developments launched by the private sector. Aside from a few stand-out pieces by ACOG, such as Siah Armajani's cauldron for the Olympic flame, it is difficult to get rhapsodic about much of the sports work. Individual buildings may be competent, functional, pragmatic, but they aren't very adventurous—a reflection of ACOG's decision to eschew avant-garde architecture and untested designers.

"There are not a lot of frills on these projects," explains Oscar Harris, president of Turner Associates. "These Olympics are about people, the personality of the South. Architecture is not the main event."—*Edward Gunts*

Preparations for the Olympics reach far beyond the construction of sports facilities. Even those not attending the Games will feel their presence in the form of colorful graphics and new public spaces throughout Atlanta.

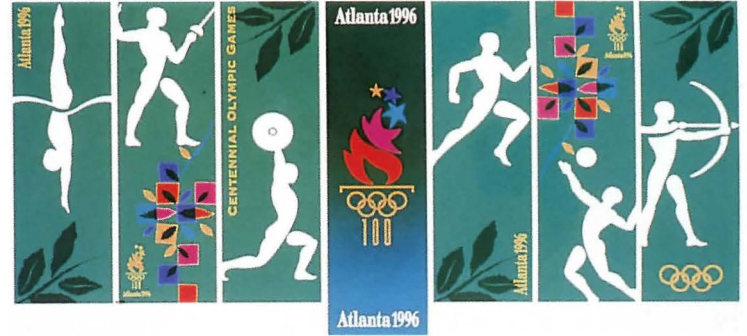
"A Quilt of Leaves" is the theme for a comprehensive graphics package that will decorate banners, signs, tickets, uniforms, and buildings. The pattern of leaves scattered upon irregular squares reflects the Southern tradition of quilting and Atlanta's reputation as the "City of Trees." This design was created by a consortium including Primo Angeli of San Francisco; Atlanta's Copeland Hirthler/Murrell and Jones Worley Design; Favermann Design of Boston; Malcolm Gear Designers of Providence; and Atlanta's Turner Associates.

The "Quilt of Leaves" theme is applied in the design of the largest public space being created for the Games, Centennial Olympic Park. Located at the eastern gateway to the Georgia World Congress Center, the \$65 million, 21-acre park was conceived by ACOG President Billy Payne as a public centerpiece and focal point for the Games.

The design incorporates a 100-square-meter plaza with an Olympic Ring fountain, two 100-year-old Georgia oak trees, and pathways of commemorative brick pavers that "stitch" together the pieces of the park's landscape quilt, each of a different design. A court of 23 flags honors all the host cities of the Olympic Games. The park's fountain will provide the water for a reflecting pool, and a grassy amphitheater will be created just south of the plaza. Members of the design team include EDAW; the SWA Group of Dallas; Project for Public Spaces of New York; and Turner Associates, Sizemore Floyd Architects, and Thompson Ventulett Stainback, all of Atlanta.



**BELOW LEFT:** Master plan for 21-acre Centennial Olympic Park shows proposed buildout after the 1996 Games. **BELOW:** Banners with "Quilt of Leaves" and pictograms of sports guide visitors to Olympic destinations. **BOTTOM:** Computer-generated presentation shows Underground Atlanta, a popular downtown attraction, dressed up for the Olympics.



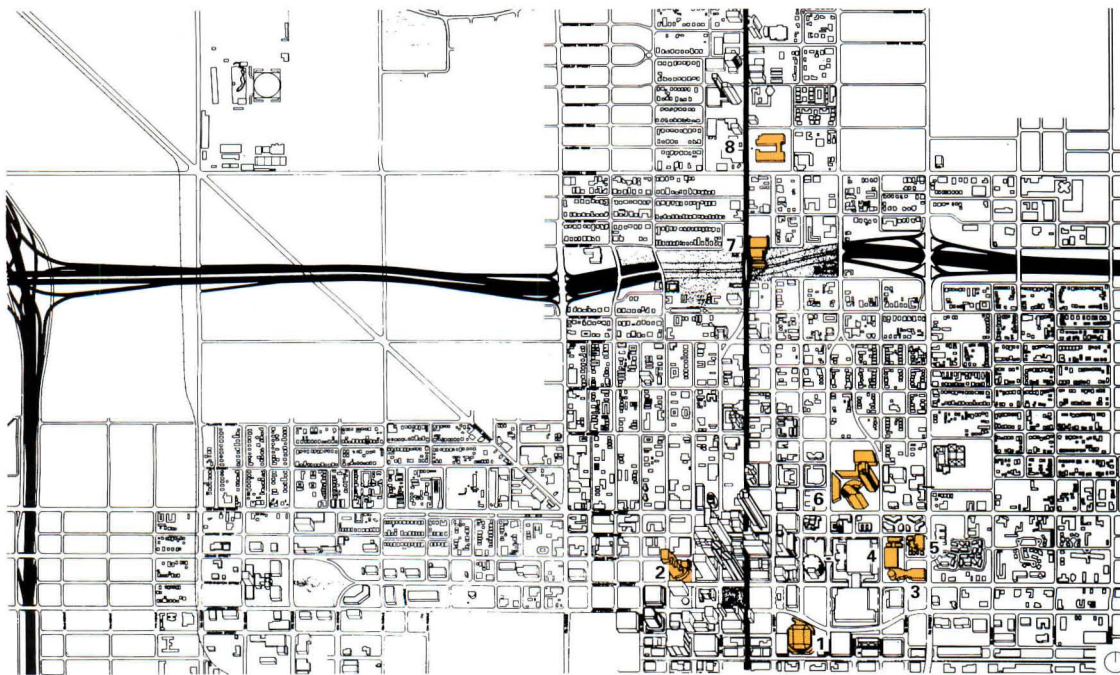




**Phoenix** always denied it wanted to be a big city, even as it raced to become one. This great, undiscovered country of laissez-faire living embodied the motto “The West’s most Western town,” coined in Scottsdale, one of its 19 communities, where, until recently, horseback riders had the right-of-way.

Demographic patterns, climate, and a compelling landscape have conspired to transform Phoenix into an urban and cultural center. But the city has no definable center and hasn’t even been a city very long. It has only been since World War II that Phoenix has undergone an astounding transformation from desert town to the country’s eighth-largest city. The jump from 100,000 to one million people took less than 20 years. The jump to two million took only 20 more. The city’s physical definition was swept





- 1 AMERICA WEST ARENA
- 2 CITY HALL
- 3 ARIZONA SCIENCE CENTER
- 4 PHOENIX MUSEUM OF HISTORY
- 5 HERITAGE SQUARE
- 6 ARIZONA CENTER
- 7 PHOENIX CENTRAL LIBRARY
- 8 PHOENIX ART MUSEUM

DOWNTOWN PHOENIX



*Phoenix has risen from the desert ashes to become an important cultural center for the entire Southwest.*

*—Mayor Skip Rimza*

## Phoenix Museum of History

away by a dust storm of development that engulfed miles of rich farmland, fragrant citrus groves, and virgin desert with equal abandon, leaving sterile builder-designed suburbs in its wake. By the mid-1980s, the once compact community stretched more than 40 miles from north to south and 50 miles east to west in an almost uniform Jeffersonian grid of one-mile squares: Broadacre City on steroids.

Today, at nearly 2,000 square miles and 2.25 million inhabitants, Phoenix's shimmering sheet of suburban sprawl has suddenly found itself an urban heavyweight. Predictably, the rapid growth of the city has brought exurban sensibilities into conflict with suburban realities. Freeways, which had always been considered an anathema, became a necessity. Cultural resources that were adequate for the sleepy agricultural hamlet of 1945 were woefully inadequate for the metropolitan behemoth of 1985. Recalls former Mayor Terry Goddard with amused disbelief, "Phoenix had changed so quickly...it was hard to keep track. Yet we were still utilizing cultural facilities which had been built when the city was one tenth its current size."

For an ambitious young mayor intent on dragging his still somewhat reluctant city into the 21st century, this lack of cultural resources was unacceptable. Also unacceptable to Goddard was the decaying condition of a downtown that wasn't old enough to be decaying. During his term, which lasted from 1984 to 1990, the mayor foresaw a single solution to both problems: revive downtown with an infusion of new cultural facilities. Goddard believed that "no great city exists without a heart, without an active vibrant center," and he was going to get one for Phoenix.

Fortunately, the mayor and others understood that cultural facilities alone could not sustain a renaissance. Any chance of success demanded a strong base of retail, entertainment, and Class A office space. Armed with predictions of seemingly endless growth, combined with generous development cost abatement incentives, the city wooed devel-

opers and eventually landed Arizona Center, a 900,000-square-foot office/retail complex developed by the Rouse Corporation, and a basketball arena for the Phoenix Suns.

These were two strong urban magnets, but Goddard wanted more: a theater center, museums, and, symbolically most important, a new city hall. He considered a strong civic component necessary to demonstrate that downtown was a place for "the people."

A widely heralded international competition was held in 1986 to choose an architect for the city hall, drawing entries from such notables as Robert Stern, Michael Graves, Ricardo Legorreta, and Arata Isozaki. Ultimately, architect Barton Myers from Los Angeles, was chosen, and the transformation of downtown Phoenix got its official imprimatur. Myers proposed several arcaded blocks of courtyard buildings marching toward the state capitol, draped in a fussy, Postmodern skin. The 400,000-square-foot complex of government offices anticipated urban space-making and offered a thin but recognizable design identity for the city.

With Arizona Center, the Suns arena, and the city hall, development in downtown Phoenix was gaining real momentum. Additionally, the city was at the peak of one of its hottest growth and business cycles. In 1988, Goddard seized on the combination as part of a campaign to deliver one of the most significant municipal authorizations in city history: a \$1 billion ballot initiative loaded with infrastructure enhancements.

Street improvements and water treatment plants may seem a somewhat prosaic posterity on which to hang a mayor's hat. But riding in the carload of bread-and-butter items was nearly \$200 million in "cultural" bonds—including three new museums and a library. It was an audacious gamble, even by the rough and tumble standards of the West: Phoenix is one of the most politically and fiscally conservative pockets in the United States, where many improvement projects, such as mass transit and an elaborate scheme

The new Phoenix Museum of History by architect Langdon Wilson will exhibit the city's 100-year past with artifacts and photographs. Sandwiched between the mammoth convention center and the delicate 19th-century houses located in Heritage Square, the 20,000-square-foot museum and the attached 240,000-square-foot, five-level parking garage will screen the smaller houses from the convention facility. The museum will also share a piazza with Antoine Predock's three-story science center—a dramatically sculptured concrete and metal mass that stretches for nearly a city block along the southern side of the site.

Director of Design Jack Black of Langdon Wilson recognized that his most difficult challenge "was giving this little building a positive, recognizable image" among its overwhelming neighbors. He responded with an efficient yet dynamic gesture: A tilting, lifting arcade of glass and metal attached to a plaster-finished concrete block wall will sweep up along the face of the museum and over the top of the precast concrete parking garage. The museum, in effect, borrows some of the bulk of the garage to give itself a presence it could never have achieved otherwise. An east-facing arcade deftly links the museum to the garage, while offering an approachably scaled alternative to the massive buildings that surround it.

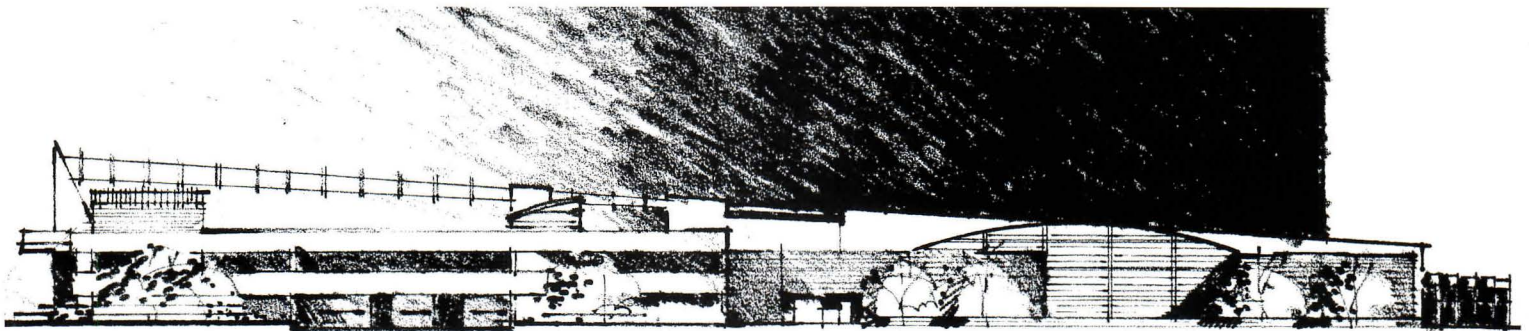
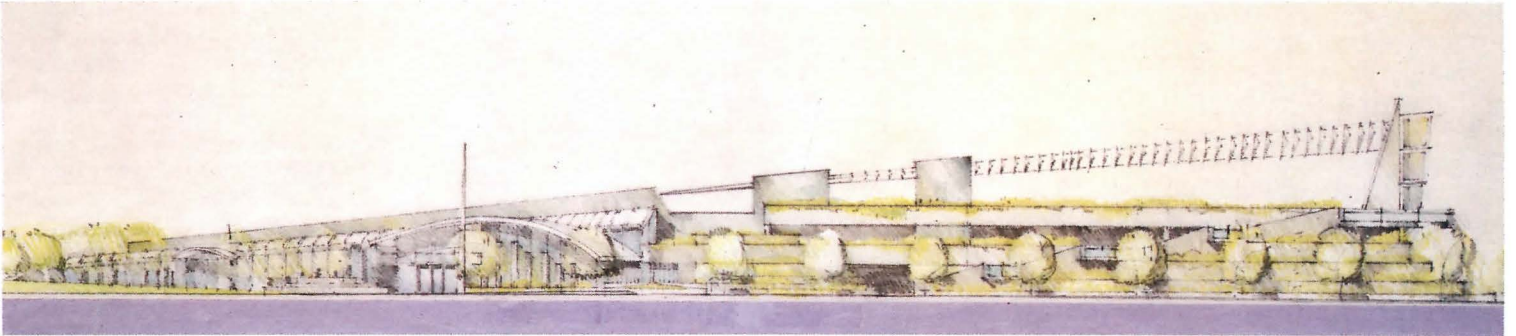
The museum is divided into three volumes linked by the arcade, which appropriately frames a view of the historic houses across the plaza. It will hold a main exhibit space, a community room, and a library, in addition to administrative areas, mapped out in a linear, one-floor arrangement. The small scale and detailed assembly of the arcade offers an approachable contrast to Predock's science center. Currently under construction, the museum is scheduled to open January 1996.



**BELOW:** Front elevation of history museum shows arcade (left), entry under curving roof (center), and dynamic cable and tower structure (right), which acts as marker.

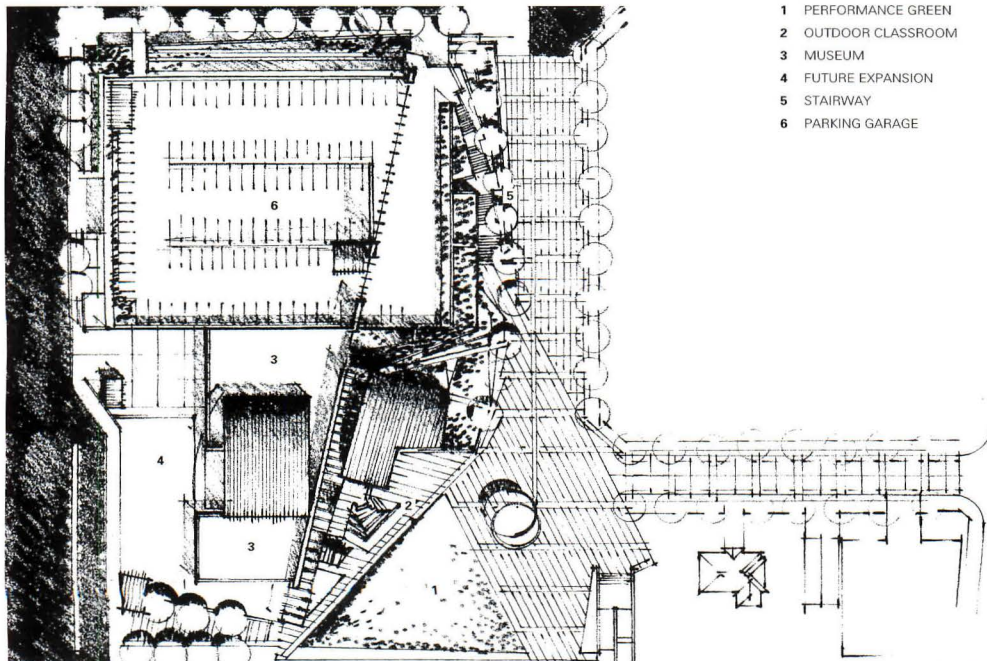
**CENTER:** Rear, western elevation shows exhibit hall under barrel-vaulted roof.

**SITE PLAN:** Museum defines eastern edge of plaza shared with Heritage Square (right) and Antoine Predock's Science Center (bottom). Parking garage (top) accommodates 800 cars.



WEST ELEVATION

45/13.5m



- 1 PERFORMANCE GREEN
- 2 OUTDOOR CLASSROOM
- 3 MUSEUM
- 4 FUTURE EXPANSION
- 5 STAIRWAY
- 6 PARKING GARAGE

SITE PLAN

100/30m



to refill the now-dry Salt River, went down to ringing defeat.

But the cultural bond initiative was different, suggests Earl de Berge, editor of *The Rocky Mountain Poll*, a regional polling publication. "This one passed because of the extraordinary work of a citizen-led grassroots campaign, a mayor willing to support this agenda, and the strategically astute decision to put all the projects on one ballot," de Berge concludes. "That way, competition between parks and libraries, art museums and science centers was minimized. It focused public attention and allowed supporters to make their case convincingly."

Passage of the bond in 1988 nearly completed Goddard's downtown agenda. The glamorous new city hall would join the existing symphony hall and convention center, along with the renovation of a landmark movie palace, and a theater center, science museum, history museum, huge main library, an expanded and renovated art museum, a basketball arena, two new office towers, and 150,000 square feet of entertainment and retail development. A downtown would have been created that was unimaginable only five short years earlier. Furthermore, all of the new construction would be completed in under seven years, a blazing pace even for booming Phoenix.

Goddard then made two important decisions, both of which dramatically affected the process of building cultural infrastructure in his city. First, the mayor convened a Downtown Design Review Board to oversee architect selection for the new projects, staffing it with luminaries like Dino Di-Concini (brother of U.S. Senator Dennis Di-Concini) and John Meunier, outspoken dean of Arizona State University's College of Architecture and Environmental Design.

This board saw to it that the architect selection process yielded a promising crop of designers, including Antoine Predock, Tod Williams and Billie Tsien, and Will Bruder. "We wanted designers whose record sug-

gested the ability to produce culturally significant architecture," explains Meunier, "buildings that would identify Phoenix as an emerging center for design."

Goddard's next step was quite unrelated: He resigned as mayor to run unsuccessfully for governor in 1990. Typically, this change would have little effect on the architectural process; however, detractors on and off the city council quickly mounted a concentrated effort to derail Barton Myers' city hall, using questionable fiscal analysis and the threat of a souring economy; with Goddard out of the picture, there was little effective effort to save the Myers scheme, and the Phoenix office of Langdon Wilson was selected to design a low-budget office tower as the city hall.

The new architect squeezed commendable architectural and urban design gestures out of an emasculated program, but the original spirit of the project was gone. In its place now stands an 20-story encomium to efficiency, a more appropriate image for a bureaucracy overly enamored of the city's recent designation by the Carl Bertelsmann Foundation as the "Best Managed City in the World."

The economic ill winds buffeting the country blew across Arizona with particular force, driving the economy based on real estate and tourism to its knees and terrifying city management. Predictably, the cultural projects became "efficiency targets"—under the rubric of seeing that the public got what it paid for at the least cost possible, new Mayor Paul Johnson and the Council waded clumsily into the design process.

Will Bruder's copper-clad library, it was suggested, "looked like a loaf of bread," and might be more appropriately "Southwestern" if it were pre-oxidized green. No one ever suggested how this measure might save money, and Bruder was forced to demonstrate that, in Arizona, copper does not oxidize green—it turns penny brown. His building was spared.

The Williams/Tsien art museum expansion also escaped nearly intact, as did Pre-

With a significantly greater budget and size than the new museums, Will Bruder's Phoenix Central Library is the city's most ambitious cultural project. Will Bruder's poetic synthesis of function, technology, and history updates the building type, inspired by the work of 19th-century French architect Henri Labrouste. Yet it is very present-day Phoenix, too.

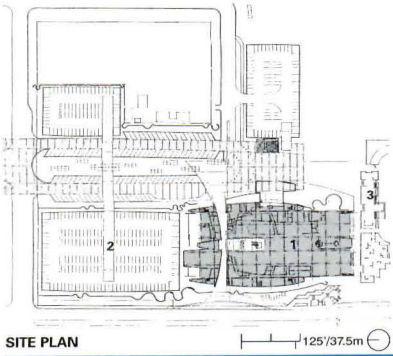
At 280,000 square feet, the library is an information machine formulated to engage visitors. The building's ground floor combines current fiction, audio, video, computing, a children's reading room, a theater, and a café. "This library is the education mall," says Bruder. "It must be as exciting—more exciting—than its competitors."

Bruder's volume is simply organized; library services are stacked on five floors flanked by copper-clad mechanical and service "saddlebags," which protect the interior from the blistering desert sun. The copper is ribbed in a fashion reminiscent of the train cars and agricultural buildings that helped create this city. Administrative offices and special collections are sandwiched between the ground-floor public functions and a one-acre room containing the library's entire circulating non-fiction collection on the fifth level.

More than just a breathtaking volume of space, this top floor will embody the first great public room in Phoenix. Everything is on display, from the building's ingenious technology to the city itself—viewed through more than 10,000 square feet of glass. A tensegrity roof hangs delicately above candle-shaped columns that terminate just below a series of skylights. Those skylights will light the metal column capitals during the summer solstice, while perimeter slots will wash the walls with daylight. The library is currently scheduled to open to the public in May.

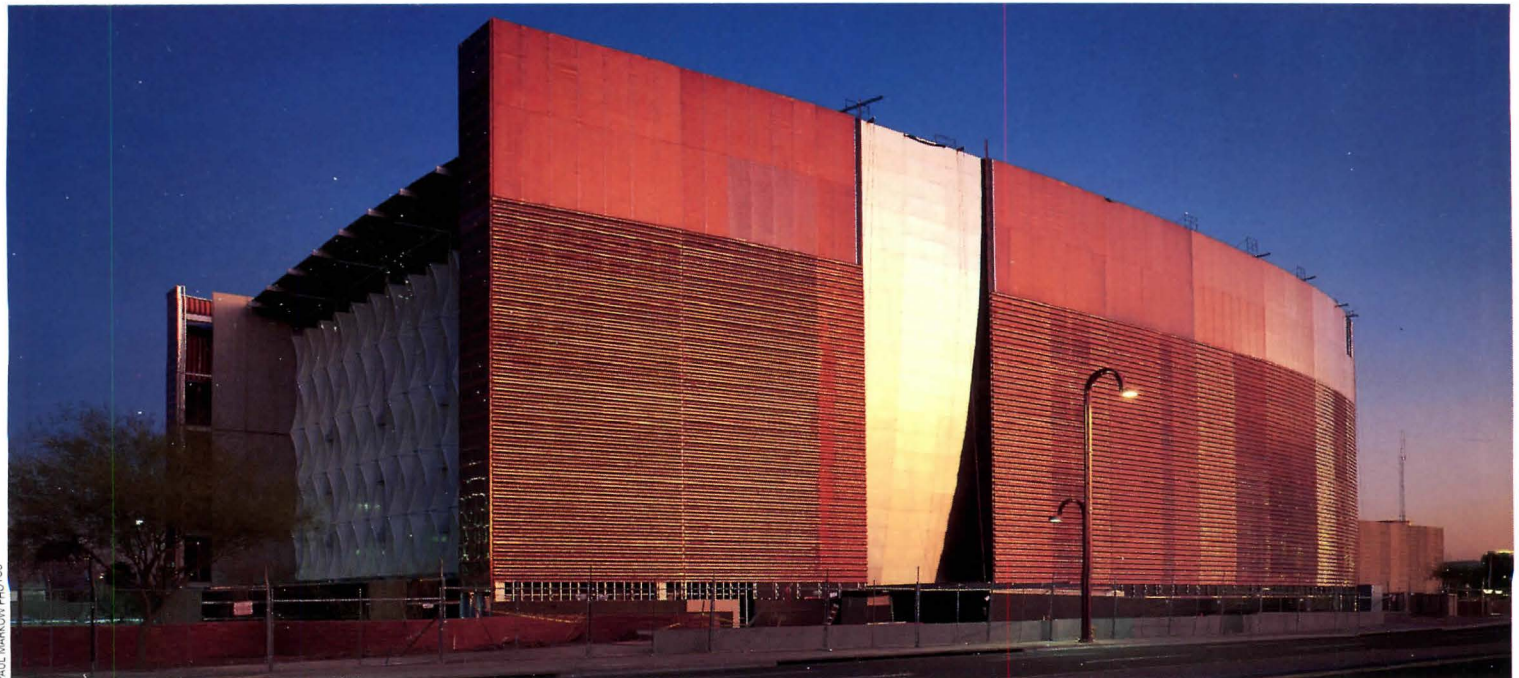


- 1 CENTRAL LIBRARY
- 2 PARKING
- 3 PARK/URBAN PLAZA OVER FREEWAY



SITE PLAN

**SITE PLAN:** Phoenix Library fronts a park built over a freeway.  
**BELOW:** View from southeast shows louvered, concrete walls and copper-clad “saddlebags” housing services.  
**BOTTOM:** Library is entered under angled stainless steel panel. North elevation (left) is screened by *fabric sails*, designed by FTL/Happold.



PAUL MARKOW PHOTOS



## Phoenix Art Museum

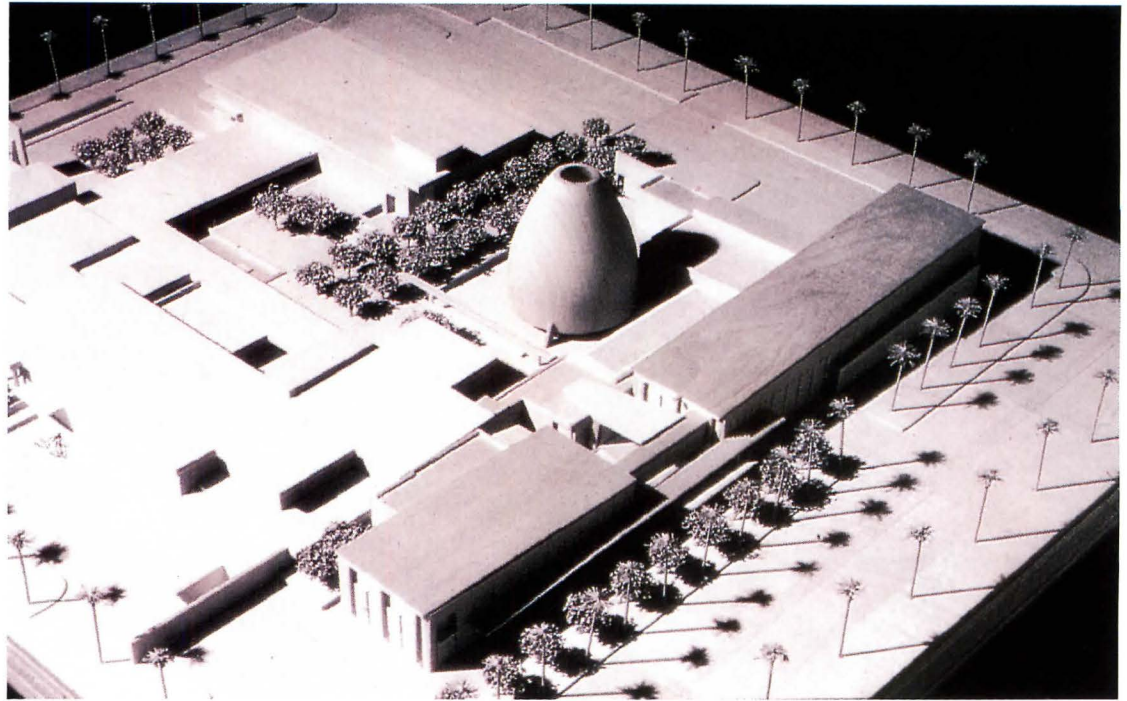
When it opened in 1959, the Phoenix Art Museum was part of a municipal complex that included the city's central library and a community theater. Designed by Frank Lloyd Wright disciple Alden Dow, the tidy project served a community of about 100,000 people.

By the time New York architects Tod Williams and Billie Tsien finish their addition in July, and their extensive remodeling some time later, the art museum will occupy nearly the entire complex, mushrooming to more than 160,000 square feet. The library has moved to its new Will Bruder-designed headquarters; the theater will stay.

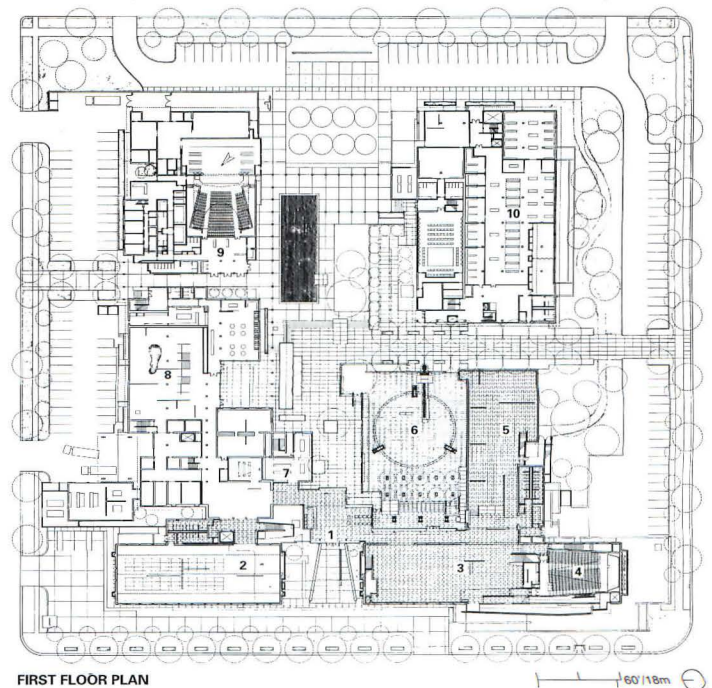
With its battered walls, exposed, 200-foot-long longitudinal roof trusses, egg-shaped, fiberglass-resin-shrouded sculpture court and suspended, metal-clad bridge and entry canopy, the Williams/Tsien addition provides elegant and desperately needed, flexible exhibition and gallery space. Aside from its structural gymnastics, the building's lichen green, precast concrete panels are a startling presence along otherwise plain-as-gray Central Avenue and a striking contrast to Bruder's copper-clad library only two blocks to the south. Both the new museum addition and library step directly up to the edges of their sites, establishing a street presence that is atypical but welcome in Phoenix.

The addition comprises two wings: a 9,000-square-foot, changing gallery is positioned to the north, and a multipurpose great hall, 294-seat lecture hall, and 20th-century exhibit hall lie to the south. Eventually, 9,000 additional square feet of gallery space may be added along the southern side of the museum.

Despite its over 500-foot length and lack of fenestration along Central Avenue, the addition derives a remarkably human scale from its subtle proportions, fine detailing, and textured precast walls.



- 1 ENTRY
- 2 CHANGING GALLERY
- 3 GREAT HALL
- 4 AUDITORIUM
- 5 20th CENTURY GALLERY
- 6 SCULPTURE COURT/PAVILION
- 7 MUSEUM STORE
- 8 GALLERY
- 9 COMMUNITY THEATER
- 10 ADMINISTRATION/EDUCATION



FIRST FLOOR PLAN

60' 18m

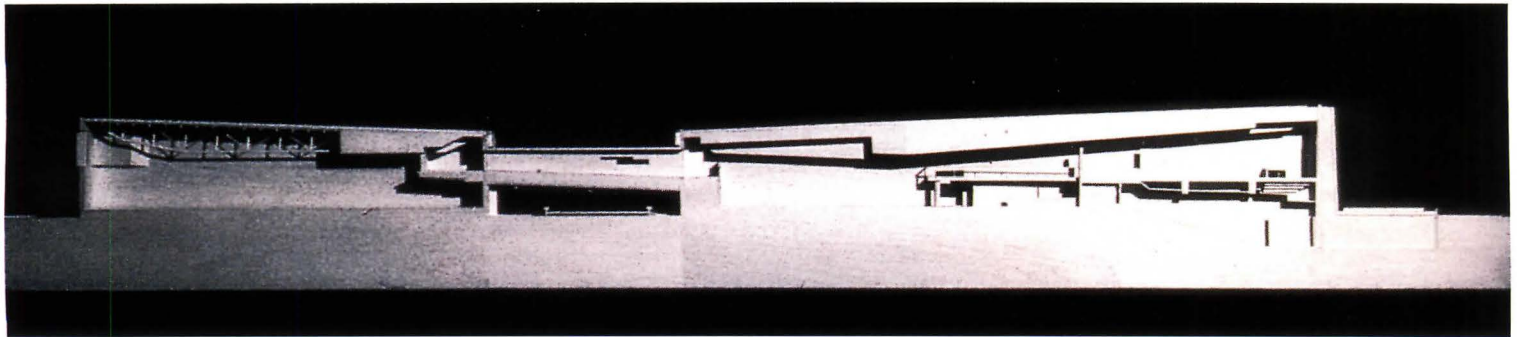
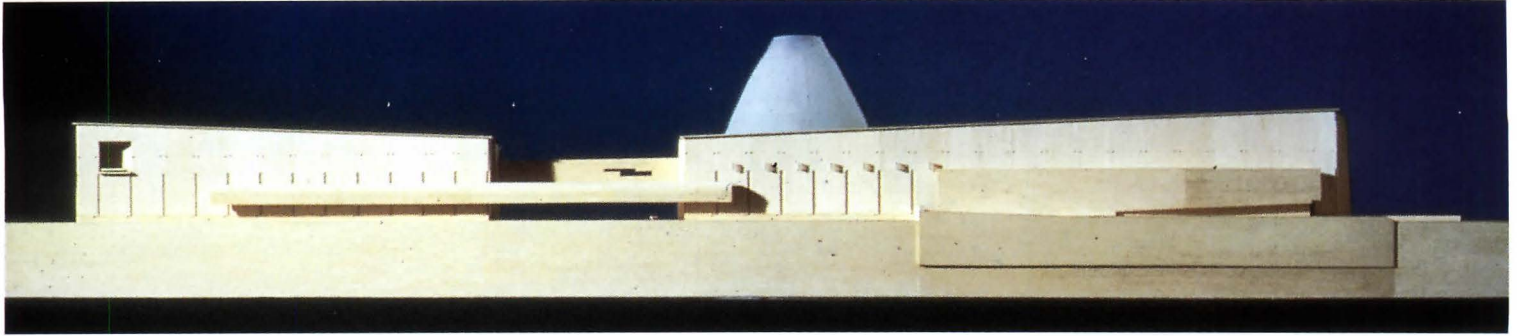


**FACING PAGE, TOP:** Site model shows new wings (right) and egg-shaped sculpture pavilion.

**FACING PAGE, PLAN:** New wings (bottom) comprise changing gallery and large exhibit space.

**BELOW AND CENTER:** Models show west elevation on Central Avenue and interiors, including gallery (left), bridge (center), and auditorium (right).

**BOTTOM:** West-facing facade, under construction, reveals sculpture niche in northern wing (left).





dock's science center. The history museum did not fare as well, losing an implacable Emilio Ambasz to budgetary battles from which no one departed with clean hands. Once again, Langdon Wilson was left to pick up the pieces. In each case, city interference did nothing to improve the architecture, and did much to hamper the design process.

Despite these travails, three museums and the library have all come to pass, and each at a price around half the national average. In addition, the city has embarked on a remodeling of Symphony Hall Plaza and begun extensive streetscape improvements. Funds have already been earmarked for a new baseball stadium to be located just east of the Suns arena now that Phoenix has received its national franchise. The stadium is currently in design development at Ellerbe Becket. Finally, it was announced early this year that Richard Meier and Partners will bring its brand of Modernism to town in a new federal courthouse being designed in association with Langdon Wilson, to be built on the western side of downtown.

Will this \$700 million spate of construction, designed by some of the best architects in the country, create the critical mass necessary to support the cultural center envisioned by Goddard? Should Phoenix, the quintessential postindustrial city, ape the urban patterns of its predecessors by concentrating its scarce cultural resources? At this point, the answer to these questions seems to be "yes." The city's center has turned a corner economically: Tax revenues are steadily rising; the number of restaurants and shops has increased; and a nightlife is returning. Downtown Phoenix indeed seems to be living the legend of the city's name.

In general, the architecture of the new cultural facilities is invigorating and there seems little doubt that Phoenix will be a better place because of it. What city wouldn't? The cultural map has been completely redrawn. But given the urban geography of the place, has this renewal been the most appro-

priate vision? As Partner Michael Schroeder of Langdon Wilson points out, "The library, the art museum, and the Heard museum (a prominent repository of Native American history being expanded and renovated by Langdon Wilson) may form a 'district,' but they are really too far from the science and history buildings to work as a cohesive or even a pedestrian-oriented unit."

Phoenix is a very dispersed city. Trying to consolidate it is difficult. Thus, in a world of distributed resources, Phoenix might offer Americans a new paradigm: a city of distributed cultural resources. Former Executive Director of the Phoenix Arts Commission Deborah Whitehurst explains, "Infrastructure is some of the only true public space we have in newer cities."

Recognizing this fact, Whitehurst undertook an effort to humanize the infrastructure of Phoenix during her tenure at the arts commission from 1986 to 1993. She brought innovative public art to seemingly mundane public projects, ranging from sidewalks to waste recycling plants. Rather than placing these artworks in a single location, which might have been perceived as physically and culturally distant from the outer reaches of the city, several of the more spectacular installations were parcelled out along freeways. They became highly visible cultural environments sympathetic to the rhythms and geographic atomization of Phoenix.

Of course, not all cultural resources are suitable for this approach. But the new cultural infrastructure of Phoenix suggests a model for similarly dispersed cities. The city's new museums, library, and public art form a network that links its scattered population, yet allows citizens to maintain their independence from centralized authority or its representations. It's a solution even a Phoenician on horseback could like.—*Reed Kroloff*

*Reed Kroloff is an assistant professor of architecture at Arizona State University—and a third-generation Phoenician.*

The \$16 million Arizona Science Center, designed by Albuquerque architect Antoine Predock, promises to be a handsome assemblage of sculptural masses, an abstracted evocation of the rugged mountains that wend their way through and around Phoenix. Its form is shaped also by a complicated program: 30,000 square feet of exhibit space, a special-format film theater, a planetarium, a demonstration center, a gift shop, a cafeteria, an extensive workshop for building museum displays, and administrative offices.

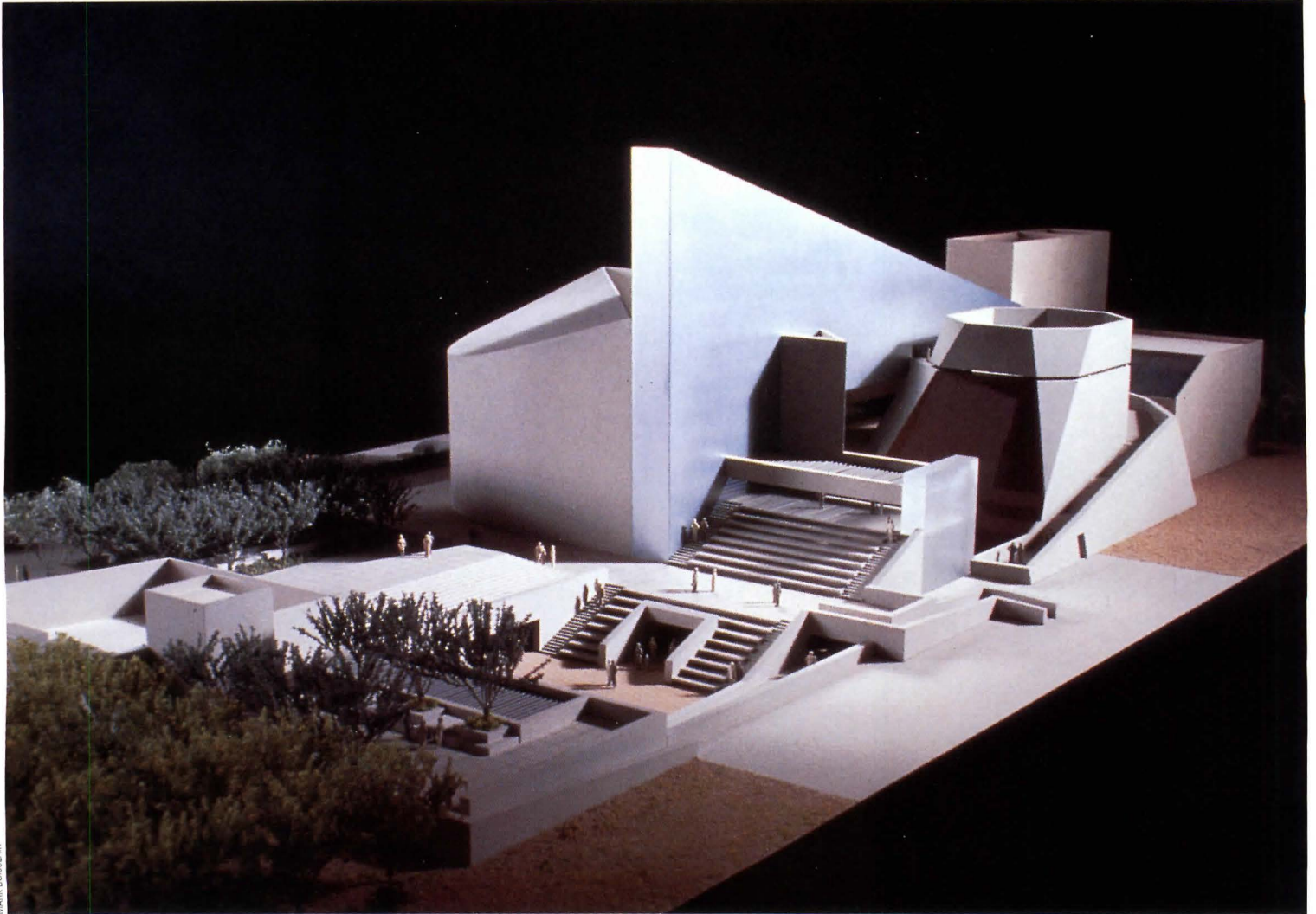
Like much of Antoine Predock's architecture, the building is at once forceful and enigmatic—reflecting the cautionary calculus of his approach to desert building. Predock employs archetypal forms: pyramids, cones, cubes—then fractures, slices, or otherwise modifies them in ways that suggest the effects of time, seismology, and the sun. The resulting architecture, much like the desert itself, is both familiar and mysterious.

The building, which has been under construction for several months, will be created of poured-in-place concrete and sandblasted concrete masonry. It will also incorporate an enormous, aluminum-clad wedge, called the Peak Gallery for its terminal, mountainous quality.

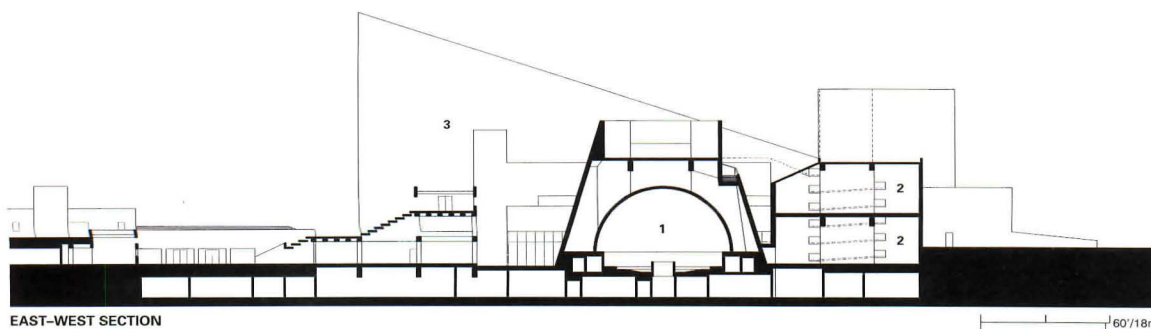
The 125,000-square-foot museum holds the edge of Heritage Square, a collection of diminutive preserved houses and Robert Frankeberger's AIA award-winning Lath House, while forming a plaza with Langdon Wilson's history museum. Predock pulls the entrance and a large amount of floor area below grade, allowing the plaza to extend over the building in a superb gesture of accommodation and enclosure. Although the science center is scheduled for completion in January 1996, it will not open to the public until December 1996 due to the necessary extensive interior design.



**BELOW:** Predock designed his science museum as a procession, beginning with subterranean entry court that leads beneath public plaza and “bleacher” stairs to Peak Gallery.  
**SECTION:** East–west section shows planetarium (center) and exhibit halls (right).



MARY BOSELAIR



EAST–WEST SECTION

- 1 PLANETARIUM
- 2 EXHIBIT SPACES
- 3 “PEAK” GALLERY





**South Bronx** has been notorious for nearly three decades as America's urban Armageddon. As its middle-class residents marched en masse to the suburbs in the 1950s and '60s, New York City's poorest borough dissolved into paroxysms of violence, drugs, arson, and decay. By the time President Jimmy Carter's motorcade took a sudden detour into the South Bronx in October 1977, 500 acres lay wasted, 1,500 buildings were abandoned or reduced to rubble, and 30 percent of residents were unemployed. Carter witnessed this wreckage and spontaneously hatched a \$32 million action plan to create federally subsidized housing on Charlotte Street near Crotona Park. But the President's plan died in 1979 in the hands of municipal leaders, who contended that any plan based only on public housing would have





- 1 HOSTOS COMMUNITY COLLEGE
- 2 NEW YORK CITY POLICE ACADEMY (PROPOSED)
- 3 BRONX TERMINAL MARKET
- 4 YANKEE STADIUM
- 5 CRIMINAL COURT COMPLEX (PLANNED)
- 6 MELROSE COMMONS
- 7 BRONX MUSEUM OF THE ARTS
- 8 BRONX HOUSING COURT
- 9 THURSTON PLAZA HOUSES
- 10 CHARLOTTE GARDENS
- 11 HIGHBRIDGE HOUSING PUBLIC SCHOOL 170 EARLY CHILDHOOD CENTER 1
- 12 NEW SETTLEMENT HOUSES
- 13 HELP HOUSING
- 14 CROTONA PARK WEST
- 15 CROTONA TERRACE
- 16 ARCHDIOCESE HOUSING RIVERCOURT HOUSING

SOUTH BRONX





*Grassroots organizations, working in partnership with city government, can rebuild an inner-city community from the ground up.—Mayor Rudolph W. Giuliani*

## Low-Density Housing

raised “hopes that would never be met.”

Even though Carter’s fiat failed, his visit presaged the wholesale rebuilding of pockets of the South Bronx. Today’s recovery efforts, unlike any undertaken since World War II, spring from neighborhood-based groups piecing together remnants of housing and infrastructure like a quilt. “Everything being done here follows the bottom-up, community-development approach,” not grandiose government master plans, asserts Bernd Zimmerman, who monitors all development as director of planning for Bronx Borough President Fernando Ferrer.

After years of destructive urban-renewal schemes, neighborhood activists—with the aid of architects and urban designers—are articulating their own vision of a South Bronx revival. Since 1986, when Mayor Edward Koch initiated a \$5 billion housing renovation plan, a phalanx of intrepid grassroots organizations has reclaimed 22,000 units of abandoned housing from a sturdy stock of prewar tenements. These groups have also built 4,000 units of affordable new housing on once-barren blocks. The South Bronx has also gained several new schools, a college, courthouses, an art museum, and may yet build a police academy, realizing the largest set of investments—estimated at \$2 billion—the borough has seen since the 1920s.

Seventy years ago, in the South Bronx’s glory days, the city was built according to grand urban tradition. Settled by the Dutch (but named after a Dane, Jonas Bronck), it enjoyed a high density of housing, streets a pedestrian could love, and transit to just about anywhere. Today’s rebuilding, by contrast, is urbanistically selling the South Bronx short. Most affordable new housing is developed by nonprofit groups working with shoestring budgets and subsidies. It is built to absurdly low densities, given the heavy-duty infrastructure already in place.

The first new houses in the South Bronx, developed in 1985 by the MBD (Mid-Bronx Desperadoes) Community Housing Corpora-

tion, were on Charlotte Street, where President Carter first proposed his diorama of urban policy in 1977. On blocks where the ideal minimum density is 80 housing units per acre, Charlotte Gardens comprises 92 raised-ranch houses on 18 acres, each with a picket fence and a driveway, like a sham suburb.

In the decade since Charlotte Gardens was completed, charitable housing groups like the New York City Housing Partnership and the Catholic Archdiocese have produced an archipelago of small-scale dwellings unfit for their urban context. For example, the Nehemiah Houses, developed by a consortium of South Bronx churches, are low-cost, low-value, Faux-Tudor townhouses stacked for two or three families, raising the density ante only nominally—and grudgingly.

“Nehemiah has been dragged kicking and screaming into building anything beyond one-family houses,” scoffs Harold DiRienzo, vice president and CEO of the Parodneck Foundation and a 20-year South Bronx activist. “They’ll house one family and destroy chances for a community of 50,” he laments. The formidable infrastructure of municipal Wards 1 and 3, DiRienzo points out, can support 200,000 people, but now houses only 50,000, owing to underdevelopment. Over the long term, low-density development is underpopulating the South Bronx to quickly provide permanent shelter. For the borough, fewer people means fewer voters and less political clout, a weaker tax base and scarcer city services. “From an urban design point of view, we are not terribly happy,” asserts Zimmerman. “We cannot afford to waste our resources on low-density development.”

The frustrating reality, however, is that higher-density housing costs more to build and maintain: To start, residential structures over four stories in New York City must meet Class A building codes that require elevators, propelling construction costs well beyond the affordable. And as yet, this borough of 1.2 million people needs 70,000 more units to house overcrowded families and the homeless, so

Most new housing in the South Bronx is designed to a distressingly inadequate density, given an existing infrastructure that supports at least 80 housing units per acre. For example, Melrose Court (facing page, left photos), a 265-unit complex in the center of the Melrose neighborhood, comprises only 60 units to the acre—and it ranks among the denser new developments in the South Bronx.

Architect Marvin H. Meltzer did not want Melrose Court to appear as individual town houses, and resisted stepping units along a 12-foot slope. “I saw this as a megastructure,” Meltzer maintains. Twelve blocks, each with 10 to 12 two-family units, share manicured courtyards, which contain strikingly articulated staircases rising to individual residences. The iron gates to these courtyards are locked to all but residents. While the inner spaces offer intimacy, the outer face of the complex addresses the South Bronx streets as terra incognita.

Rigid parking requirements dog all new designs for South Bronx housing. Near Crotona Park, the adjoining Archdiocese (facing page, right) and Rivercourt (facing page, bottom right) developments, completed in 1990, set a sorry standard with parking pads placed in front of each two-family unit. Prefabricated wood-framed modules, purchased by the nonprofit client for economy’s sake, constrained architect Stephen B. Jacobs, who submits that a mews would have been better—relegating cars and services between buildings at the rear.

But residents in these low-rise housing developments, which number about a dozen, appreciate walking right from the driveway to the front door. Such is the South Bronx conundrum: Importing safe, suburban housing models may not live up to the borough’s urban potential, but people like living in them.





MICHAEL MORAN PHOTOS



PAUL WARCHOL



**TOP LEFT:** Designed by Marvin H. Meltzer Architects, the 265-unit Melrose Court incorporates courtyards into center of each block.

**TOP RIGHT:** Archdiocese Housing is a 300-unit enclave developed by Catholic Charities and designed by Stephen B. Jacobs Group.

**ABOVE LEFT:** Melrose Court is articulated to simulate townhouses.

**ABOVE RIGHT:** Rivercourt Housing, designed by Stephen B. Jacobs, is constructed of wood-framed units.



## Housing Diversity

The diversity of housing types recently developed in the South Bronx reveals various approaches to reasserting domestic control in a dislocated urban environment. After early attempts at single-family suburban tract developments failed, today's most common model was developed: the multifamily infill row house. Nearly 4,000 such units of varying quality have been built.

Some of this development is sketched out in plan by architects, as was Thurston Plaza I and II (right), 50 houses stretched across two blocks south of Crotona Park. Castro-Blanco, Piscioneri and Associates were commissioned to design the plans and the massing, while the South Bronx developer, the Procidia Organization, designed the facades itself to save money.

Models such as Melrose Court and the Rivercourt Housing (previous page) are more thoughtfully designed, but remain too low in density. Most town house development lacks the substance, durability, and strong formal organization that Bronx housing traditionally embodied: street walls and lively first-floor storefronts along avenues.

These low-density, affordable models, however, have attracted hundreds of low-income families into the local housing market. But each residence has its own parking space, and that, combined with increasing segregation of housing from commercial and retail centers, encourages auto dependency and disregards the South Bronx's efficient network of mass transit.

The highest priority for new South Bronx housing is preserving neighborhood stability and security. For example, Castro-Blanco, Piscioneri has designed 304 units of transitional housing on two sites for the nonprofit group Housing Enterprise for the Less Territed (HELP), which offers shelter to newly homeless families until they find perma-

nent housing. The 212-unit site near Claremont Park (facing page, left photos) places corridors outside the housing block, providing open space and easily monitored playgrounds for children away from the street. The HELP shelter incorporates child-care services as well as referrals to housing and employment, "so people in the project would be able to move out quickly," notes Principal Robert Piscioneri.

In a nine-block swath of the Highbridge neighborhood, set on a steep bedrock ridge, the Catholic Charities of the Archdiocese of New York has also gutted and rehabilitated 23 six- and seven-story apartment buildings—redetailing casement windows, repainting fire escapes, and rebuilding parapets to restore the community's physical fabric. Like HELP's housing, most of these blocks boast new, secure courtyards and playgrounds.

The closest approximation of the ideal density in the South Bronx is Crotona Terrace (facing page, right photos), an eight-story, 52-unit rental complex designed by the Liebman Melting Partnership, which emulates the Art Deco buildings of the South Bronx's heyday. Completed in 1994, this low-income housing fills a vacant site on the eastern edge of Crotona Park. Its masonry cladding complements extant South Bronx building stock with banded brick details and pre-cast lintels. Mandated parking is disguised within the first floor, as are mechanical spaces.

Crotona Terrace also offers its tenants security. The elevator is clearly visible through the entry vestibule, for instance, and the rear garden can be viewed through two glass doors in the lobby. As good housing should in the South Bronx, Crotona Terrace achieves a critically high density and preserves precious territory while keeping residents in close contact with the street.



TED HARRIN



MICHAEL MORRIS

**TOP:** Thurston Plaza I, designed by Castro-Blanco, Piscioneri fuses two-family row house patterns with suburban amenities such as driveways.

**ABOVE:** Close-up view of Thurston Plaza II, also by Castro-Blanco, Piscioneri, reveals driveways and stoops.





MICHAEL MORAN PHOTOS

BILL MILLER

**TOP LEFT:** Clock tower marks entrance to transitional housing near Claremont Park, designed by Castro-Blanco, Piscioneri for HELP, which makes social services available to newly homeless families.

**ABOVE LEFT AND CENTER:** Castro-Blanco, Piscioneri organized HELP housing into block-long strip with courtyard and playground for children.

**TOP:** Crotona Terrace, designed by Liebman Melting Partnership, holds 52 low-income rental units.

**ABOVE:** Crotona Terrace is detailed with brick bands and precast concrete lintels, recalling Art Deco apartments in the South Bronx.



stopgap development is likely to continue.

The only newly available housing of any substantial integrity are enclaves of classic Bronx apartment buildings that have been renovated throughout the borough. Along the Cross-Bronx Expressway, where the phantoms of gutted tenements stood gaping for years, the 90-year-old nonprofit Phipps Houses Services has reclaimed hundreds of dwellings for South Bronx families. "We've brought in a range of incomes and human-services programs," such as family health clinics and employment programs, explains Ronay Menschel, president of Phipps Houses. "We're not re-isolating the very poor."

Groups like Phipps Houses follow an organic model of neighborhood development, integrating what's there with what should be. But this approach comes hard after difficult experiences with alienating, bureaucratic planning schemes. Probably the most notorious is the city's failed urban renewal plan for 33 blocks in the Melrose neighborhood. In June 1992, New York's Department of City Planning presented to residents its unilateral plan to raze most of Melrose's buildings, displace their residents, and make way for a low- to medium-density new town. Melrose's 6,000 people, whose median annual household income is \$12,000, had been excluded from the city's entire planning process. Outraged, they formed the resistance group *Nos Quedamos*—Spanish for "we stay."

At the same time, in mid-1992, Bronx Borough President Ferrer was tapping several well-established civic groups, such as the Municipal Arts Society and the Urban Assembly, to steer a comprehensive urban design for 300 blocks of the South Bronx's core. The design was to be based on the prospects of new civic and cultural improvements, such as the expansion of Hostos Community College and the proposed New York City Police Academy. The area in question became known as Bronx Center. "The Bronx never had a downtown," remarks Linda Cox of the Planning Center, part of

the Manhattan-based Municipal Arts Society. "The idea for Bronx Center is to get more community value, more synergy, out of these new investments—none of which, on their own, was actually renewing or revitalizing."

From the beginning, Bronx Center took shape according to the vision of local citizens and business groups, such as the Banana Kelly Community Improvement Association, the Bronx Chamber of Commerce, the South Bronx Overall Economic Development Corporation, the South Bronx Churches, and Community Boards 1 through 4.

By the end of 1992, the Bronx Center team had gotten wind of the trouble brewing over the city's Melrose plan and decisively intervened on *Nos Quedamos*'s behalf. In particular, Richard Kahan, president of the Manhattan-based Urban Assembly, persuaded former Mayor David N. Dinkins and his city planning staff to listen to *Nos Quedamos*'s concerns about the Melrose plan before its final certification.

When the city presented its plan again in January 1993, *Nos Quedamos* "verbally tore it off the wall," recalls Petr Stand, principal of Magnusson Architects in Manhattan, who attended the first meeting and has worked pro bono on revising the Melrose plan ever since. Dinkins, operating in an election year, agreed to halt final certification. "The city put away its plan and said, 'We will let you take this over,'" recalls Cox. The city lent staff, who stood by to facilitate the citizens' effort.

"Government plans in a vacuum," observes Yolanda García, a 35-year Melrose resident and president of *Nos Quedamos*, who collaborates with architect Stand as part of a neighborhood-based urban design team. "The city just plunks something down, always facing the wrong way. They never go to the site," García complains.

Having wrested control of the plan away from the city, García and her group have worked with volunteer urban designers like Stand for the last three years to reshape the face of Melrose. The new Melrose plan, which

As the South Bronx tries to stabilize itself with new and renovated housing, hopes for its future rest upon new educational and cultural institutions. A potent new symbol of the city's opportunities is Hostos Community College, a two-year bilingual school largely serving young Latina and African American women in programs such as nursing and computer science.

Hostos College straddles the southern end of the Grand Concourse, the main thoroughfare of the South Bronx. The \$130 million campus expansion was completed in 1994, planned by Gwathmey Siegel & Associates in association with Sanchez and Figueroa. Gwathmey Siegel's recently completed, 240,000-square-foot East Academic Complex houses an art gallery, two theaters, a gymnasium, classrooms, and computer labs. Across the street, Hostos's 110,000-square-foot Allied Health Facility, designed by Voorsanger & Associates in association with Hirsch/Danois and completed in 1991, comprises more classroom space. The two buildings are linked by an elevated pedestrian bridge that forms an urban gateway.

In resurgent South Bronx neighborhoods, New York City's Schools Construction Authority has completed three of eight new public schools planned for the South Bronx; Perkins & Will of New York City has designed three (ARCHITECTURE, April 1993, pages 62-63) and Castro-Blanco, Piscioneri has designed another four, which are programmed to include prototypical early childhood centers—the first was completed in 1994.

Castro-Blanco, Piscioneri also renovated the Bronx Museum of the Arts in 1988, adding 4,600 square feet and a faceted atrium as the frontispiece to a former synagogue. The museum also has become, like Hostos College, a vote of confidence in its community.





MICHAEL MORAN



PAUL MARCZOL



DEVON JARVIS



BILL MILLER

**TOP LEFT:** Pedestrian bridge crosses Grand Concourse from Hostos College's East Academic Complex by Gwathmey Siegel (left).

**TOP RIGHT:** Allied Health Facility, designed by Voorsanger & Associates, is located across Grand Concourse from East Academic Complex.

**ABOVE LEFT:** Prototype Early Childhood Center No. 1 by Castro-Blanco, Piscioneri and Associates emulates masonry textures of reclaimed residential blocks in Highbridge neighborhood.

**ABOVE:** Castro-Blanco, Piscioneri renovated Bronx Museum of the Arts on the Grand Concourse at East 165th Street, converting former synagogue into new galleries with glazed entrance.



is infinitely more attuned to its residents' way of life, represents not merely a major part of the Bronx Center plan, but a model of how the whole of the South Bronx should be pieced together again.

To be sure, the Bronx Center plan has solicited the views of hundreds of residents through public forums held across the city. The area's cultural beacons generate optimism on all sides, such as Hostos Community College, designed by Gwathmey Siegel and Associates and Voorsanger & Associates, and the Bronx Museum of the Arts, renovated and expanded in 1988 by Castro-Blanco, Piscioneri and Associates.

Yet some of Bronx Center's civic projects invite cynicism from community leaders: Plans for two courthouses designed by Rafael Viñoly—a \$21 million Bronx Housing Court and a planned \$400 million Criminal Court superblock—as well as a \$150 million New York City Police Academy, designed by Ellerbe Becket with Michael Fieldman and Partners, seem too law-and-order in tenor. “A government speaks volumes about the people who live there in how they invest,” says longtime activist DiRienzo. “The police academy? Justice facilities? Basically the government is telling us we're all criminals in the South Bronx.”

Neighborhood activists also scowl at Mayor Rudolph W. Giuliani's proposal to renovate Yankee Stadium in an attempt to woo New York Yankees owner George Steinbrenner, who is scouting a new home for his baseball team, to stay. Giuliani has commissioned Hellmuth, Obata & Kassabaum to draw up schemes for a stadium overhaul. The cost: originally \$275 million, then \$380 million, now \$600 million. Critics question the Yankees' contribution to the South Bronx, apart from sentimental memories, and suggest the baseball team is not worth keeping at any cost. “The community won't shed tears when the Yankees leave,” reveals DiRienzo.

Giuliani's critics query how the city could afford to renovate Yankee Stadium while

claiming it has no money to build the police academy at the heart of Bronx Center. Giuliani put plans for the police academy on indefinite hold in 1994 shortly after taking office. Supporters regard the academy, whose designated site lies on eight vacant acres of the Mott Haven rail yard, as the keystone of the Bronx Center plan. The city council restored funds for design development—“It's been pulled from the jaws of defeat many times,” reports a hopeful proponent—but nobody's betting the rent on it. “The South Bronx has been marginalized by every level of public policy,” observes Bernd Zimmerman. “It is always thrown back unto itself.”

But the South Bronx, rather than returning steadily to its feet, may remain prostrate if it cannot reengage its economy with jobs and tax revenues. This will not be easy: Despite its strategic placement between New York, New Jersey, and Connecticut, the South Bronx remains economically dislocated; remote even from the financial capital of Manhattan across the Harlem River. Unemployment hovers around 12.5 percent—7 percent above the national average. About 254,000 people (half of them children), one-fourth the population of the South Bronx, survive on public assistance in huge orchards of high-rise public housing.

In fact, nearly all of today's neighborhood improvements to the South Bronx are fueled by hefty infusions of public dollars, which is why today's recovery is unlikely to last long. Given the conservative mood in the mayor's office, the governor's mansion, and Congress, current levels of government support to the South Bronx are doomed.

To claim the South Bronx is “reborn” or “in a renaissance” is premature. It is in recovery. For every new housing development, a ruined block awaits attention. It is too early to tell whether the South Bronx can sustain itself if the public tap runs dry, or whether all of the borough's new addresses are tiny islands of order awash in a deep sea of divestment and dereliction.—Bradford McKee

A comprehensive urban design for the South Bronx's 300-block core was undertaken by Bronx Borough President Fernando Ferrer in 1992. Ferrer called on community leaders to submit visions for the city in dozens of public forums. A network of citizen groups studied the disposition of housing, human services, education, culture, transportation, and open space in the South Bronx, and then synthesized ideas for civic improvements into a single urban design, known as Bronx Center. Steered by a smaller group of influential civic leaders such as Richard Kahan, president of the Manhattan-based Urban Assembly, the Bronx Center plan aims to maximize returns on several key civic investments in the South Bronx by addressing social, educational, and economic needs simultaneously.

The 60-page Bronx Center document proposes new uses for several key historic landmarks in the South Bronx. To commemorate the citizen-led planning process, the plan proposes \$800,000 to establish a planning center for the borough in the old Bronx Borough Courthouse, a 1915 Beaux-Arts building abandoned in 1978.

The 1935 Bronx Terminal Market, beneath the Major Deegan Expressway, is the city's premier wholesale outlet for imported foods. According to the new plan, it could gain new commercial uses and waterside amenities along its Harlem River frontage.

Directly north of Bronx Center, the new \$21 million Bronx Housing Court complex, designed by Rafael Viñoly, is one of several new criminal justice facilities planned for the South Bronx. The most conspicuous—and contentious—of these is the \$150 million New York City Police Academy, proposed for a plinth above the Mott Haven rail yard. It still awaits city support.





TED HARDIN



MICHAEL MORAN



MICHAEL MORAN



**TOP LEFT:** Abandoned 1915 Bronx Borough Courthouse, at Third Avenue and East 161st Street, is proposed as South Bronx planning center.

**TOP RIGHT:** 1935 Bronx Terminal Market, beneath Major Deegan Expressway, would gain new waterside retail attractions under Bronx Center plan.

**ABOVE LEFT:** Bronx County Housing Court complex, designed by Rafael Viñoly and almost completed, brings Modern geometric dynamism to staid street frontage of Grand Concourse.

**ABOVE:** Proposed New York City Police Academy, designed by Ellerbe Becket in association with Michael Fieldman and Partners, would incorporate satellite high school.

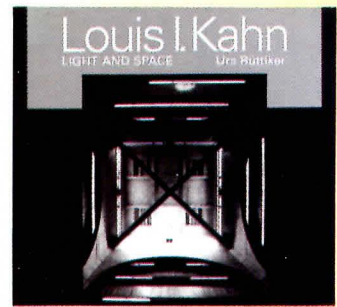


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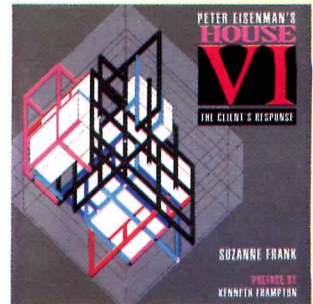
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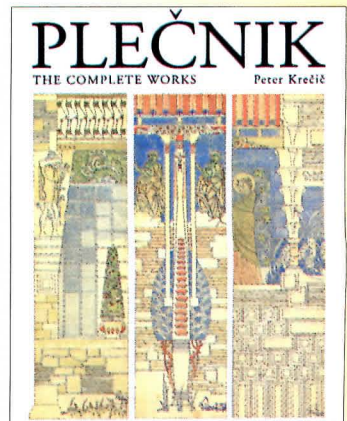
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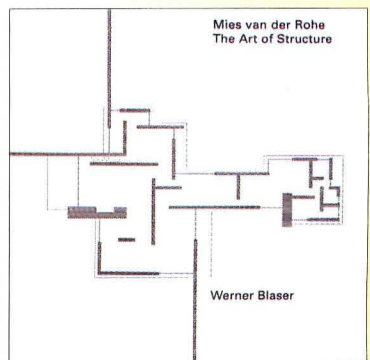
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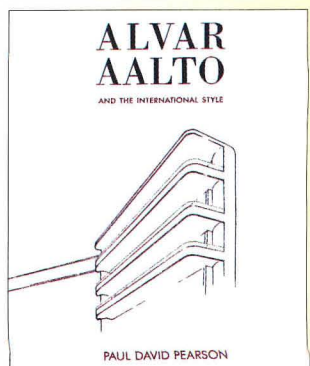


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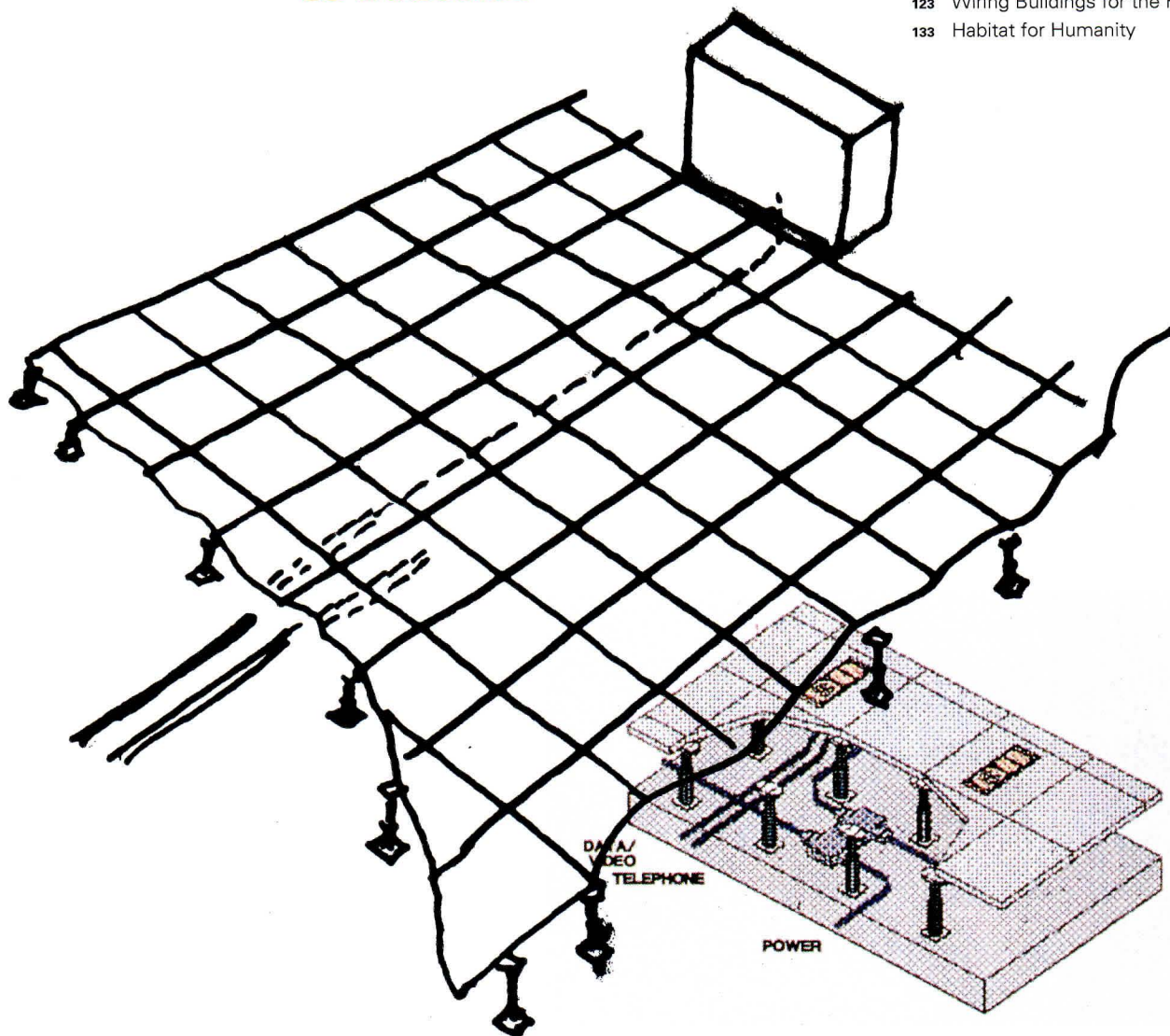


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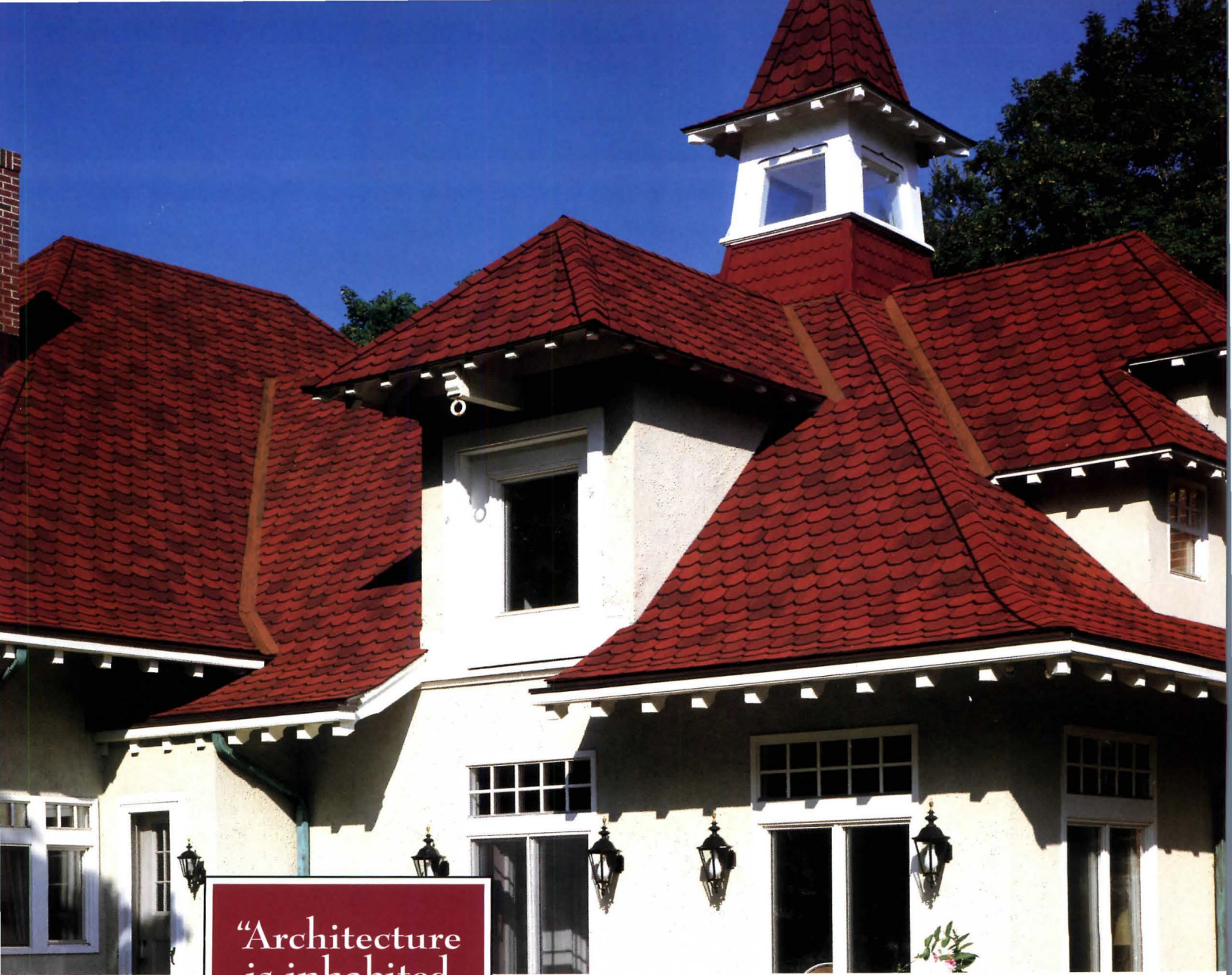
This month's Technology & Practice section continues our focus on the American city by presenting practical tools for rebuilding communities. A feature on the AIA's Regional/Urban Design Assistance Teams (R/UDAT) reveals how this multidisciplinary program has successfully helped cities transform themselves for almost 30 years. Through interactive weekend charettes, R/UDATs create "plans for planning" future urban growth.

Computers are also revamping the urban design process. This month's computer article highlights how digital tools such as 3D "walkthroughs" of cities can help architects and planners visualize the built realities of urban policy.

The wiring systems that support these high-tech computers, as well as phones and faxes, are becoming increasingly complex. A technology article recommends new, more flexible ways of accommodating these vast cabling networks.

This month's residential feature profiles the grassroots homebuilder, Habitat for Humanity. Architects are infusing Habitat's affordable, no-frills housing with new ideas, even lending muscle to build the neighborhoods of the future.





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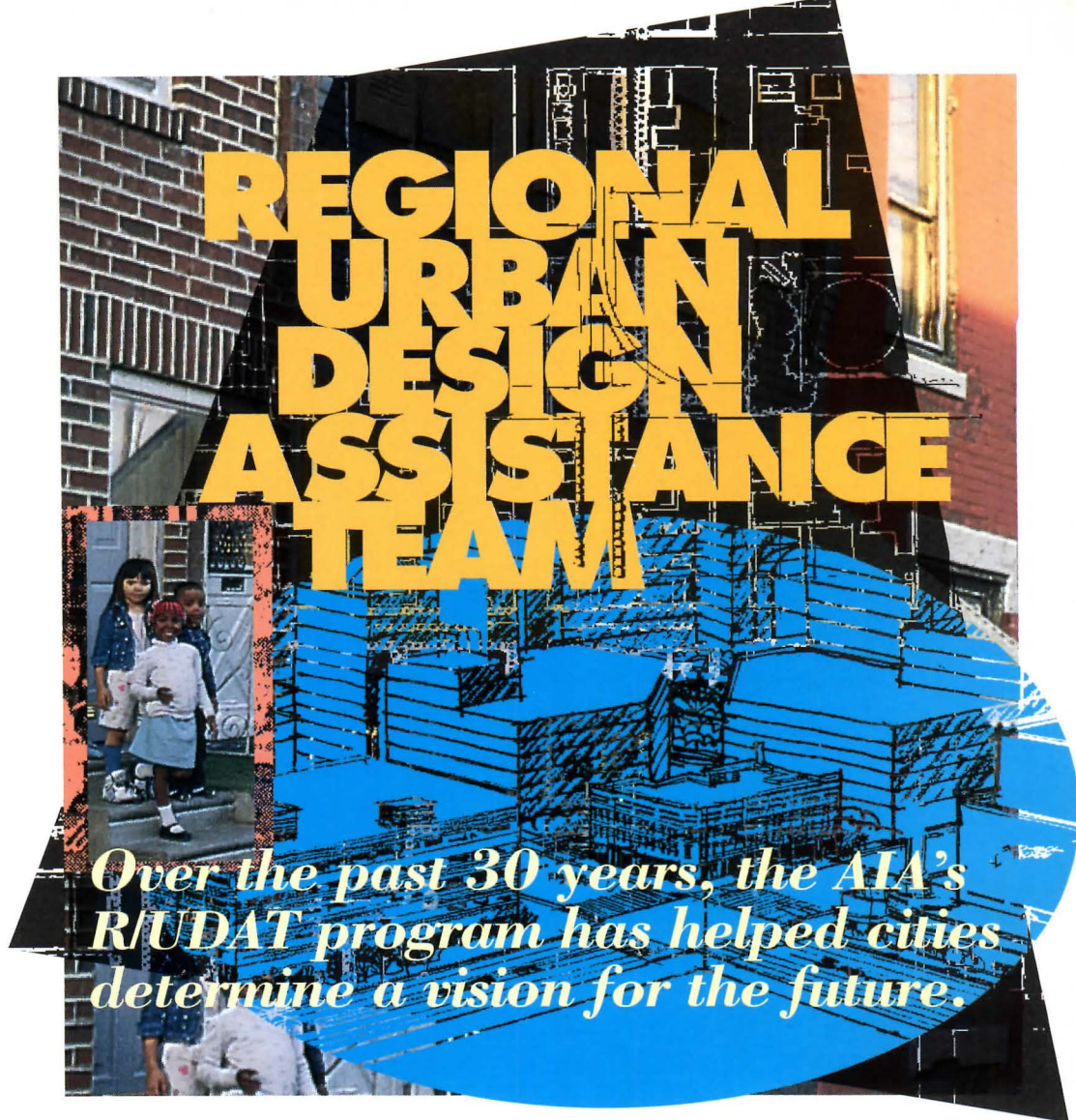
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*Over the past 30 years, the AIA's R/UDAT program has helped cities determine a vision for the future.*

Part Legal Aid, part SWAT team, part Peace Corps, the AIA's Regional and Urban Design Assistance Team (R/UDAT) program has provided the tools for urban self-help for almost 30 years. Since the first R/UDAT was held in 1967 in Rapid City, South Dakota, the program has benefited 125 cities and towns and spawned similar local initiatives.

The focus of a R/UDAT program has always been the visit by a team of eight to ten experts—an intense, tightly choreographed, four-day weekend charette. Yet today, greater attention is given to both preparation and aftermath of the visit. The teams have always been multidisciplinary, but increased understanding of the complexities of community issues has led to greater professional diversity: An average team of eight members today might include only three architects and urban designers; others are drawn from fields such as transportation, zoning, municipal finance, economic development, public administration, real estate development, crime prevention, and tourism.

A R/UDAT project is initiated when a community successfully applies to the AIA for help in managing growth, reviving its stagnant downtown, evaluating development proposals, or searching for ways to enhance a neighborhood or district. The community is usually represented by a steering committee of local



architects and business, civic, and government leaders who assume responsibility for the application and prepare for the team visit. Requests for R/UDAT assistance are not evaluated on a competitive basis; instead, the purpose of the application process is to determine the appropriateness of the R/UDAT strategy to the community's concerns and then to create the conditions that will ensure success. Applications are sometimes returned for a more thorough definition of the study area. Lone rangers need not apply; the AIA frequently requests that applications include evidence of broad community support for the R/UDAT visit. Similarly, sugar daddies are not encouraged: The average \$30,000 cost of the program (for travel, room and board, supplies, and production of a report) must be raised locally. Experience has shown that the greatest success occurs when a community literally "buys in" through donations of cash and in-kind services from a large number of individuals, businesses, and local organizations.

R/UDAT team members are not paid and agree not to pursue work in the study area for three years—their compensation lies in the intellectual and creative satisfaction of the R/UDAT experience. Arriving in the host community on Thursday night armed with background reports, the team spends a day and a half gathering information through tours and interviews with local experts and community leaders and from a Saturday morning public hearing where citizens describe their concerns and visions. The R/UDAT crew sets up shop in a storefront near the study site and functions like an office, with "staff" support from local architecture students and professionals. On Saturday afternoon, the team focuses on solutions in a report that will be presented on Monday evening at a public event typically attended by several hundred people.

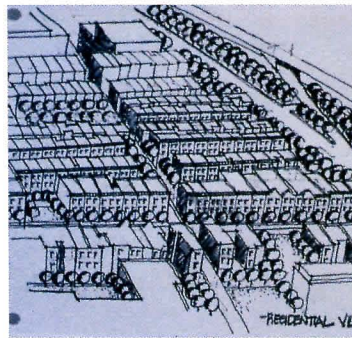
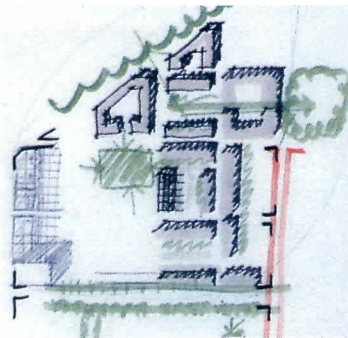
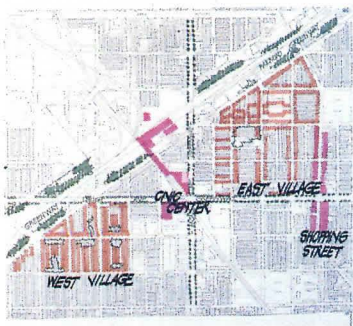
The R/UDAT report, often called a "plan for planning," may offer guidelines for new development, recommendations for streetscape improvements, suggestions for financing sources, and revisions to local regulations. The report establishes goals and offers timelines for completion of its suggestions that include short-term objectives. Local leaders and activists who will continue the initiative have usually been identified during the application process.

As the following case studies reveal, the results of a R/UDAT are often unpredictable. Sometimes the report crystallizes a community's unconscious knowledge and manages to pull varying efforts together into one shared vision. Other communities are surprised to hear debunked what was thought to be conventional wisdom: The Salt Lake City team, for example, found that the supply of downtown parking was actually adequate though badly managed.

R/UDATs often help a community make decisions about major new construction projects and demonstrate how to stimulate desirable growth. Greater citizen participation in the form of new community coalitions and a more open public process is a common result; by identifying all the "stakeholders" in a community, a R/UDAT helps give the previously disenfranchised greater standing. The ability of the R/UDAT process to nurture connections and build networks within a community is perhaps its greatest value.—*Elizabeth Padjen*

*Elizabeth Padjen, FAIA, is president of Padjen Architects and the Boston Society of Architects. She is a member of the AIA's R/UDAT Task Force.*





**North Philadelphia**  
**October 1990 R/UDAT**

**History:** The postindustrial economy of the 1960s and 1970s hit North Philadelphia especially hard. Local industries either folded or moved, and residents began to seek new opportunities in the suburbs. The area's multicultural immigrant population was replaced largely by African Americans, who were soon trapped by the dwindling economy. **Urban challenges:** Due to Philadelphia's financial difficulties in the 1980s, urban blight and the lack of recreational spaces and day-care services eroded the quality of life; crime was omnipresent. Despite their shared problems, the 250,000 people in North Philadelphia neighborhoods were unable to develop a cohesive political base. Searching for solutions, AIA/Philadelphia assumed responsibility for the area's initial R/UDAT application.

**Team recommendations:** In October 1990, an team of 11 diagrammed a "village" concept for future housing. Two landmarks, the train station and the Botany 500 building, were suggested anchors for a new transportation and civic center.

Unlike most R/UDATs, this team placed its greatest emphasis on community activism. It saw community cleanup programs, enhancement of the day-care system, and new youth athletic leagues as ways to improve living conditions while strengthening neighborhood cohesion.

**Results:** North Philadelphia is experiencing change: A pediatric care facility is being established at Temple University. At the historic train station, cleaned up by neighborhood volunteers, work is under way on a new shopping center and supermarket. Resident cooperation also led to successful lobbying for a \$1 million block grant to promote home ownership. A new health clinic and other

small businesses promise to strengthen a nearby intersection.

Many believe that R/UDAT's greatest value was a new, more positive understanding of the area conveyed by extensive regional media coverage. "People in the rest of the city saw a much more balanced view of North Philadelphia," says Barbara Kaplan, executive director of the City Planning Commission. Others praise the team's ability to draw residents together. "People used to have their own agendas," notes Reverend Clarence Hester, former acting chair of the North Philadelphia Coordinating Council. Hester is now encouraging local churches to work together on community issues.

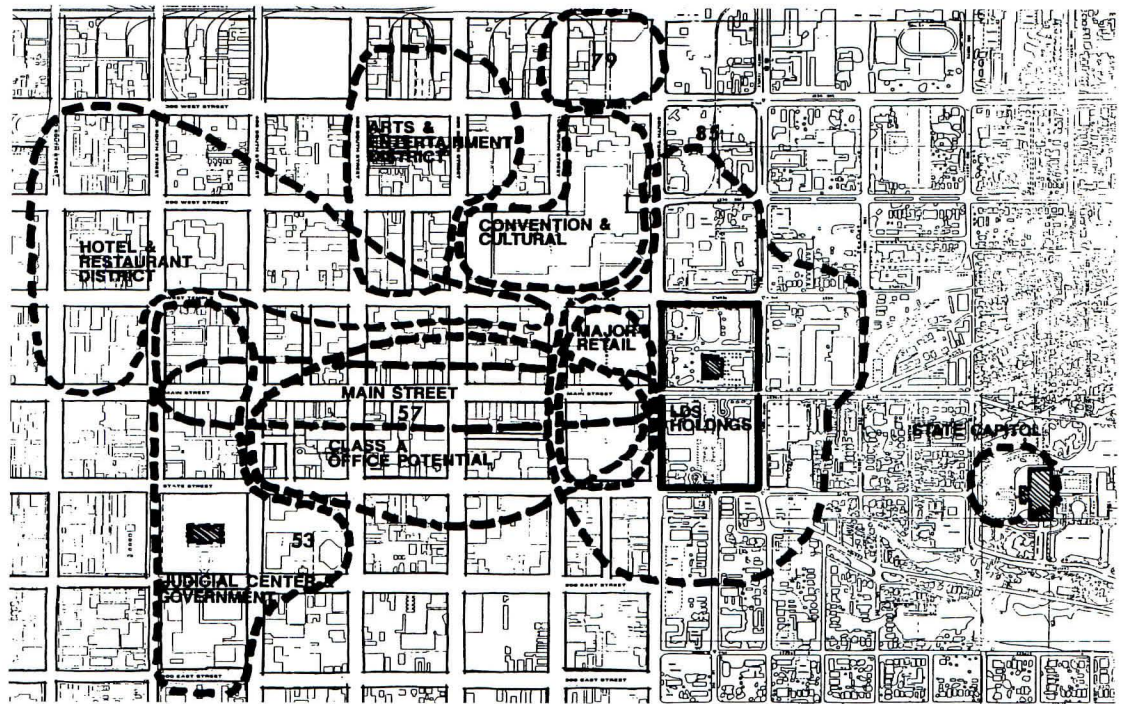
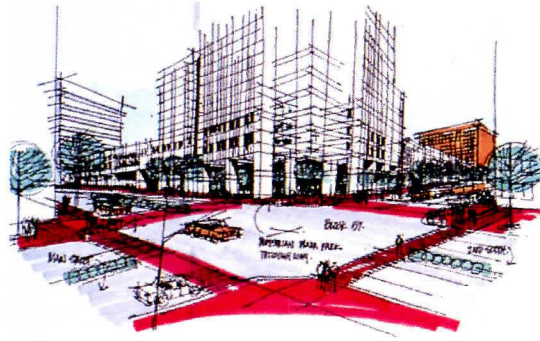
AIA/Philadelphia is still committed to the district: Its Community Design Collaborative draws on volunteer engineers, architects, and contractors to provide development expertise and design assistance to local nonprofit agencies.

**TOP, LEFT TO RIGHT:** R/UDAT report shows proposed civic center with adjacent residential and retail districts (left); "village" concept integrates open space and housing (center) and can be applied to existing areas (right).

**ABOVE LEFT:** Local assets include numerous community gardens.

**ABOVE RIGHT:** Community Development Block Grants encourage home ownership and renovation.





**Salt Lake City**  
**June 1988 R/UDAT**

**History:** Founded in 1847 by Mormon pioneers, Salt Lake City is a planned community. Under the direction of Brigham Young, blocks were laid out on a grid described by Joseph Smith, founder of the Church of Jesus Christ of Latter-day Saints, as the plan for the City of Zion. This grid remains one of the city's most distinctive features, based on 10-acre-square blocks, 660 by 660 feet, divided by 132-foot-wide streets. With the completion of the transcontinental railroad in 1869, the city was transformed by the delivery of more goods and the opening of nearby mining fields. Also, the social makeup of the area changed: By the turn of the century, non-Mormons equalled the Mormon population. The city grew as a financial, commercial, and governmental center, but in recent decades

it has found itself competing with suburbs and outlying areas.

**Urban challenges:** Salt Lake City suffered from declining investment in the city itself, and community leaders hoped that a R/UDAT visit would suggest ways to strengthen the city's position as Utah's economic center. The city was losing its pedestrian character due to a decrease in retail activity and street traffic, and this was exacerbated by new buildings that contributed little to the pedestrian scale. Recent projects featured mid-block parking garages that further eroded the urban street wall. In their assignment, the R/UDAT experts were asked specifically to look at the controversy surrounding the proposed development of Block 57, a key downtown parcel owned by the city that was seen as a potential model for the next generation of development.

**Team recommendations:** The eight-member team—representing the

fields of architecture, urban design, planning, landscape architecture, real estate investment, public administration, and transportation—urged the business community, church leaders, government, and citizens to unite around a common vision. Two key recommendations were made to stimulate desirable development. One was to construct a new arena for the Utah Jazz basketball team on a site adjacent to the existing convention facilities and Symphony Hall; another was to anchor the city's southern end with the development of a new judicial center. The Jazz arena and the court complex were part of an overall strategy to develop identifiable districts—for shopping, business, arts and entertainment, church, and convention uses—within the downtown to reinforce existing assets. The team also proposed stronger preservation controls, a revision of parking requirements, and measures





DOUGLAS KAHN



to protect adjacent neighborhoods from commercial encroachment. Alternative approaches to Block 57 were outlined, including underground parking, through-block circulation, and the development of public space and amenities at the center of the block.

**Results:** Seven years after the R/UDAT exercise, Salt Lake City is enjoying the economic boom that characterizes much of the Rocky Mountain region. "In 1988, the fear was that the suburbs would get the growth when the economy finally rebounded," notes Elizabeth Hallstrom, the executive director of Salt Lake's AIA chapter. "R/UDAT helped keep investment in the downtown, and so the old fear of the suburbs is not the same."

The Delta Center, new home of the Utah Jazz, was completed in 1991 on the recommended site, and an expanded convention center is under construction. Design is under

way for the new \$90 million judicial complex. A new zoning ordinance will be voted on this spring. Political leaders also followed other report recommendations: The state consolidated offices in a new building, and the mayor restructured the city's redevelopment agency, establishing a new development advisory board.

Other R/UDAT recommendations have made the city more amenable. Restaurants and galleries have opened in the proposed entertainment district. A farmers' market is in place. Housing is under construction, including loft space in the arts and entertainment district. And a new municipal parking authority will provide a management plan for downtown parking.

Phase one of Block 57 featuring a public plaza and a skating rink over underground parking, has been built. However, the proposed phase two of Block 57 now incorporates an above-grade parking garage, and

the historic building currently housing the local AIA chapter is likely to be demolished. "Some people have lost the vision," says business leader Reuel Ware. "They are looking too hard at costs." Embattled neighborhoods, which enjoyed greater support after the team visit, have recently lost a fight against a major retail development.

Still, most agree that there is a lasting change in Salt Lake City: New lines of communication exist that did not before the R/UDAT visit. The Mormon Church is a much more visible participant in planning discussions and is now cooperating with the city on a new public park recommended by R/UDAT. "Studies come and go," says architect David Milne, president of the local AIA chapter at the time of the visit, "but the contacts and momentum are still felt. People learned that dissimilar groups can work together on a common goal."

**FACING PAGE, TOP LEFT AND RIGHT:** R/UDAT sketches illustrate recommendations for Block 57, including stepped-up massing at the corner (left) and visibility through the block to internal public space (right).

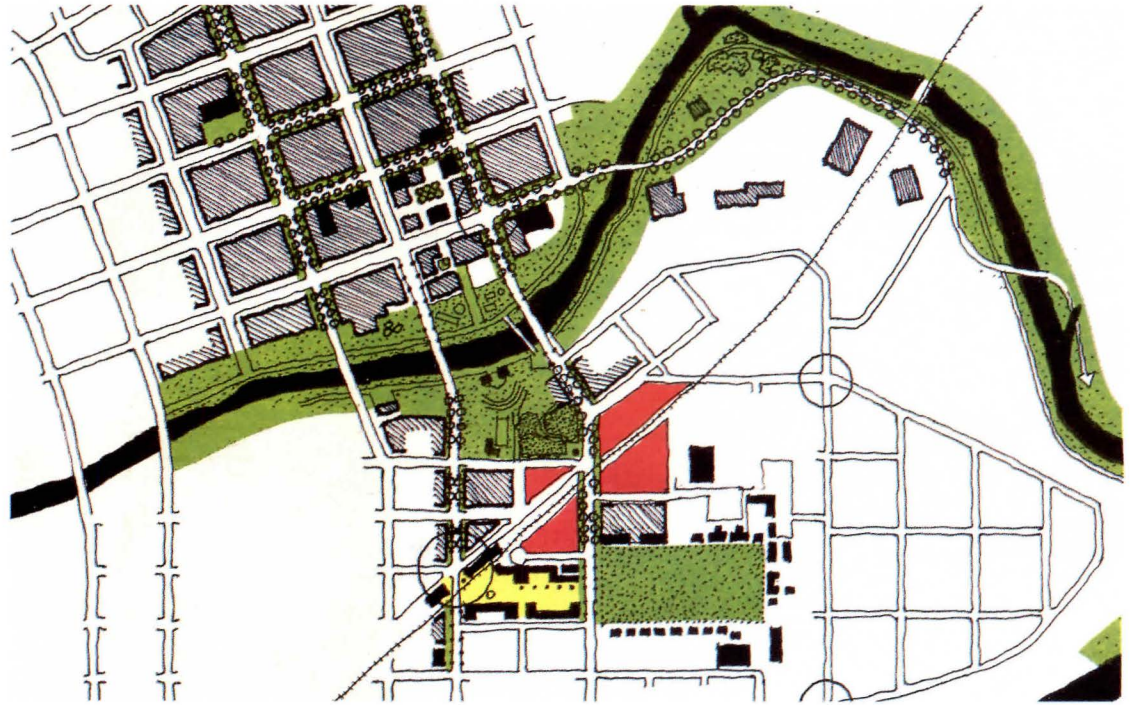
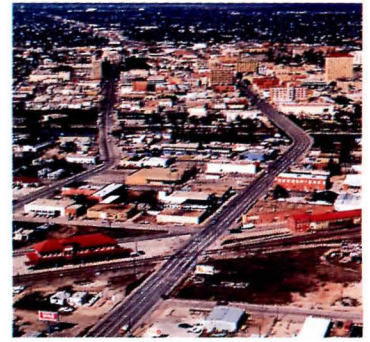
**FACING PAGE, ABOVE:** Several land-use recommendations from R/UDAT report have been incorporated in a new zoning ordinance.

**TOP LEFT:** New pedestrian-scale improvements include the structural enclosure of historic Social Hall.

**TOP RIGHT:** Delta Center, home of the Utah Jazz, was constructed on a R/UDAT-recommended site.

**ABOVE LEFT TO RIGHT:** Improvements to Block 57 include new multipurpose hall (left), new public plaza (center), and office tower and public skating rink over underground garage (right).





**San Angelo, Texas**  
**February 1992 R/UDAT**

**History:** Located in West Texas, San Angelo was first settled in 1864. Fort Concho, which still stands, was established on the banks of the Concho River in 1867 and included several units of “Buffalo Soldiers,” establishing an African American presence that continues today. Sheep ranching came to dominate the local economy, later boosted by the discovery of oil in a neighboring county. Today, San Angelo is home to the Goodfellow Air Force Base, corporate headquarters, and the regional headquarters for the U.S. Customs Service. With a population of 83,000, it is the only metropolitan center within 125 miles.

**Urban challenge:** Aware that the city lacked physical connections between districts, and that its center was pockmarked with empty storefronts and vacant lots, community

leaders approached the AIA for help in generating a new vision for its downtown. Despite a healthy institutional base including a medical center and state university, the city was suffering from the oil slump of the 1980s and hoped to integrate its historic resources into a plan for economic development. Within the historic city center, the focus of the R/UDAT visit, landmarks were deteriorating and threatened by demolition. San Angelo regulations were unsympathetic to preservation, and residents appeared uncommitted to saving their older buildings.

**Team recommendations:** The eight-member R/UDAT team—which included specialists in urban design, preservation planning, land use law, transportation and economic development—proposed a plan for connecting the historic city center by establishing stronger connections across the river, including a new pedestrian bridge, and continuing

the linkages into adjacent districts. Three significant historic structures—the Santa Fe depot, the freight warehouse, and Fort Concho—were joined together in a new district through selective demolition and development of a new *mercado* and plaza for local festivals, supported by new parking areas. The team strongly recommended the establishment of an historic district commission and suggested that the local chapter of the AIA work with city officials to modify ordinances discouraging preservation and reuse. The R/UDAT also encouraged more creative use of financial tools that would allow the city to leverage its funds more effectively.

**Results:** San Angelo understands instinctively the concept of leveraging—not only of funds, but also of energy. City Manager Steve Brown reports that, in the three years since the R/UDAT visit, the city has leveraged \$2.7 million into more than





GERALD EWING PHOTOS



\$9 million, using Intermodal Surface Transportation Act and Community Development Block Grants, state transportation, and local private and foundation funding. Almost immediately after the team's departure, planning began for a proposed pedestrian link over the river, dubbed "Celebration Bridge." Brown believes the construction of the bridge, completed in 1993, was very significant. "We had to do something to keep the effort going."

Substantial progress has been made within the historic area. A new visitors' center at Fort Concho is under construction. The renovated freight warehouse will open this spring as a senior citizens' center providing recreation, food, social and health services. The first phase of the old Santa Fe depot renovation is complete, providing a new transit center for the city bus service; phase two, to be completed in November 1995, will accommodate

a railroad museum and provide office space for nonprofits.

Local architect Mario Alaniz, whose R/UDAT-related projects include two 4,600-square-foot pavilions in the festival plaza and a pedestrian mall extending the Celebration Bridge, is working with investors interested in a permanent *mercado* that will house small businesses. "The R/UDAT brought to life that which people knew but never talked about," he notes.

San Angelo has also addressed many of the concerns of the preservation community by creating an Historic Overlay Zone, establishing an Historic Commission, and introducing—in conjunction with the county—a tax abatement policy for restoring historic structures in the downtown. Even though local regulations have not been changed, they do allow for some discretion from building officials and fire marshal. Henry Schmidt, architect for the

visitors' center, depot, and warehouse projects as well as for several other historic buildings in the downtown, reports that there is now a great deal of cooperation and flexibility in relations with city officials.

There are some disappointments. The Texas Theater has not found a developer, a proposed jazz alley has yet to materialize, and there is still a lack of downtown housing, although Brown promises that is forthcoming. The city is currently studying alternatives for the Cactus Hotel and the Town House that would take advantage of investment tax credits, city home funds, and HUD funds to provide senior housing and market-rate city-owned housing. And new opportunities continue to arise. The Museum of Fine Arts will build a \$3 million facility on a site adjacent to both the river park and the *mercado* that will reinforce a key location in the revitalized center of San Angelo.

**FACING PAGE, TOP LEFT TO RIGHT:** Aerial views of San Angelo before R/UDAT planning show Concho River (left), underdeveloped lands (center), and historic city center (right).

**FACING PAGE, ABOVE:** R/UDAT urban design plan connects new *mercado* plaza district to historic city center.

**LEFT, TOP TO BOTTOM:** Restored barracks at Fort Concho include new visitors' center (top), restored Santa Fe depot includes new bus transit center (center), and railroad freight warehouse is now senior citizens' center (bottom). **TOP:** Landmark Hotel Cactus has been partially renovated for nonprofit use. **ABOVE:** Celebration Bridge provides pedestrian link over Concho River.



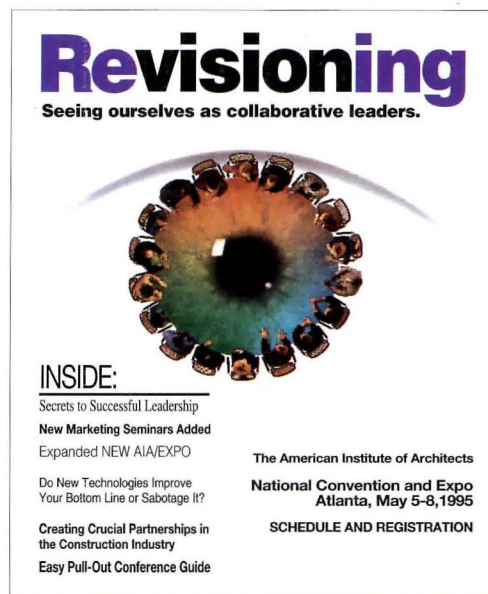
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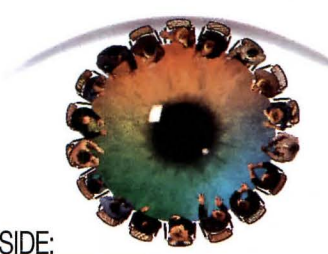
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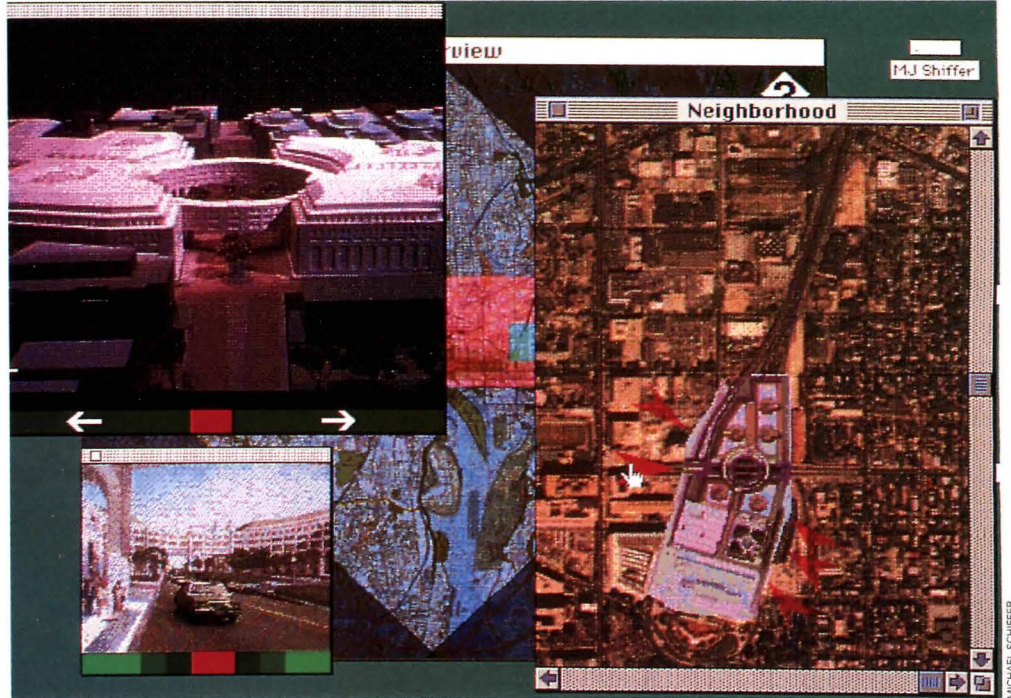


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## Designing Cities on Disk

*Integrating graphics and data is becoming easier for urban design applications.*



**ABOVE RIGHT:** Using Hypercard, Michael Schiffer of MIT synthesized model photos, maps, traffic analysis, and aerial photographs into a simple, point-and-click presentation for the U.S. Department of Transportation.

Architects are increasingly being called upon to design not only individual buildings but groups of buildings and the spaces in between. Fortunately, the capacity of computer technologies such as CAD, geographic information systems, and interactive multimedia has reached a sophistication where detailed representations of urban forms and systems may be very practically manipulated. But these computer applications to urban design have not yet reached widespread practice; they are still undertaken mostly by large organizations, such as universities and some national architecture firms, just as was the case with simple computer drafting and modeling a decade ago.

The main reason for this situation is the difficulty of assembling the vast amounts of information required for urban design projects. "It takes so much effort to get the information entered for just one answer," explains John Hart, associate vice president of RTKL in Baltimore. "And so far we have not found software packages that bring applications to a lot of different projects."

A data set for an urban design scheme might include not only building descriptions but information about block and street dimensions, planners' criteria such as traffic volumes and census documentation, and civil engineers' terrain descriptions and hydrological statistics. Urban design data must not only be



**RIGHT:** Real-time visualizations of South Central Los Angeles neighborhoods, executed on a Silicon Graphics Reality Engine by William Jepson at the University of California, Los Angeles, combine facade photographs mapped onto massing models.

**BOTTOM RIGHT:** Combining CAD and GIS tools, Erick Valle of the University of Miami's Center for Urban and Community Design analyzed four buildings types to gauge impact of density in Key Biscayne, Florida.





produced, as with a single building document set, but to a greater degree also acquired, crossreferenced, and exchanged among designers, planners, consultants, and government agencies. To date, only large area studies with some degree of public coordination have risen to this challenge.

### **Visualizing urban policy**

One of the best early examples of computer applications to urban design came out of a very public concern: the planned encroachments on the skyline of Ottawa's capitol complex. In the late 1980s, the Center for Landscape Research at the University of Toronto assembled computer technologies to study buildouts of the commercial areas surrounding the complex. Custom software running on early Silicon Graphics machines provided one of the first demonstrations of interconnected, real-time variations on massing models, skyline panoramas, and floor-area spreadsheets.

These studies revealed not only the advantages of precise calculations of view corridors but also the potential to communicate visually and dynamically the formal consequences of written urban policy. They demonstrated that when policymakers are able to say "what if" and see the results, they are more likely to consider form when making urban planning decisions.

Today, visual communication is the main focus of computer applications to urban design. The process of visually presenting the effects of building proposals—massing, shadows, public space—their effects on infrastructure, and the phasing of these projects is becoming faster, more adaptable, and more convincing with computer-based models and images. One of the simplest consequences of this work is the building of images from three-dimensional views of CAD models. The rendering and image-processing programs that architects have used in presentations for years also yield elaborative and analytical possibilities of digital image production.

Such capabilities are sometimes forgotten in the rush to create animated walkthroughs for clients—therein lies a lost opportunity for urban designers.

Steve Brubaker, vice president of Hellmuth, Obata & Kassabaum (HOK) in St. Louis, explains that projects such as East Asian superblock developments, or domestic civic projects that include changes to their surroundings, demand an increased level of urban analysis, design alternatives, and negotiations with approval boards. As a result, HOK uses layout and image-processing programs such as DrawStudio and Photoshop to choreograph plans and views taken from models (prepared in its own DrawVision software) to create analytic, diagrammatic boards for narrated presentations. Brubaker observes that these images help establish an objectivity about an urban design project that is conducive to building consensus among clients, approval boards, and the public.

### **Combining photos and models**

Laypersons who are often involved in community design reviews appreciate such direct and literal visualizations. But architects need to remember that CAD models, however detailed, are not literal images. A walkthrough with thousands of polygons may be no more useful than a few photographs having millions of pixels. However, research is yielding methods for combining the two, so that architects can walk clients through photographic three-dimensional representations of large-scale urban schemes.

For example, at the University of California at Los Angeles' Graduate School of Arts and Architecture, Director of Computing William Jepson has demonstrated real-time visualizations of 20-block areas in Los Angeles built from facade photographs digitally mapped onto faces of simple massing models. Jepson uses techniques derived from high-end flight simulators and applies the power of a Silicon Graphics Reality Engine—a high-end computer—to provide

real-time, three-dimensional photographic simulations for various projects in Los Angeles, including a study of the Florence and Normandie areas scarred by the 1992 riots, which was conducted to assist the rebuilding of those neighborhoods. Jepson integrates what always works when presenting to a general audience: appearance and visual cues as well as dimensional accuracy—and his presentations are in real time, too.

Another approach to computer-based neighborhood models has been explored recently at Harvard's Graduate School of Design. Detailed data prepared for the City of Pittsburgh's geographic information systems (GIS) has been converted into a three-dimensional model depicting terrain, major transportation arteries, and several thousand buildings. The conversion process relied on a collection of extension programs written in Autolisp (the macro language of AutoCAD) and Polytrim (custom software on Silicon Graphics machines) plus some direct manipulation of terrain cuts and buildings.

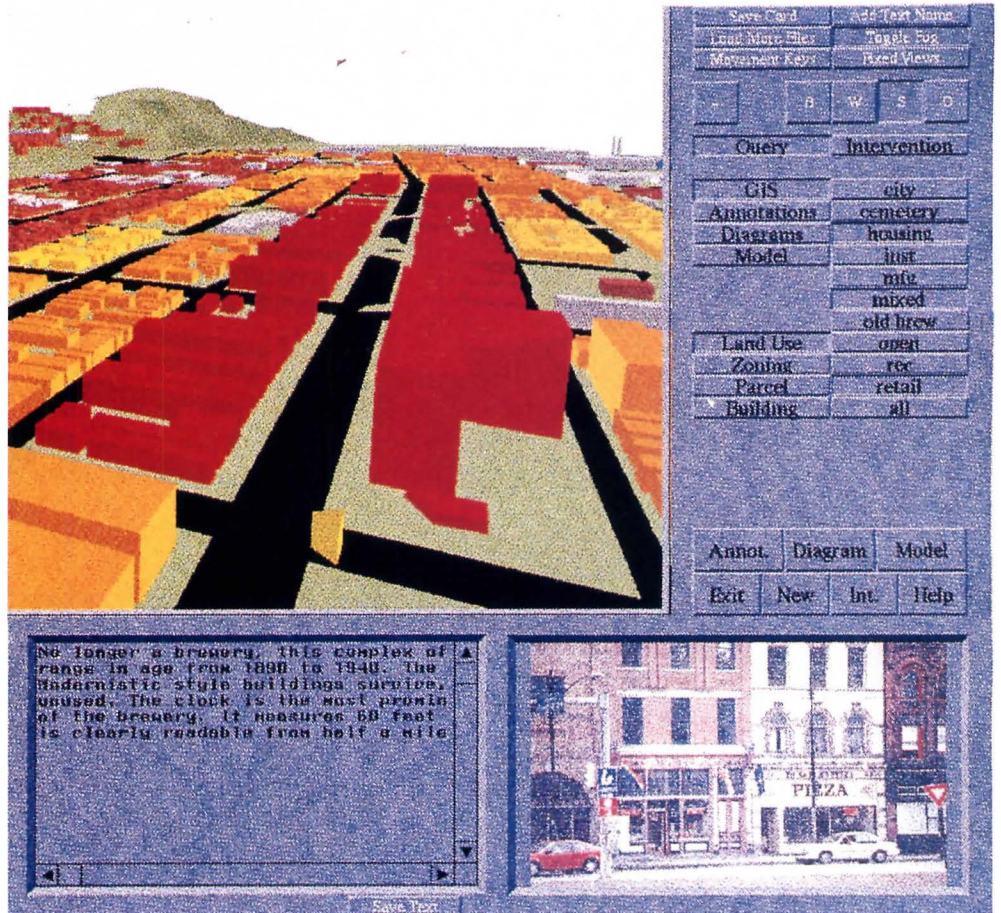
The result is not photographic but quite structured: It includes not only CAD layers but in some cases also a relational database more typical of GIS. Serving as a studio base, this model inspires further parametric modeling at the level of neighborhood grain and demonstrates a multimedia interface, incorporating maps, photos, and relational databases. It was built in the AutoCAD and Polytrim software that is the outgrowth of the original computerized urban design application for Ottawa's capitol complex.

### **Compiling multimedia presentations**

Meanwhile, multimedia interfaces and presentations are quite viable using off-the-shelf software such as Hypercard or Director. One of the finest examples of such presentations is a study for a proposed building for the U.S. Department of Transportation, located behind Washington, D.C.'s Union Station, that was led by research associate Michael Shiffer of the Massachusetts Institute of



**RIGHT:** Pittsburgh's terrain, transportation arteries, and buildings are represented in 3D by Harvard students using the city's GIS data in AutoCAD and Polytrim and 3D Studio software. **BOTTOM RIGHT:** Menu of experimental software, developed by Rodney Hoinkes at Harvard University, classifies layers of urban features, such as study area model (top left) and photos of streetscapes (bottom right).





Technology. This research demonstrates a great jump in the quality in project comprehension by linking planner's analysis, architects' proposals, grids of aerial photographs, and project phasing studies. Point-and-click navigation through a wealth of associated data quickly yields insights difficult to convey in conventional presentation drawings. This is no substitute for drawings, but certainly an interesting complement to them.

The biggest and most valuable data sets are emerging not in the world of CAD but in GIS. For example, at the University of Miami's Center for Urban and Community Design, several projects have demonstrated the potential of CAD/GIS crossover. Consider the village of Key Biscayne, which recently rewrote its codes based on studies of density conducted by Erick Valle, a professor at the center. By mapping costs, layouts, and especially building types, Valle produced convincing numerical analysis and visualizations that resulted in appropriate changes to density allowances in Key Biscayne's residential zoning codes. This method of using building type specifications to establish more suitable codes has been the basis of movement in urban design. Now the new urbanism may benefit from new technology.

#### **GIS plus CAD plus multimedia**

The combination of GIS, CAD, and interactive multimedia represents a set of computer applications peculiar to urban design. The spatial data element of GIS is the oldest of these three components—the planning profession can certainly claim some of the earliest uses of computers. Yet today, there is an increase in the capacity to visually display quantitative information; we know that transforming data into information—and information into knowledge—requires good, dynamic visuals that are easy to manipulate.

The GIS, CAD, and interactive multimedia combination also represents a set of computer applications with great potential for urban design. As these media grow and merge,

the result may help distinguish urban design—now a branch of architecture—as a professional discipline in its own right.

Developments at a more immediately practical level are now available. For example, software such as MapInfo (from the MapInfo Corporation in Troy, New York) has at last brought high-quality, low-threshold spatial information systems to the desktop, expanding the possibilities of spatial thinking. Architects can now produce detailed three-dimensional models by accessing—for a fee—public GIS databases, which contain information compiled by the government on census, transportation flow, density, and so forth. They can create their own maps instead of relying on public databases by compiling quantitative data relating to spatial properties, such as age and value of buildings, floor-air ratios, and ownership of parcels.

CAD, the second component of the set of computer media for urban design, has been quickly improving its capacity for larger, better-linked models of extensive urban form. There is no question the detailed data sets needed for urban design applications are painstaking and potentially costly to prepare, but they are also reusable, extensible, and transmissible. A well-maintained city data set is an important piece of intellectual capital, and for this reason it is already quite practical. For example, the firm of Kaplan/McLaughlin/Diaz has managed to amass a city model of Oakland, California. KMD urban designer Morton Jenson observes that through its reuse and continued development over several projects in and around downtown Oakland, this data set has paid for itself quite well.

The final component of this applications set is multimedia, which is emerging from its esoteric origins to become a powerful format for visual communication of urban design concepts. By now there is enough mastery of hypertext, sound, animation, rendering, and photographic sampling and processing to establish a new kind of multimedia presentation that most clients understand. Familiar

examples are all around us in exhibition design, educational software, and corporate communications, for which large companies routinely employ specialized service bureaus to prepare presentations. The engaging, interactive nature of multimedia tools could greatly enhance communications for architects in the public approval process. In fact, an urban design presentation nowadays can be not only an event but a disk a client can take home or a set of data uploaded to some other point on the globe.

#### **Practical applications**

Architects who have sensed the potential of computer technology in urban design should move forward. Judging from the example of CAD, related technologies such as GIS will soon become both more affordable and necessary. Today, multimedia, GIS, and enormous three-dimensional models may not seem like the bread and butter of most architects, but someday they will be, especially if urban design becomes more of a profession in its own right.

Recent developments have brought visualization software, GIS, and multimedia closer to the price ranges, technical know-how, and computing platforms of architects. Today, one can run AutoCAD, 3D Studio, Director, Photoshop, and MapInfo all on one computer. This synthesis may sound overwhelming to someone accustomed to thinking of the computer as equipment for task automation, but for anyone who regards it rather as a web of representational contexts with the capacity to mix and match software, many possibilities are within reach. A profession that takes pride in its creativity should have no trouble breaking out of the CAD mold and synthesizing valuable new ways of designing the city.—*Malcolm McCullough*

*Malcolm McCullough is associate professor of architecture at the Harvard University Graduate School of Design and coauthor of Digital Design Media (2nd edition, 1995).*



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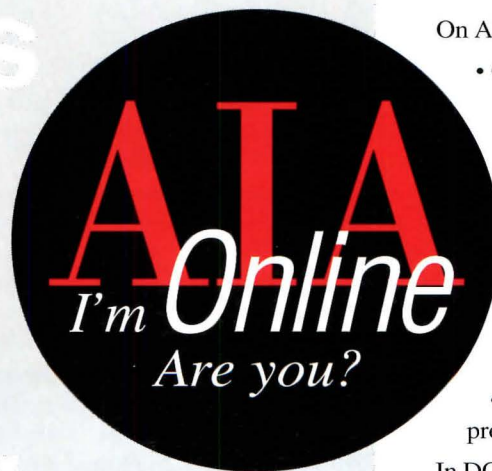
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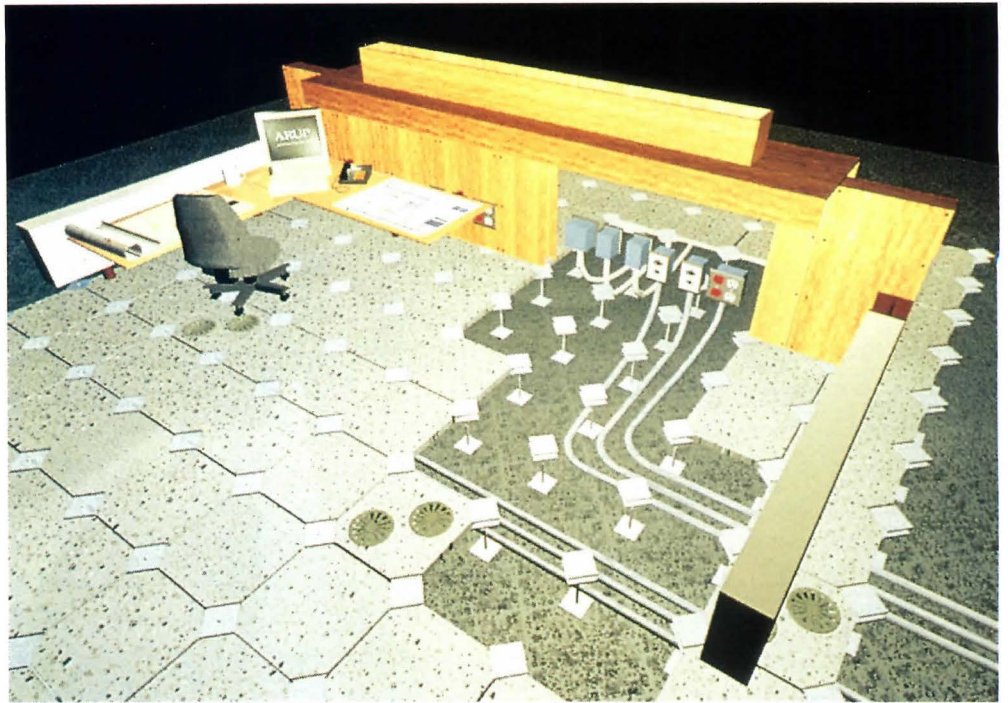
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## Wiring Buildings for the Future

*Flexible distribution systems allow communications technologies to expand.*

**ABOVE RIGHT:** Ove Arup & Partners installed a raised-floor system in its Los Angeles office to accommodate both electrical and communications wiring with maximum flexibility.



Integrating communication systems into buildings is no easy task for architects, as new technology presents increasingly complex cabling and network requirements. And given the quick pace of developments in computer, phone, and automation systems, buildings must be equipped to handle technology that doesn't yet exist. Furthermore, building experts are challenging architects to more effectively integrate building systems with an eye to energy efficiency. Responding to such demands, architects are emphasizing flexibility in their design solutions to accommodate both existing and future communications systems.

New distribution systems offer more efficient alternatives to the traditional method of burying masses of cables inside ceiling plenums. Cable trays offer greater flexibility: Telephone, computer, and electrical cables are simply tucked into ceiling- or wall-mounted metal tracks that can be left exposed or concealed behind drywall panels. These shallow trays allow easy cable access to individual offices or laboratories and facilitate maintenance and installation.

Another system type, popular in steel-framed buildings, is a cellular floor deck. A flat steel plate is welded to the structure's corrugated metal floor deck and cables are then inserted into the small pockets between the plate and floor deck. Cellular floors are efficient and economical, but the structural grid limits where cables can be extruded and where equipment can be placed.

A raised-floor system offers the most flexibility for distributing both communication and mechanical equipment. These systems, which have been popular in Europe for years, are typically composed of large floor tiles supported by individual metal struts. Cables rest directly on the structural slab, six to eight inches below the raised-floor surface, and feed into regularly spaced floor outlets. Such assemblies maximize flexibility, since terminals and workstations can be placed virtually anywhere. They also facilitate cable access with removable floor tiles. Raised floors, however, greatly reduce floor-to-ceiling heights, cost significantly more than cellular floors or cable trays, and may not meet code approval.



The World Bank, for example, required a raised-floor distribution system for its new headquarters in Washington, D.C., designed by Kohn Pedersen Fox Associates. But the eight-inch floor depth of such a system would have reduced the total number of floors, which is limited by a local ordinance to 13 stories. To minimize the depth of the raised deck and increase the number of floors, engineer Flack + Kurtz devised a custom deck with a 4½-inch-deep plenum.

For the architect seeking an off-the-shelf raised-floor system, there is good news. Raised-floor deck technology has improved greatly over the last few years, according to Ove Arup & Partners communications engineer Phil Crompton. New products also promise to eliminate the sound transmission and vibration problems that are typical of older systems.

New communications technologies are also redefining traditional building types from offices to elementary schools. Libraries, for example, are becoming “virtual” learning centers as computerized databases replace traditional stacks and archives. Boston architect Shepley Bulfinch Richardson and Abbott’s new library at the University of California, Riverside, represents this new generation of libraries. The architect inserted column-mounted computer outlets among book stacks that allow students to plug in laptop computers as they browse the shelves. The library’s computer system also incorporates innovative air-blown fiber (ABF) cable technology, whereby optical fiber cables can be “blown” into ¼-inch-diameter plastic conduits using compressed nitrogen. As the facility’s computer needs grow and new technologies demand more cabling, additional optical fiber cables can be inserted into empty conduits already in place. This is a cheaper solution than replacing the entire telecom system to accommodate new equipment.

Wireless communication systems are heralding the next wave of technological improvement and aim to completely replace conventional communication equipment. In theory, these systems offer absolute flexibility, since they transmit information through radio and infrared signals instead of through physical cables. But Walter Cooper, an engineer at Flack + Kurtz, doesn’t foresee any large-scale replacement of systems. “Most existing data networks and their components would also have to be replaced,” Cooper points out. Critics are moreover concerned about the security of information transmitted by wireless equipment and cite a lack of available transmission frequencies—which are tightly regulated by the Federal Communications Commission—as a major drawback.

A number of resources are available to help architects decipher the fast-changing world of telecommunications. The Electronic Industries Association and the Telecommunications Industries Association have teamed up with the American National Standards Institute (ANSI) to create standards for telecommunications wiring in commercial and other building types. These documents, approved by ANSI between 1990 and 1994, provide standard dimensions and cable configurations for pathways, location of telecommunications equipment rooms, and outlets. Revised versions of two commercial building standards are expected later this year. The Washington, D.C.-based Intelligent Building Institute, meanwhile, is also developing new guidelines to help architects more efficiently integrate new building systems. Architects must take the initiative in monitoring technical advances, keeping in mind that communications systems are a vital part of building smart.—*Raul A. Barreneche*



**LG Kangam Building**  
**Seoul, Korea**  
**Skidmore, Owings & Merrill, Architect**

For over a decade, Skidmore, Owings & Merrill has promoted the concept of "intelligent" buildings—those that integrate systems and structure for energy efficiency and flexibility. SOM's new clients in Asia are now adopting this idea and seeking the latest techniques.

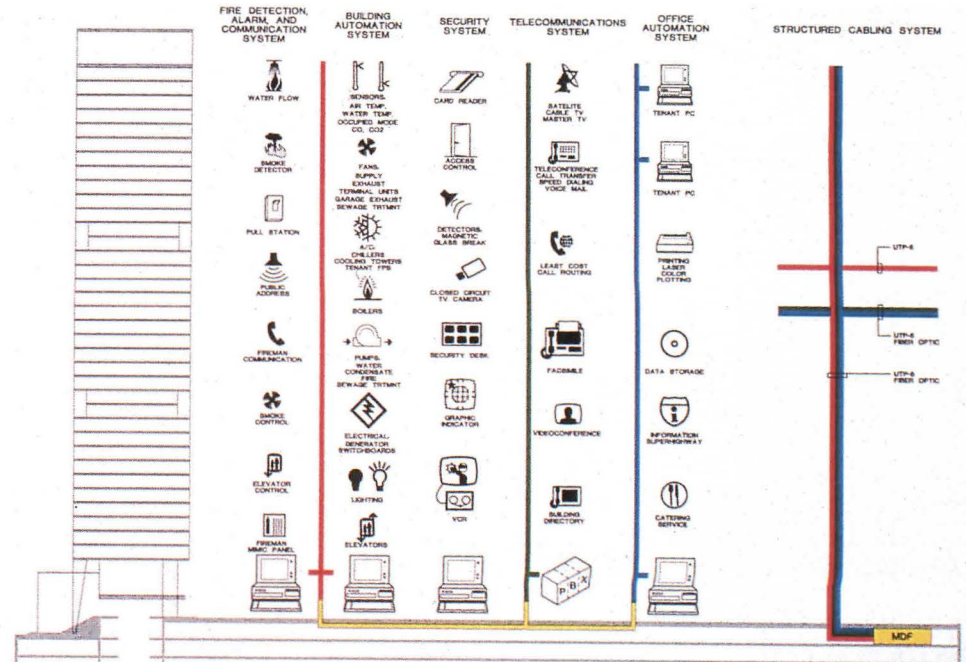
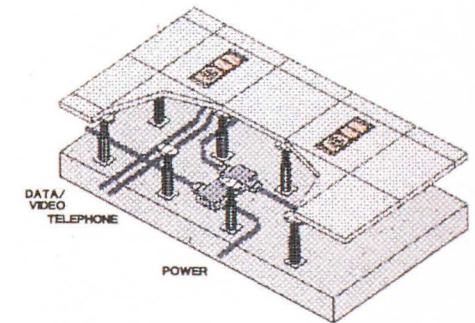
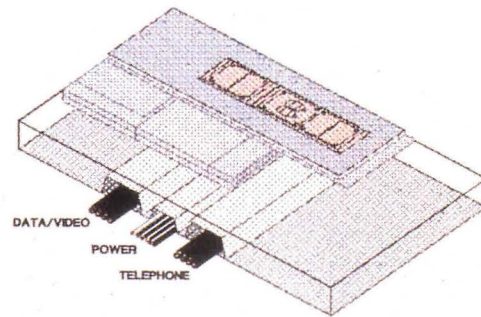
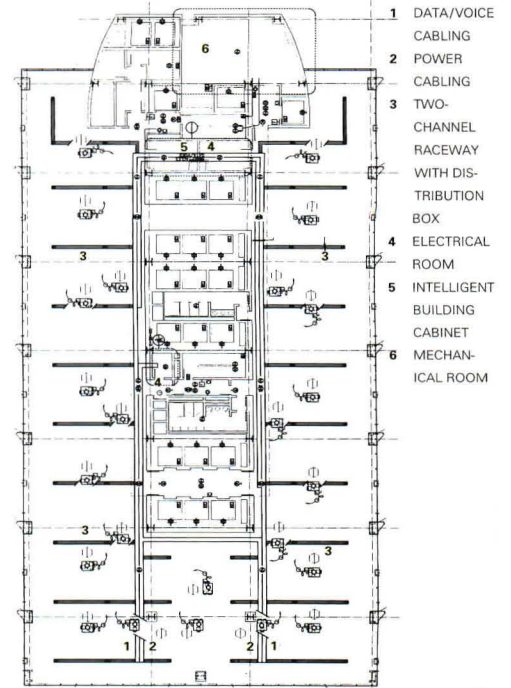
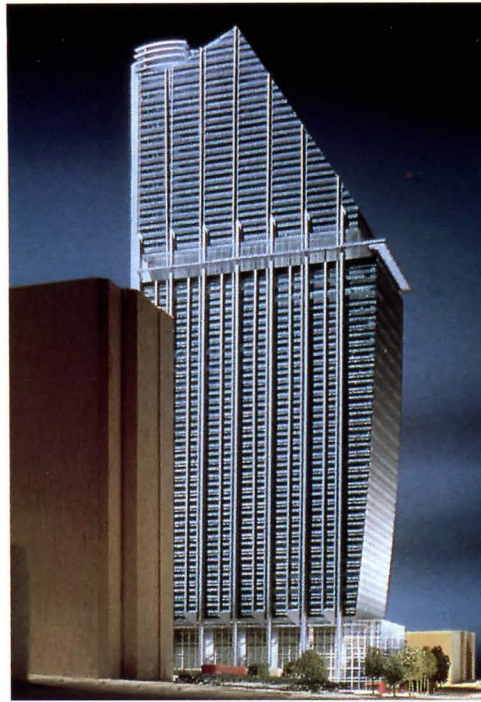
A new project on the boards in SOM's Chicago office is a 40-story corporate headquarters building for the computer and electronics giant Lucky Goldstar in Seoul, Korea. The client demanded an "ultramodern information system for the 21st century," which could easily adapt to advances in information technology—many of which would be pioneered by Lucky Goldstar itself.

SOM's architects and engineers evaluated both cellular floor deck and raised-floor distribution systems on the basis of flexibility, cable capacity, wire management capabilities, and both short-term and life cycle costs. They eventually opted to install a raised floor. Each of the building's office floors contains a system of 2-by-2-foot floor tiles elevated 6 inches above the concrete slab. Individual tiles are supported by metal legs fastened to the slab.

Each floor is equipped with an "intelligent building cabinet" within the core, containing computer, telephone, building management, and security equipment. These 10-by-16-foot spaces—more like rooms than equipment closets—are connected by vertical risers extending the entire 600-foot height of the tower. Similarly sized closets housing electrical distribution units adjoin the intelligent building cabinets and are also stacked through the building. From these two core areas, computer, telephone, and power cables are distributed horizontally beneath the raised floor in separate channels. The channels also accommodate cables that link internal computer networks.

**TOP LEFT:** SOM's 40-story office tower in Seoul will incorporate state-of-the-art information systems.

**PLAN:** Typical office floor contains "intelligent building cabinet" (top).  
**CENTER:** SOM considered both cellular (left) and raised-floor (right) systems.  
**RIGHT:** Chart shows integration of systems with fiber-optic cables.





**National Foreign Affairs  
Training Center  
Arlington, Virginia  
Sasaki Associates/MGA Partners**

The U.S. State Department recently opened its 72-acre National Foreign Affairs Training Center outside Washington, D.C., as an educational campus for the country's diplomatic corps. Boston architect Sasaki Associates, in a joint venture with the Philadelphia office of MGA Partners, designed the new complex to adjoin the existing 1927 Foreign Service Institute, which is housed in a former women's college.

The new 450,000-square-foot building comprises traditional classrooms, innovative language labs, conference facilities, a library, and a security facility, all of which rely on large amounts of computer and media equipment. "Although the campus has a strong physical presence," says Sasaki Associates Principal Alan Resnick, "it also has a tremendous 'virtual' presence around the globe." The library, for example, is primarily computer-based, so that U.S. diplomats around the world can tap into its collections. And an in-house studio will produce educational videos for global distribution to State Department facilities.

Resnick and MGA Partners, in collaboration with engineers Flack + Kurtz of New York City, were charged with developing a highly flexible communications system that could accommodate a large number of cable-intensive activities spread out over a large area. Inspired by the application of similar systems in large laboratory buildings, the team installed a central artery of shallow 18-inch-wide metal cable trays that extends along the building's main corridors. The cables are distributed to individual classrooms and labs through the top of the partition walls (drawing, opposite page). These trays facilitate access to the copper cables and easily accept new equipment. "It's a simple way of accommodating high-tech equipment," adds Resnick.

Although this system provides an efficient means of wire distribution, the architects decided to conceal the trays given the public nature of the expansive hallways. They enclosed the trays within drywall soffits fitted with perforated aluminum screens. Each 4-foot-long-by-6-inch-high screen can be slid open to service existing cables or to add new ones.

This cable-tray system proved much less costly than a raised-floor distribution system or a cellular floor deck, according to Flack + Kurtz engineer Walter Cooper, given the long distances spanned and the heavy cabling requirements. Flack + Kurtz's cabling strategy proved its flexibility even before the building was completed, when the client decided to reconfigure classrooms by adding more computers.

The cable layout installed in the trays is known as a "hierarchical-star" system. Backbone cabling extends from the building's main computer room to regularly spaced telecommunications closets on each floor; additional cables connect individual outlets to the telecommunications closets. With this two-tier system, changes can easily be made to workstations without disrupting the entire computer system. "There's a real economy of scale because you don't have thousands of cables running from each workstation to the central computer room," explains engineer Debbie Ryon.

Sasaki and MGA also designed customized study carrels in the language labs that contain interchangeable racks for multimedia equipment. Given the massive cabling required for hundreds of carrels within the labs, the architects installed a cellular distribution system in the floor deck below the multimedia labs instead of relying on cable-tray distribution. "Multimedia technology was changing so fast during the design of the building that it was easier to install additional cabling in a cellular floor system than in trays," recalls MGA Principal Alan Greenberger. Because cables distributed in a cellular system don't take up additional space, they are also viable retrofit options. Moreover, the system is economical because the engineer specified only standard cables and outlets that can support any type of computer equipment.

**TOP RIGHT:** Campus buildings comprise classrooms and language labs.

**PLAN:** Communications cable artery (red) extends along central hallways.

**FACING PAGE, TOP LEFT:** Classrooms demanded heavy computer cabling.

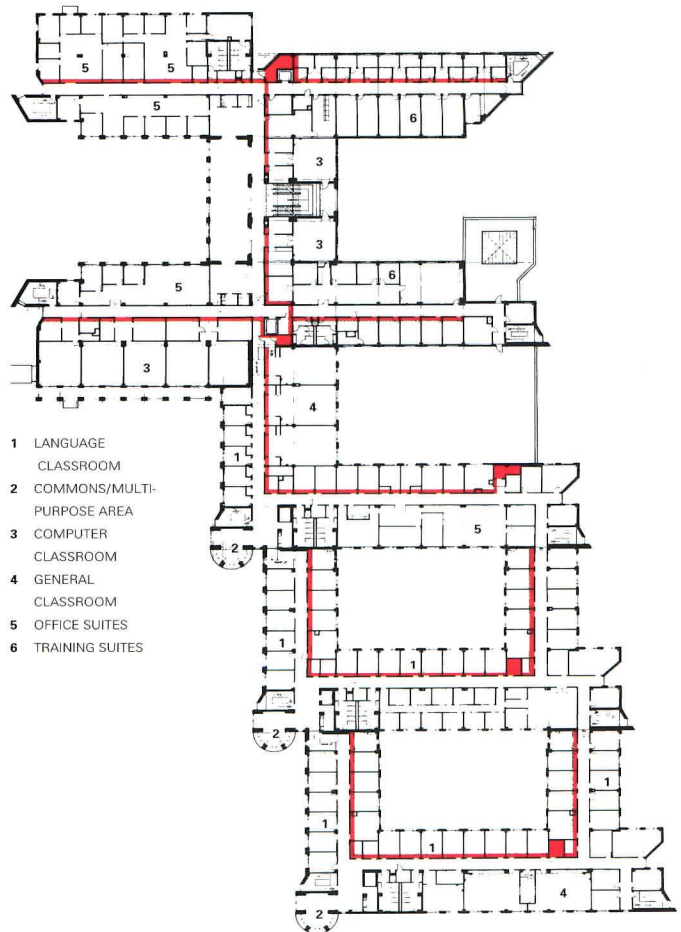
**FACING PAGE, TOP RIGHT:** Cable trays are enclosed by aluminum screens.

**FACING PAGE, BOTTOM LEFT:** Cable trays are concealed within hallway soffit.

**FACING PAGE, SECTION:** Cables feed into classroom through partition walls.



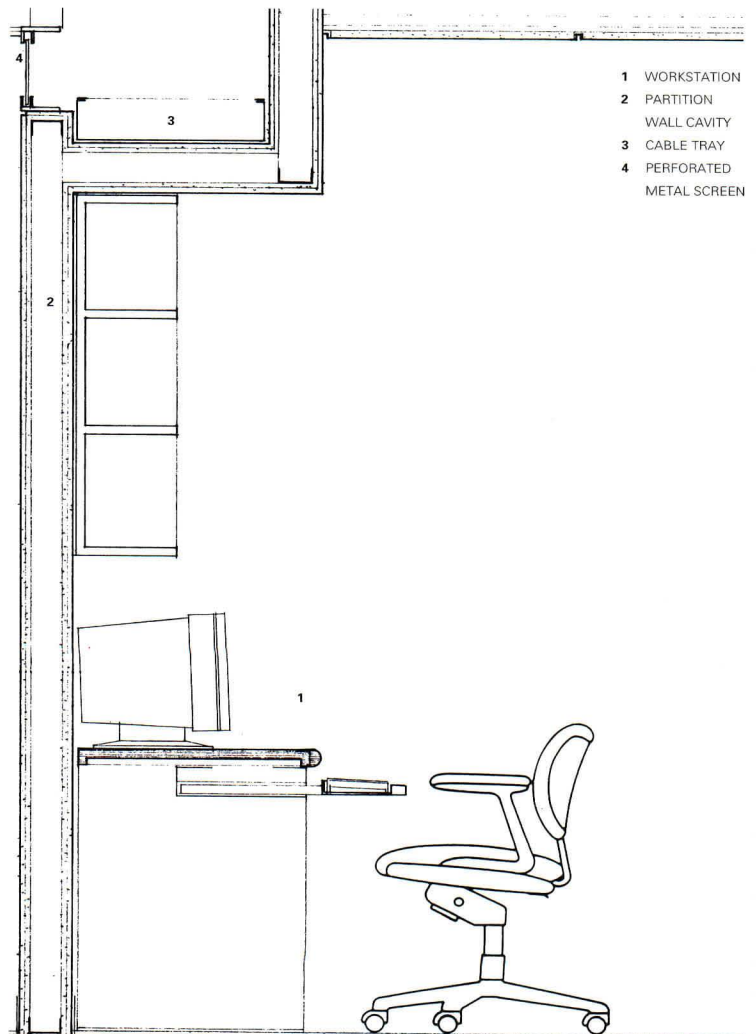
DAN CUNNINGHAM PHOTOS



**THIRD FLOOR PLAN**

80'/24m ①







**Molecular Sciences Lab  
U.S. Department of Energy  
Richland, Washington  
Zimmer Gunsul Frasca  
Partnership, Architect**

The United States Department of Energy's new Environmental & Molecular Sciences Laboratory (EMSL) in Richland, Washington, will connect state-of-the-art labs, computer rooms, and classrooms with a high-speed computer network. Portland architect Zimmer Gunsul Frasca Partnership (ZGF) and Los Angeles engineer Ove Arup & Partners devised a communications system to accommodate the latest in existing computer technology and to allow future expansion.

ZGF and Arup selected fiber-optic cabling over traditional copper cables, since fiber cables allow mile-long connections between a central computer and a terminal, while copper cables can only run 300 feet. "Fiber optics are more expensive, but in addition to the longer distances the cables can extend, they can carry many more signals," explains Phil Crompton, a communications engineer with Ove Arup & Partners. He adds that the cost of fiber optics is decreasing rapidly and could, within the next decade, match that of traditional cabling.

A 5,000-square-foot central computer room adjoining the building's three main lab blocks will house a large supercomputer and several other large machines. The architect inserted cable connections for this centralized system below a raised floor within the computer room.

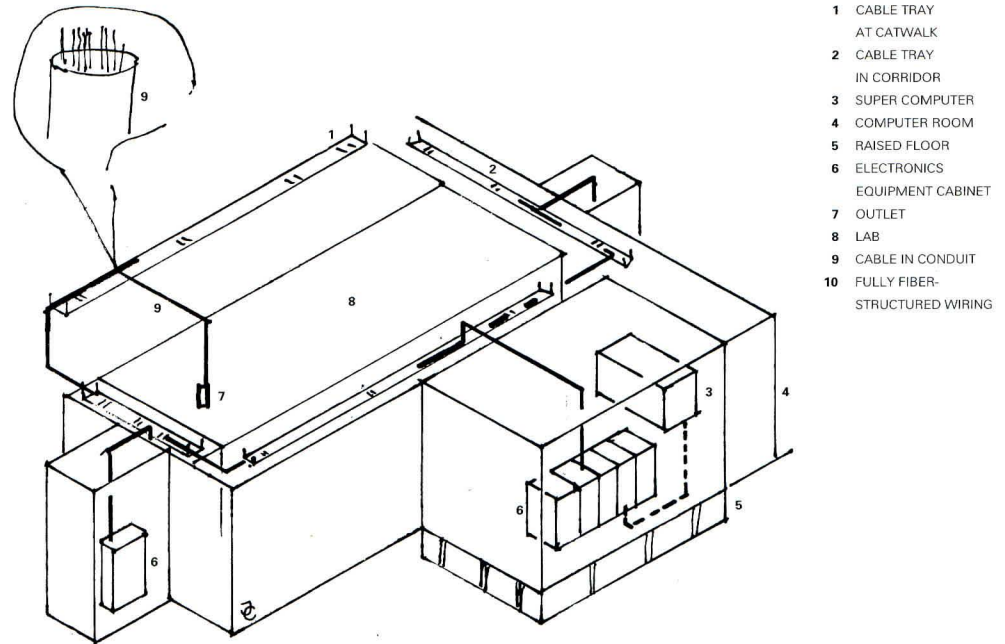
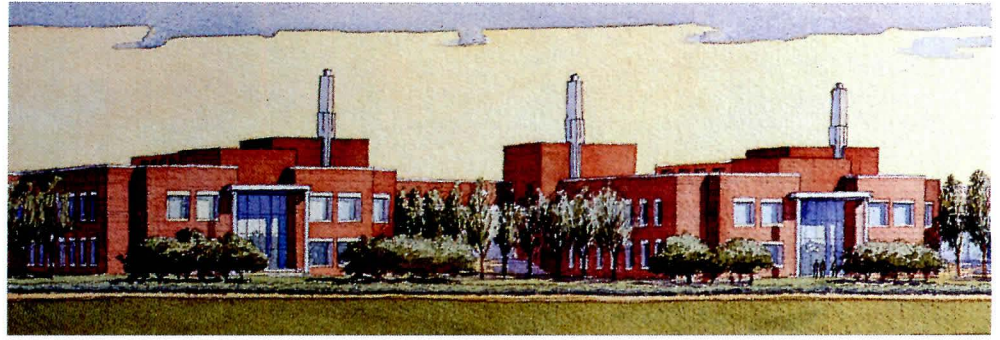
To allow researchers and scientists to create their own networks as needed, the client will connect individual terminals directly to the main computer with fiber-optic cabling. Metal trays inserted into the ceiling plenums above the labs and in hallways carry the cables. Where large mechanical ducts or structural members in the ceiling prevented access to the trays, Arup substituted enclosed steel raceways to carry the cables around the ducts and columns.

The lab, now in construction, is scheduled for completion in 1996.

**TOP:** Department of Energy lab is housed in brick-clad volumes.

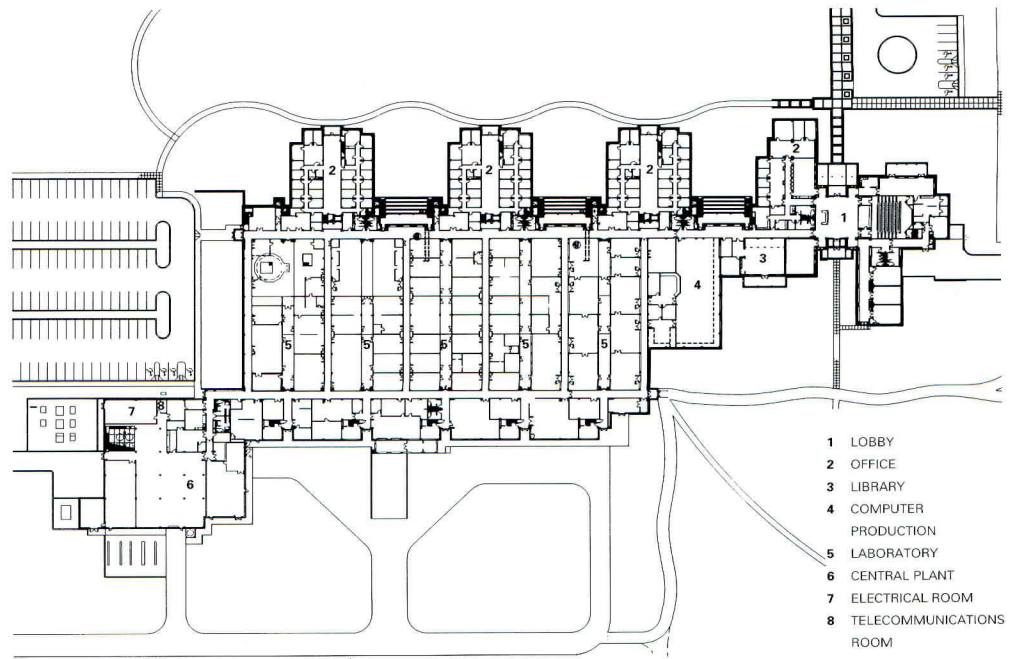
**CENTER:** Fiber-optic cables from central computer room (right) are distributed to labs via cable trays.

**PLAN:** Computer room contains raised-floor distribution system.



- 1 CABLE TRAY AT CATWALK
- 2 CABLE TRAY IN CORRIDOR
- 3 SUPER COMPUTER
- 4 COMPUTER ROOM
- 5 RAISED FLOOR
- 6 ELECTRONICS EQUIPMENT CABINET
- 7 OUTLET
- 8 LAB
- 9 CABLE IN CONDUIT
- 10 FULLY FIBER-STRUCTURED WIRING

**SCHEMATIC OF CABLING DISTRIBUTION IN LAB BLOCK**



- 1 LOBBY
- 2 OFFICE
- 3 LIBRARY
- 4 COMPUTER PRODUCTION
- 5 LABORATORY
- 6 CENTRAL PLANT
- 7 ELECTRICAL ROOM
- 8 TELECOMMUNICATIONS ROOM

**MAIN FLOOR PLAN**

100/30m





**Engineering Sciences Building**  
**University of California, Riverside**  
**Riverside, California**  
**Anshen + Allen, Architect**

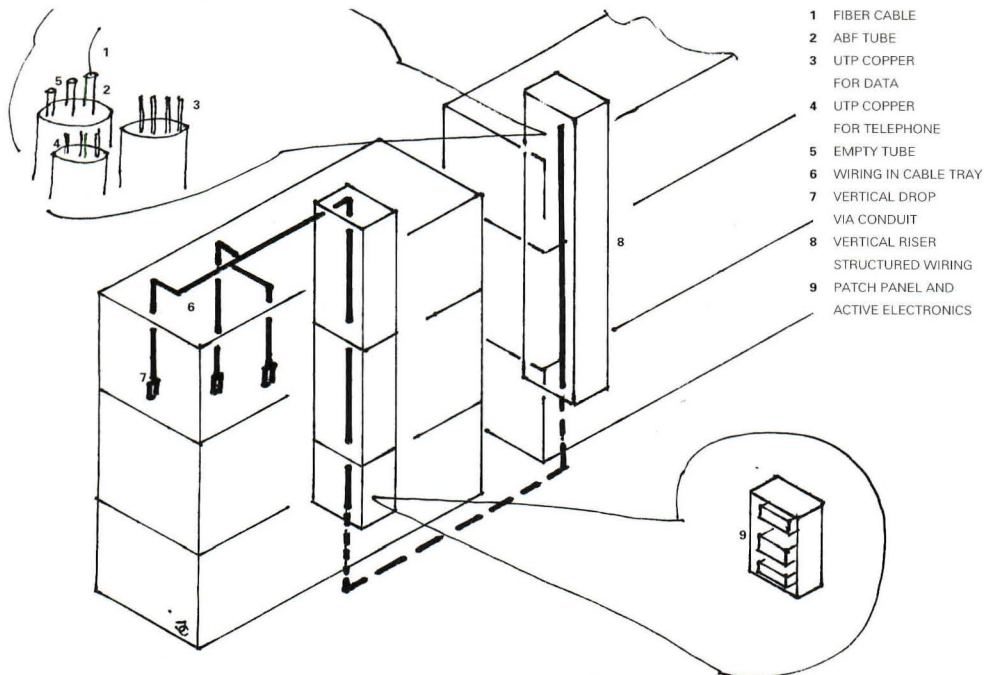
Los Angeles architect Anshen + Allen's new engineering laboratory on the University of California's Riverside campus can accommodate the newest high-tech computers as well as equipment that doesn't yet exist. To meet such future-minded goals, engineer Ove Arup & Partners selected a hybrid system of fiber-optical and traditional copper cables. "We would have preferred to install an entirely fiber-optic system, but we were limited by budget constraints," admits Arup communications engineer Phil Crompton.

This hybrid cable system is distributed to individual labs and offices by cable trays mounted within ceiling plenums; vertical conduits extend down through partition walls to individual outlets. The cables connect to a central computer room on each floor where they are plugged into "patch panels." These 19-inch-wide steel boxes connect the horizontally distributed cables to vertical risers, thereby linking the individual floors into a single loop. Underground conduits connect parallel systems in each of the building's two main lab blocks.

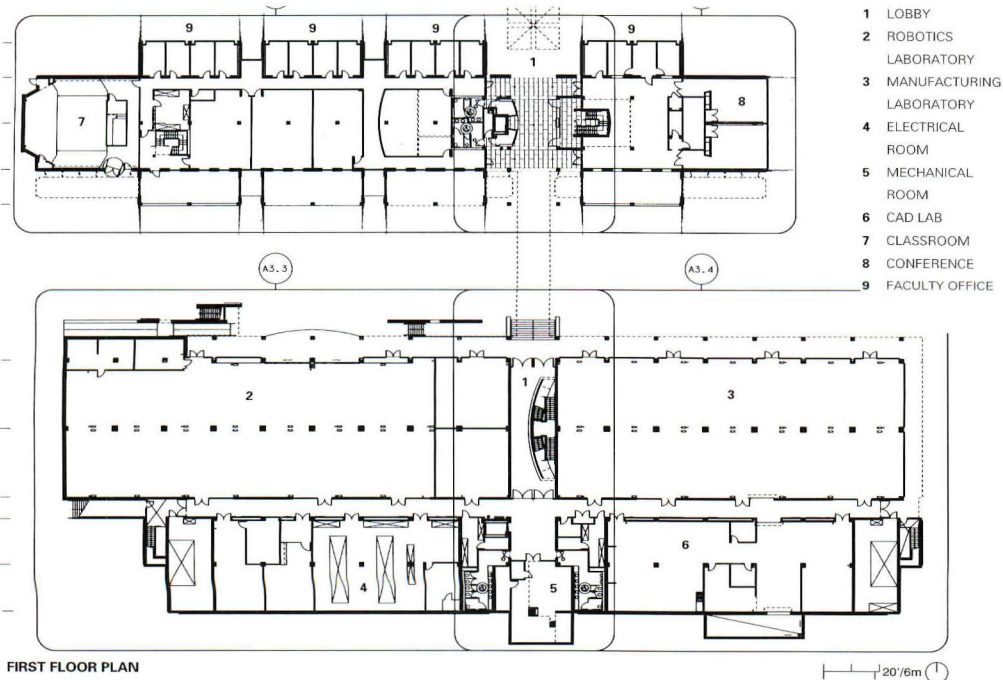
Copper cabling was required primarily to utilize existing computer systems, although some current equipment functions with fiber optics. The fiber-optic cables were injected into plastic conduits with compressed nitrogen, a technique known as air-blown fiber (ABF). Arup installed additional empty conduits so that new wires can be installed as systems adapt and expand.

ABF cabling is more expensive than even conventional fiber-optic systems. But in the long run, its ability to accommodate future growth could make it more economical than removing outdated cabling systems and installing entirely new ones. "ABF really allows us to 'future-proof' a building and install new technologies 20 years from now," boasts Crompton.

**TOP LEFT:** Labs are equipped with copper and air-blown fiber-optic cables.  
**TOP RIGHT:** Communications cables are integrated with mechanical systems.  
**CENTER:** Cables extend from equipment rooms to labs via cable trays.  
**PLAN:** Underground conduits connect networks in separate lab blocks.



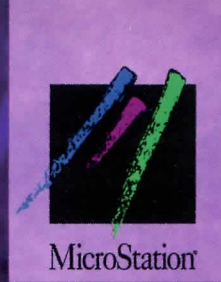
**SCHEMATIC OF CABLING DISTRIBUTION IN LAB BLOCK**



**FIRST FLOOR PLAN**



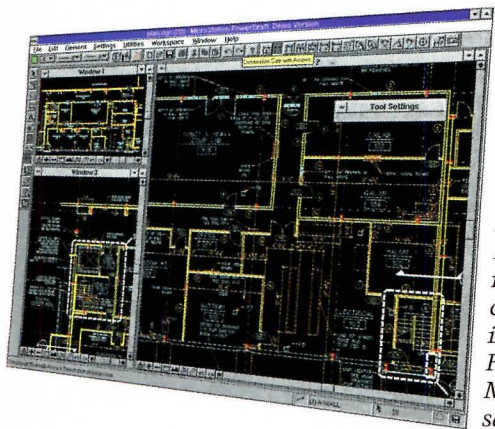
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## Habitat for Humanity

*The country's most visible housing group taps the AIA for volunteers and designs.*

**ABOVE RIGHT:** Habitat for Humanity volunteers erect wood frame houses to accommodate low-income citizens.



**W**hen architects attend the national AIA Convention in Atlanta next month, they will be invited to pick up a hammer and assist in the construction of three houses for Habitat for Humanity. AIA Atlanta's sponsorship of a competition that produced these house designs signals a greater participation by AIA chapters in this thriving volunteer organization.

Since 1992, AIA chapters in Dallas, Knoxville, Atlanta, and Chattanooga have sponsored design competitions for Habitat houses (with Knoxville and Atlanta sponsoring actual construction). Chapter members from Philadelphia to Phoenix have led building teams, evaluated narrow city lots for purchase or donation, assisted in fundraising, and designed and constructed actual buildings.

Habitat was founded in 1976 in Americus, Georgia, by Millard Fuller, a successful businessman and attorney, and his wife Linda. Their primary mission has to this day remained clearly focused: "We want to eradicate poverty housing and homelessness," Fuller explains. The genius of Habitat lies in its collaboration with residents, described in Habitat's literature as "building homes in partnership with low-income families."

The most visible living symbols for Habitat for Humanity International are former President Jimmy Carter and former First Lady Rosalynn Carter. "I've been a carpentry worker since I was eight years old," says Jimmy Carter. Since September 1984, Habitat has sponsored the annual Jimmy Carter Work Project, whose tasks range from the rehabilitation of inner-city brownstones to creating housing on a Native American reservation in South Dakota.

Real need has prompted Habitat's growth from a small grassroots network to a burgeoning national organization of 1,100 local affiliates in all 50 states. This success may stem from the domestic housing crisis: The federal government threatens to drastically reduce its investment in low-income housing at a time when "shelters in 72 percent of cities turned away requests for assistance because of lack of resources," according to the U.S. Conference of Mayors 1994 report.





**ABOVE RIGHT:** Teams raise walls throughout 1,100 Habitat affiliates in 50 states and 40 foreign countries.

**FAR RIGHT, TOP:** Former President Jimmy Carter and former First Lady Rosalynn Carter at work on annual Jimmy Carter Work Project.

**FAR RIGHT, ABOVE:** Homeowners provide “sweat equity” for future residences.

**FACING PAGE, ELEVATION:** Habitat houses require low roof slopes for safety of volunteers who erect them.

**FACING PAGE, PLAN:** Typical three-bedroom, one-bathroom houses are designed by volunteer architects or derived from pattern books of previously built houses.

But Habitat is no giveaway. Applicants are carefully screened by local affiliates for need and ability to repay. The nonprofit, Christian-affiliated ecumenical housing group builds each qualified applicant a house and then offers interest-free loans to those unable to receive mortgage credit.

In return, homeowners must invest time in the construction and maintenance of their houses and must repay their mortgages. Miami’s Carolyn Richardson is an example: A 38-year-old single mother of two, she performed 100 hours of a 400-hour total commitment of “sweat equity” before moving into her three-bedroom house in Miami’s Liberty City. This ownership investment strategy ensures the property owners’ commitment.

Each Habitat affiliate is tied to the national association through a signed “covenant.” Affiliates are given organizational and construction guidelines and a five-volume operations manual, but they possess broad discretionary powers in regard to the selection of applicants, housing designs and locations, and constituency of governing boards.

Habitat’s hallmark in this country has been a simple house—a “decent house,” Fuller says—costing approximately \$35,000 to \$40,000. The typically one-story dwellings avoid frills and consist of three bedrooms and one bath. Small porches are permitted; carports are excluded.

Increasingly, architects are called on to help tailor infill housing to a wide variety of urban lots. Atlanta Habitat’s Executive Di-

rector Larry Arney, an architect, believes that architects can help the volunteer organization find innovative solutions to affordable housing. Arney cites AIA Atlanta’s design competition for “striking a good balance in constraints of cost and unskilled labor.”

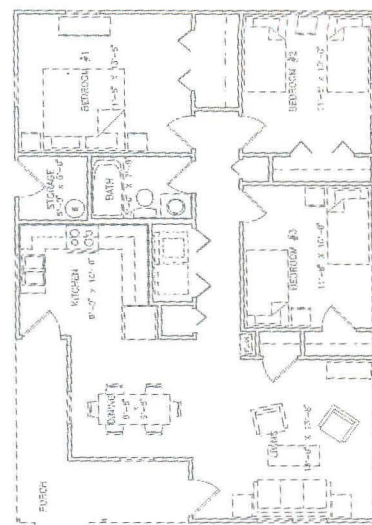
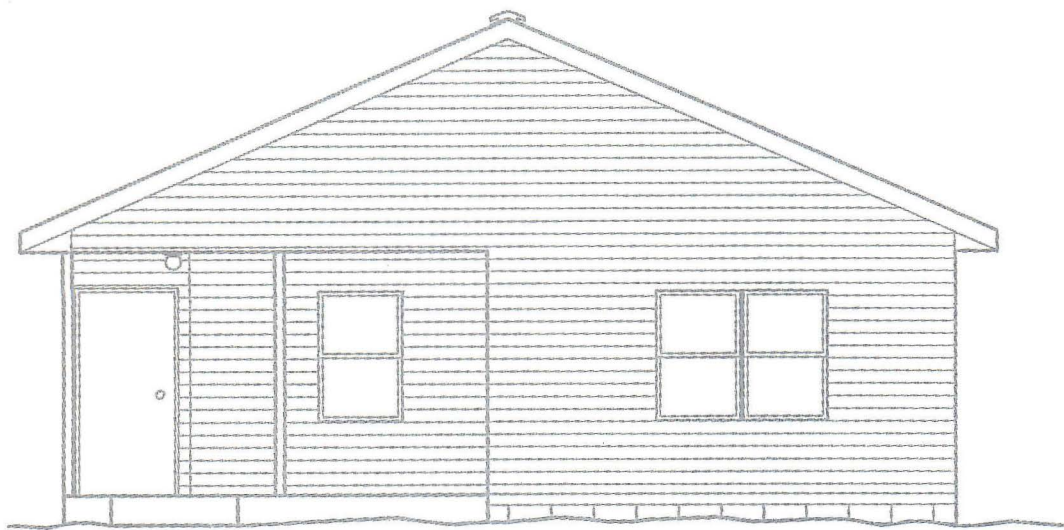
Volunteer builders with widely varying skills team up with the potential owners to construct the houses, though licensed tradespeople are required for plumbing and electrical work. The all-women teams (led by Rosalynn Carter) who constructed houses in Charlotte, North Carolina, and student volunteers who learn as they build describe the diversity of the participants of Habitat: Everyone picks up a hammer.

Building materials, too, run far beyond the basic carpentry-based 2 x 4 construction (Fuller’s last book is entitled *The Theology of the Hammer*) and concrete block. Today, Habitat experiments with innovative systems more appropriate to geographically dissimilar economies and climates, including strawbale construction and sprayed-on concrete over insulated wire mesh—a proprietary system called “Insteel” employed in Tijuana, Mexico, and Miami, Florida. And as prices of wood have risen, steel studs have begun to replace wood as a framing material.

The shift in building materials underscores a change in the attitude of Habitat toward architects and architecture. Only four years ago, Fuller stated that while he welcomed architects as volunteer builders and construction managers and sought their



## All-women teams and student volunteers describe the diversity of Habitat: Everyone picks up a hammer.



expertise in site selection, “many architects don’t know the practical side of building. They overdesign,” he claims. According to Fuller, architects are often stymied by budgets and limited square footages.

Yet architects have consistently been among Habitat’s most enthusiastic volunteers. For example, LeRoy Troyer of The Troyer Group of Mishawaka, Indiana, helped introduce Habitat to the AIA. A former member of Habitat International’s board of directors and designer of the new headquarters building in Americus, Troyer has had the distinction of being “Jimmy Carter’s boss” as leader of the former president’s construction team for the work project. Troyer sees Habitat as a vehicle for professional energy and skill and a way to improve the profession’s image in the community.

Architects are, however, readily consulted on site-related questions. Historic districts require professional help in determining setbacks, parking, porches, and even color selection. Traditionally, Habitat has built on formerly razed urban lots scattered throughout neighborhoods—many oddly sized, some within historic districts. Odd-sized lots demand innovative solutions, a factor in the proliferation of design competitions sponsored by AIA chapters (following pages).

With increased public recognition, local affiliates have begun to tackle larger, more complex developments than “one house at a time,” explains Carol Casperson, executive director of the Washington, D.C., Habitat

for Humanity. Skyland, a 34-townhouse community in Southeast D.C., will be constructed in three phases, with groundbreaking scheduled for early April and completion set for 1997. Designed by volunteer architects at Virginia’s Alexandria Design Collective, the project consists of two-story, vinyl-sided dwellings. Future owners will choose from two basic building footprints, both 1,200-square-foot, three-bedroom houses.

The organization’s most ambitious project to date is under way in hurricane-damaged Homestead, Florida. Miami architect and planner Elizabeth Plater-Zyberk has assisted in designing Jordan Commons, an entire neighborhood to be built by Habitat in cooperation with the National Association of Home Builders and the American Iron and Steel Institute. The 200-unit neighborhood development will fill a 40-acre site with energy-efficient housing; its expansive scope includes day care and elder care facilities, a recreation complex, and a sports field.

Robin Adair, Homestead Habitat’s vice president for construction, witnessed Hurricane Andrew’s passage across his community and admits higher-quality materials have been specified for Jordan Commons housing than is the Habitat norm. Yet Adair defends the highly insulated, two-story schemes with standing-seam metal roofs: “We have an obligation to look more holistically at our environment, at life cycle concerns.”

Susan Sewell, director of U.S. Affiliates for Habitat for Humanity International, sees

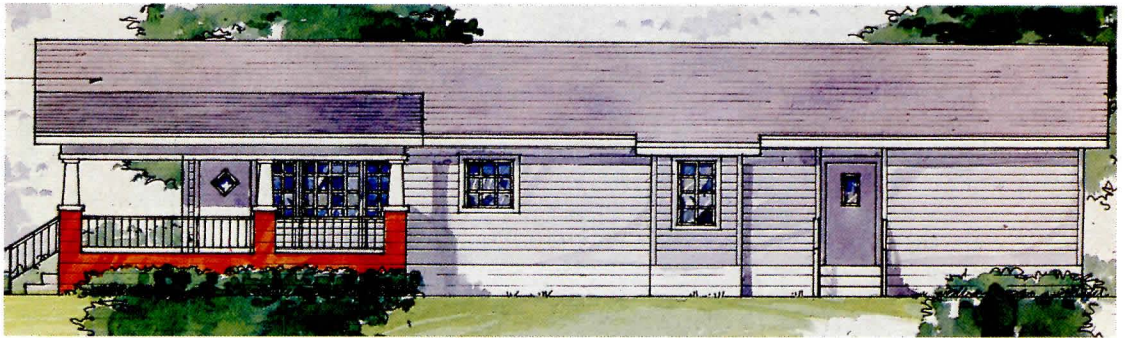
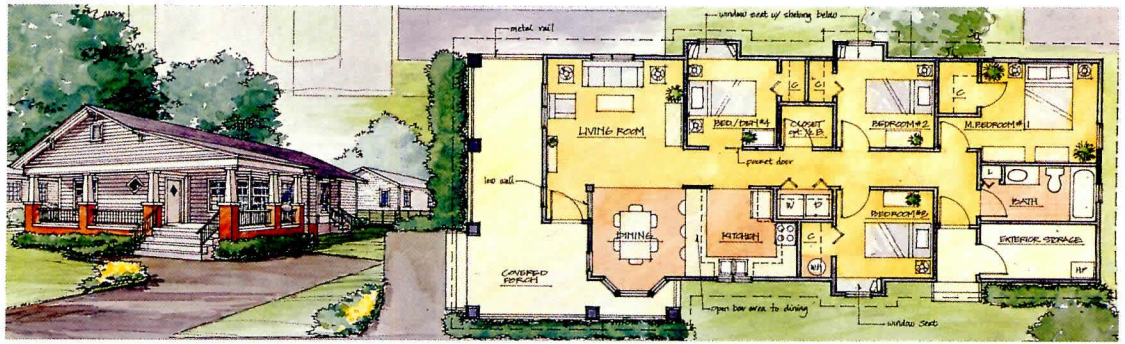
rehabilitation of inner-city housing as one of Habitat’s primary challenges. Out of 4,000 houses to be built in 1995 by her organization, only 300 will be renovated. Complex issues of occupant safety and accessibility, social problems and diverse living patterns compound the urban rehabilitation problem. An entirely new emphasis on identifying the network of urban issues is under way as part of Habitat’s Urban Initiative.

Habitat has not been without criticism. There is a staggering amount of substandard housing in this country (96,400 units in Los Angeles alone), but only a small percentage of low-income families qualify to participate in this private program. Habitat’s biggest achievement has been the construction of 50 houses in one city per year. But the poorest of the poor are not addressed: Habitat does not build homeless shelters and funds no single room occupancy hotels.

But Habitat is growing. Currently considered the 16th-largest builder of houses in the U.S., it may—if continuing at its current rate of growth—become the nation’s largest private homebuilder in the 21st century.

As Habitat develops, the hammer is being traded in for the rivet-gun, the single house for the neighborhood, the grassroots organization for a network of affiliates with strong national resources. Faced with complicated planning and construction in a world that needs more affordable housing, Habitat for Humanity will require the continued and increasing help of architects.—Robert A. Ivy, Jr.





## Tennessee AIA Design for Humanity

Two AIA chapters in Tennessee have increased member participation in Habitat for Humanity projects: AIA East Tennessee, a 150-member component headquartered in Knoxville, and 35-member AIA Chattanooga.

In 1993, East Tennessee staged "Design for Humanity," a chapter-wide design competition for a single-family house on a difficult, trapezoidal corner lot in Mechanicsville, a neighborhood characterized by older, shotgun-type houses. Fifteen firms submitted solutions to a diverse, seven-person jury. Kenneth Moffett of Knoxville's Bullock Smith & Partners led the team that designed the winning project. This contemporary, 1,200-square-foot building fits into its neighborhood, with double-glazed windows and a vaulted area over the main living space that adds volume to the 16-foot-wide house. Like all Habitat houses, it was designed for ease of construction with stacked bed- and bathrooms and one truss size for framing the second floor and roof.

Critical to the project's success was the AIA chapter's co-sponsor, WBIR-TV, the Knoxville NBC affiliate, who provided ongoing publicity of the competition and subsequent construction effort. The chapter realized that the process would tax its resources and signed a half-covenant with Habitat, pledging \$17,500 to-

ward completion of the house—\$5,000 in cash, the balance in labor and building materials. The house was constructed in 12 weeks in 1994, largely with the support of volunteer labor coordinated by AIA East Tennessee.

Jeffrey Johnson, AIA chapter president during the construction phase, remembers that an error in the site plan placed the proposed house two feet over the property line, necessitating a visit to the zoning board and a two-month delay.

Johnson cites the important role played by the AIA chapter's executive director, Ann White, to the project's success and credits the competition for pulling the chapter together. "We had 80 percent chapter participation," he boasts. However, the president counsels other small AIA chapters not to necessarily commit to the design and construction of a "whole house."

Chattanooga, Tennessee's tiny AIA chapter followed this example and held its own design competition. But unlike Knoxville, AIA Chattanooga assigned a representative member from the Associated General Contractors and a city official or celebrity to each architectural team. AGC members assisted teams in providing current pricing for each scheme; local celebrities brought media attention and knowledge of the community. Nine firms participated to produce what chapter AIA president Randall Taylor deemed

"a buildable design. People stayed in budget and within their programs."

The smaller chapter membership precluded an active role for architects in the construction phase, relying more heavily on Habitat volunteers to complete the project. The winning house, an 1,100-square-foot four-bedroom, was designed by the Chattanooga firm TWH Architects with the D.M. White construction company and Spencer McCallie, headmaster of a local private school.

The one-story wood-framed house, which met its \$35,000 budget, features a wide front porch and a small bay window at the dining area. It will be occupied by Dwight Hunter, a library employee at the Chattanooga State Technical Community College and his wife, Gina.

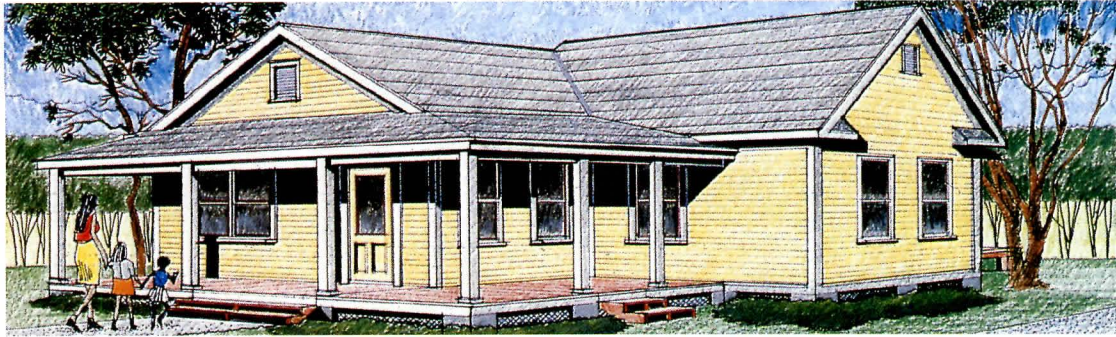
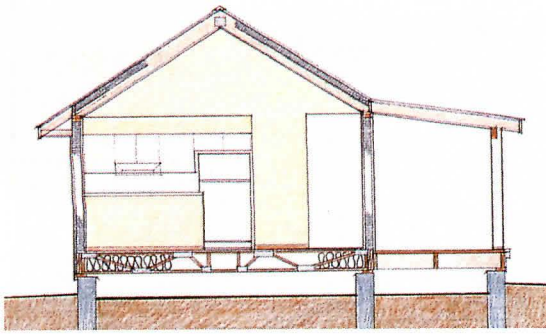
Both Chattanooga and Knoxville cite positive solutions and favorable public attention that emerged from the competition process. Knoxville presented its positive experience at Grassroots in January 1995; Chattanooga is considering disseminating its solutions to a national audience.

**TOP LEFT:** TWH Architects of Chattanooga's competition-winning scheme features side porch.

**PLAN:** Local contractor and head of boarding school rounded out winning team in devising plan.

**WEST ELEVATION:** Wood frame construction employs one size of prefabricated truss and simple detailing.





## Dallas AIA Affordable House Competition

In 1990, Dallas architect and then-Chair of the local Habitat Building Committee Regina Nobles devised a construction master plan that won a national award from the National Association of Home Builders. The plan's intentions were to stabilize Garrett Park, a declining, 16-block Hispanic neighborhood, provide new housing stock, and improve property values. In 1991, the office of RTKL prepared a design for a public park in the same neighborhood—a low-income urban area—that garnered national attention.

What emerged from this site planning was that Habitat needed new house plans for the tight lots. In 1991, Dallas AIA responded with a design competition for new houses. Out of 30 diverse entrants, five projects were chosen as winners by a jury that included Habitat clients. Habitat and residents built three of these in one week. Former Dallas Habitat Executive Wink Dickey reports that since then, the five selected designs have been repeated throughout the neighborhood on scattered lots.

David Farrell, local architect and head of Habitat's Building Committee after Nobles, mentions that the typical Habitat house is evolving from the single-story ideal to two-story or duplex models like the Dallas competition winners. As land

costs have increased, Habitat has faced shrinking lot sizes. Where typical lots averaged 50 x 150 feet, today the organization often struggles to shoehorn houses into lots 50 x 100 feet and smaller. "It makes it difficult for a family to have a house and a yard," Farrell maintains.

The success of the Dallas AIA's first design competition prompted a second in 1992, this time with modest cash awards to the winners. Although it wasn't mandatory, architects entering the competition were encouraged to prepare construction documents if selected. The design review board again included homeowners, who were educated in reading house plans and encouraged to discern which projects among the approximately 30 entrants best embodied the term "home."

The winner was a two-story house, the first to be built by Dallas Habitat, and two runners-up were also selected. As in the first competition, the winning schemes were placed in Habitat's inventory of acceptable designs and repeatedly built on a variety of lots throughout the low-income neighborhoods of Dallas and West Dallas.

Today, Habitat and the AIA share mutual respect, a legacy of accomplishment, and a growing awareness that urban problems need to be addressed at two levels: those of individual dwellings and entire neighborhoods. Member teams of the AIA's Neighborhood and Homes

Committee regularly visit West Dallas, a low-income community with a large public housing project, in an attempt to work with neighborhood leaders. Concurrently, Habitat in Dallas has begun to focus greater attention on the neighborhood scale, extending its planning efforts to City Place, another low-income Dallas neighborhood.

While the AIA chapter has not sponsored actual building construction, the close ties of AIA members and chapter committees to Habitat continue. In 1993, the Dallas AIA chapter awarded Dallas Habitat for Humanity an honor award "in recognition of outstanding achievement for creating affordable housing in Dallas."

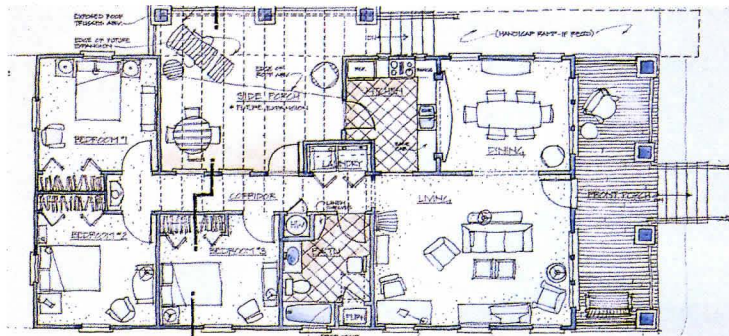
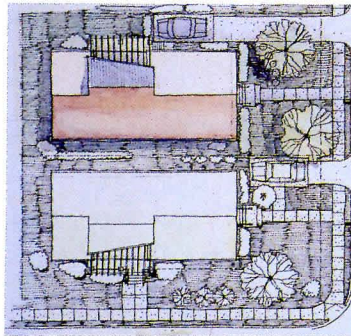
Dickey believes that the design competition experience solved a real problem for Habitat. While architects regularly offered their services on a pro bono basis in the past, it was often difficult to manage their efforts. By setting deadlines and providing programmatic guidelines, "the competitions helped Habitat achieve very buildable homes in the Dallas neighborhoods."

**SECTION:** Dallas prototypes are frame construction with low-pitched roofs.

**PLAN:** Winning designs feature "L"-shaped porches.

**ELEVATION:** House by Archiplan Architects, designed to fit neighborhood context, has been built on numerous lots with varying colors and details.





## Atlanta AIA Design Competition

Atlanta needs affordable housing. While prestigious buildings are being erected in preparation for the Olympics, approximately 14 percent of all existing housing stock in this Southern metropolis of 2.5 million is considered substandard. Home ownership is impossible for a large percentage of its population, more than one third of whom have an annual income of less than \$15,000. Atlanta's affiliate for Habitat for Humanity has become the largest single-family home builder within Atlanta's city limits, contributing 226 homes to the city's housing stock to date. Furthermore, the city's Habitat for Humanity responded to this immediate housing crisis with the building program—"100 Homes: Building an Atlanta Legacy." Habitat-Atlanta will build 60 homes this year; the rest are scheduled for 1996.

Habitat for Humanity in Atlanta—the largest in the nation—is atypical: Whereas most local affiliates are staffed primarily by volunteers, Atlanta's office includes 26 full-time employees. Habitat-Atlanta builds more houses annually than any other chapter; according to the Executive Director Larry Arney, 2,800 volunteered in 1993 in the construction of 50 homes, approximately 400 in roles not involved with construction itself.

Thirteen house team leaders at Habitat-Atlanta play the critical role of supervising each homeowner's participation; managing the construction of each house; coordinating city inspection and the contributions of licensed subcontractors; and directing volunteer efforts. These full-time Habitat team leaders are headquartered in an 80,000-square-foot warehouse, a facility that accommodates large-scale negotiations and allows for the bulk purchase and storing of building materials. Because most volunteer construction takes place over the weekend, "We found that it is difficult to have materials delivered to the sites," says Arney.

The AIA's upcoming May national convention taking place in Atlanta is prompting two national design competitions in cooperation with Habitat for Humanity. One competition is theoretical, not specifically linked to Atlanta's "100 Homes" building program: AIAS, the national architectural student organization, will unveil the winner of "Virtual Habitat"—its 1995 computer-aided design competition sponsored jointly by the AIAS and Graphisoft, U.S.—at the convention itself.

For the other, AIA Atlanta recognized that Habitat's Olympic challenge might coincide with its own goals. After considering public lectures and an exhibit—events that would largely attract other architects and design professionals—the local

chapter's Committee on Public Outreach settled on a design competition for an affordable house.

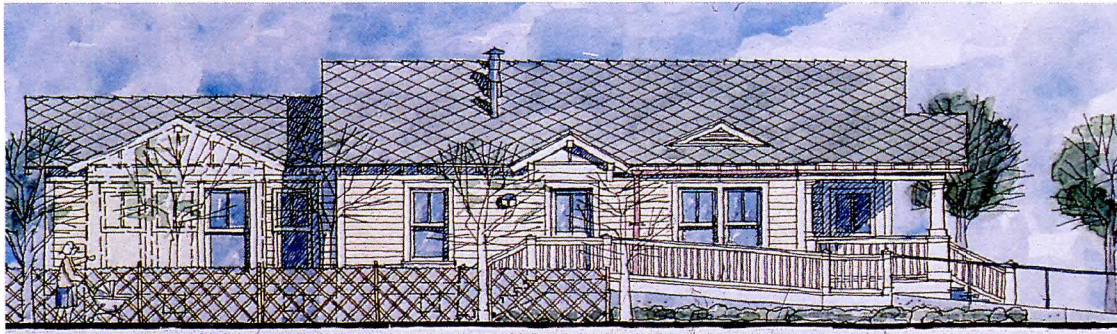
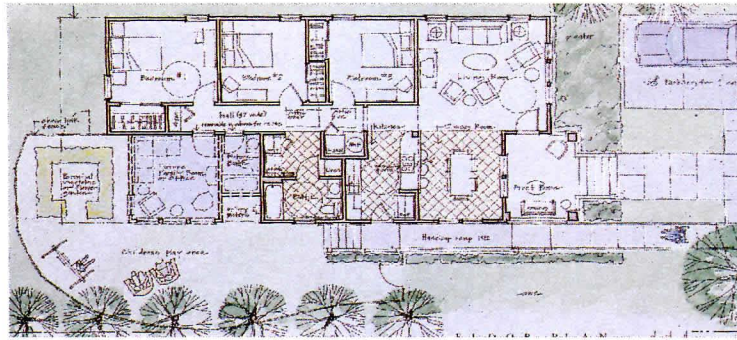
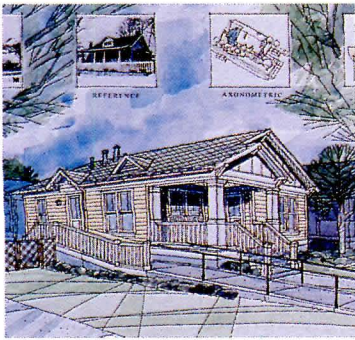
Due to time constraints imposed by the AIA convention, the chapter sought a collaboration with Habitat because that organization "already had a mechanism in place to make it happen," explains AIA Committee Chair Roberta Unger. "We did not want to spend time creating the process." The Habitat for Humanity agency fit that description.

The AIA had originally feared that Habitat would not welcome its offer to collaborate on the design competitions for affordable housing; however, they found fertile ground. "It was a natural tie-in," reports Habitat Director Arney, an architect formerly employed by the Atlanta firm Thompson Ventulett Stainback. He knew that Atlanta's neighborhoods could benefit from imaginative and cost-effective solutions.

"The goal of this competition is to design a single-family house for a limited income family on an inner-city site in Atlanta, Georgia," begins the project program. The guidelines developed for the competition demanded that the house be affordable—costing no more than \$45,000, including the \$5,000 land cost—and incorporate "a design that could be constructed quickly and simply by volunteers," Unger says.

In addition, the program describes a 1,300-square-foot house consisting of three bedrooms and one





bath, a kitchen, a living room, and a porch. Other guidelines stipulate the use of the house as a workplace, accessibility for the disabled, energy efficiency and natural light, and an appropriate neighborhood fit.

Atlanta's ambitious competition was open to a national audience of individuals or teams led by AIA members. By January 6, 1995, the chapter received 81 entries from throughout the country. "This project has generated interest in members who have never been interested," notes Eleanor McNamara, executive director of the 1,200-member AIA Atlanta. McNamara points out, for example, that most of the architects involved in AIA Atlanta's Habitat collaboration are younger members who are less interested in the established network but rather in substantive value for their membership, a category that includes an opportunity for public service. The AIA's decision to undertake the competition was made in June 1994, and planning meetings began last September.

The jury, headed by Laurie Maurer of Brooklyn, New York—former chair of the AIA's Affordable Housing Task Force—included Larry Arney of Habitat in Atlanta and two other architects with experience in the design of affordable housing: Michael Pyatok of Oakland, California, and Jeh Johnson, a founding member of the National Organization of Minority Architects.

While the competition allowed for three winners, the jury selected only two in January 1995: The teams, led by Kenneth Rich and Lance Carlson, both came from the same office—Design Traditions of Atlanta. Their winning projects are modest frame houses with practical ideas for inner-city housing. Both incorporate furnishings in their presentations and take accessibility into account. One scheme, with a side porch on a corner lot, includes a courtyard that zones activities by separating public areas from private ones. The second is organized as a simple rectangle with a double-loaded corridor and offers a clear method for expansion and a long exterior ramp. Floor plans avoid waste; their exteriors, with low-pitched gables and simple front porches, harmonize with the bungalows that surround them.

Neither house seems highly innovative but, as the jury pointed out, in affordable housing, "passion" is not the primary determinant of a winning design—the minimum number of compromises is.

Arney believes that the competition proved that architects can create affordable housing. "The entries struck a good balance in meeting the constraints of cost and unskilled labor." Although AIA Atlanta may not build "more than four or five on a regular basis," says Arney, "there are elements in the designs that we will look at over time."

Several jurors directed their criticisms of the competition entries at Habitat's guidelines. For example, Habitat's low roof pitches, determined for the safety of rooftop workers, restrict potential attic storage and expansion. "Houses are strapped for storage space," the jurors concluded.

Funds are now being raised to build three houses based on the two winning designs. Georgia Pacific/Atlanta has donated \$15,000 in construction materials; McGraw-Hill \$15,000 in cash. Construction of all three houses will be staggered from April 22 until July. At two sites, three construction days—May 4 to 6—have been scheduled during the national AIA convention and volunteers have been solicited from throughout the country.

**FACING PAGE, TOP LEFT:** Winning scheme by a team led by Lance Carlton of Design Traditions incorporates side porches to accommodate corner lots.

**PLAN:** Courtyard separates public and private zones.

**EAST ELEVATION:** Angled canopy over side porch distinguishes contemporary bungalow from neighbors.

**TOP LEFT:** Winning design is by Design Traditions team led by Kenneth Rich.

**PLAN:** House is zoned with bedrooms in rear, living space at front. Ramp provides accessibility.

**EAST ELEVATION:** Lowered shingle roof on rear wing addition adds scale to neighborhood.

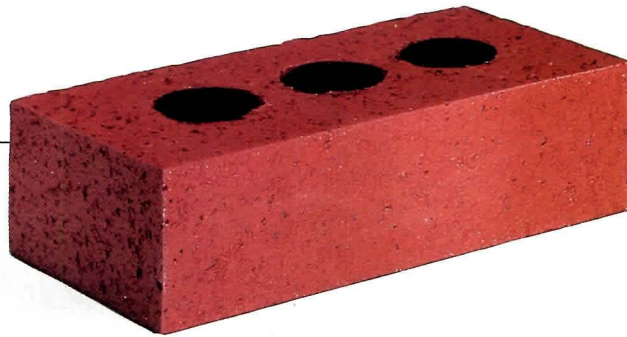


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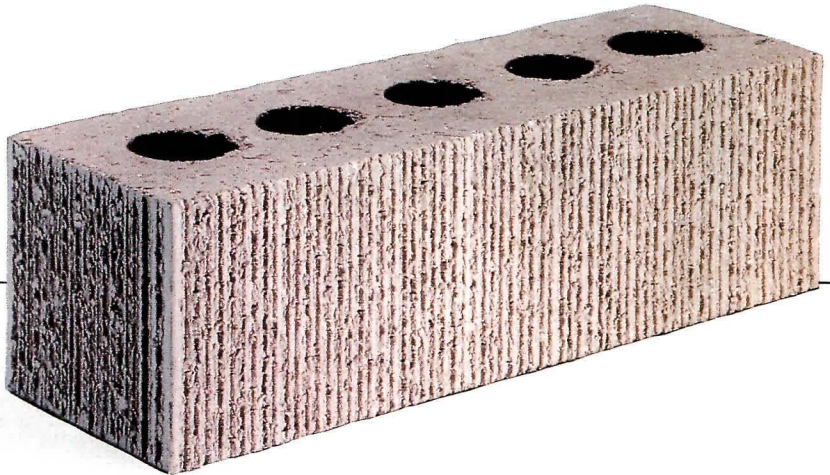
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with a  
**facelift!**

hours, with absolutely no fire exit hardware protruding into the corridor opening. Only Innovation features hardware recessed completely flush with the surface of the door (while in the open position) and installed (optional) within a shallow pocket to also fit flush with the wall. At last, continuous,

uninterrupted sight lines in corridors, elevator lobbies or any place fire doors are specified in the normally open position. And no restrictive and potentially dangerous hardware protruding out in the room or corridor.

Contact your nearest Won-Door representative soon or call 1-800-453-8494 for additional information, details and specifications.



**After**



**WON-DOOR**



Won-Door Corporation, 1865 South 3480 West, Salt Lake City, Utah 84104

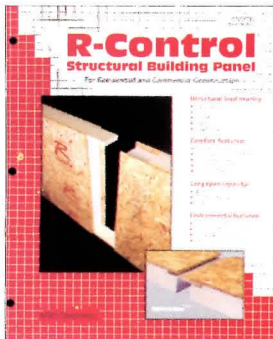
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## ARCHITECTURE'S LITERATURE PORTFOLIO

The Literature offered on these pages (with rare exception) are free for the asking. Simply fill out one of the postage paid reader service cards located elsewhere in this issue, circle the appropriate numbers and drop it in the mail.

### AFM Corporation



**Structural Building Panels**—R-Control® Panels, a strong one-piece structural system, provide superior insulation in exterior walls, roofs/ceilings, and floors. Pre-engineered lumber facings and solid EPS insulation create a monolithic structure. R-Control has passed structural and fire tests as prescribed by national building code authorities. AFM's EPS contains no CFC's, HCFC's, HFC's, or formaldehyde. R-Control is manufactured across the nation. Call 1-800-255-0176, or write AFM Corporation, P.O. Box 246, Excelsior, MN 55331.

Circle 15.

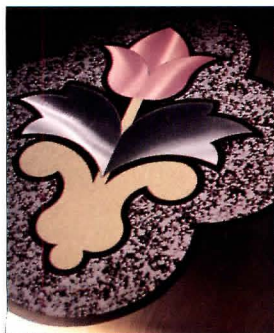
### Transwall Corporation



**Reasons Stacking System For Improved Office Spaces**—REASONS by Transwall, is a new stacking system designed to provide improved office space facilities with maximum flexibility and a minimum of parts inventory. It offers quick off-module changes for work surfaces and overhead storage, which can easily be rearranged on horizontal rails without structural panel changes. Total wire management is provided in the 4" thick panels, as well as an unlimited choice of aesthetic color selections.

Circle 19.

### Surface Design + Technology



**CUSTOM METAL GRAPHICS**—Surface Design + Technology produces exquisitely decorated architectural sheet metal, incorporating such innovative finishes as multi-directional, radial and non-directional satin finishes, with copper, nickel and gold electroplating. **Specify your own design**, logo, pattern or texture from our 24 Standard ALPHA COLLECTION Designs. Call (800) 537-1127, Fax: (305) 696-4064. Servicing specifiers worldwide.

### INTERIOR SYSTEMS—LA CROSSE



**Arkitecture Funscapes** is the newest addition to **Interiors Systems' Signature Series**. The *Arkitecture* collection uses a unique computerized cutting system to produce standard and custom acoustical ceiling tile designs for schools, children's clinics, hospitals, daycare centers, retail stores. Use single or multiple panels with any design, logo, or color. Call 1-800-782-0070.

Circle 17.

### California Redwood Association



**REDWOOD LUMBER GRADES AND USES—NEWLY REVISED GUIDE TO SPECIFYING REDWOOD**. Free four-page color booklet is a visual exploration of the range of grades, grains, and textures available to those specifying redwood. Photographs of each grade make it easy for specifiers and consumers to visualize finished appearance. The booklet also offers a useful guide to specialized grades and redwood grademarks. CALIFORNIA REDWOOD ASSOCIATION, 405 En-frente Drive, Novato, CA 94949, 415-382-0662.

Circle 21.

### Xypex Chemical Corporation



**Concrete waterproofing by crystallization**. Although applied as a slurry coating, Xypex is a chemical treatment which waterproofs by penetrating the concrete with a crystalline formation which 'plugs' the pores of the structure preventing water seepage. Xypex is ideal for use on the 'inside' of wet underground structures. Xypex Chemical Corporation, 604-273-5265.

Circle 25.





**JUST A REMINDER.  
YOU PROVIDE THE WINDOWS.  
WE'LL PROVIDE THE COVERINGS.**

Now that Levolor® and LouverDrape® have joined forces, you can get the top two names in hard window coverings from the same source.

After all, where else would you expect to find innovations like Levolor's DustGuard™ feature on our Riviera® horizontal blinds which cuts dust buildup by 50%. And LouverDrape's

exclusive AutoRotate™ control on Zirlon® vertical blinds, which automatically rotates louvers prior to traversing.

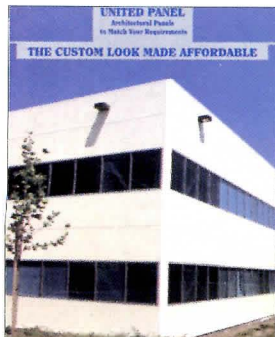
With the convenience of a single architectural representative, we also offer simplified specifying. For more information on Levolor horizontals and LouverDrape verticals, call 1-800-826-8021.

 **LEVOLOR®**  **LouverDrape®**  
C O N T R A C T   D I V I S I O N

Circle 217 on information card



## United Panel Incorporated



**The custom look made affordable!** Reinforced polymer composite panel systems create a stunning look for interior/exterior applications in new construction or renovation. Easy to install and maintain. Four beautiful choices—look of stone, stucco, granite or smooth gel-coat. Variety of colors. Call 1-800-933-8700. United Panel Incorporated, P.O. Box 188, Route 512 & Wildon Terrace, Mt. Bethel, PA 18343. **Circle 27.**

## Smith Steelite



**SMITH STEELITE FOAMWALL® INSULATED WALL PANEL SYSTEMS** are available for use oriented horizontally or vertically and also with the panel face striated. Provides wide range of practical, aesthetic design options. Broad selection of standard and custom colors. Advanced joint technology and installation procedures help ensure excellent protection against air infiltration and water penetration. **Circle 29.**

## Certaineed Corporation



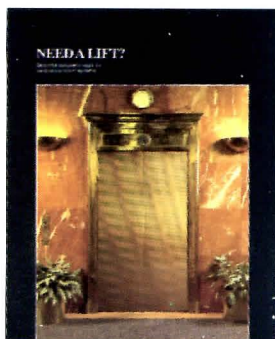
**NEW "ARCHITECTS SHOWCASE™" KIT FROM CERTAINTEED.** This full-color kit contains details on our Monogram™, Meridian® and Cedar Impressions® vinyl siding, soffits, and accessories. Includes a 3-1/2" diskette featuring a three-part specification that simplifies document preparation. Copy and paste the information you need from specifications in Windows®, DOS and ASCII text format. Call 800-233-8990. **Circle 31.**

## A/D Fire Protection Systems Inc.



**A/D Firefilm® Decorative, Thin-Film Intumescent Fireproofing.** A/D Firefilm® permits the designer to use the appearance of exposed steel with the steel fully protected from fire. Rated up to 2 hours for beams and columns. It is applied as a thin-film coating 0.016 to 0.120 in. thick. During a fire, A/D Firefilm® expands to form a meringue-like layer up to 4 in. thick which insulates the steel from fire. The topcoat is available in most colors in gloss and semi-gloss finishes. A/D Fire Protection Systems, Inc., (800) 263-4087 or (416) 292-2361. **Circle 33.**

## Rigidized® Metals Corp.



**TEXTURED METAL DOORS BY RIGID-TEX®.** Rigid-Tex® metals combine beauty and durability in Rigidized® and etched metals. Dozens of patterns and custom designs for interior and exterior use, new or retrofit. For elevator doors and interiors, column covers, walls, ceilings, entrances, signage and trim. Available in a wide selection of metals, gauges, sizes and colors. Rigidized® Metals Corp., 658 Ohio St., Buffalo, NY 14203-3185. (800) 836-2580, or (716) 849-4711. **Circle 35.**

## Mohawk Commercial Carpet



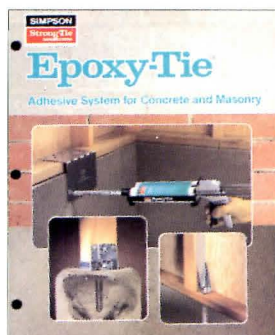
**Urban Textures Brochure**—A collection of coordinating patterns and solids from Mohawk Commercial Carpet and AlliedSignal Fibers. A wide variety of commercial carpets—from solid color cut piles to graphics and wovens. The brochure features photographs of the carpets paired with the Urban Textures which inspired them. MOHAWK COMMERCIAL CARPET, 800-618-1234. **Circle 37.**

## Oregon Strand Board



**Comply Lap Siding, Flooring and Sheathing**—Oregon Strand Board COMPLY is a superior alternative to conventional siding and panel products. Comply exceeds traditional products in strength, stiffness, machinability and overall quality consistency. It is moisture and insect resistant and is guaranteed not to delaminate. COMPLY is a solid core 5-ply panel that outperforms waterboard, plywood and oriented strandboard in all applications. **Circle 39.**

## Simpson Strong-Tie® Company, Inc.



**High-strength anchoring easier with EPOXY-TIE™.** Low-cost system for retrofits in concrete or masonry provides stronger anchoring than mechanical anchors. Bond strength up to 12,400 lb. tension; 7,200 lb. shear. Epoxy-Tie™ bonds with surrounding concrete; anchor is less prone to side-burst during close-interval installation. Higher resistance to moisture and vibration than mechanical anchors. Full information in brochure **F-ET.** **Circle 41.**



# Windows by Pozzi®



*T*here's something special about Pozzi Windows. Perhaps it's our reverence for wood. After all, our heritage is in millwork. But there's more to windows than wood and glass. Great windows start with a great design. That's where you come in. Give us a challenge, something really special. We take pride in creating windows that will illuminate your design. Just think of Pozzi as the "Designer Window" company.

*We know you want choices, lots of choices. That's why we offer such a wide variety of divided lite options. Want custom clad colors? We'll match the color of almost anything ...even the Ferrari in the driveway.*

*For a free catalog and the name of the Pozzi distributor nearest you, please call Pozzi at 1-800-821-1016. We'd be delighted to hear from you!*

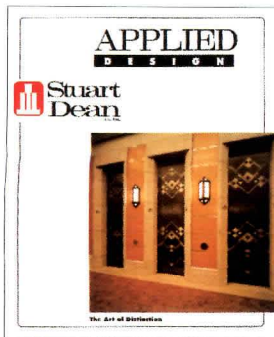
**POZZI**  
WOOD WINDOWS  
A Division of JELD-WEN.

Pozzi Window Company  
P.O. Box 5249  
Bend, Oregon 97708

Circle 219 on information card



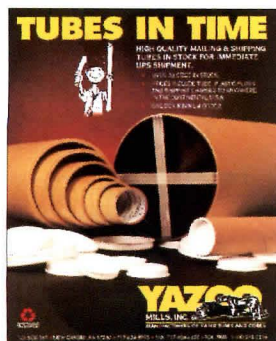
## Stuart Dean, Inc.



**Applied Design by Stuart Dean.** Stuart Dean's Applied Design was specified by Pei, Cobb, Freed & Partners and Frank Williams and Associates for use at the Four Seasons Hotel in New York. At only half the price of etching, it's catching everyone's attention. It is a versatile method for decorating elevator doors, metal or glass. It can be applied **on site**, overnight. 1-800-322-3180.

Circle 43.

## YAZOO MILLS, Inc.



**TUBES IN TIME**—Need a mailing tube fast for your blue prints, mylar or vellum tracings? Need storage tubes to organize your office? We have mailing and storage tubes in the length and quality you need. Factory direct and immediate shipment. Packed in cartons with end plugs in over 30 sizes. Minimum order is one carton. Call Yazoo Mills, 305 Commerce Street, New Oxford, PA 17350 (800-242-5216.)

Circle 47.

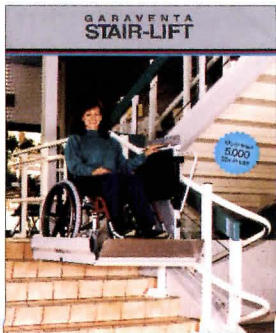
## Invisible Structures, Inc.



**Pave With Grasspave.**<sup>2</sup> Grasspave<sup>2</sup> invisible porous pavers are made entirely from recycled plastics, saving truck-load volumes of plastic articles from landfills, and creating sparkling green and real grass-covered spaces where asphalt once reigned—in firelanes, overflow and event parking lots, and residential drives and parking.

Circle 51.

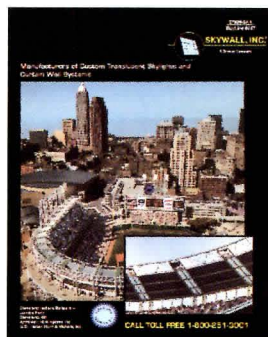
## Garaventa (Canada) Ltd.



**New Stair-Lift Brochure**—If you've been wondering why the Garaventa Stair-Lift is the first choice of building owners around the world, get a copy of our new brochure. It'll spell out the reasons why Garaventa is the world's most popular stairway access solution. It's more attractive, durable and reliable, and safer and easier to use than any other platform lift. Quite frankly, Garaventa is the best value. Call today: 800-663-6556 or 604-594-0422.

Circle 55.

## Skywall, Inc.



**Translucent Skylights are the energy-saving way to design with diffused light.** Skywall's Custom Translucent Skylights and Curtainwall offer problem-free installation, durability and light weight. It's an ideal product to use in many ways not possible with other systems. New brochure showcases the many styles available, including versatile SkyCurve and custom configurations. Complete technical and design assistance offered. 1-800-251-3001. Skywall, Inc.

Circle 45.

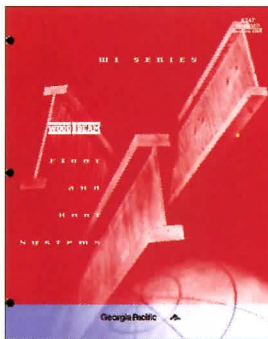
## Virtus Corporation



**Finally. A Powerful, Easy 3-D World Builder.** Create and roam through your own virtual worlds with Virtus WalkThrough Pro 3-D modeling and design software. Build homes, offices, theatre sets, and trade show booths and apply perspective correct texture maps. With Virtus WalkThrough Pro you will build, decorate and walk through three dimensional virtual models in minutes. Virtus Corporation, 1-800-847-8871, Fax 919-460-4530.

Circle 49.

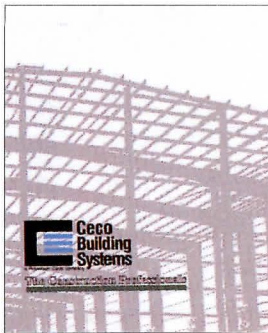
## Georgia-Pacific



**Georgia-Pacific Engineered Lumber**—Georgia-Pacific offers brochures detailing three engineered lumber products. G-P Lam<sup>®</sup> LVL (laminated veneer lumber) beams and headers are specially designed and constructed for stability and high strength. W1 Series and GPI Series Wood I Beam<sup>®</sup> joists, primarily used as a structural component in floor and roof systems, also may provide support as window, door and garage door headers.

Circle 53.

## Ceco Building Systems



**The Construction Professionals.** This new 16-page brochure is an overview of the capabilities of Ceco Building Systems in pre-engineered metal building construction. The Construction Professionals includes dramatic photography of completed projects, plus technical data including Frame Systems, Tilt-Wall Construction, MultiStory Construction, Covering Systems, Roofs, Architectural Treatments, Retrofit, Accessories and Mini-Warehouses.

Circle 57.



CROSS ♦ CAUTION ♦ DO NOT CROSS ♦ CA  
CAUTION ♦ DO NOT CROSS ♦ CAUTION ♦

## What If You Woke Up One Morning, And Saw Your Roof On The News?

Versiweld™ roofing membrane is an elastomeric-thermoplastic polymer that is as flexible as it is environmentally sound. It's totally unlike PVC (vinyl) membranes, which contain dangerous chlorine compounds. So choosing a Versiweld roof won't put you at odds with environmental groups. Not to mention those nice people who work for the media.

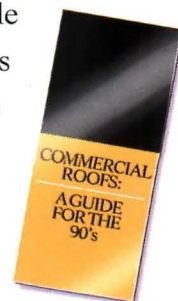
### **Versiweld Can Keep You Out Of Trouble.**

Versiweld and Versiweld Premier membranes are specially engineered to meet the exacting demands of roofing today. Versiweld membrane requires no plasticizers, fillers or extenders.



*PVCs contain plasticizers which leach out over time greatly reducing dimensional stability.*

And because Versiweld is an inert polymer compound, it stays dimensionally stable year after year. The membrane resists tearing and punctures, and offers the added benefit of heat weldability. You can choose from three distinctive colors as well as some of the most attractive warranties in the business.



**Free "Guide For The 90's."** There's more you should know about replacement roof issues. That's why we've written a booklet called "Commercial Roofs: A Guide For The 90's" that lays out your options in clear terms. For your free copy, fill out the reader service card

**VERSICO**  
INCORPORATED

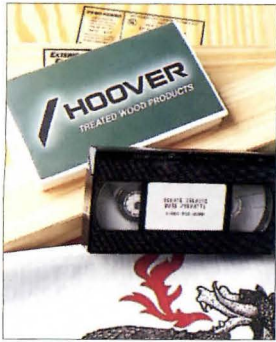


A subsidiary of Carlisle Corporation.

Circle 221 on information card



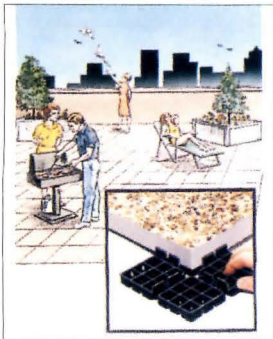
## Hoover Treated Wood Products



New video from Hoover Treated Wood Products Inc. shows how treated wood is produced and tested, and describes Hoover's complete line of treated wood products including **PYRO-GUARD** interior type fire retardant treated lumber and plywood, **EXTERIOR FIRE-X** exterior type fire retardant treated lumber and plywood, and **CCA KDAT** preservative treated lumber and plywood that's kiln dried after treatment.

Circle 59.

## Envirospec, Inc.



Turn your roof tops into people places! New literature shows a better way to transform a roof into a patio, terrace, balcony, walk-way, plaza podium, promenade, or just plain roof deck, using the Pave-El Pedestal System. Designed to elevate, level, and space paver stones for drainage in any weather. Pave-El reliably **protects roof, paver-stone, membrane and insulation**. ENVIROSPEC, INC., Elliott Station Box 119, Buffalo, NY 14205, Phone (716) 689-8548, Fax (716) 689-7309.

Circle 63.

## International Wood Products



**ENTRY DOORS AND DOOR SYSTEMS**—International Wood Products has earned a solid reputation among homeowners, architects and builders for creating the world's finest doors. Hand crafted from solid hardwood and built with an unmatched attention to quality and detail, IWP doors come with an outstanding 5 year warranty. Call for free brochure. 1-800-877-9482.

Circle 67.

## Louisiana-Pacific



**Louisiana-Pacific Nature Guard®** fiber cement roof shakes have the natural texture and tones of cedar shakes, with the added benefit of a Class A fire-rating. Nature Guard shakes resist the damaging effects of sun, water, humidity, rot, fungus, and termites. They contain no asbestos, formaldehyde, or resins. Available in three colors.

Circle 71.

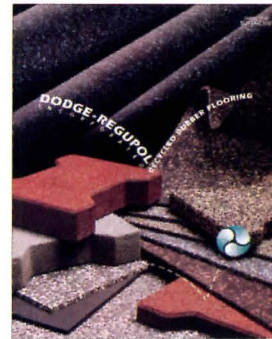
## Newfoundland Slate Inc.



**Trinity Slate . . . Naturally.** Newfoundland Slate Inc., North America's largest slate producer provides the most durable natural roofing material. **Trinity Slate®** is available in 6 unique unfading colors and delivers a service life in excess of 100 years. For a complete brochure, installation guidelines, samples and inquiries regarding roof design and slate specification call **TOLL FREE 1-800-975-2835**. Thank you. Sweets GBR - 04475/NEW Buy-line 7685.

Circle 61.

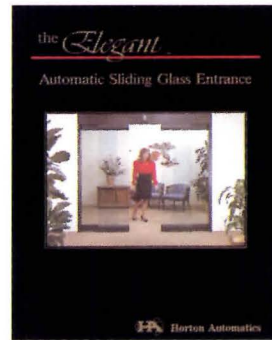
## Dodge Regupol



**Dodge Regupol's** new 8 page brochure describes and illustrates in detail the attributes of its innovative recycled rubber flooring products. Made from 100% premium quality recycled rubber, Everlast Tile™, Ever-Roll™, and Regupol™ Pavers & Tiles are suited for an infinite variety of commercial, industrial and sports applications and offer natural resiliency, unmatched durability and environmental acceptability.

Circle 65.

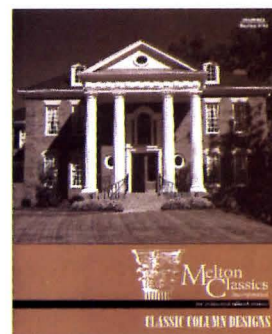
## Horton Automatics



Horton Automatics **Elegant™** automatic sliding glass entrance system meets the demands of modern architecture yet conforms to building codes and energy conservation requirements. Automated by the state-of-the-art, micro processor driven, Series 2001 operator. Glass panels slide quietly on a concealed track. For emergency egress, a breakout feature that allows panels to swing out is also available. Call 1-800-531-3111.

Circle 69.

## Melton Classics, Inc.



**Melton Classics** offers a product for every architectural millwork need. Constructed in keeping with the Classic Orders of Architecture, Melton Classics columns are second to none in quality, authenticity, availability and tradition—yet are affordably priced. Call 800-963-3060 for free catalog and more information.

Circle 73.



**To understand  
our new Fiber laminate,  
one must  
understand nature itself.**

Zelig

Fiber is a new Print HPL high-pressure laminate. Through an "inclusion" process we have created a very new surface, where the sheets of laminate are all similar and yet different: like leaves in nature. Each sheet of Fiber is produced by scattering within its surface thousands of small fibers, which settle at random to produce decorative effects. The fibers encapsulated on the surface give Fiber a very natural feel, in line with present day environmental awareness and Fiber's clean image.

**Fiber, the natural laminate.**

**print**  
high pressure laminates

**ABET LAMINATI**

ABET Inc.  
100 Hollister Road - TETERBORO  
New Jersey 07608  
tel. 800/228-2238 fax. 201/440-6373  
201/440-5440

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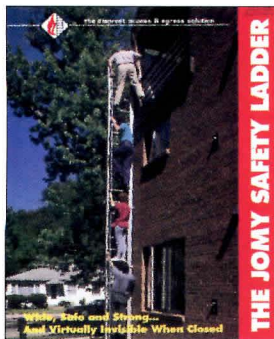


## AIA/Portland Chapter



**Have you designed an energy-efficient commercial building?** You've worked very hard. Energy-efficiency began at the design stage. Convincing the powers that be about longterm payoffs and conserving resources wasn't easy either. Now, recognition awaits you on the pages of *Architecture* through the **1995 Architecture + Energy Design Awards** for buildings within the BPA service territory. Call: Otina Monary, AIA/Portland Chapter, 503-223-8757. **Circle 75.**

## Jomy Safety Ladder



**The Discreet Access & Egress Solution**—Security requirements, space constraints, and aesthetic considerations are a few of the problem-solving applications for the JOMY Safety Ladder. The ladder's discreet appearance makes it an ideal solution for access and egress requirements. The JOMY Safety Ladder looks like a drainpipe when closed, but opens to a heavy-duty ladder with slip-resistant rungs and a **safety rail**. JOMY Safety Ladder Co., 1728 16th St., Ste 201, Boulder, CO 80302, 800-255-2591. **Circle 79.**

## Grohe America, Inc.



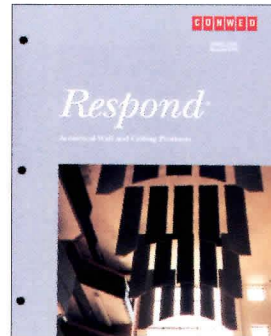
This new Relixa Plus brochure presents GROHE's new shower products line which features the unique Speed-Clean anti-lime system. GROHE offers an extensive line of faucets, shower products, and safety valves. Send for the complete GROHE literature file. **Circle 83.**

## Pemko Manufacturing Co.



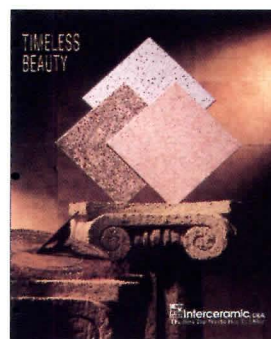
**Thresholds/Weatherstripping/Continuous Hinges**—Pemko's 1995 full-line catalog illustrates many fire labeled, smoke labeled, barrier-free access, sound tested, and custom fabricated threshold and weatherstripping products. New products include: patented ADA compliant ramp thresholds, PemkoHinge™—patented continuous geared aluminum hinges, low-closing-force reversible automatic door bottoms, nylon brush weatherstripping, and locking astragals. **Circle 87.**

## Conwed



**CONWED RESPOND ULTIMATE I PANEL**—Conwed Respond Ultimate I is an acoustical wall and ceiling panel designed for use in areas requiring abuse resistance and excellent acoustical absorption. It utilizes a glass fiber core faced with an acoustically transparent open perforated rigid vinyl sheet and wrapped with fabric or vinyl. Ideal for use in: gymnasiums, theaters, and multi-purpose rooms. Conwed, 1205 Worden Ave. E., Ladysmith, WI 54848, 800-932-2383, Fax: 800-833-4798. **Circle 77.**

## Interceramic, USA



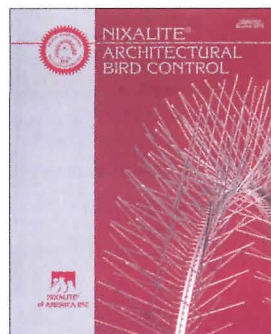
With Interceramic's Maxima series, the possibilities are endless. With four colors, coordinating trim and a Group V rating, Maxima is an ideal tile for any residential or commercial application. Extreme durability, skid inhibiting features, decorative inserts and a 20-Year limited warranty against wear makes Maxima the perfect choice. Add life to your design with one of five rich Maxima Accent colors in 8x8 or 12x12 sizes or use Maxima Accents alone. The design potential is limited only by your imagination. Call 1-800-496-TILE. **Circle 81.**

## Openings



**TOTAL DOOR®: The OPENINGS® Solution**—TOTAL DOOR® is a fire rated door assembly that includes all hardware. Pairs do not require coordinators, vertical rods, astragals, flush bolts or floor strikes. Will retrofit to any frame. Meets all codes and ADA. Wood and metal faces available to 3 hours. Lifetime limited warranty on locks and panics. **Circle 85.**

## Nixalite of America, Inc.



**BIRD AND CLIMBING ANIMAL CONTROL.** Nixalite of America Inc. manufactures a stainless steel barrier providing long lasting and effective control for pest birds and climbing animals. Nixalite blends with the surrounding architecture and does not detract from structural design. Nixalite's brochure provides information and lists model specifications, estimating procedures, mounting systems, accessories and special services. 800/624-1189 or fax 800/624-1196. **Circle 89.**



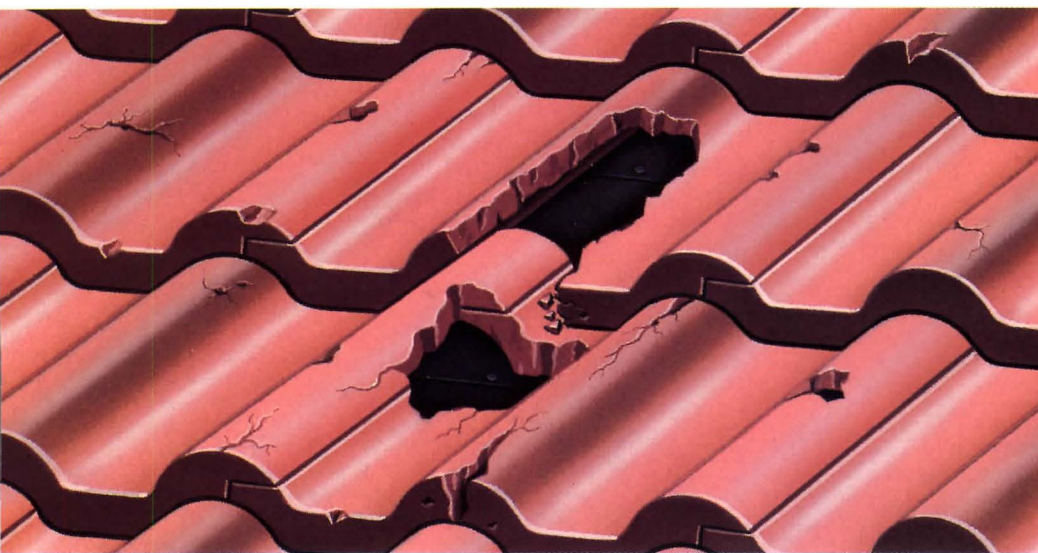
# Metal roofing with Kynar 500<sup>®</sup>-based finishes: Just think what you'll be missing.



Say good-bye to chipped roofing tiles. To broken and waterlogged wood shingles. To peeling and tattered asphalt. Because now there's a way to have a beautiful roof that stays beautiful. Namely, metal roofing coated with the unbeatable protection of Kynar 500-based finishes.

The truth is, there's a burgeoning market in residential metal roofing and smart contractors are getting in on the ground floor. They know metal roofing is lighter and easier to install than conventional asphalt and fiberglass shingles. And, when it's coated with Kynar 500-based finishes, resists the fading, weathering and occasional bumps and bruises that Mother Nature can dish out. In fact, a Kynar 500 finish on residential roofing offers the same unbeatable protection that, for years, has protected the most demanding industrial applications. And, they even come in a variety of colors that can make any home more inviting.

So, if you're looking for the perfect way to top the perfect house, don't forget to specify the original Kynar 500-based finishes. For more information, write Elf Atochem North America, Inc., Fluoropolymers, 2000 Market Street, Philadelphia, PA 19103. Or call (215) 419-7520.



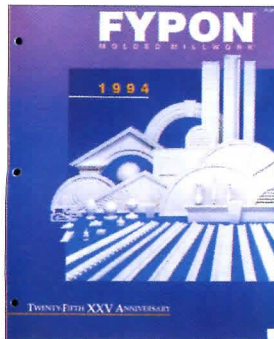
Kynar 500. The Original.

**elf atochem**  
**ATO**

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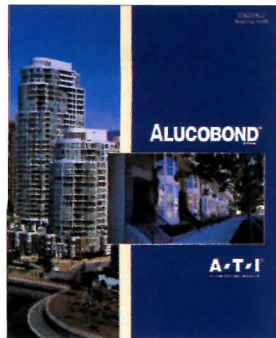
## Fypon, Inc.



FYPON, Inc. is the manufacturer of over 3,000 millwork items made in the exclusive Molded Millwork® process. It is made from high density polymer, will not rot and is virtually maintenance free. New for 1995 are poly-steel columns. They have the strength of steel, the durability of polymer and are available in different diameters and styles. Call or write FYPON, Inc., 22 W. PA. Ave., Stewartstown, PA 17363, 1-800-537-5349.

Circle 91.

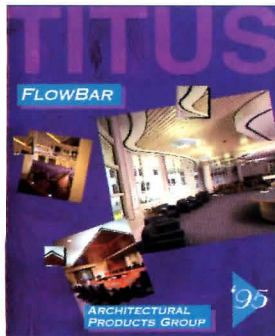
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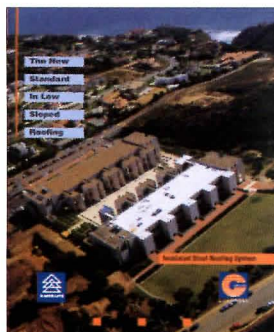
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**FlowBar Architectural Products Group.** TITUS, a leader in air distribution products for over forty years, now offers a unique line of architectural linear type diffusers. This new line of diffusers allows the architect to fully participate in the selection of ceiling components. The FlowBar system provides maximizing engineering performance as well as aesthetic considerations for the designer.

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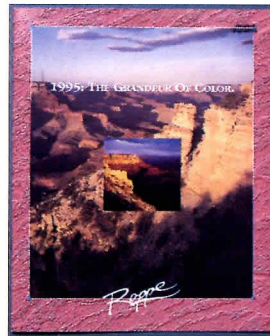
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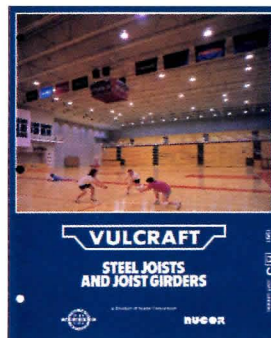
## Roppe Corporation



**Roppe Floors—The Grandeur of Color.** Roppe is launching 1995 with even more innovations and color! 1995 Catalog provides a complete look at their expanding rubber and vinyl lines. New this year are the **Cerito Collection:** 6 new colors in the American Southwest tradition, and the **Venetia Collection:** a subtly flecked wall base. In addition, Roppe manufactures a comprehensive range of flooring products. For a free copy call 1-800-537-9527, dept. 100.

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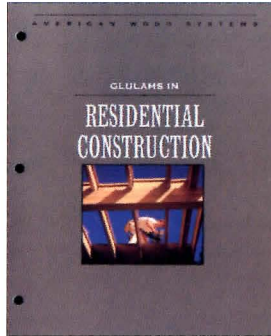
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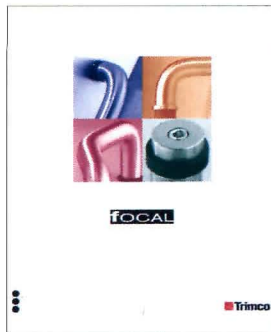
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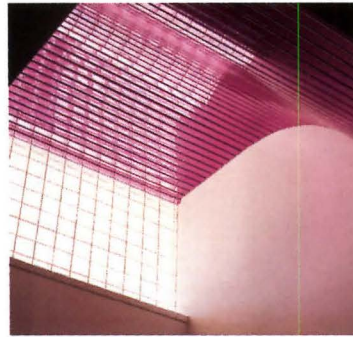
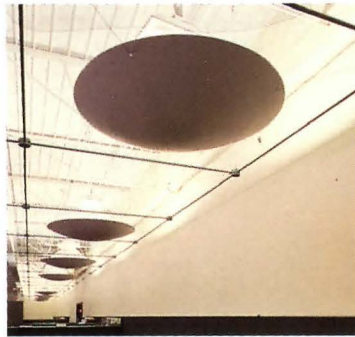
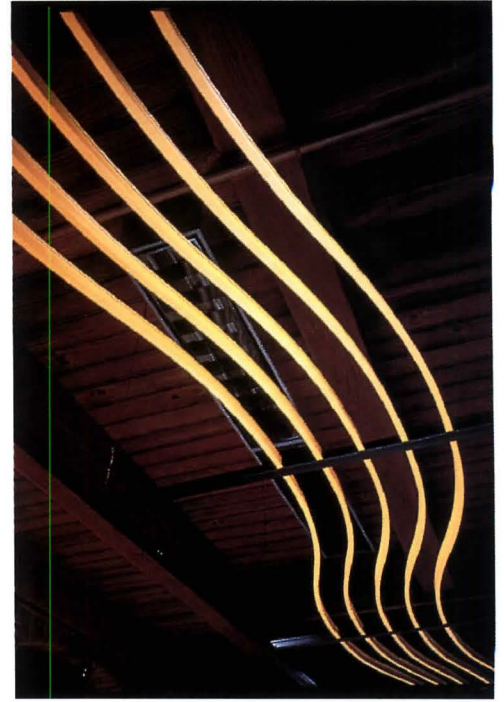
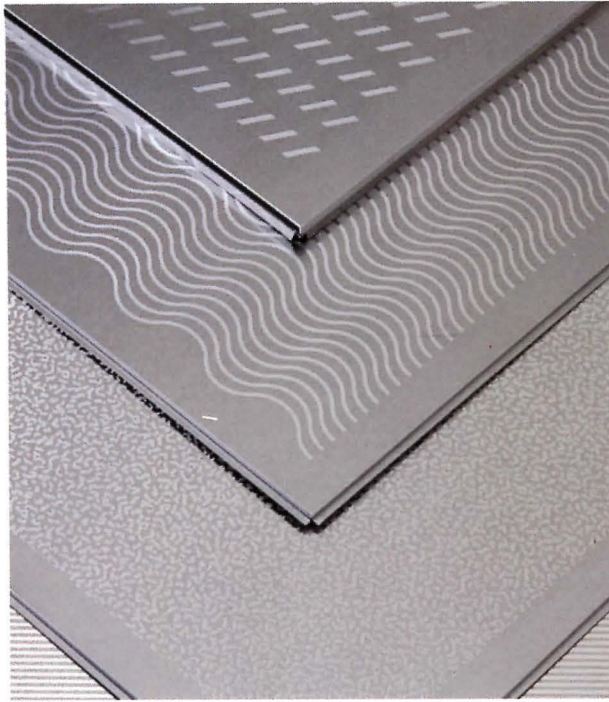
**Focal by Trimco/BBW. Designed by Architects for Architects.** Focal blends fundamental forms, functions and materials into inspired contemporary shapes and accents that will add distinction to any project. Quality of form, proportion and detail are all qualities of Focal, a full line of affordable, architectural door trim hardware. Manufactured in Los Angeles. Trimco/BBW: 213-262-4191.

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## Products

*Shiny surfaces and curvilinear shapes enliven new ceiling systems.*



**TOP:** Contrasting finishes and geometric patterns shape Forms + Surfaces' new aluminum ceiling tiles. Measuring two feet square, the company's CS5000 Series is compatible with standard suspension grids and systems requiring snap-in installation. Nine graphic patterns are available. The Santa Barbara, California, company also offers embossed and perforated metal ceiling tiles in 12 styles. Its perforated ceiling panels may be used in conjunction with acoustical backing. *Circle 401 on information card.*

**ABOVE:** Designed to preserve the character of open plenums, Ceiling Design's CableGrid system hangs unobtrusively below exposed sprinklers, lighting, and mechanical equipment. The grid is constructed of  $\frac{5}{8}$ -inch-diameter aluminum members, joined by plastic connectors and stabilized by diagonal, stainless steel aircraft cables. The new system incorporates concave aluminum reflectors, measuring 42 inches in diameter, that

diffuse light and eliminate glare. Positioned beneath existing lighting fixtures, these reflectors are suspended from the tensioned cables.

*Circle 402 on information card.*

**ABOVE:** At the Target Center Arena in Minneapolis, KMR Architects specified Planar aluminum ceiling panels from Interfinish, a division of Chicago Metallic Corporation. Comprised of 2, 4, 6, or 8-inch-wide strips, Planar panels snap onto structural aluminum frames. Flexible connections enable architects to create ceilings with convex and concave curves. Slots between panels allow for air distribution, eliminating the need to cut panels to make room for diffusers. Heavy-duty polyester finishes may be specified for exterior soffits and fascia; wood veneer and vinyl laminates are also available.

*Circle 403 on information card.*

**TOP RIGHT:** USG Interiors' GridWare open-cell systems distinguish exposed plenums with dynamically configured

ceiling grids. The company's 12 standard lines have been expanded to include parquet, sawtooth, herringbone, and wiggle (shown) patterns. Custom-painted GridWare systems come in three standard profiles with varying widths in members: the DX,  $\frac{15}{16}$  inch wide; DXT,  $\frac{9}{16}$  inch wide; and DXW,  $1\frac{1}{2}$  inches wide.

*Circle 404 on information card.*

**ABOVE:** An example of Gordon's Aluma-Vault system is the curved metal ceiling at Hartsfield International Airport in Atlanta. The Shreveport, Louisiana, manufacturer custom shapes complete or partial barrel vaults according to virtually any radius, length, and width. Precut factory-curved panels, batten covers, and perimeter trim eliminate the need for field fabrication. Custom-painted aluminum panels are fastened with sheet metal screws to curved aluminum suspension grids; snap-on batten covers conceal the fasteners.

*Circle 405 on information card.*



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### Ceiling panels

Hunter Douglas Architectural Products has developed a method of curving ceiling panels into segmented arches and vaults (above). The slotted aluminum panels accommodate lighting, ventilation, and sprinkler fixtures and are compatible with standard suspension systems. The company's line comprises more than 130 colors as well as matte, glossy, plaster, and wood veneer finishes.  
*Circle 406 on information card.*

Systems. These woods are appropriate for flat, vaulted, and curved ceiling applications. Parallel vertical grille members define the company's grille series; its cube systems feature orthogonal gridded patterns. Continuous horizontal linear slats and coffered panels are also available. In addition to ceilings, the Coburg, Oregon-based company manufactures wall panels, partitions, and other custom interior finishes.  
*Circle 408 on information card.*

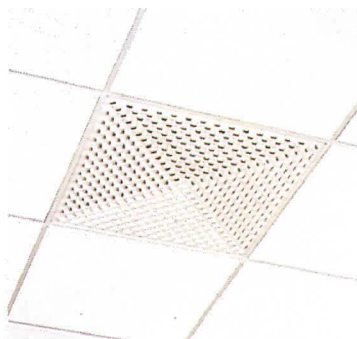


### Linear diffusers

A new catalog from Titus announces the company's improved line of FlowBar linear diffusers, designed to handle supply, return, and exhaust air through a single outlet. The flexible line may be custom curved to almost any radius. The company's expanded line includes FlowBar Linear (above), Modu-Flow, and FloTree. Custom-painted and anodized finishes are available.  
*Circle 409 on information card.*

### Modular diffuser

The new ASDT diffuser from Krueger (above) is designed to blend in with standard suspended ceiling systems. The face of the diffuser is finished with an actual ceiling panel that is surrounded on four sides by a two-inch opening for air distribution. The factory-mounted ceiling tile may be replaced in the field with custom ceiling materials without removing the diffuser. Krueger manufactures the ASDT in metric-sized panels and ducts as well as standard sizes. Targeting government projects that require metric dimensioning, Krueger's metric line of modular diffusers is compatible with 22-millimeter suspension systems.  
*Circle 407 on information card.*



### Filtered diffuser

Designed to improve indoor air quality and increase operating efficiency, Valid Air ceiling diffusers from Warren Technology (above) incorporate multidirectional air flow jets to distribute air evenly. Constructed of lightweight aluminum with a plastic face, they are available with a built-in filter to remove dust, mold, and bacteria.  
*Circle 410 on information card.*

### Wood ceilings

A variety of wood species including oak, fir, maple, mahogany, teak, ash, and cherry distinguishes custom ceilings from Pacific Wood

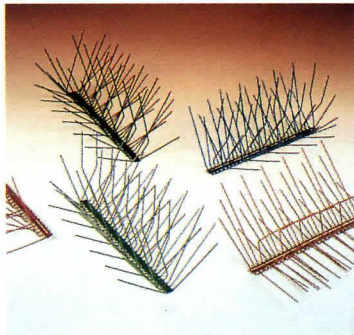




#### Translucent panels

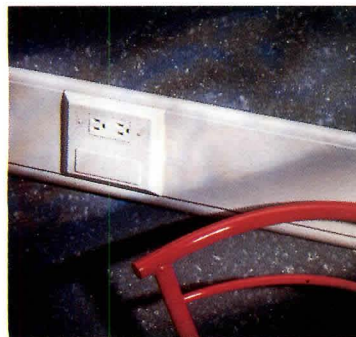
Kalwall Corporation's thermal break translucent panel (above) is designed for structures that require moisture-controlled environments, such as manufacturing plants and swimming pool enclosures. The composite panel is formed by bonding reinforced fiberglass sheets to an aluminum frame. This construction minimizes the conduction of heat and cold and reduces condensation. *Circle 411 on information card.*

cal and telecommunication wiring in a modular system located in the ceiling plenum. Cables and power boxes are pre-wired according to designer specifications for fast, economical installation. Based on a zone approach, the system's distribution boxes—linked to a pre-circuited master distribution box—provide power for several offices. Plug-in connector cables access individual offices and computer stations. *Circle 413 on information card.*



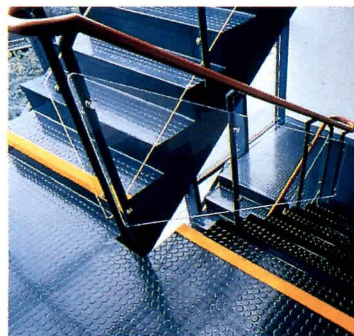
#### Bird deterrent

Stainless steel, porcupine wire bird deterrents from Nixalite of America are now available in standard and custom colors (above), designed to blend in with various building finishes. For 45 years, the system has provided a long-term, humane solution to the defacement of buildings by birds. The company's newly expanded line also includes netting and liquid repellents. *Circle 414 on information card.*



#### Electrical raceway

The Access 5000 raceway from The Wiremold Company (above) conceals and organizes electrical wiring and cabling along baseboards and chair rails, integrating phone, fax, cable TV, video, computer, and electrical lines. Easily reached, this external system allows office workers to reconfigure wiring after installation without the expensive, labor-intensive renovation required of conventional pipe-and-box systems. Natural wood finishes—including maple, cherry, oak, and mahogany—and white, gray, and black vinyl casings may be specified as well as custom wall coverings. The base and trim are manufactured in 96-inch lengths. Longer sections incorporate finger joints. *Circle 412 on information card.*

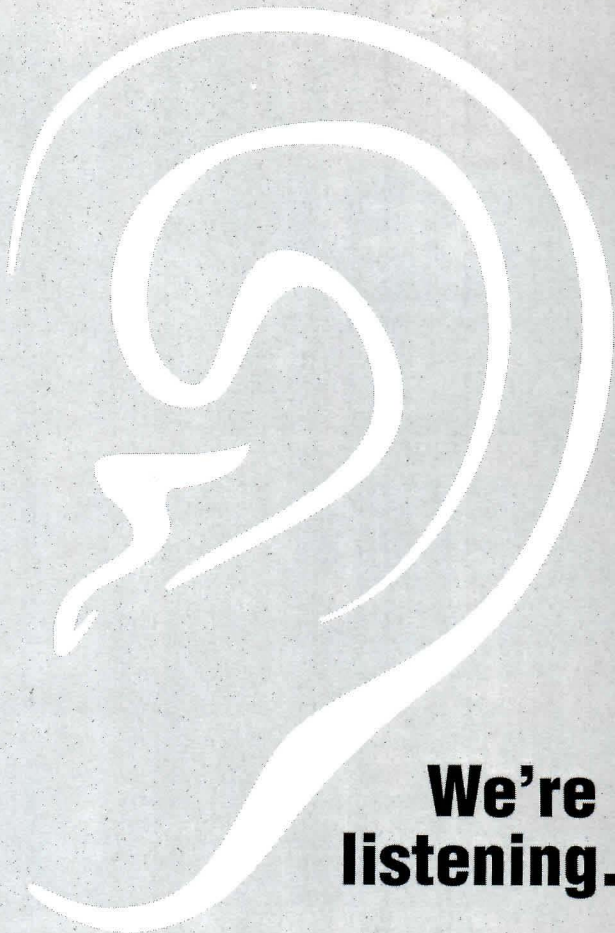


#### Rubber flooring

Freudenberg Building Systems has enhanced their line of Nora Rubber Flooring with more than 30 colors and a nondirectional hammered surface pattern. The Norament 825C (above) incorporates nosing, tread, and riser coverage in one piece: a cost-effective and simple way to meet ADA requirements for accident prevention. *Circle 415 on information card.*

#### Modular wiring systems

The Intelligent Ceiling from America Cable Systems integrates electri-



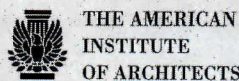
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#### Rubber flooring

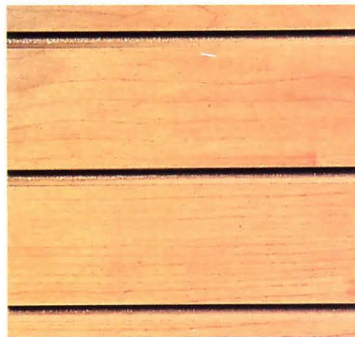
Bright colors and animated patterns comprise the Chroma Collection of 55 percent rubber flooring from Allstate Rubber (above). Designed by New York architect Amie Gross, the collection consists of 12 variations of four basic designs: Stardust, Streamers, Confetti, and Cosmos. The sound-absorbent line is suitable for health care, institutional, retail, and commercial applications.

Circle 416 on information card.

#### Flooring software

The Amtico Company features specialized software that enables architects to create custom flooring designs. Their designs are then translated to computerized machinery for fabrication of individual tiles, inlays, and borders. The company's synthetic flooring material replicates the appearance of wood, stone, and ceramic. Any color can be matched.

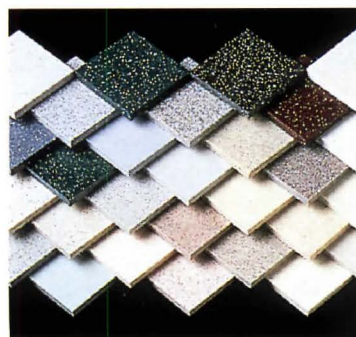
Circle 419 on information card.



#### Wood panels

Designed for retail installations, Marlite's Displaywall merchandising wall system (above) is available in four finishes, representing the grain, texture, and color of maple (above), bleached oak, and anigre. Horizontal grooves are finished to blend with each wood grain color. Manufacturer of prefabricated wall systems, Marlite is headquartered in Dover, Ohio.

Circle 420 on information card.



#### Stonelike laminate

A blend of polyester and acrylic resins with mineral fillers, Gibraltar solid surfacing from Wilsonart (above) is a stonelike laminate with uniform color and texture. Available in sheets and strips, Gibraltar is ideal for residential and commercial countertops, bathtub surroundings, windowsills, wainscoting, decks, and walls. The Temple, Texas-based company also manufactures coordinating sinks and caulking.

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#### Handcrafted floors

To individualize conventional wood plank or parquet floors, Kentucky Wood Floors presents Custom Accents' handcrafted floor inlays for residential, commercial, and institutional projects. A residential application is designed to resemble the topography of Nantucket Island from domestic and imported wood species (above).

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#### Ceiling grills

Stainless steel, bronze, and aluminum ceiling grills from Kadee Industries achieve a streamlined, industrial appearance. Kadee grills provide up to 75 percent free area for air intake and light transmittal. Resistant to moisture, they are appropriate for damp settings that require noncorrosive material.

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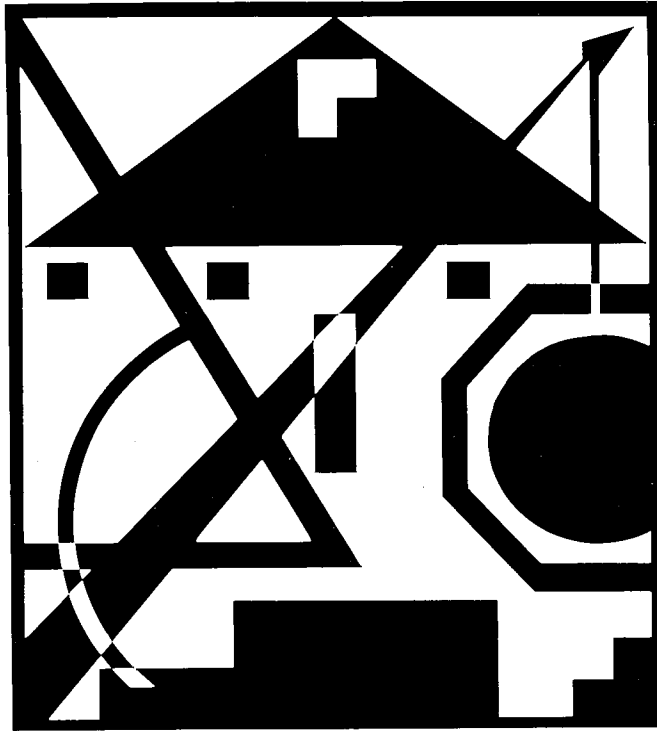
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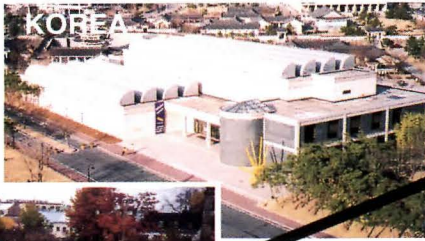
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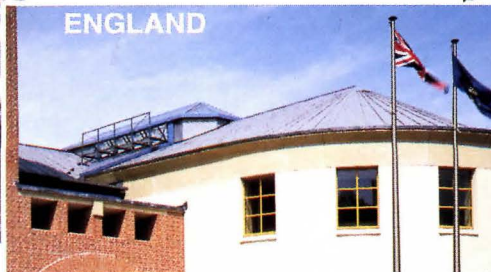
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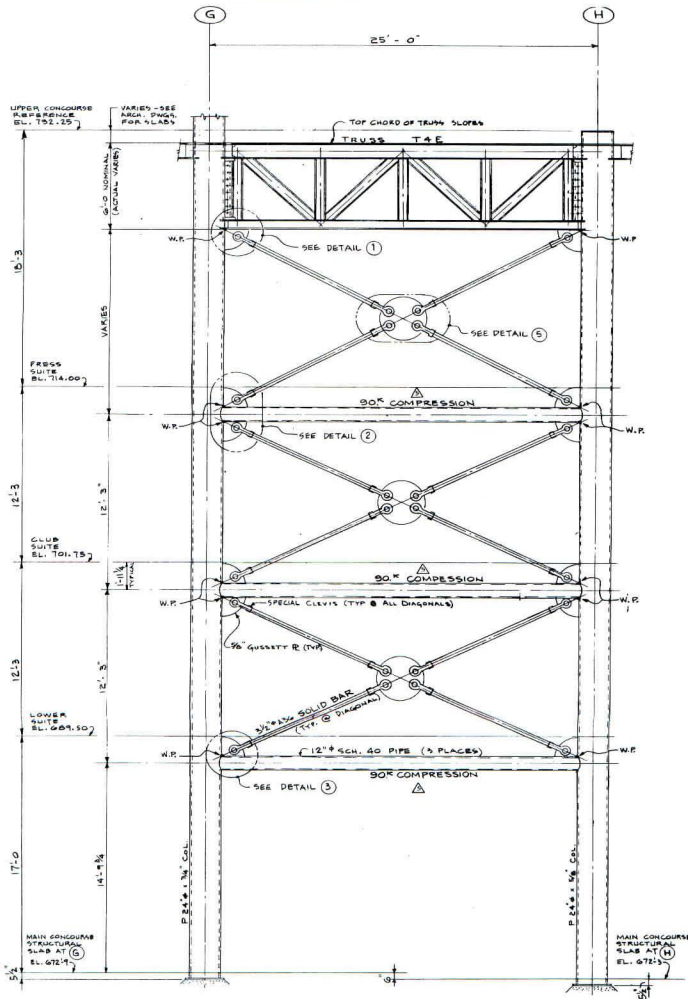
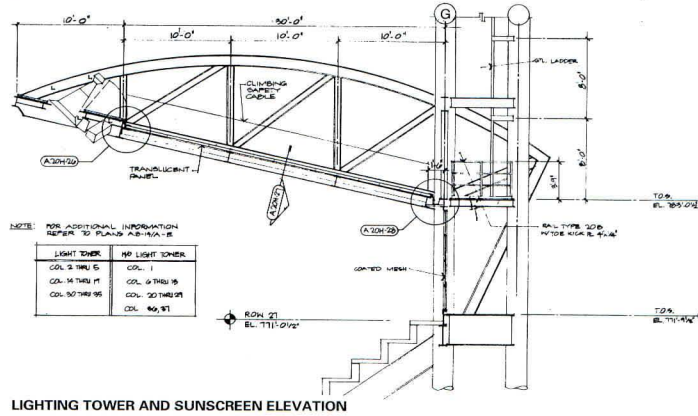
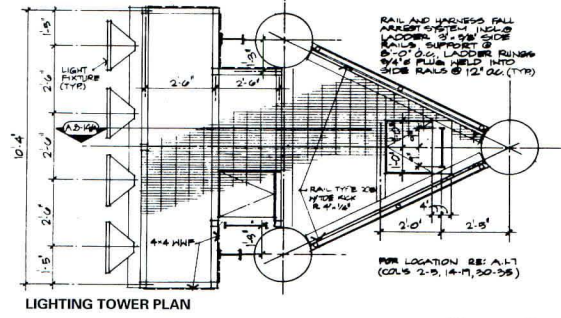
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*A baseball park's exposed steel structure recalls Cleveland's industrial roots.*



**Jacobs Field**  
**Cleveland, Ohio**  
**HOK Sports Facilities Group**

HOK Sport's new baseball stadium for the Cleveland Indians (pages 64-69) communicates the city's industrial vernacular through an exposed steel structure. Jacobs Field's framing also recalls the construction of early 20th-century ballparks such as Boston's Fenway Park and Chicago's original Wrigley Field.

The architect erected pairs of 2-foot-diameter steel columns topped by 6-foot-deep trusses to support a concrete pedestrian concourse around the stadium's upper seating levels. This main structure is stabilized by smaller, 12-inch-diameter horizontal pipes and steel cables tensioned between the 6-story-high columns to provide crossbracing. By orienting the 25-foot column bays diagonally in plan (photo, below), the architect increased the structure's overall stiffness.

Crowning the top tiers of the stadium, 217-foot-high tubular steel columns—reminiscent of factory smokestacks surrounding the site—support triangular light tower assemblies. A grid of metal halide spotlights and quartz backup lamps is clamped to a 25-foot-high-by-10-foot-wide frame bolted to the front pair of columns of each tower. Triangular, galvanized-steel platforms at the top of the towers allow access to the floodlights.—R.A.B.





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