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EDITOR'S PAGE

IN SUPPORT OF THE ARTS

EVER SINCE AN EXHIBITION OF ROBERT Mapplethorpe's photographs was funded last year, bombardment of the National Endowment for the Arts has continued unabated. Conservatives fighting against government-sponsored "obscenity" have expanded their battleground to attack the very existence of the NEA. This spring, Congress held hearings not only to decide whether to fund the agency, but whether to reauthorize its status as a federally-sponsored organization. Despite attempts by the White House to delay the fight over the NEA's renewal, Congress at one crucial point rebuffed President Bush's plea to extend reauthorization of the agency without restrictions for one year. Meanwhile, a 12-member commission continues to review the NEA's grants procedures until September 30, when it is scheduled to be disbanded.

How does this controversy affect architects? Buildings, after all, are rarely deemed obscene, even by the toughest critics, and most commissions are constructed with private funds. Curtailing the activities of the NEA, however, will take its toll on architecture. Under its Design Arts Program, the endowment funds individuals and organization in the fields of architecture, landscape architecture, urban design, historic preservation and planning, interior design, and related disciplines. Last year, just over \$4 million was awarded in grants under the Design Arts Program and so far this year, \$1 million was granted to organizations such as Restore in New York City for workshops in restoration techniques; Shared Horizons in Corrales, New Mexico, to create models for building on fragile natural sites; and the Vitruvius Program in Santa Monica, California, to develop design materials for teaching preschool and elementary school students about architecture. Other grants under the Design Arts Program are given to museums for exhibitions on architecture; professional development programs; states arts

councils; design publications; fellowships to distinguished practitioners; and research and design projects undertaken by architects.

NEA's total budget last year was \$171.3 million, less than a third of the money spent by the French government on music, theater, and dance alone. And for every federal dollar spent by the NEA, three dollars were donated by corporate sponsors. Opponents who argue that the NEA could exist on corporate dollars alone, however, miss an important point. The endowment's support of grassroots and marginal organizations would be undermined by the control of large corporate donors, who feel more comfortable spending their money on recognized stars in the arts than on unknowns. Certainly, federal tax dollars spent on the arts, including architecture, are more crucial to the enrichment of our culture than defense contracts. Influential members of Congress, however, think otherwise. At this writing, they are considering the following actions:

- Reauthorizing the NEA for five years with no restrictions on its grants procedures;
- Reauthorizing the NEA for one year without restrictions and voting on reauthorization in a nonelection year;
- Reauthorizing the NEA in a new form, possibly with grants distributed by state arts councils;
- Reauthorizing the NEA for one to five years with restrictions to avoid support for "obscene" works;
- Eliminating the endowment.

Though leaders of Congress hope to conclude the debate soon, controversy over this important issue will no doubt continue. "I'm not sure there is an arts community out there because they've been silent for such a long time," laments NEA Chairman John Frohnmayer. It's time architects join other artists in speaking out. Write to your member of Congress in support of the NEA. ■

—DEBORAH K. DIETSCH

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LETTERS & EVENTS

EIFS Get Attention

Your April issue contained an article entitled "EIFS Get Respect" in which five paragraphs whitewashed the fire concerns of this material. Unfortunately, the only information in the article was provided by EIFS representatives. There's another side to the story which needs to be told.

The three model building code organizations in this country are presently reviewing the manner in which EIFS is treated in their codes. They are concerned whether EIFS is appropriately classified as a "noncombustible" material. Further, they are investigating fire test standards for this material.

Your article refers to a suit by Sto Industries against several associations of manufacturers of other building products for a variety of alleged illegal activities stemming from support of research on EIFS' true fire characteristics. As one of these associations, we are upset that ARCHITECTURE failed to report that the suit was settled and dismissed last December without any admissions or conclusions.

*Nelson J. Cooney
President, Brick Institute of America
Reston, Virginia*

The article "EIFS Get Respect" references a lawsuit which Sto Industries brought against the Precast/Prestressed Concrete Institute (PCI), the Portland Cement Association, the Brick Institute of America, and others in regard to an article in ICBO's *Building Standards* magazine on the Manchester, New Hampshire, fire.

The lawsuit has been settled and dismissed by Sto. In settling, the defendants specifically denied any wrongdoing, made no concessions to any of Sto's claims, and paid no money to Sto. PCI vigorously denies any wrongdoing and maintains that the lawsuit was without any merit.

PCI stands behind the facts stated in the ICBO article. PCI will continue to advocate its members' views with respect to the safety and advisability of using EIFS before code and governmental bodies in the responsible manner which has characterized its past efforts.

*Thomas B. Battles, AIA
President, Precast/Prestressed Concrete Institute
Chicago, Illinois*

Taming the Critical Edge

Your article "Taming the City Edge" (April 1990) is a generally informative article, however I must take issue with two notions.

First is the uninformed generalization that landscape architects are the "sole practitioners of urban design other than architects." The 25,000-member American Planning Association has an urban design division that numbers 800 members engaged in urban design nationally—one of the largest single organizations of urban design professionals in North America. The planners play a crucial role in shaping the physical environment of cities through their efforts in framing public policies, regulations, and design guidelines, and administering local public improvement programs.

The article also cites the horrors of "outcities" as indictments of a system that places economic return over other public values. However, the article overlooks a growing number of post-war suburbs that are attempting to instill a sense of positive environmental design by guiding development as well as redevelopment.

During the past ten years, I have noticed a definite resurgence of interest in urban design among architects, landscape architects, and city planners. We have all learned from the experience of the past several decades that "solutions" advanced by singular professions more often than not produce dreadful results. It is high time that we figure out how to work in cooperation.

*Mark L. Hinshaw AIA, AICP
Chair, Urban Design Division
American Planning Association
Bellevue, Washington*

Corrections

In "Slow Recovery" (April 1990), the statement that "CRS was bought out by Sitrine" should have read "in 1983, Sitrine was acquired by CRS."

In the article on Houston's Sesquicentennial Park (April 1990), the three founding partners of Team Hou were misrepresented as "University of Houston architecture students." Guy Hagstette is a graduate of the University of Texas and Harvard University, John Lemr is a graduate of Rice University and the University of Pennsylvania, and Robert Liner is a graduate of the University of Tennessee.

July 30-August 1: The American Hospital Association is sponsoring an Exhibition of "Architecture for Health" and a conference on "Health Facility Planning, Design, and Construction" in Washington, D.C. Contact: Robert J. Mannlein, AHA (312) 280-3052.

Through August 2: "Figures of Speech: Projects by Douglas Darden and David Mayernik" an exhibition of theoretical architectural projects, at the Graham Foundation for Advanced Studies in the Fine Arts, Chicago, Illinois. Contact: Douglas Darden (303) 237-7420.

August 8-11: The national conference and exhibition of the Industrial Designers Society of America, "Design as Strategy," will be held in Santa Barbara, California. Contact: IDSA (703) 759-0100

August 8-11: The American Society of Interior Designers national conference and exposition of design resources in Atlanta, Georgia. Contact: Gina Mauro (212) 944-9220.

August 11-13: Fifth annual International Restaurant and Hotel Design Exposition and Conference, at the Los Angeles Convention Center. Contact: Leigh Rhein (212) 391-9111, or Judy Skalsky, (213) 306-8212.

August 13-19: Harvard Graduate School of Design's Affordable Housing Institute. Contact: Beth McKinney (617) 495-4004.

August 19-22: The National Conference of States on Building Codes and Standards is sponsoring a symposium on sprinklers in residential and commercial buildings in Charleston, South Carolina, in conjunction with the NCSBCS 23rd Annual Conference. Contact: Marla McIntyre (703) 437-0100

August 20: Deadline for Brickell Bridge Gateway Competition Entries, sponsored by the Miami Chapter AIA and the New World Center Foundation. Contact: Dan Tinney, AIA (305) 874-2386.

August 20-24: The Infrasppection Institute's infrared scanning courses for predictive maintenance of power production and delivery and building facilities, in Shelburne, Vermont. Contact: The Infrasppection Institute (802) 985-2500.

NEWS

AIA CONVENTION ■ SAITOWITZ AT THE WALKER ■ SENIORS HOUSING FORUM ■ IUA CONGRESS

Pushing the Limits in Houston

AIR CONDITIONERS AT GEORGE R. Brown Convention Center in humid Houston were humming May 19-22 as 2,620 architects gathered for the AIA national convention. Undaunted by the early summer heat, conventioners, speakers, and exhibitors joined in "Pushing the Limits," the theme of this year's annual gathering.

Institute President Sylvester Damianos, FAIA, formally opened the proceedings Friday, May 19 by asking architects to "...infect those around you with a powerful strain of optimism," since architects can "make a positive difference...as stewards of the planet Earth." He announced an historic agreement of cooperation between the AIA and its Soviet counterpart. Ovarations greeted the formal signing of an "Accord on Professionalism" by Damianos and Yuri Platanov, Hon. AIA, president of the USSR Union of Architects.



AIA President Sylvester Damianos (left) and Yuri Platanov, President of the USSR Union of Architects.

OSCAR & ASSOCIATES

Theme speaker James Burke, author and BBC/PBS television personality, postulated in his witty address, "Information and Change: Goodbye Descartes," that one primary limit to man's growth is being transcended. "We may be coming to the end of information-driven development," he claimed, stating that the computer has been the major developmental change for mankind since the alphabet. No longer chained to serial, word-by-word reasoning, civilization is being freed, according to Burke, to consider the wholeness and health of entire systems such as the earth's.

Traditional city limits have exploded since the introduction of the Model "T," according to *Washington Post* columnist and theme speaker Joel Garreau. No longer focused on downtown, the new metropolis sprouts "edge cities" (large urban agglomerations arising near malls, on highways, and near airports or railroads) in a phenomenon he described as "the biggest change in a hundred years in how Americans build cities...This is where Americans are choosing to do the important things—living, learning, praying, and dying."

On Monday, Michael Rotondi, AIA, of the Los Angeles firm Morphosis illustrated how we are pushing the limits of seeing. In elaborating Garreau's earlier remarks, Rotondi showed images at the macro scale of

AIA BRIEFS



OSCAR & ASSOCIATES

AIA's new first vice president/president elect, three new vice presidents, treasurer, and a secretary were elected in May at the convention in Houston to serve a 1991 term. Shown above from left to right (first row) are: James P. Cramer, Hon. AIA, Executive Vice President; C. James Lawler, FAIA, who will succeed Sylvester Damianos, FAIA, as AIA president this December; W. Cecil Steward, FAIA, vice president/president elect; (second row): secretary Douglas Engebretson, AIA; vice president Susan Maxman, AIA; vice president William Chapin II, AIA; Lawrence J. Leis, FAIA; and vice president Donald H. Lutes, FAIA. Commending the new appointments, Cramer says: "This is a dream executive committee in the making. Individually, they're role models for the profession; collectively, they're creative, committed to action, and young in spirit. Their backgrounds suggest you'll see the AIA moving more aggressively in two key areas: the education of the profession, and the public role of architects. Vision 2000 called for a more active role for architects in the life of the community—the new board will march under that banner into the '90s. Membership recruitment is an AIA priority. If one were to send a recruitment team to our schools of architecture, I could not imagine a group that would show the profession and the AIA to greater advantage."



PETER AARON / ESTO



PETER AARON / ESTO

The special AIA Expo project "Meeting the Future Now," created by *Architecture* magazine, demonstrated live video conferencing using Westinghouse technology and state-of-the-art electronic communications equipment. More details in our September issue.





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DETAILS

Four universities appointed new deans to their respective schools of architecture: Syracuse chose Bruce J. Abbey, former chairman of the architecture department at the University of Virginia and associate dean of academic affairs; Rice appointed Alan Balfour, formerly the director of the graduate program at Georgia Institute of Technology; Rensselaer Polytechnic Institute tapped Donald Watson, past professor of architecture and chairman of the environmental design program at Yale; and the University of Maryland appointed Steven J. Hurtt, previously associate professor of architecture at the University of Notre Dame.

Harvey Gantt, FAIA, won the Democratic nomination for U.S. Senator from North Carolina. He is running against incumbent Jesse Helms (R).

The American Academy and Institute of Arts and Letters conferred its highest honor, the Gold Medal, to Kevin Roche, and presented the Arnold W. Brunner Memorial Prize to Steven Holl.

Elliot Willensky, author of the *AIA Guide to New York City* and vice chairman of New York City's Landmarks Preservation Commission, died this May in New York City.

The New York-based firm Ehrenkrantz, Eckstut & Whitelaw will begin a \$20 million renovation and restoration of the 1907 Cass Gilbert-designed Old U.S. Custom House (below) in lower Manhattan this year.



OSCAR & ASSOCIATES

AIA gold medalist Fay Jones (above) photographed a poster of his Thorncrown Chapel.

entire cities in infrared satellite photography; and at the micro scale, the arcs and curves of electron micrographs. Architecture, a discipline that changes as it advances, is "a likely point of fusion," he noted, as humankind rapidly changes.

Small group consultations, seminars, and case studies explored the technical, artistic, and professional limits of the profession, from technological advances in fire-rated glass to new methods in the preparation of construction documents. Denver architect Greg Franta, FAIA, for example, led a discussion called "Designing with Daylight" that reviewed technical advances which allows three to four times the light in a space while significantly cutting down heat transmission, and "cloud gels," which can change clear glazing to translucent.

An environmental forum entitled "The Role of the Architect in Environmental Preservation," moderated by Gregg Ward, AIA group vice president, discussed how architects can work for this planet. Architects and panelists present discussed a variety of issues: community models for responsible living and the effect of toxic substances employed by the building industry, such as carpet vapors, asbestos, PCBs, and solvents. Former Board member Fred Lyman, AIA, introduced his motion for the "International Decade for the Rain Forest," which subsequently passed on the convention floor.

Special events centered on the nation's fourth largest city, Houston, which seems to sprawl without limit. One bonus for architects on the loose in the city was a copy of the outstanding *Houston Architectural Guide*, which accompanied registration. Frequently tucked under the other arm was a poster from the convention's first international architecture book fair. Over 20 publishing houses from Japan to Berlin were represented in individual displays.

—ROBERT A. IVY

Houston Zoning Update

THE "Z" WORD—ZONING—HASN'T been used publicly in Houston for decades, and now it seems that nobody can talk about anything else. The latest episode in this ongoing saga was an April Regional/Urban Design Assistance Team, co-sponsored by the Houston AIA and the city of Houston. After four days of site visits and intense interviews, the R/UDAT team concluded that there were three options: continue the existing planning process (meaning no zoning); develop a comprehensive plan with strong land use controls; or implement comprehensive planning at a "sector" scale, with land-use controls determined by local conditions.

The first option was considered politically untenable, and the second logistically impossible in a 500-square-mile city that has historically resisted zoning. The third option offered relief for neighborhoods without constraining the city in the future. "Houston has done remarkably well without zoning," says architect Frank Kells, a member of the R/UDAT team. "The fear is that we'll rush to controls to get the neighborhoods off our backs, and not do a good job setting long term goals."

Others view the R/UDAT report as merely a smoke screen for the maintenance of the status quo. "I'm for the most zoning, as fast as we can get it," says Rosie Walker, a magazine publisher who ran for mayor last year on a zoning platform. "Architects are elite, effete, and comfortable. This is an intellectual exercise for them. They don't have to live with bullet holes in their walls."

The one issue that everyone agrees on is that Houston's neighborhoods need help. The city lost ten percent of its housing stock in the 1980s, and many once-stable neighborhoods have turned into slums as the result of hit-or-miss development. Deed restrictions, the principal land use control mechanism, have proved difficult to enforce and virtually impossible to reinstate once they have lapsed.

At the same time, planned suburban communities, such as the Woodlands and Kingswood, have flourished despite a deep recession. According to surveys by Rice University sociologist Stephen Klineberg, 67 percent of Houston residents now favor zoning. Even major developers such as Gerald Hines and Trammell Crow, beneficiaries of Houston's free-for-all development philosophy, have been sending signals that they too would support land use controls.

NEWS

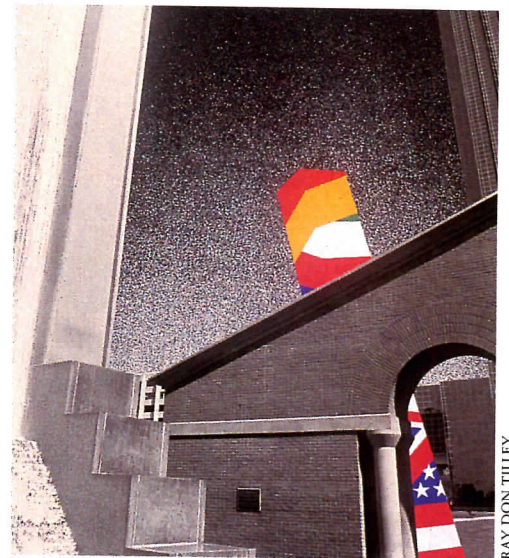
All of this questioning of the "Houston way" has created a volatile political environment. Bowing to public pressure, Mayor Kathy Whitmire recently established a blue ribbon committee to study land use policies in Houston. Developers and architects are eagerly awaiting the committee's report, which is due to be published in October, 1990. Simultaneously, city councilman Jim Breenwood is chairing an ad hoc committee to develop a comprehensive zoning recommendation for the city. He may run for mayor in 1991 on a zoning platform.

Houston lawyer John Mixon has already drafted a neighborhood zoning plan for the city, and has prepared two bills asking the Texas legislature to authorize Houston to zone itself in less than citywide chunks. Although both measures have died before reaching the floor, Mixon believes it is only a matter of time before the legislature grants some kind of immediate relief. "Practically speaking, nothing is going to offer any protection other than conventional land use zoning," he says. Stay tuned.

—DAVID DILLON

Summit Spikes

The image of Houston that greets diplomats at the 1990 World Economic Summit this month will not be the stereotypical "howdy, y'all" that fails to express the diversity and sophistication of Texas and its largest metropolis. Instead, diplomats from seven countries and the European Economic Community, as well as the attendant 7,000 journalists, will encounter 25-foot-tall "light spikes," conceived and designed by architect Jay Baker of Llewelyn-Davies Sahni, Inc., Houston. Constructed from lightweight steel, illuminated from within a four-foot-square frame, and wrapped in vinyl renditions of the eight Summit flags, the spikes will be installed at three focal points for the international gathering. Eight will be interspersed among the live oak trees on the Rice University campus, where plenary sessions are planned. Another eight will occupy an expansive park fronting the George R. Brown Convention Center, and a composite spike will stand near the fountain of the Transco Tower in the Galleria, the area where Summit attendees are expected



RAY DON TILLEY

to stay. The installation was coordinated by Houston architect Frank Douglas, FAIA, co-chairman of the Summit's Visual Committee, and funded by the federal government and major corporations.

—RAY DON TILLEY

Ray Don Tilley is associate editor of Texas Architect.



SHARON HARRIS SPEAKS WITH AN ACCENT.

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Sharon L. Harris, President, ProDesigns, Inc.

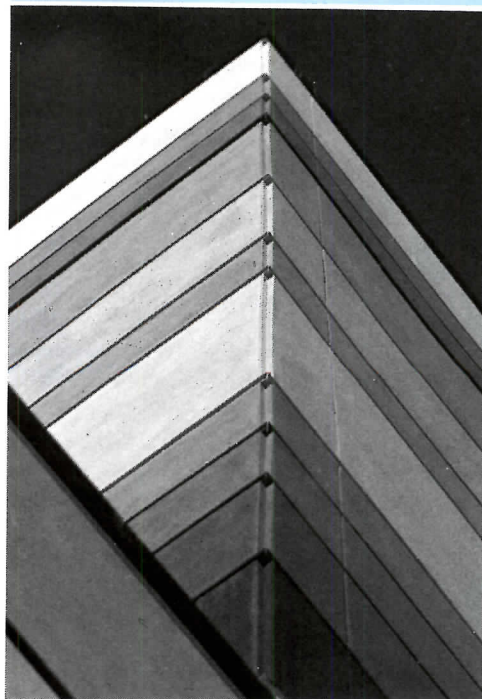
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Exhibition Reviews

Stanley Saitowitz at the Walker Art Center

IF GEOLOGY IS THE STUDY OF THE physical history of the earth, then is geological architecture an earth-bound architecture or an architecture made of earth? Perhaps both, according to "Geological Architecture: the Work of Stanley Saitowitz," an exhibition currently on view at the Walker Art Center in Minneapolis. The exhibition takes the form of a giant topographical model—a tool often used to represent the ground/building relationship. Saitowitz has filled one entire gallery of the Walker with a ground-hugging mass of particle board, stained plywood, painted steel, glass, and concrete that describes a zig-zag path through space. Visitors are directed up a gently sloping ramp, across a steel-decked bridge, and back down a low-rise stair that serves dual purpose as an amphitheater for a videotaped presentation of Saitowitz's projects. In passing through the exhibit, visitors are led past a parade of exquisitely crafted models of work.

"The site of architecture is the horizon, the crust of the earth, the edge between ground and sky," says Saitowitz in the exhibition's accompanying brochure. Unpainted particle board is used to represent the earth; glass, which suspends the models at waist-height, becomes the metaphorical horizon line; vertical elements are made from stained plywood sandwich panels, precast, light-weight concrete forms, and gray-painted steel angles. "Architecture" is represented by the models—a virtual city of proposed, in-construction, and recently completed projects, including the California Museum of Photography in Riverside.

Two L-shaped elements of this man-made landscape are constructed on the roof terrace directly outside the gallery. The low boxy forms, butted against the glass wall of the

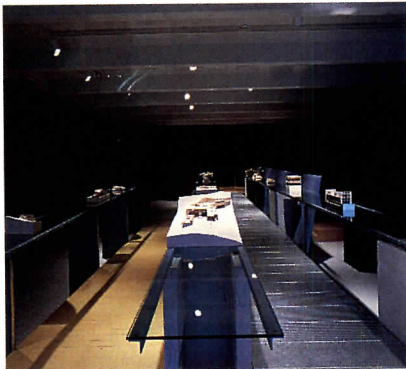
gallery at the same height as the interior mass, visually extend the exhibit into the surrounding landscape. Stained green or left the natural yellow of particle board, these forms are meant as a kind of parterre linking the exhibition to the site and echoing the formal Walker Sculpture Garden nearby.

"Because the specific form of a museum is a procession," says Saitowitz, "we were interested in the spatial nature of architecture and how to place, or insert, that experience into an anonymous space—one that must necessarily change from museum

to museum." Unlike recent shows in the series, in which visitors were asked to interpret fragments of architectural elements as architecture, Saitowitz is asking the visitors to experience the space, volume, and actual site of the gallery. The exhibit accomplishes this goal, but must also be recognized for what it is: a supremely elegant system for displaying Saitowitz's work.

"Geological Architecture" is the fourth exhibition in the Walker Art Center's "Architecture Tomorrow" series, organized by Walker design curator Mildred Friedman. On view at the Walker Art Center through August 19, 1990, the show travels to the San Francisco Museum of Modern Art in February 1991. —BRUCE N. WRIGHT

Bruce N. Wright is editor of INFORM Design Journal.

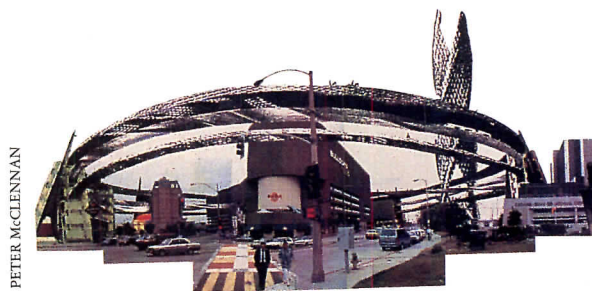


Saitowitz's architectural "geology."

Taming Los Angeles in New York

LOS ANGELES, THAT INCHOATE MASS OF FREEWAYS, STRIP MALLS, AND PARKING lots, can seem impervious to design coherence at times. Thinking small, however, can lead to some innovative solutions as demonstrated by "Recycling L.A.," an exhibition on view in June at Manhattan's Artists Space. Six teams of young architects, selected by curator Barbara Goldstein, focused on different blighted sites within Los Angeles—an empty lot, an alley, a parking lot, for example—then "recycled" the spaces into urban amenities. The solutions, all theoretical in scope, ranged from the fantastic—Janek Bielski and Eli Bonerz's array of gardens, sanctuaries, and cemeteries to be run by Franciscan monks—to the possible, such as Warren Wagner and Edward Webb's stone garden, perceived by the architects as "a

slight pause" in the landscape. Some of the planned interventions were elaborate, such as Sheila Klein's and Norman Millar's pedestrian "ring," designed to link a number of nearby buildings, or Charles and Elizabeth Lee's elevated bridge, intended to extend above L.A.'s abandoned

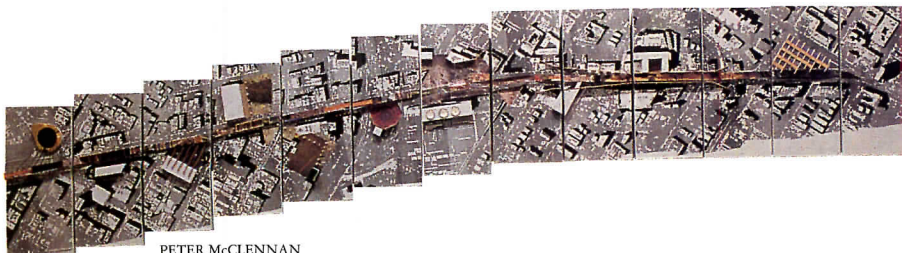


PETER MCLENNAN

Walkway proposed by Shelia Klein and Norman Millar encircles the Beverly Center (above), while Charles and Elizabeth Lee's bridge (below) spans over abandoned railroads.

railroads. Other proposals were more modest in scope: Heather Kurze, Kathleen A. Lindstrom, and Paige Norris devised a scheme consisting of a series of poles, signs, and shadows intended to demarcate a hiring site for day laborers. Ron Golan, Eric Kahn, and Russell N. Thomsen, whose firm is known as the Central Office of Architecture, set up design guidelines to "correct existing buildings and public spaces." Aimed at provoking debate as much as resolving real urban conditions, these theoretical schemes succeeded in turning L.A.'s sprawl into a humanly comprehensible scale, in which change seems possible.

—VICTORIA GEIBEL



PETER MCLENNAN

Victoria Geibel is a New York-based writer.



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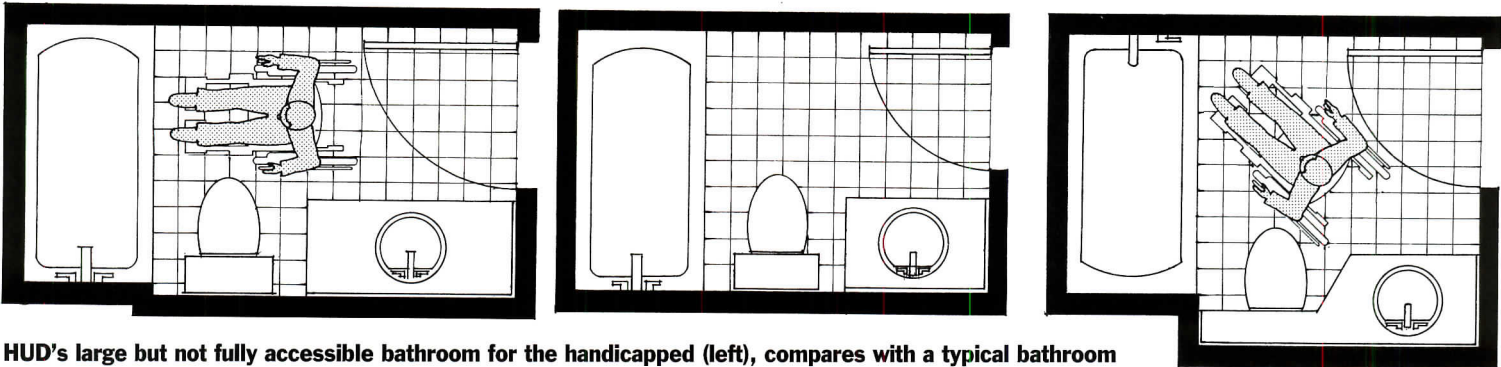
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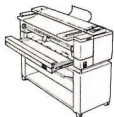
Fair Housing Fracas

CONTROVERSY OVER DESIGN GUIDELINES FOR THE 1988 FAIR Housing Amendment Act continues, as the Department of Housing and Urban Development (HUD) delays issuance of their specific criteria for housing design. Organizations such as the National Coordinating Council on Spinal Cord Injury (NCCSCI) and the National Association of Home Builders (NAHB) charge the latest version of the HUD-drafted guidelines for all newly constructed multi-family dwellings is impractical, inflexible, and too costly. HUD disregarded a task force proposal by NCCSCI/NAHB for guidelines endorsed by several "wheelchair organizations," as well as the AIA. HUD guide-

lines are now under review by the Department of Justice and the Office of Management and Budget, but when they will be issued is anybody's guess. New guidelines became necessary when the Fair Housing Amendment Act of 1988 added handicapped persons and families with children as two new protected classes under the nation's fair housing laws. Under legislation and regulations issued last January, new multi-family structures with four or more units will have to meet new accessibility guidelines in order to receive building permits. But because HUD has yet to issue them, plans for multi-family housing have virtually ground to a halt. —A.G.L.



HUD's large but not fully accessible bathroom for the handicapped (left), compares with a typical bathroom layout (center), and a NCCSCI/NAHB proposed design (right), allowing 20 percent more space for wheelchair maneuvering.

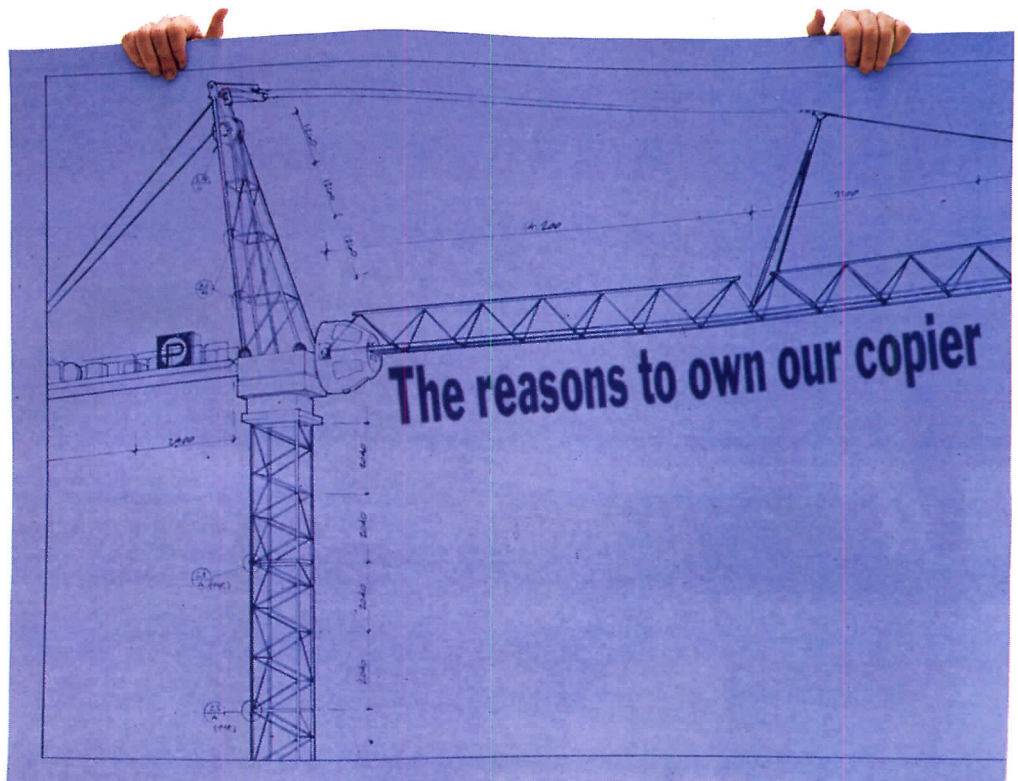


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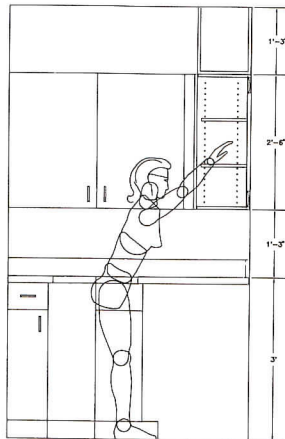
Seniors Housing Forum

THE DEMOGRAPHIC SHIFT TO A POPULATION WITH INCREASING percentages of Americans over the age of 65 has produced an entire industry devoted to meeting the needs of the elderly, as witnessed by "Expo 90." The three-day conference, sponsored by the National Association for Senior Living from May 13 to 15, brought 1,550 architects, individual and corporate developers, and suppliers to Nashville's Opryland Hotel to discuss trends in senior housing.

On Tuesday, May 15, William K. Glass, AIA, who manages design services for Marriott Corporation's Senior Living group, served as moderator for "Architects on the Hot Seat," a Phil Donahue-style panel discussion. Six architects from geographically diverse cities met onstage, passed the microphone, and argued the issues of designing for an aging population.

The initial debate focused on programming new facilities. New Orleans architect Ronald Blicht, AIA, maintained that focus groups, gathered to represent potential clients, "...have to be the way." Charles Griffin, AIA, of Engelbrecht and Griffin Architects countered that focus groups can lead to "bad information" resulting from "strong personalities." Others insisted the best information for future projects comes from post-occupancy evaluation of existing work.

One trend that emerged from the discussion was the movement toward greater choice in how the elderly are housed, articulated by Gaius Nelson, AIA, a senior care designer from Minneapolis, who suggested providing multiple thematic dining rooms for congregate living. He advocated designing for "aging in place," since most persons resist moving—even within a single facility. Nashville's Earl Swenson, FAIA, touted a positive design approach called "wellness architecture." There are revolutionary technical advances being made, he maintained, such as the recent research on Alzheimer's disease, that effect fundamental changes to architects' traditional design approaches.



ITD's modular kitchen.

Two specific design advances mentioned during later discussion—a modular kitchen cabinet system for seniors (left) and a specially designed bathtub—were products of an Oxford, Mississippi, based public/private research group, the Institute for Technology Development (ITD). Some private companies applied the Institute's research toward the production of commercial products that were on display at the exposition.

Although moderator Glass, the panel, and the audience decried government regulation of the industry, they praised the research that came from such public/private partnerships. —ROBERT A. IVY

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International Conference in Montreal

APPROXIMATELY 3,500 ARCHITECTS, planners, and related professionals gathered in Montreal from May 28 to June 2 for the 27th Congress of the International Union of Architects. The conference also coincided with the centennial celebration of the Ordre des Architectes du Québec, and in addition to the technical meetings, the Ordre held a variety of exhibitions, competitions, lectures, and films. More than 50 workshops and 200 sessions examined the relationship between architecture and politics, the environment, computers, society, and new technologies.

At the opening ceremonies, Rod Hackney, President of the IUA, appealed for assistance to enable more participants from third world countries to attend future conferences, although he was surprised at the number of participants from third world countries in attendance. Hackney also hoped that corporate funding might allow delegates from these countries to attend future conferences.

During the conference, several prestigious prizes were awarded to an international roster of architects. The IUA Gold Medal went to architect Charles Correa of India. Edmund Bacon, FAIA, of the U.S., won the Sir

Patrick Abercrombie Prize for improvement in the quality of human settlements. Montrealers, who are proud of their underground city which was built in the 1960s, were surprised at Edmund Bacon's comments. Bacon, who headed Philadelphia's city planning commission from 1949 to 1970, criticized Montreal's urban core with its patchwork of parking lots and empty spaces, brought about by an increase in huge office towers and resulting in the decay of older sections of the city. Montreal architect Jean-Louis Robitaille was equally critical, blaming developers and politicians for their lack of planning. Coincidentally, Montreal Mayor Jean Doré announced that a \$400 million housing and commercial project is planned for the city's waterfront. This development is part of a five-year revitalization scheme and calls for 2,000 new housing units and a recreation center. Molson-O'Keefe Breweries, the largest brewing company in Canada, is planning a \$110 million expansion in the same area. Construction is expected to begin within a year.

—DOUGLAS R. WESTON

Douglas Weston is a freelance writer in Montreal.

Los Angeles Architect's Career Honored

THE DESIGNER DRESS DEPARTMENT OF Saks Fifth Avenue, Beverly Hills, was the unlikely setting in May for a talk on Los Angeles architect Paul L. Williams (1894-1980). Amid mannequins in party dresses, Karen Hudson, granddaughter of the architect, presented a moving portrait of Williams, the first black member and Fellow of the AIA, who designed hundreds of buildings, including the interiors of Saks Fifth Avenue.

The event, co-sponsored by the Los Angeles chapters of the Minority and Women's Resources Committee of the AIA, the National Organization of Minority Architects (NOMA), and Saks Fifth Avenue, introduced the architect's extraordinary work.

After studying at the University of Southern California and receiving a certificate from the Beaux-Arts Institute of Design, Williams opened his own office in 1922. He went on to design over 1,500 projects cover-

ing a vast range of building types: hotels, including additions to both the Beverly Hills and Ambassador Hotels; churches in Los Angeles and Nevada; public schools in L.A. and Harlem; university buildings, including three at UCLA; a hospital built in Memphis for friend Danny Thomas; public housing, and hundreds of houses for movie stars (and a memorial for Al Jolson). The styles of his buildings were nearly as varied as the types. Williams was equally at home in a variety of historicist styles, designing "Italian villas" and "colo-

onial estates" with the same apparent facility with which he designed more Modern buildings. If no one consistent Paul R. Williams "style" can be identified, the attention to detail and the high level of craft resulted, nevertheless, in an impressive body of work. ■

—JUDITH SHEINE

Judith Sheine is a Los Angeles-based architect.



Williams' Hillside Mausoleum, 1952.

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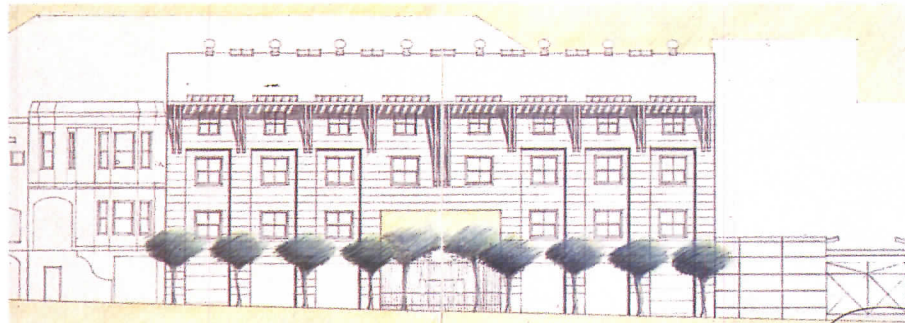
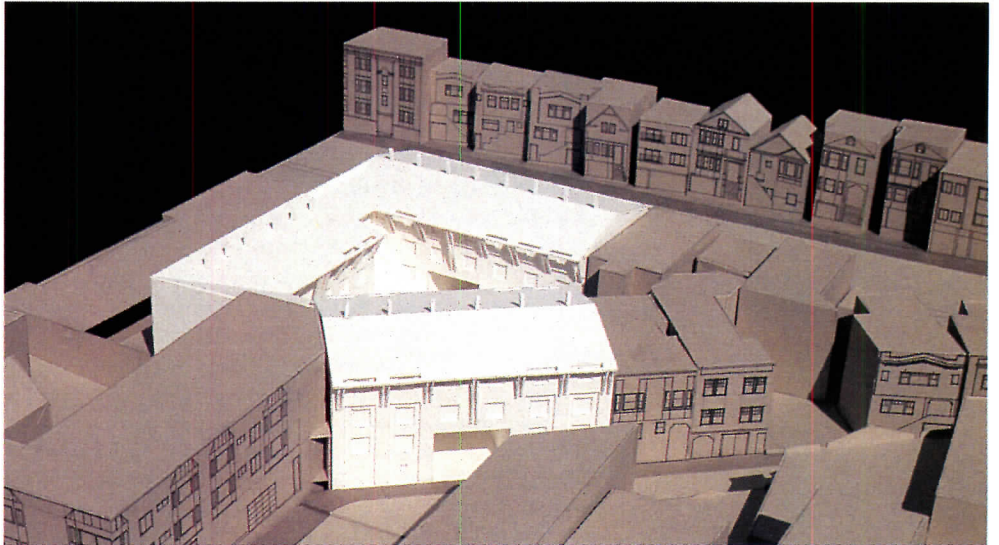
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AROUND THE COURTYARD

Mission District Housing
San Francisco, California
Daniel Solomon & Associates

THE PUBLICLY-FUNDED MISSION HOUSING Development Corporation recently commissioned Daniel Solomon & Associates to create rental apartments on a tight, block-long site bounded by older structures in the Mission district of San Francisco (top right). The resulting 25-unit, low-income housing complex (available to those earning 35 percent of a median income), is designed as three rectangular buildings (center right and below) grouped around an open inner courtyard. All units are entered from this court, providing a safe place in a rough neighborhood for children to play and adults to gather. To keep within a modest budget, all parking is located within the building envelope on the ground floor. Building materials are basic and durable—asphalt shingle on the roof and mineral fiberboard siding on the exterior walls. Construction will begin January 1991.



La Playa Marketplace and Housing
Santa Cruz, California
Jeff Oberdorfer & Associates

ONE OF THE FIRST PROJECTS DESIGNED TO replace housing lost in Santa Cruz during the October 1989 Loma Prieta earthquake is a 8,800-square-foot retail/residential project (bottom). Eight subsidized studio and one-bedroom apartments, located above street-level shops, feature comfortable elements like open-truss ceilings and private balconies. The architect took his design cues from Mission-style architecture of the area, with stucco exterior, Spanish ceramic tile at street level, and openings punctured into the street facade. The LaPlaya marketplace is funded by a coalition of sources, including the city of Santa Cruz, Beach Investments Incorporated, state and federal low income housing tax credits, the Santa Cruz Community Housing Corporation, and local businesses. Construction on the project is scheduled to begin this summer.



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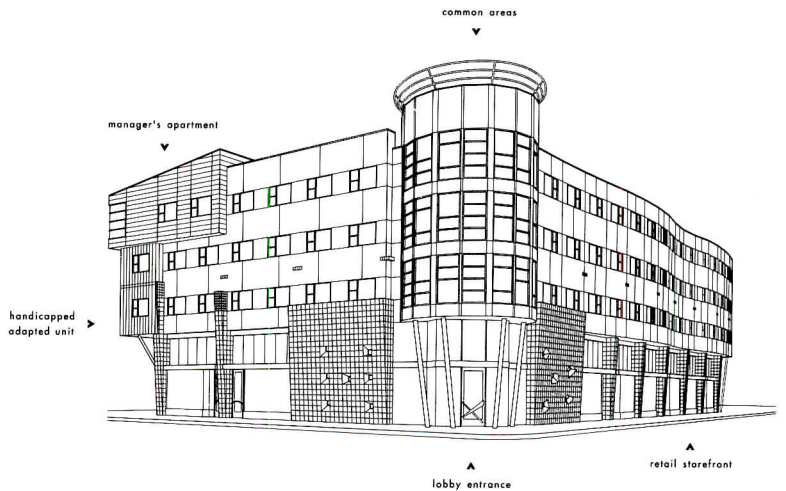
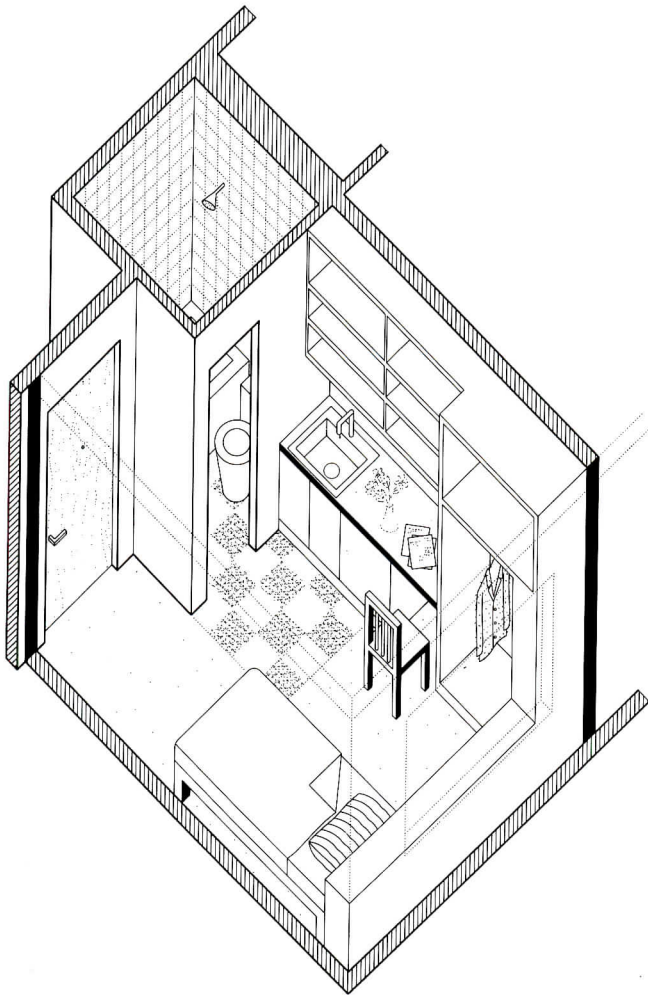
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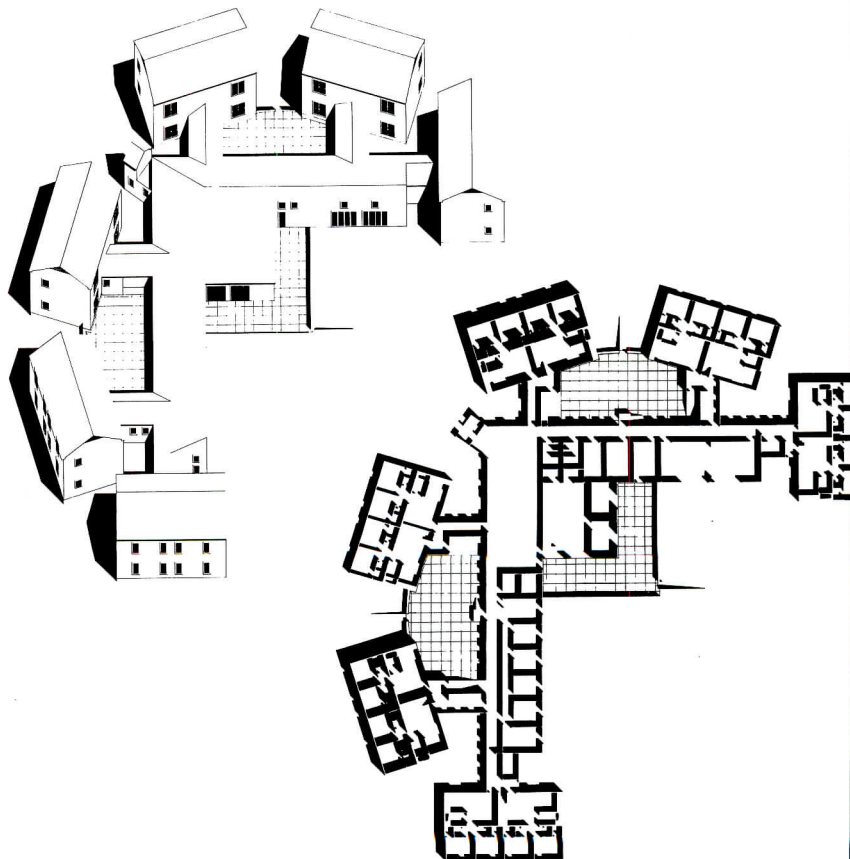


Studio Durant
Berkeley, California
David Baker Architects & Associates

THE 198-UNIT, FOUR-STORY SINGLE-ROOM-OCCUPANCY HOTEL (above) sits on a corner lot marking the boundaries where downtown Berkeley and the University of California campus meet, designed to be sensitive to the esthetics of a diverse community. Prospective residents will be screened by the developer, Jackson & Associates, before renting units on a daily, weekly, or monthly basis, and arrangements are also underway for Berkeley Oakland Support Services to rent one floor as a halfway house for the homeless. The three floors each contain a kitchen, dining room, and lounge, and every 175-square-foot room (left) contains a private bathroom. The construction is estimated to cost \$4 million or \$74 per square foot. Materials such as stucco for the facade and tile at ground level are specified. The targeted completion date is January 1991. ■

Middlesex Interfaith Partners
with the Homeless Housing
Edison, New Jersey
Michael Mostoller Fred Travisano Architects

MIPH IS THE FIRST GROUP IN THE COUNTRY TO obtain surplus federal government property under the 1987 McKinney Act, which identifies and permits the use of land to assist the homeless. The nonprofit organization is constructing 30 units of transitional family housing on three acres, to be completed this fall. The Princeton-based firm Mostoller/Travisano grouped six two-story residences around a one-story community building housing offices, classroom for adult education, library, day care center, lounge, and laundry (right). The architects connected the structures with outdoor courtyards to promote a feeling of community. The 2,688-square-foot complex will be constructed of wood frame with vinyl exterior siding. It will be funded by the Housing Mortgage Finance Agency of New Jersey, a grant from the Department of Community Affairs, New Jersey, and private grants.



BOOKS

ALTERNATIVE LIVING ARRANGEMENTS

New Households, New Housing

Edited by Karen A. Franck and Sherry Ahrentzen (Van Nostrand Reinhold, \$46.95)

THIS ANTHOLOGY OF ARCHITECTURAL case studies addresses housing specifically designed for non-traditional households. *New Households, New Housing* provides a comprehensive overview of buildings featuring common spaces and services for use by all resident households. Filled with projects from across North America, Scandinavia, and Western Europe, the collection has, at the same time, an unexpectedly strong message. The dream of a single-family home and its self-reliance is not replaced with the dream of intentional community.

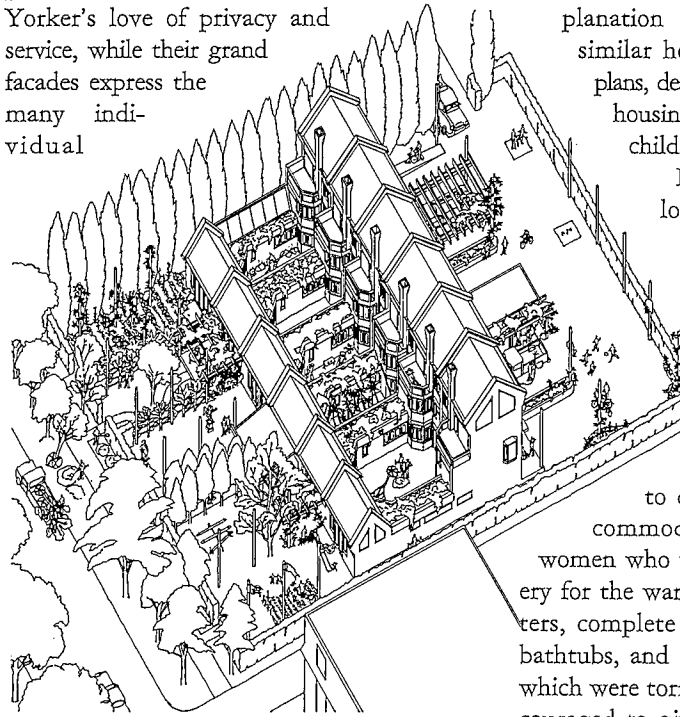
Karen Franck and Sherry Ahrentzen, professors of architecture who head the firm Environmental Design Research Associates, waste no time arguing against the conventional concept of house or home, or arguing for collectivized living. Instead, writers document the varied ways housing providers have responded to a shrinking middle class and persistent need for affordable, accommodating housing. The viewpoint of this collection is that "the diverse character and needs of today's household population cannot be met by a single standard form that lacks flexibility and variety."

Another strength of the book is its breadth of demographic evidence. The statistics range from the shift away from traditional family life—only ten percent of U.S. households are composed of a working father, homemaker, and children under 18—to the expanding population of working parents who cannot afford housing and childcare, as well as current development of many types of cooperative dwellings. Living arrangements once thought about in the context of national emergencies, utopian programs, or disabled populations are shown here to be a pragmatic choice for a growing segment of today's housing market.

The book is organized into three overlapping parts: "Collective and Shared Housing," "Housing for Single-Parent Households," and "Single Room Occupancy Housing." Each section contains some historical refle-

tion, a survey of examples and case studies of particular projects noting unusual aspects of the design process (user participation is a strong theme), construction, and management.

Architectural expression finds its most richly intriguing discussion in the section "Collective and Shared Housing." Here we find a portion of Elizabeth Cromley's recently published architectural history of New York City's 19th-century "apartment hotels." The plans of these hotels integrate a New Yorker's love of privacy and service, while their grand facades express the many individual



Axonometric of the New American House (above), winner of a single-parent housing competition partially sponsored by the National Endowment for the Arts in 1984, illustrates one of the innovative solutions presented in *New Households, New Housing*.

households within. This architecture has much to offer current developments such as full-service retirement communities.

The book's investigation into single-room occupancy hotels (SROs), their redesign, and management may provide the most memorable reading. Vivid accounts by residents as well as managers liven up this section of the book. These voices of experience show that all housing designs must be rooted in the

inviolable need for personal autonomy.

Contemporary design plans for single-parent communities are exhaustively surveyed. Examples range from the very charming, middle-class attached dwellings (which won the New American Home Competition) to transitional housing for women and children who share kitchens and bathrooms with others like themselves. Recounting the energies, successes, and difficulties of these efforts has historical value. Yet, these authors offer no explanation for the past destruction of similar housing, or the many unbuilt plans, described by other investigators, of housing designed for women and children.

For example, readers of Dolores Hayden's wonderful accounts of former housing innovations may feel haunted by the ghost of Vanport, Oregon, where, in 1944, with scarce natural resources and even scarcer time, the U.S. government hired architects to design a town that could accommodate the needs of 40,000 women who were building heavy machinery for the war effort. Or the childcare centers, complete with infirmaries, child-sized bathtubs, and carry-out food service—all of which were torn down after women were encouraged to give up their jobs to returning veterans. A lack of information has never been the reason why these "alternatives" are so rare.

While the editors of *New Households, New Housing* do not enter into the ideological debates of non-traditional housing, they succeed in widening the context for such efforts to occur. This is an important book for all students of architecture, and vital reading for housing providers who seek cost-saving innovations to help solve the social problems of our age.

—JAMIE HORWITZ

Jamie Horwitz is an environmental psychologist who teaches at Iowa State University's College of Design.

Continued on page 129



HOUSING AMERICA

This month's issue examines the pressing need for solutions to the housing crisis in this country. An introductory essay discusses the reasons for the rise in homelessness, and subsequent features reveal urban and rural examples of affordable, low-income, transitional, and seniors housing.

"AS THE HOMES, SO THE COUNTRY," WROTE THE EARLY American educator and philosopher A. Bronson Alcott. As the plight of the homeless in America worsens each year, our nation is threatened with increasing economic and social instability. Current estimates of Americans with no fixed address range from 350,000 to 3.5 million. According to the most recent survey conducted by the U.S. Conference of Mayors, about one-quarter of the homeless are the mentally ill who, thanks to Reagan-era cutbacks, landed on the streets after financial responsibility for state mental health institutions fell squarely on the states; approximately 44 percent of the homeless are substance abusers; 5 percent are estimated to have AIDS or HIV-related illnesses; about 46 percent are single men, of whom 26 percent are veterans; 14 percent are single women; 4 percent are unaccompanied youths; 51 percent are black; 35 percent white; and 14 percent are other ethnic groups.

Most disturbingly, the fastest-growing segment of the homeless population—now 36 percent—consists of families with children, and one of four urban homeless persons is a child. The survey further notes that 22 percent of the requests by homeless people for emergency shelter go unmet, and that families with children are most in need of help. Most surprisingly, perhaps, the survey found that 24 percent

of America's urban nomads are employed in full- or part-time positions. The National Housing Task Force adds that the high cost of housing threatens with homelessness one in seven of those Americans whose earnings are below the poverty level of \$11,203 for a family of four. All it takes to dump a family into the streets is a bout of unemployment or illness that delays a couple of rent payments.

What happened to deplete the stock of U.S. housing—from the inadequate slums of the 1960s and '70s to a virtual lack of shelter for many families in the 1980s and '90s? Most housing experts speak of a breakdown in the system that until recently kept less-de-

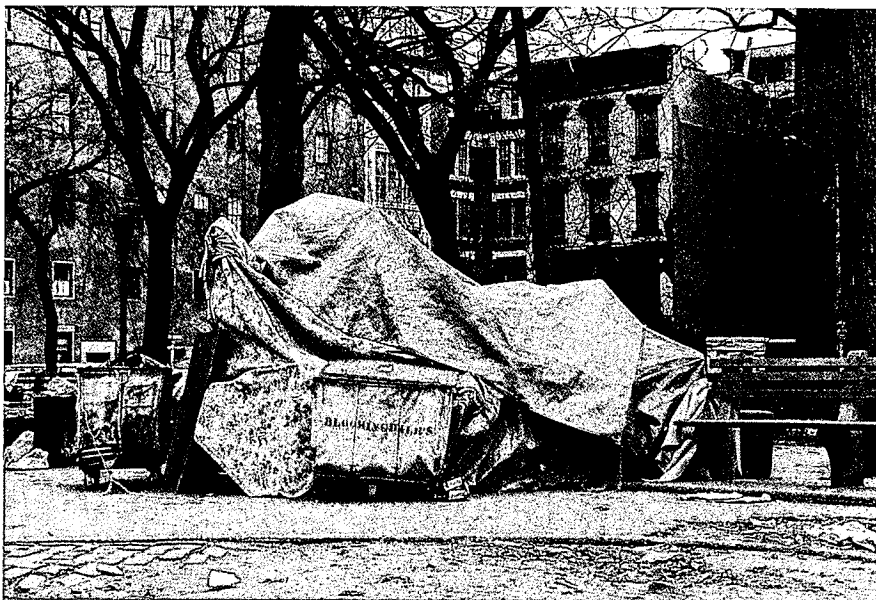
sirable housing at the bottom of the socio-economic ladder as the more fortunate moved up into pricier quarters. For many in the 1980s, the American dream of a single-family home became a dream deferred, as the downward sifting of housing stopped due to a burst in demand. As the baby-boom generation entered the housing market, increasing numbers of small households—unmarried adults or families headed by women—sought places to live.

As George Sternlieb and James Hughes, urban affairs professors at Rutgers University, wrote in a paper delivered at Fannie Mae's housing conference in April, 1990: "The sheer rate of household formation intercepted the units that would once have filtered down to the lower income and the poor." This heightened demand drove

up prices to make the cost of owning or renting a home outpace inflation by 16.6 percent since 1981. The median income for young families, meanwhile, actually dropped 28 percent between 1974 and 1988, according to William Apgar, director of Harvard's Joint Center for Housing Studies. He adds that 6.6 million poverty-level households spend more than half their incomes on housing, and that the problem is particularly acute for young, single parents with children, of whom 71 percent, or 1.8 million, devote more than half their earnings to housing.

This impoverishment resulted, in large part, from structural economic changes that occurred in the 1980s. As America shifted to service and knowledge-based industries, vast numbers of median-income manufacturing jobs vanished. Worst off were inner-city ghettos, from which first jobs, and then middle-income blacks, moved to the suburbs. With them went neighborhood institutions, businesses, and other sources of employment and community stability.

While the ranks of the poor grew, along with housing prices, new construction of affordable housing dropped dramatically during the 1980s. The 1986 Tax Reform Act eliminated most incentives



MARGARET MORTON

**Homeless in New York City:
An impromptu shelter erected this year in Tompkins Square Park.**

for building affordable and low-income housing, while new regulatory taxes and codes, intended to preserve the character of localities, raised housing costs, discouraged development, and ultimately created sprawl by pushing development to outlying areas where land prices were lower. The *Wall Street Journal* recently reported that "regulatory sprawl can add 20 to 25 percent to the price of an average home nationwide," and that as much as 35 percent of the cost of a new house in New Jersey, for example, is due to these regulations. Among recently imposed regulations are so-called impact fees, which, in theory, make developers pay for the price-hikes their buildings impose on municipal services, but which many cities have used to fund more basic municipal improvements. George Sternlieb of Rutgers contends that indirect taxes such as impact fees make it virtually impossible to build unsubsidized housing for families earning less than \$30,000 a year.

Compounding the shortage of new low-cost housing is the substantial loss of the existing housing inventory. Thousands of low-income units have been lost to gentrification, to the conversion of apartments to hotels, and to the demolition of many single-room-occupancy (SRO) residences. The pool of subsidized housing units also shrank in the 1980s, as a consequence of the federal government's expressed intention to "get out of the housing business." During the Reagan years, neglect of existing public housing became official policy. Moreover, between 1981 and 1990, funding for low-income housing programs was cut from \$31 billion to a current request for only \$6.7 billion, according to the National Coalition for the Homeless. The group notes that the 1.5 percent of U.S.



JEFF GOLDBERG / ESTO PHOTOS



Shorehaven
Bronx, New York
The Liebman Melting Partnership

Theodore Liebman, chief architect of New York State's Urban Development Corporation during its heyday in the early 1970s, and his partner Alan Melting have spent their careers developing housing prototypes. They propose the characteristics of Shorehaven in the Bronx and Spring Creek in Brooklyn (facing page) as a model for 21st-century housing. Each has high-rise densities but is based on the 19th-century walk-up rowhouse, clustered around courtyards with parking, and constructed of prefabricated components.

Shorehaven, a new neighborhood of middle-income, mostly four-story units on a 55-acre site reaching into the East River (site plan), is organized into smaller neighborhoods on both sides of a diagonal avenue. Its 1,183 townhouses are clustered around courtyards with parking (above), and almost every unit has a street-side entrance (left).

"If you provide individual front doors, you're giving people homes rather than a housing project," says Liebman. The units are unusually large—1,550 square feet for three bedrooms, 1,250 square feet for two.

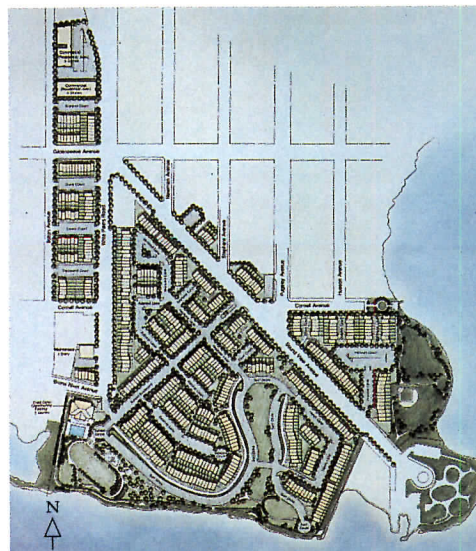
Shorehaven's modest sales price (\$110 a square foot) was made possible by steel frame, factory-produced modular rooms containing all plumbing, heating, air-conditioning, and other utilities. Assembled on-site, the prefabricated boxes (top and center left) reduced erection time and, therefore, interest payments by almost one-half. A plenum is formed by the space between the ceiling of one box and the floor of the next, with room for insulation between redundant walls. According to the architects, Shorehaven is the largest low-rise, factory-built residential development in the Northeast. Its draw for prospective buyers, however, is that it feels like a neighborhood.

The fastest growing segment of the homeless population consists of families with young children.

government outlays that go toward housing is exceeded by many other countries, even South Africa.

During the 1980s, HUD shifted its focus from increasing the supply of low-income housing to expanding its Section 8 certificate program (which now also includes vouchers), and encouraging "trickle-down" through middle-income home ownership. Although the voucher program, according to Robert Burchell, professor of urban studies at Rutgers, has served 800,000 families and has motivated some owners to better maintain their homes, it has not stemmed the flow of housing out of the system.

According to the National Housing Preservation Task Force, the federal government's "opt-outs" and expiring assistance





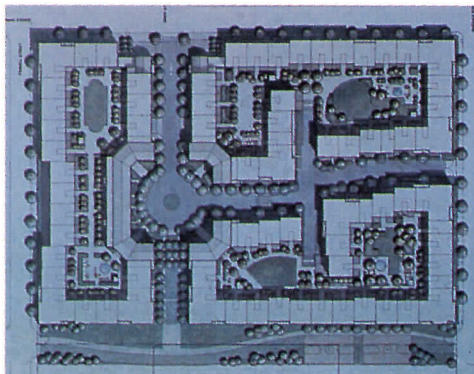
JEFF GOLDBERG / ESTO PHOTOS

Spring Creek
Brooklyn, New York
The Liebman Melting Partnership and
Costas Kondylis Architects

Unlike stereotypical high-rise public housing, Spring Creek's four- and five-story buildings are neither anonymous-looking nor huge, though its 765 rental units for low- and moderate-income families are densely arranged (110 units to the acre). The apartments contain no dangerous elevators, stairwells, or corridors, and the complex itself is secured by a single entrance for both pedestrians and automobiles, which is supervised from a gatehouse (at right in site plan).

The units are organized around courtyards (above and right) consisting of concrete decks over grade-level parking. The courtyards, designed to be safe for children at play, are reached from broad stairways rising from the central "town square" where mailboxes and laundry rooms are located.

To reduce construction costs, the units were assembled from lightweight, factory-built panels composed of steel studs, synthetic stucco cladding, and built-in windows. The plumbing, electrical lines, and other utilities were plugged in at the site. "It's very residential looking," says Liebman. "For less expense, you're able to get the character of an articulated masonry structure." The developer, Spring Creek Associates, financed the construction through a system that grants tax abatement certificates to developers for building and managing low-cost housing. The developer can reap these tax advantages when building luxury housing or sell the certificates to another developer.



contracts will result in a potential loss of between 1.2 million and 1.5 million privately owned, federally assisted rental housing units by 1995, and 1.8 million units by 2000. Moreover, one third of existing U.S. public housing is more than 25 years old, while another 25 percent is between 15 and 25 years old. Since new construction has virtually ceased, the average age of these units will continue to rise, and, while \$22.2 billion will be needed to modernize dilapidated public housing, according to one HUD consultant, only \$1.7 billion was appropriated for such uses this year. In the absence of new subsidy programs or new housing, waiting lists for public housing will lengthen.

Faced with such a grim forecast, what can be done? William Apgar of the Joint Center for Housing Studies offers this succinct answer: "Keeping existing subsidized units available to low- and moderate-income households should have the highest priority. Aid that does not add to the total long-run supply of low-cost housing or help low-income households become more self-reliant should have the lowest priority."

Under Secretary Jack Kemp, HUD appears to have emerged from last year's scandals chastened but unchanged in its direction. The Secretary's "conservative war on poverty" and the HUD 1991 budget proposal echo ideas advanced under Reagan, including proposals to substitute housing vouchers for construction and to turn over public-housing units to tenants for management and purchase. The cornerstone of Kemp's program is project HOPE (Housing Opportunities for People Everywhere), a \$1.2 billion package of grants and incentives for public-housing ownership and the creation of "housing opportunity zones" for development in depressed areas. Ironically, by opposing flexible community block grants to states and localities, this Republican administration is "doing all in its power to minimize local discretion," according to Michael A. Stegman, chairman of the department of city and regional planning at the University of North Carolina at Chapel Hill. He adds that the inadequacy of HUD's efforts is evident in its "use of small-scale demonstration programs that can meet only a fraction of demonstrated need." Barry Zigas, director of the Low Income Housing Coalition, gives Kemp credit for at least focusing on housing issues, but points out that resources are lagging far behind.

Major federal legislation aimed directly at homelessness—the Stewart B. McKinney Homeless Assistance Act—has been only partially funded and has had serious problems, according to Paul Knapp, director of the Search for Shelter program, a joint venture on behalf of the homeless launched in 1987 by the AIA, the American Institute

of Architectural Students, and the Neighborhood Reinvestment Corporation. The President's 1990 budget requests approximately \$812 million to fully fund the McKinney programs and others targeted at the homeless population. However, the Bush administration, probably due as much to conviction as to a depleted budget, places the heaviest burden for assisting the homeless on state and local governments and the voluntary actions of "a thousand points of light."

The AIA's Search for Shelter program is among the more successful privately sponsored initiatives. Its flagship project is the McAdoo Hotel in Shreveport, Louisiana, a previously derelict building that now houses 45 people in SRO units. It was funded with a combination of HUD rental assistance, private contributions, and federally-assisted financing. Knapp emphasizes that the 57 projects that are under construction, or completed with his program's assistance, attempt to offer a range of services to help put homeless people on their feet. Search For Shelter's chairman, Don Hanlon, emphasizes that "charity will not solve the homeless problem," and he worries that using emergency shelters as long-term solutions "will mean the institutionalization of the homeless, the acceptance by Americans of an underclass as a permanent fixture of modern society."

The National Association of Housing and Redevelopment Officials (NAHRO) has also documented 30 examples of programs assisting the homeless through rehab or construction of permanent, transitional, or emergency shelters, and support services.

More financially stable than most housing assistance groups is the nonprofit Enterprise Foundation, which is involved in a range of low-cost housing programs. Founded by developer James Rouse in 1981 and largely funded by Rouse Corporation profits, the Enterprise Foundation has succeeded in rehabbing or building anew 9,600 units of low-income housing by assisting grassroots groups in 30 cities to reduce construction and financing costs. Increasingly, Rouse's foundation, along with similar organizations, is broadening its purview to include housing management, employment services, education, and public policy. For example, Enterprise Jobs, a foundation offshoot, has provided 16,000 jobs for unemployed persons, as well as a mentor program that has more than 80 volunteers working with newly-placed employees.

Despite the federal government's withdrawal, virtually every nonprofit housing group is dependent on government help. "The story of low-income housing has become largely one of state and local governments addressing the needs of a changing low-income population," maintains Mary Nanno, NAHRO's associate director. She



RICHARD BARNES PHOTOS

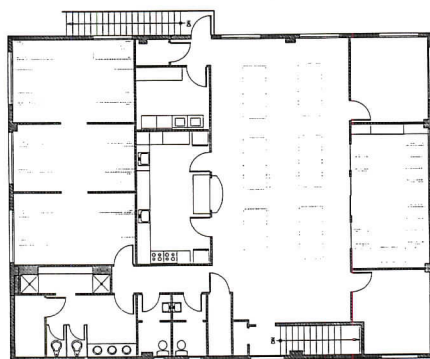


Turning Point
San Mateo, California
David Baker Architects

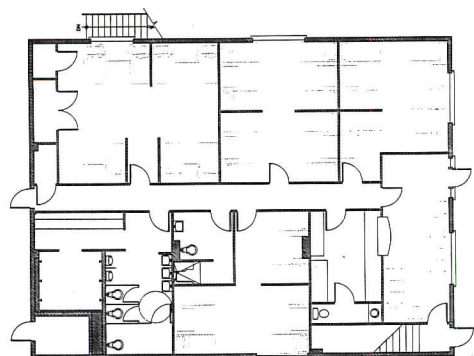
While most neighborhoods resist housing the homeless in their midst, the transformation of a former county parole department facility into a transitional residence for 39 homeless adults was welcomed by a San Mateo middle-class developer. The non-profit developer, Mid-Peninsula Housing Coalition, "really knew how to stretch resources," according to architect David Baker. Federal funds, allocated through the county's Department of Housing and Community Development, provided most of the money for site acquisition. The conversion cost a mere \$250,000, donated by local social service organizations, churches, and labor unions.

The building was "just a concrete box sitting on an asphalt parking lot," explains project architect Peter MacKenzie. The architects extended the building with a pergola supported by concrete pedestals (above) and a galvanized steel fence (left), and spruced up the building with a steel frame entry, new windows, lights, and cheerful awnings. The designers divided the first floor (bottom plan), which houses men, into five partitioned bedrooms off a double-loaded corridor, plus a bathroom and a staff room. They subdivided the upper floor for women (top plan) into a large bedroom, a room for counseling, another for dining, a kitchen, and a lounge with a skylight.

The house opened October 17, 1989—four minutes before the Loma Prieta earthquake, according to Chris Sutherland Reader, executive director of San Mateo's Shelter Network. It has already served over 80 persons, who are chosen for their apparent motivation and are allowed to stay up to three months. Almost 60 percent have moved into studio apartments or a permanent group living arrangement.



SECOND FLOOR



FIRST FLOOR

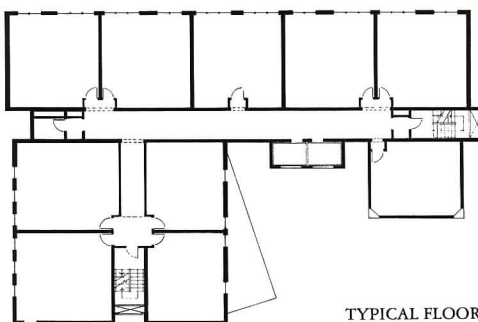


Bennett Place Housing for the Elderly
Pittsburgh, Pennsylvania
Arthur Lubetz Associates

Arthur Lubetz has designed federally funded projects for 17 years, and scoped HUD guidelines inside and out to find pockets of creative license. In the case of Bennett Place, Lubetz used the context to depart from HUD's standard-issue stucco exterior. Across the street are two masonry churches that are local community landmarks, so Lubetz argued for a brick exterior. Corrugated metal on the building's gabled-house form (above) was also a nod to context, as the material of choice for every steel mill in Pittsburgh. "We used certain directives from the Pittsburgh Planning Commission regarding setbacks as valid reasons for breaking the box that's produced under most HUD cost containments," says Lubetz. "The red wall sticks out (right) so that the length of the building would meet a requirement for usable open space."

Common areas inside the building are tight but well-planned, with visual connections between post office, laundry, reception desk, and community room to foster human interaction. Units are simple but make the most of bright colors, checkerboard patterns, and indirect lighting—all within HUD guidelines. Comments Lubetz: "Art is working within limitations that are imposed on you, and stretching those limits."

Housing partnerships have sprung up to help private development of low-cost units.



explains that states enacted more than 300 new housing programs over the past decade, and are now involved in a broad range of new initiatives. Many depend on housing trust funds derived from special taxes and surcharges; some include new partnerships with private enterprise as well as nonprofit groups; others fulfill so-called state fair share requirements. State programs and, increasingly, local efforts are variously assisting the homeless, helping provide congregate housing for the elderly, SROs, group homes for the chronically mentally ill, and affordable housing exacted from developers as a growth management strategy. A recent study by the New School for Social Research in New York revealed that 25 out of 51 of the nation's most populated cities are using locally generated revenues to stimulate the construction or rehabilitation of affordable housing.

Housing partnerships have sprung up across the country to help developers obtain financing, technical aid, and other assistance for rehab and new construction. Among the oldest and strongest are the Boston Housing Partnership, the Chicago Housing Partnership, the Cleveland Network, the Wisconsin Partnership for Housing Development, and Bridge, which operates in the San Francisco Bay region. The Urban Land Institute credits such partnerships with success in "obtain-

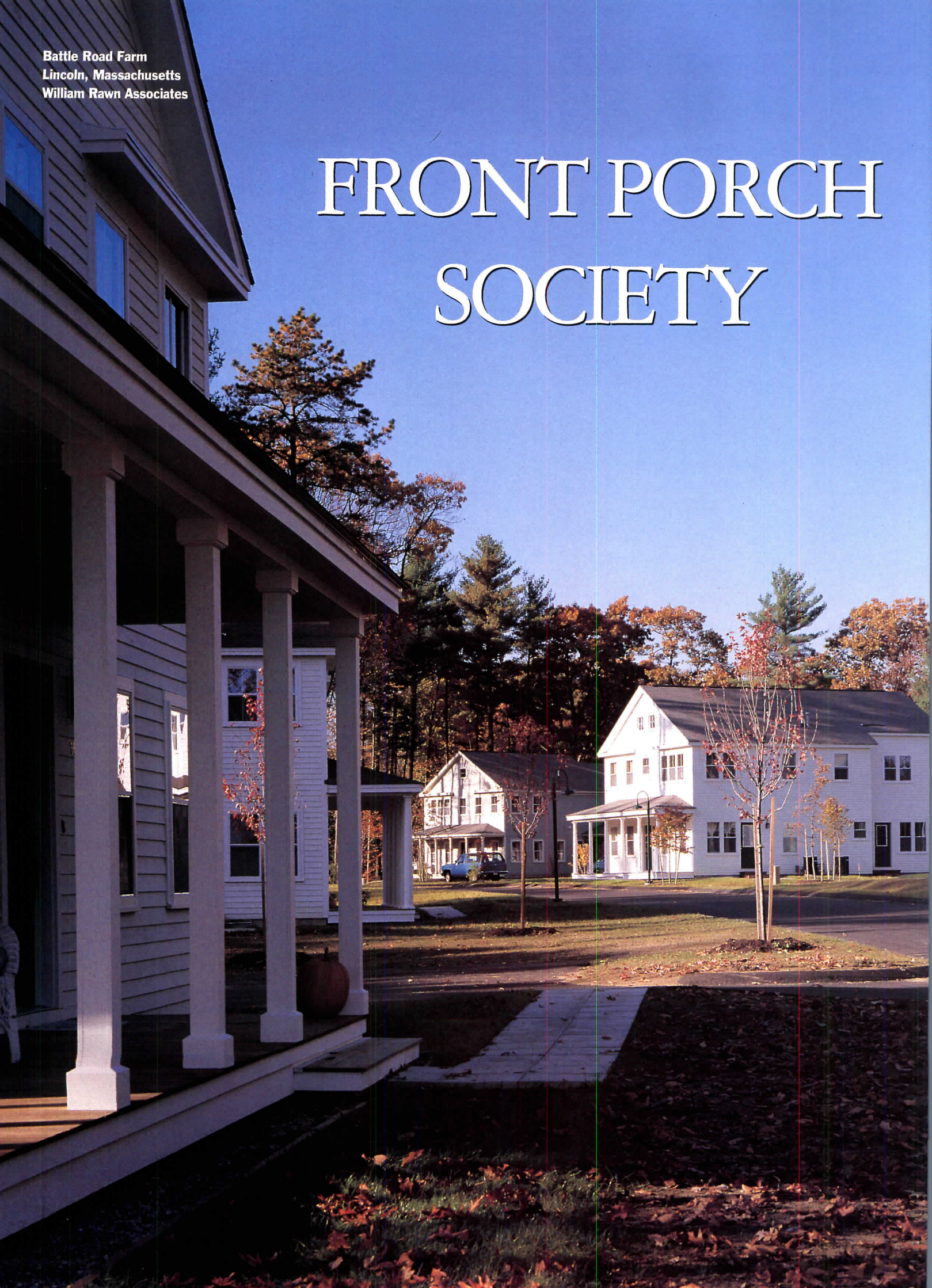
ing the support of numerous public and private players," devising financing, and producing locally responsive programs. But it concludes that, "given the nature and scale of the low income-housing problem...partnerships alone clearly cannot be expected to satisfy the demand for low-income housing."

Only the federal government can fill the breach, and it is hobbled by a depleted treasury and a constituency suspicious of big government and big programs. At this writing, both the Senate and the House of Representatives are preparing to mark up major housing bills. But the dilemma plaguing U.S. policymakers today is no different from two years ago when W. Donald Campbell, staff director for the Senate Banking, Housing, and Urban Affairs committee, concluded: "If you come up with a bill that would have a significant impact on housing and the way poor people live, it's going to be such a budgetary blow-out that it will be perceived as a fantasy. And if you look at the budgetary constraints and start crafting little programs within them, the impact on a given community will be so trivial that it will be seen as irrelevant."

—ANDREA OPPENHEIMER DEAN

Battle Road Farm
Lincoln, Massachusetts
William Rawn Associates

FRONT PORCH SOCIETY



Subsidized and market-rate units draw inspiration from New England villages.

WILLIAM RAWN, AIA, SAYS THE TROUBLE WITH MOST SUBSIDIZED housing is that it reeks of its purpose: "Everyone knows when they see a 'project.' It somehow looks cheap or undesirable. As a result, everyone who lives in one is stigmatized." Lincoln, Massachusetts, may seem like the last place to expunge that stigma, since houses average \$500,000 in this

Boston exurb. But Lincoln residents, recognizing their affluence displaced the community's teachers and shopkeepers, authorized the town to buy 47 acres of wooded land in 1986, half of which was set aside for housing.

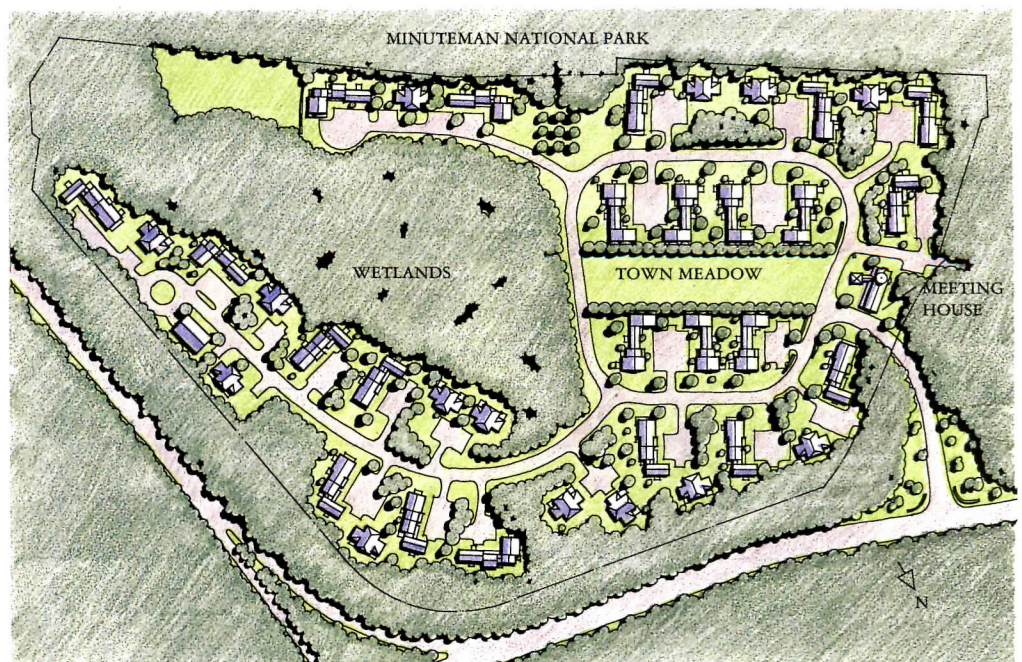
Enter Rawn, who designed a 24-acre mixed-income complex called Battle Road Farm, of which 40 units are built. The finished project will reserve 72 of 120 units as "affordable" for those earning \$25,000 to \$43,000. Thanks to funds from the state's Home Ownership Program, the affordable units (\$85,000-\$105,000) and the market-rate (\$190,000-\$204,000) are virtually identical, busting the subsidized housing stigma.

Rawn praises the work of Andres Duany and Elizabeth Plater-Zyberk, and he similarly attempted to achieve a livable, human scale village by drawing upon a form he often photographs from airplane windows: the New England farm community. To recall a country lane, Rawn lined up the housing on either side of a 26-foot-wide road to generate what he calls "enclosure"—a sense of balance. But the streets of Battle Road Farm do not follow an orthogonal grid. Dictated in part by extensive wetlands, the complex is a C-shaped cul-de-sac with one looping road, no sidewalks, and only one exit leading

HOUSING AMERICA

to an arterial. Given a site far from town services, Rawn saw

no point in trying to produce urbanity. Despite its reliance on the auto, Battle Road Farm attempts to conquer two condo blights: giant garage doors and vast parking lots. The units simply have no garages and parking is relegated to a "farm yard," a modest-size pad of asphalt between the units.



Porches staggered along Battle Road Farm's narrow road (these pages) create the ambience of a New England farming community, where houses project to the street. Rawn's stated goal was "to avoid the image of either apartment buildings or townhouses." Site plan (right) reveals a density of 10 units per acre. Buildings cover only four acres of the 24-acre site. A football-field-size meadow is lined by four-unit "meadow houses" (above right) and a meeting house.



Four condominium units combined in one building type represent the way old farmhouses stretch into add-on kitchen and bedroom wings, with a connected “barn” (above). Clapboard “farmhouses” with porches are always painted white; other buildings are colored plum, teal, and grey. Ground floors of farmhouses feature as many as 10 windows (plans below); other units receive less exposure. Rawn plans to add more windows to facades of barns in project’s second phase.

The \$16.3-million project includes 34 buildings with two- and three-bedroom units ranging from 1,300 to 1,700 square feet. Six housing types fit into three types of buildings. Quadruplex buildings contain four units, fronted by a gabled “farmhouse” with simple columns and a wood porch angled to the road. The farmhouses offer impressive light through as many as 10 windows per floor on three exposures. Behind the gabled front are two “link” units representing the evolution of

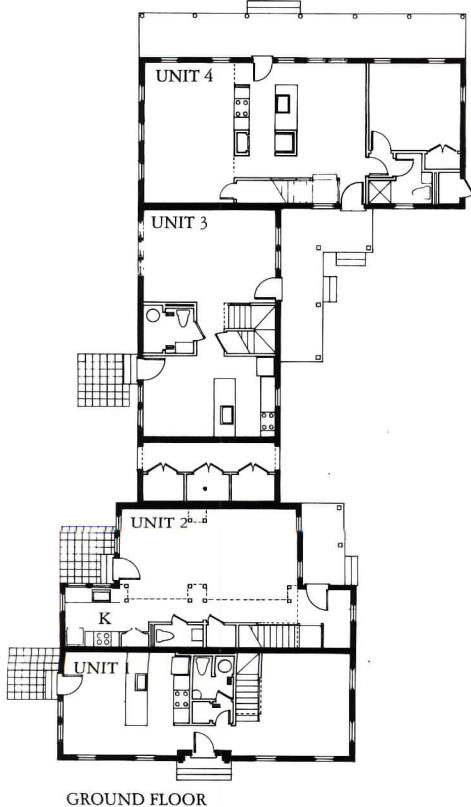
old farmhouses with newer wings. However, these link buildings lack the presence (as well as all the windows) of the farmhouses. The “barns” at the back are larger units facing woods. They have not proved as popular as expected, perhaps because they skirt dangerously close to theme-village architecture. In phase two, Rawn plans to enliven their facades with more windows.

Another building type—carriage house duplexes—are “a little ungainly and off-beat,” like a homely old outbuilding Rawn admires in central Lincoln. The long, pitched roof lines allow for 16-foot ceilings. A final building type, the meadow house, recalls the farmhouses with porches facing a village green instead of a road.

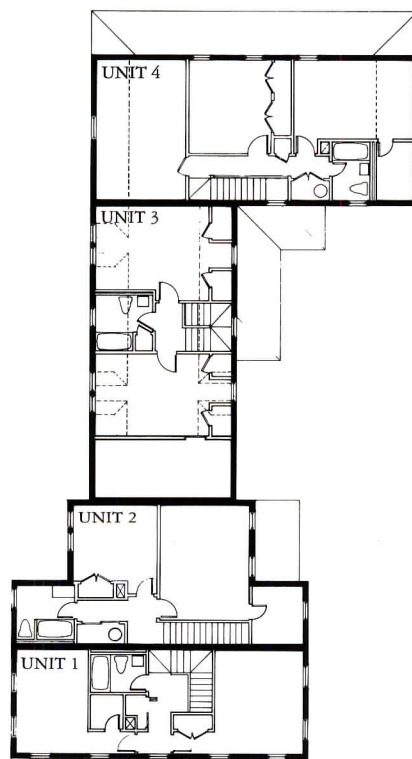
Making subsidized housing work, Rawn believes, requires shoehorning custom details into a tight budget. In his Mission Hill project in Boston, those included textured brickwork and 11-foot living room ceilings. At Battle Road Farm, it’s the porches. “They give immense power,” he says. “They conjure up a vision of small town America.”

Such symbols mean much not only to buyers, but to authorities who can squash a project with a single vote. Battle Road Farm caused spirited controversy, yet final design was approved by a 10-to-1 ratio at a town meeting. “The plan neutralized the opposition,” says Rawn, “because no longer could they say, “This is ugly.”

—MICHAEL LECCESE



GROUND FLOOR

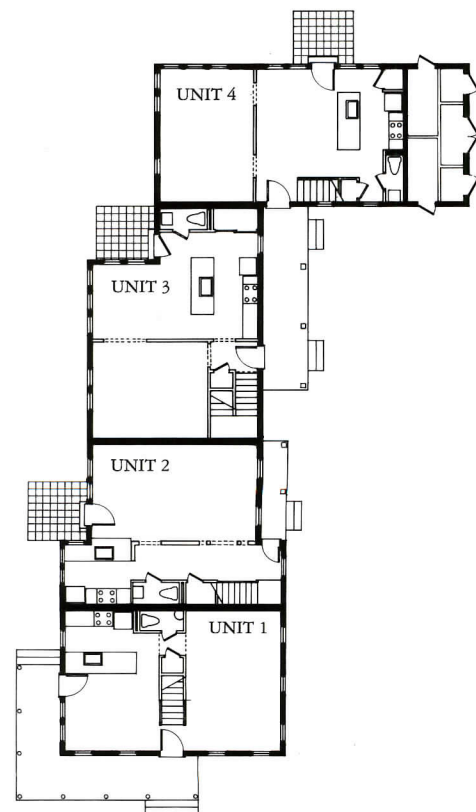


SECOND FLOOR

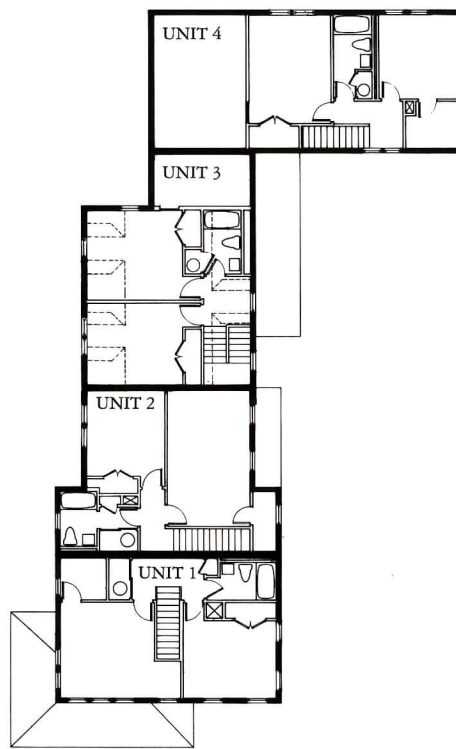
Porches along a winding country lane conjure up visions of small town America.



Rawm varied the facades of the clustered units by alternating round and square windows, and round and square columns, from house to house. Farmhouse porches deviate between wrap-around (above) and centered. To abet privacy, front doors and patio spaces are positioned away from each other (plans below).



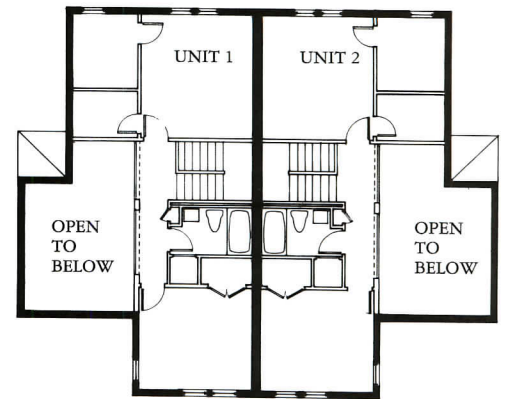
GROUND FLOOR



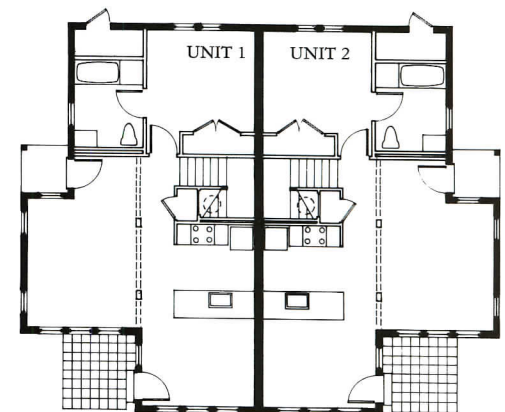
SECOND FLOOR



Carriage house roofline (above and plans below) allows for 16-foot living room ceilings. Duplexes are set back from the road and woods next to Minuteman National Historical Park.



SECOND FLOOR



GROUND FLOOR

**BATTLE ROAD FARM
LINCOLN, MASSACHUSETTS**

CLIENT: Lincoln House Associates—Cottonwood Company and Keen Development Company
 ARCHITECT: William Rawm Associates, Boston, Massachusetts—William L. Rawm, III (principal-in-charge); Ray Porfilio (project architect); Laura Yanchenko, Jim Moore, Renee Cheng, Paul Lukez (design team)
 LANDSCAPE ARCHITECT: Michael Van Valkenburgh Associates
 ENGINEERS: LeMessurier Consultants (structural); C.A.Q. Planning & Engineering (site engineering)
 CONTRACTOR: Wolf Construction Company
 PROJECT COST: \$15 million/\$54 per square foot
 PHOTOGRAPHER: Lucy Chen

SRO REVIVAL

A hybrid building type profitably solves San Diego's housing problem.

SAN DIEGO IS EXPERIENCING A LIVELY RENAISSANCE IN single room occupancy hotels (SROs) that are a far cry from the notorious shelters of other major cities. Since the 1987 opening of the Baltic Inn, San Diego's first new SRO in 50 years, the city has become a mecca for all who eagerly seek solutions to, and profitable opportunities from, low-income housing. Planners and politicians from as far afield as China have toured the Baltic's 209-room, 40,000-

HOUSING AMERICA

square foot hotel designed by San Diego architect Rob Wellington Quigley, AIA, and developed by owners Chris Mortenson and Bud Fischer, only to come away impressed with its striking design and enduring quality.

Developers and architects have checked into the Baltic Inn as guests to analyze the strategies that make it a prototype worth following. And follow they have. Mortenson, Fischer, and a third partner, Shawn Schraeger, have developed two more upscale Quigley-designed hotels in San Diego's gaslamp district: The J Street Inn, opened in April, and SRO 197 next door, which breaks ground this summer. Another San Diego SRO by Quigley named La Pensione, developed by owner Barone Fitzgerald Galasso, will start construction in August. Jackson and Associates, in contrast, chose the residential Hillcrest area for the seven-story Studio 819 designed by in-house architect Mitchell J. Campagna, AIA. In three years, one thousand new units have been built, another 1,400 are under development, and several existing SROs are undergoing needed renovation. This volume is enough to meet San Diego's Housing Commission's current demand for SRO units—and enough to keep rents relatively stable.

San Diego's successful response to developing SROs grew out of a dire need to house growing numbers of homeless people in the 1980s. Since the mid-1970s, the city had lost 1,247 units in ten years, a fate shared by other cities due to gentrification, redevelop-

Baltic Inn Gaslamp Quarter, San Diego

The model for San Diego's thriving SRO renaissance is the three year-old, award-winning, 209-room Baltic Inn (right) designed by local architect Rob Wellington Quigley, AIA.

ment, and fire. Moreover, many of those SROs still in existence—while virtual slums and in default on property taxes—had provided owners continual cash flow and afforded a specula-

tor's dream through brisk turnover. The City Council's immediate solution was to pass an interim preservation ordinance in 1985. But savvy and creative developers like Mortenson, who served on the city's SRO Code Task Force, preferred to focus on new construction rather than the maintenance of obsolete units, urging private enterprise to devise the most efficient and cheapest modes of profitable development. Observing the frustrations of out-of-town planners immobilized by restrictive regulations, Mortenson is convinced that city governments should adopt a receptive yet laissez-faire approach to new forms of housing and reserve funding for serving the home-

less. The developer recalls that his interest in low-income housing began when long-term tenants of a newly-acquired SRO were forced to live on the street during a renovation. After selecting an architect of Quigley's caliber "so there would be quality associated with the building," Mortenson and his partner, Bud Fisher, set out to build the Baltic Inn.

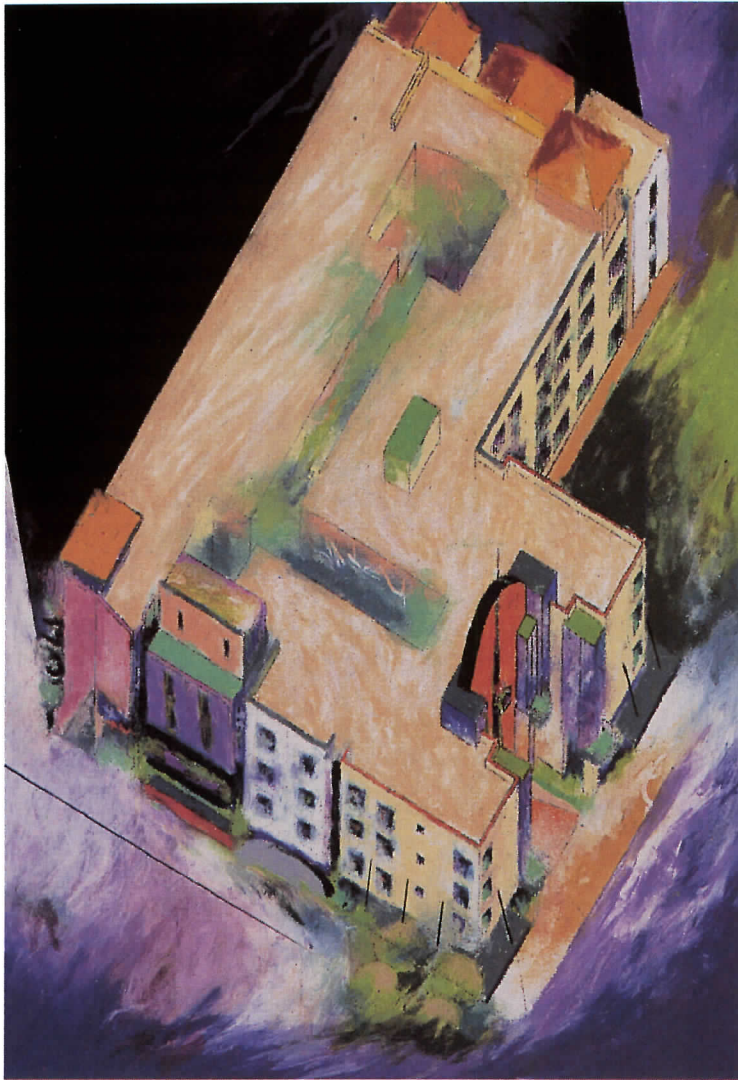
Drawing on prior experience in owning several hotels, the development team based its economic strategy on very high density—the equivalent of 700 units per acre. The developers kept down costs (\$17,000 per room) while emphasizing design and public amenities, including a porch at the expense of a room. They invested in low-maintenance, quality construction, and insisted upon proper ventilation and insulation and extraordinarily rigorous management, which they felt was absolutely essential to avoid a future slum. The Baltic tenants are drawn from the rising numbers of low-income,

elderly, and minimum wage workers attracted to San Diego's growing hospitality industry and new convention center, and are



Studio 819 (above) in San Diego's Hillcrest section, designed and developed by Jackson and Associates.





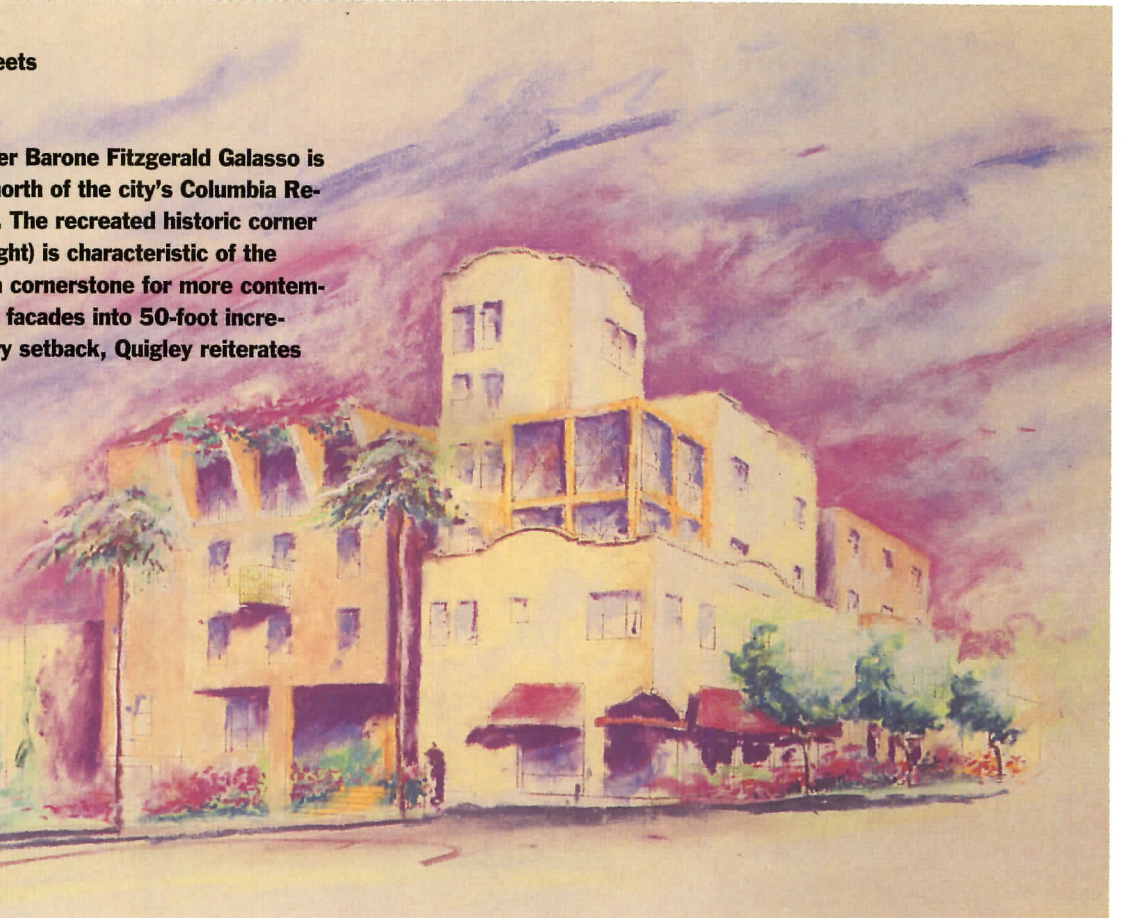
SRO 197
Downtown San Diego

The third housing project designed by Rob Quigley will break ground this summer. Located on the edge of San Diego's Chinese district, it will comprise 197 units, a 91-space underground parking garage, live/work spaces, and ground-level retail. With his characteristic attention to innovative entrance ways, Quigley leveraged the required ramp space for the garage into a spacious court for hotel pedestrians and corner retail space. Each elevation is differentiated to respond to the specifics of its surroundings, including the entrance facade (below) and Third Avenue elevation (left). The four-story, 73,000-square-foot structure also includes rooftop "penthouses" (top in left drawing) and expands the material palette of the J Street Inn next door (following pages). Units average 275 square feet (work/live spaces measure 546 square feet), face a landscaped courtyard (left), and feature an enclosed toilet and bathing area, storage, refrigerator, TV, and phone hook-up. Common areas on the ground floor include a lobby, vending area, recreation room, laundry, and reading room. Project architects for all of the Quigley-designed SROs are Guillermo Tomaszewski and Bob Dickens.



La Pensione at India and Date Streets
Downtown San Diego

Quigley's newest SRO for developer Barone Fitzgerald Galasso is an 81-unit project located to the north of the city's Columbia Redevelopment Project in Little Italy. The recreated historic corner building with arched pediments (right) is characteristic of the area's warehouses and serves as a cornerstone for more contemporary elevations. By breaking the facades into 50-foot increments and providing a second-story setback, Quigley reiterates the 50-foot lot size of the neighborhood. Designed with retail space on the ground floor and an outdoor restaurant in the interior courtyard, La Pensione is budgeted to generate an eight percent return, and was developed without any city loans. Unlike other SROs which employ outside operating companies, it will be managed by its owner/developers. Room sizes average 190 square feet and have enclosed bathrooms, cable TV, laundry, and vending.



required to undergo reference checks and pay a deposit. In return for a three percent \$500,000 city loan, 20 percent of the rooms are reserved for low-income applicants. Since the SRO is a hybrid hotel/apartment (defined as a residential building with six or more rooms without kitchens) and occupies no niche in the building code, Mortenson and Quigley applied their ingenuity and took advantage of the serendipitous advent of new types of kitchen appliances to gain approvals. The city cooperated by providing code variances. San Diego has since adopted an SRO code; last October it passed a "living unit" ordinance that bridges the gap between SROs and studio apartments.

Each room at the Baltic Inn averages 120 square feet, and is equipped with a curtain-enclosed toilet, to the delight of occupants familiar with the communal toilets down the hall; a single stainless steel sink with garbage disposal; and—acknowledging that people would cook—a microwave oven, which is far safer than hidden illegal hot-plates, and cheaper to wire. A "work wall" contains open shelving, counter, and all plumbing; each floor has six single communal showers with a tiled dressing area. Now three years old, the Baltic Inn is still in excellent condition and is home to at least one elderly resident who left for greater comforts, only to return to enjoy the Inn's active social life.

Other developers have repeated the basic Baltic Inn formula with the addition of enclosed bathrooms. In the colorful, 157-room Studio 819, Jackson and Associates, led by the father and son team Peter and Adam Jackson, included a full kitchen on each floor, and a large comfortable lobby fitted with easy chairs, a huge TV/VCR, and plenty of board games. The Jacksons were given a \$500,000 city loan at three percent in return for allocating 20 percent to low-income tenants, who pay \$265 rent per month. Completed for \$7.75 million, the building features wood furniture, vertical blinds, corridors with painted trim and sconces, rentable phones, and two floors of parking spaces. Geared to medium-low income singles, students, and the travelling corporate employee, the hotel certainly fills a housing need as evidenced by the initial list of 1,100 applicants (the rooms average 200 square feet and rent for an average \$430 a month).

San Diego's new SROs clearly reveal how enlightened, for-profit development and a receptive city can speedily forge new housing solutions that combine social concerns with innovative architecture. Other communities should take heed. ■

—KARIN TETLOW

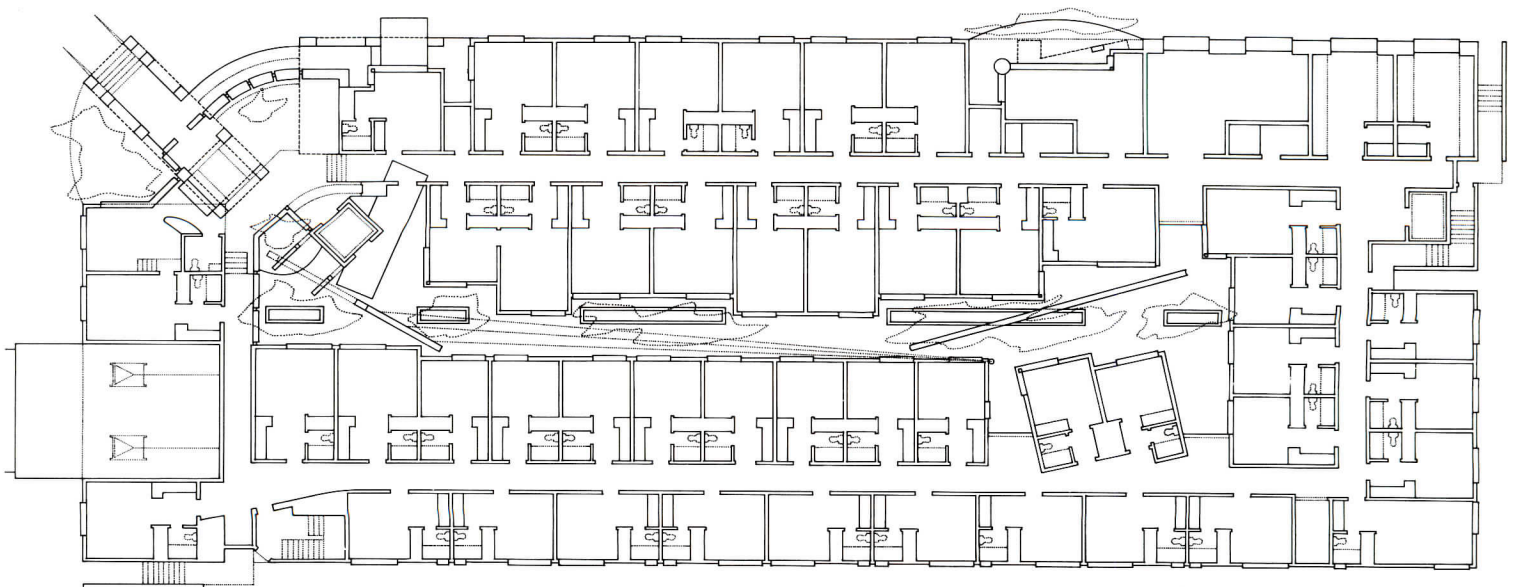
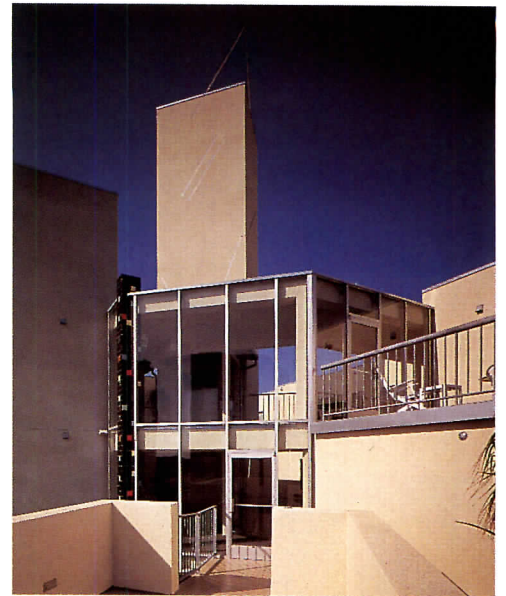
Karin Tetlow is a New York-based writer.



DAVID HEWITT ANNE GARRISON PHOTOS

J Street Inn
Marina District, San Diego

Quigley's most recently completed SRO is located within sight of the new Arthur Erickson-designed, sail-topped convention center and a two-block walk from the Gaslamp Quarter's theaters and the Horton Plaza mall (facing page, top). The 221-unit J Street Inn bridges the gap between the smaller-room SRO hotels and conventional apartment buildings (far right). It is a skillful exercise in integrating privacy and community with modern elegance. At the corner of J Street and Second Avenue, the entrance is announced by a pavillion (facing page, bottom) and tile-faced lobby (top right). In an intriguing departure from the usual landscaped courtyard, The Spurlock Office created a site-specific piece of art over an 88-space parking garage. Responding to a survey of wishes expressed by Baltic Inn residents, Quigley included a reading room that is located next door to a machine-equipped exercise room, laundry, and vending spaces (plan, upper right). Learning from the Baltic Inn experience, the developers agreed on larger windows and insisted on air conditioning to avoid the TV sounds echoing along interior light courts on hot nights; rooms angled around the interior courtyard (bottom right of plan) also mitigate noise, while the sound of water circulating down a sawn-in-half steel culvert (center right in plan) produces soothing "white noise" to drown out all other sounds. Room sizes run from 230 to 325 square feet and are equipped with private bathrooms and kitchenettes (right center photo). Monthly rents, including linen service and TV, range from \$340 to \$565, depending upon income. Signage was created by the McCulley Design Group.

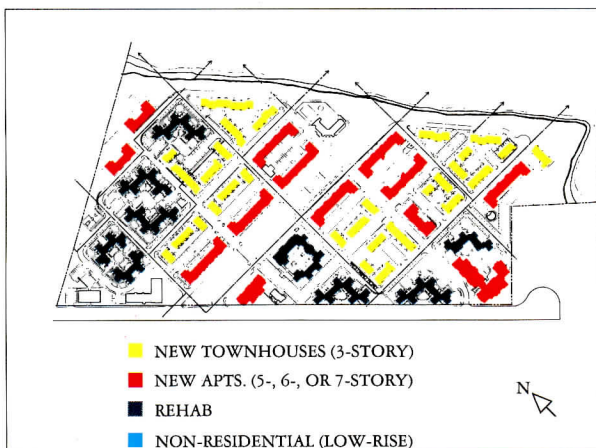
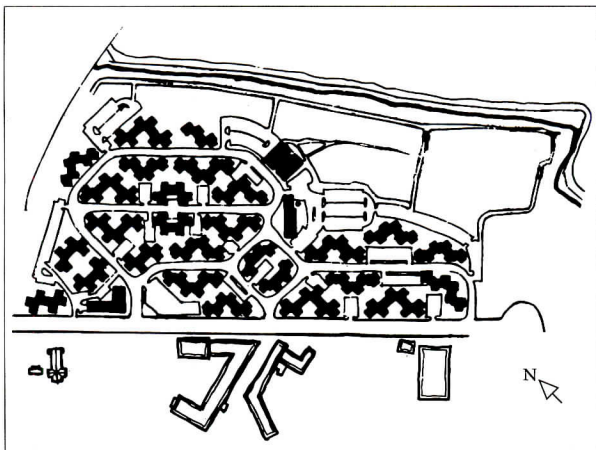
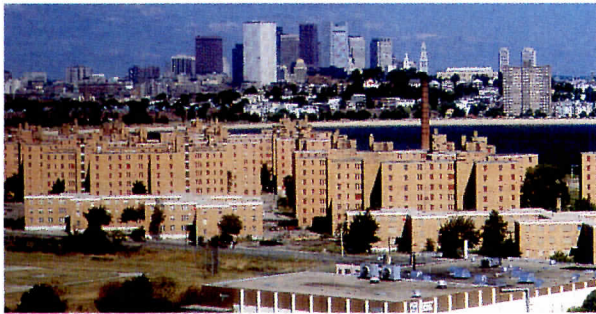


→ N

ON THE WATERFRONT

Harborside towers are transformed into a mixed-income enclave.

GABRIEL O. GUALTEROS



To achieve waterfront and skyline views, Goody, Clancy replaced Columbia Point's 1953 towers-in-the-park layout (top and site plan, above center) with a canted grid (above). Harbor Point's streetscape of two-, three- and seven-story buildings (facing page) is structured around an 1,000- by 119-foot formal mall inspired by Boston's Commonwealth Avenue (facing page, inset).

THOUGH IT NEVER SANK SO LOW, COLUMBIA Point endured many of the same horrors as Pruitt-Igoe, the notorious, crime-ridden housing project in St. Louis that was completed in 1955 and demolished in 1972. Crime and resignation continually drove people from the Boston harbor peninsula, leaving by 1985 but 350 tenant families to fend for themselves in the 48-acre, 1,502-unit complex of boarded-up buildings. Instead of deserting Columbia Point, however, the tenants wound up participating in a \$210 million overhaul by a local developer who, aided by state and federal loans, transformed the housing project from a nexus of despair to a growing mixed-income community.

The job of forging a new master plan for the housing project went to Boston's Goody, Clancy and Associates, a firm whose 271 mixed-income units next to Copley Place, Tent City, provides a model for this new housing type.

To Joan E. Goody, AIA, the buildings of Columbia Point seemed scattered on their site. "Diabolically, you could never see the water's edge," she says. Otherwise, this isolated place seemed unpromising: 27 flat-top buildings hewn from the same dull brick, varying from three to seven stories, lacking shopping or transit. Moreover, the program for the redevelopment presented a jumble of contradictions—safe, decent housing for the poor, to be located next to amenity-loaded market housing designed to lure young professionals from the suburbs. But Goody saw a chance to apply precepts of neo-traditional planning in a new way. "I am an admirer of both Seaside and Battery Park City," she says, "but they are exclusively upper-income enclaves on unsullied sites."

Revamped and renamed Harbor Point, the project is expected to house 3,500 people in 900 market-rate apartments (rents up to \$1,600 monthly) and 400 low-income units, whose tenants pay no more than three-tenths of their income for rent. The units range from two-bedroom townhouses to six-bedroom apartments. Most have a water view, sometimes at the expense of double-exposures or cross-ventilation of the original buildings. In Goody's view, the water is Harbor Point's million-dollar attraction.

The Goody, Clancy plan called for tearing down 18 structures, renovating nine, and erecting 46 new buildings. The firm's scheme introduces a right-angle street grid canted at 45 degrees to allow vistas to the water—and to a new waterfront park designed by landscape architect Carol Johnson. The waterfront itself features a public symbol, a large exercise club/pool house open to all residents. Fronted by a pergola and covered with siding stained in shades of green, beige, and red, the low-slung, 12,075-square-foot structure recalls both Prairie and Shingle styles. It also contains exercise rooms and a dance floor that hosts aerobics classes and parties. Emanating from the waterfront park is a tree-lined esplanade,



also designed by Johnson, scaled closely to Boston's Commonwealth Avenue and featuring tennis courts and lawns.

This mall is bordered by new seven-story brick buildings with alternating round and pitched gables. Less formal streets are lined by buildings in several scales and textures: clapboarded townhouses, mid-rise, brick-clad garden apartments, and renovated towers. A vital purpose of Harbor Point's gridded texture is to enhance security. Most residents will have to park on the street or in small lots integrated into the complex. "The grid puts eyes on the street, because people use the street instead of cutting straight from their car to their house," says Goody.

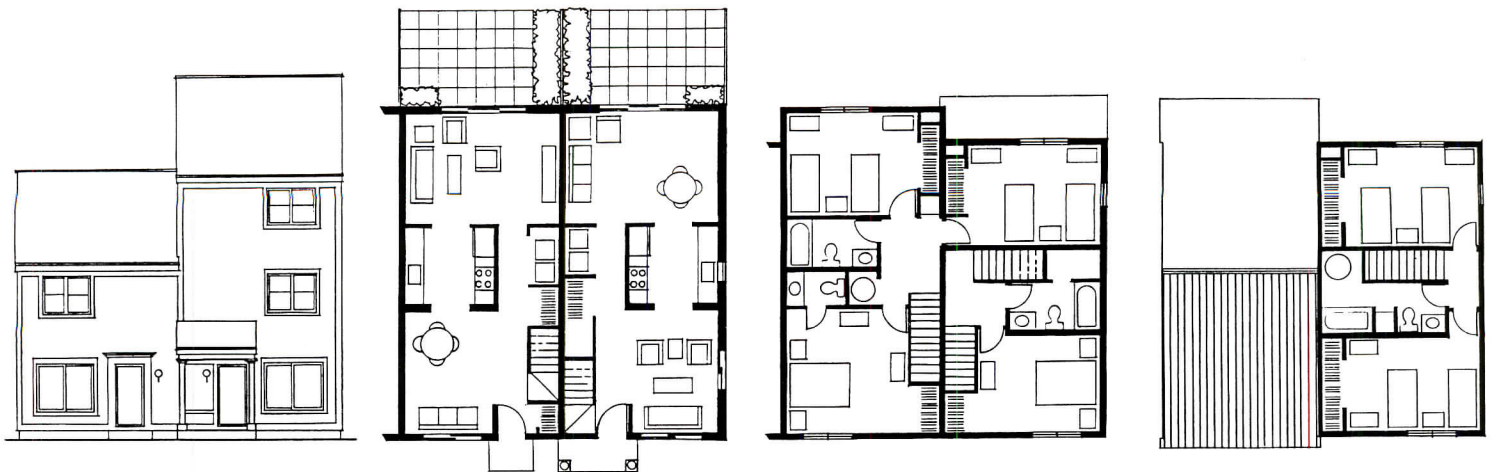
After consulting with the tenant community, the architects righted some standard public-housing wrongs. For example, the first floors of mid-rise buildings are now reserved for family apartments. Each ground-floor unit now has a front and back door, avoiding the sort of single-elevator mayhem that can ensue in a building crowded with children. The extra doors also make for more varied facades than possible in single-entrance buildings.

Columbia Point's monoculture of yellow brick and its public-housing pallor has been banished. New rows of townhouses are faced with either clapboard or a robust red brick. According to designs by Mintz Associates Architects/Planners, facades of the original structures were stained to match the new brick buildings. Each has garden space and a patio in the back. Waterfront townhouses feature white picket fences. A colonnade and a courtyard meld a pair of mid-rises into one senior housing block.

Architectural details are kept simple, yet designed to include an array of dormers, bay windows, pitched roofs, and balconies to evoke every New England housing type save the triple-decker. "Whenever there was an extra penny," says Goody, "we wanted to create the subtle variety and texture that you associate with a neighborhood grown up



Brick gables in background (above) line the mall. Adding rhythm to the streets, Goody, Clancy & Associates staggered two- and three-story townhouses (below and drawings, bottom).



FRONT ELEVATION

FIRST FLOOR

SECOND FLOOR

THIRD FLOOR



Vest-pocket parking is placed between buildings to encourage “eyes on the street” as residents walk to apartments (above). New gabled lobby by Mintz Associates (left) fuses two renovated highrises into one senior building. Apartments bordering mall feature one-, two-, and three-bedroom units (plans bottom).

**HARBOR POINT
BOSTON, MASSACHUSETTS**

CLIENT: A limited partnership of the Harbor Point Community Task Force Corporation and Peninsula Partners

ARCHITECTS: Goody, Clancy & Associates, Inc., Boston, Massachusetts—Joan E. Goody (principal-in-charge); Roger N. Goldstein, Jean H. Lawrence, Leigh H. Smith (associates); Walter C. Aurell, Bernard J. Dooley, James S. Norris, Victor F. Ortale, William B. Powell (design team); Mintz Associates Architects/Planners, Inc., Boston—Samuel E. Mintz (principal); Ron Thomas (associate)
LANDSCAPE ARCHITECT: Carol R. Johnson & Associates, Inc.

ENGINEERS: David M. Berg, Inc. (structural); C.A. Crowley Engineering, Inc. (mechanical); Verne G. Norman Associates, Inc. (electrical); Geotechnical Consultants of Massachusetts, Inc. (geotechnical); H.W. Moore Associates, Inc. (civil)

CONTRACTOR: Vernon Construction Company
PROJECT COST: \$210 million/\$121 per square foot
PHOTOGRAPHERS: Anton Grassl, except as noted

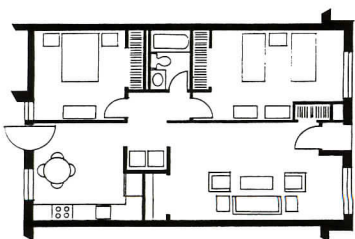
over time.” Goody, Clancy followed a smart path of historicism, never replicating, but suggesting elements of towns and city neighborhoods alike.

But architecture cannot solve all social problems or stir the melting pot. Some critics maintain that the 1.7-million-square-foot project, with only 3,100 square feet of commercial space, will still function like a housing project, severed from the city’s vitality. And some of the single, affluent new residents have complained about noisy neigh-

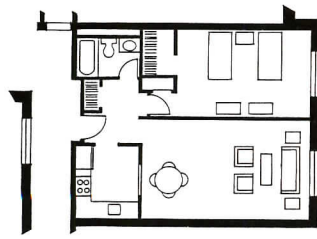
borhood children, who, they claim, tend to be from poor families. The developer is underwriting a shuttle bus, a private security force, and monthly social events in the hope of smoothing over these rough edges.

Will Harbor Point work? Perhaps due to a sluggish real estate market, it remains about 40 percent vacant. And it lacks the dash and variety of its model: It’s no Back Bay. But it’s a far cry from Columbia Point. And that is no small accomplishment. ■

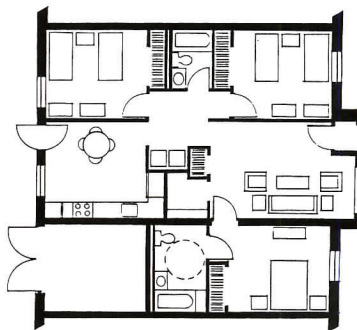
—MICHAEL LECCESE



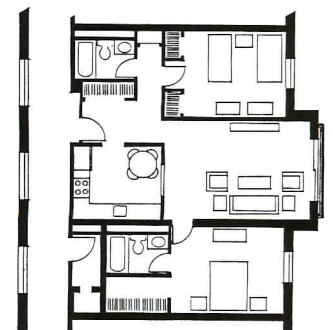
GROUND FLOOR



UPPER FLOOR



GROUND FLOOR



UPPER FLOOR

COUNTRY LIVING

A Mississippi architect designs dignified dwellings for the rural poor.

"YUPPIES ARE ALWAYS GOING TO FIND A DAMN HOUSE; I LOVE WORKING FOR POOR people," declares Billy Wenzel, AIA. Creating affordable housing is Wenzel's personal commitment and professional concentration as sole proprietor of William Wenzel & Associates, a 10-person architectural practice located in one of the nation's poorest counties, Tunica County, Mississippi. The architect's achievements have exceeded his expectations, broadening beyond Mississippi's boundaries to produce over 30 multi-family developments, low-income houses, and rental units in 22 states.

The path that has led Wenzel beyond providing merely acceptable housing to arresting architecture begins with his return home. The Pratt Institute-trained architect chose to leave a large Memphis firm in 1979 to purchase a practice in small-town Tunica, Mississippi, hoping to build large buildings across the state. But the Mississippi Delta economy had declined during the last decade. Thousands of farmers were driven off the land, creating a hidden underclass subsisting in marginal housing, including the infamous "Sugar Ditch," a group of roach-infested shacks that gained national notoriety when the Reverend Jesse Jackson visited Tunica in 1986. Overwhelmed by his community's poverty, Wenzel began to seek federal dollars wherever he could find them. Early efforts with a downtown revitalization plan proved crucial, helping to pinpoint the few remaining federal funding opportunities which evolved into five projects and 10 years' work on Sugar Ditch. "My whole value system changed over the last decade," the architect asserts.

While many architects shy away from government-sponsored housing, Wenzel embraces federal subsidies for his clientele, who he maintains are, "...people that have been ignored since FDR and the

New Deal." He particularly seeks projects underwritten by the Farmers Home Administration. When the Reagan administration called for "cost containment" measures for federally-assisted housing programs, the FmHA began holding design competitions to obtain fresh approaches to less expensive housing. Wenzel entered and won the first FmHA state design competition, sponsored in 1986 by neighboring Arkansas.

What the Arkansas FmHA sought, with the active encouragement of State Director Robert Hawkins and State Architect Doug Rie, was innovative affordable housing for families earning low to moderate incomes of \$12,000 or less, to be built as demonstration projects throughout the state. The architect responded by designing 24 prototypical, single-family houses, each of which could be built and bought for less than \$40,000. Average targeted square-foot costs ranged from \$34 to \$60 for 738- to 1,008-square-foot units.

Rather than condemn affordable housing to the slums, the Arkansas FmHA challenged private developers to search for the "best site in town," encouraging the design teams to identify and blend their projects with community character. Small towns, which can be notoriously suspicious of federal interference, welcomed the Wenzel developments as civic architecture. Although the architect does not "gold plate" his FmHA projects, "the communities want them to be beautiful," he says.

HOUSING AMERICA



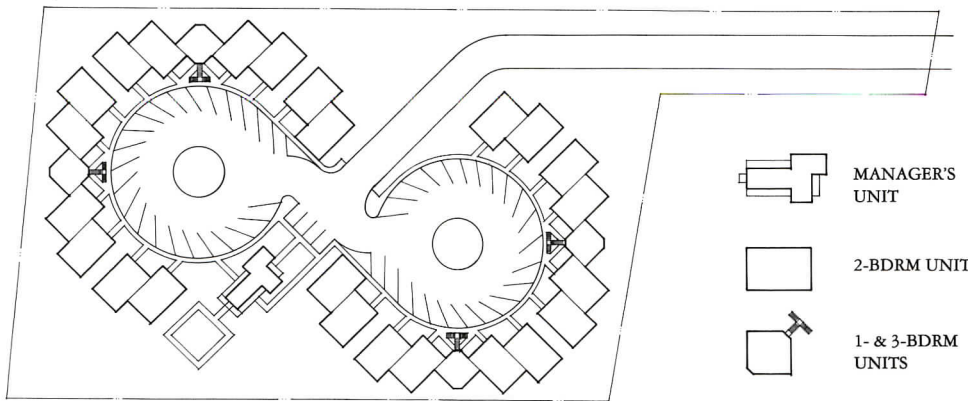


**Lakeview Estates
Lakeview, Arkansas
Wenzel & Associates**

Lakeview Estates is a 33-unit FmHA development located next to a state highway near a cypress slough in Lakeview, Arkansas (population about 1,000 persons). Wenzel responded to the flat site adjacent to a soybean field by providing three-story towers and cupolas to define a vertical presence (bottom). Individual units are arranged within two building configurations (site plan key) and staggered to form twin circular, protected public spaces. The development comprises 24 two-bedroom units, 4 one-bedroom units, 4 three-bedroom units, and a manager's apartment. Paired units are connected by storage rooms.

The manager's residence (left and center in site plan), containing office, living quarters, and laundry, is placed on axis in the composition, designed as a two-story, traditional conceived building with shutters, cupola, and flagpole near the front door. Since Lakeview's primary occupants are young families, a tot lot was built behind the laundry room, which is located on ground level in full view of parents washing their clothes.

The buildings' materials included brick siding to minimize children's wear and tear. Red roofs of shingles stand out against the bright blue Delta sky. Aluminum columns, round attic vents, and shaded vinyl siding are stock items, available from local building supply houses. All ground level units sport porches on both sides to block the strong sun. Three-story buildings concentrate most of the circulation within the interiors rather than stringing stairs along the exterior.



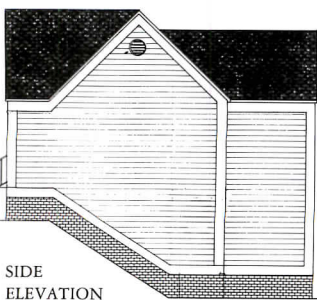


**Prototype FmHA Housing
Arkansas
Wenzel & Associates**

In 1986, Wenzel & Associates entered and won an FmHA design competition to develop 24 affordable one-, two-, three-, and four-bedroom single-family house types in locations across Arkansas. Sites for the prototypes are scattered in more than 30 towns averaging 2,000 persons, including Rison, Forrest City, and Dumas. Units are typically constructed on small lots in existing neighborhoods, such as those in Arkadelphia, Arkansas (above), to revitalize older, established housing areas and reduce land costs for new construction.

Design guidelines set by FmHA included responding to the character of the given community, which frequently included modest bungalows with gables (left), horizontal siding, and porches. Clad in brick or vinyl siding, the houses reflect the clients' expectations and traditional values. Plans (bottom left) were configured with living/dining, kitchen, bed, and bathrooms with simple support spaces arranged in efficient, space-saving layouts.

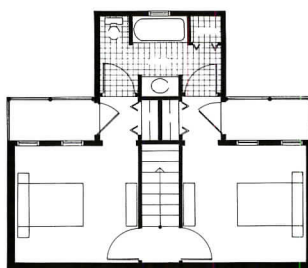
Sizes of individual houses vary from 738 square feet to 1,008 square feet, with construction costs targeted in the \$34 to \$41 per square foot range and a top selling price of \$39,000. The income ceiling of potential purchasers is \$12,000 or less.



SIDE ELEVATION



LOWER LEVEL



UPPER LEVEL

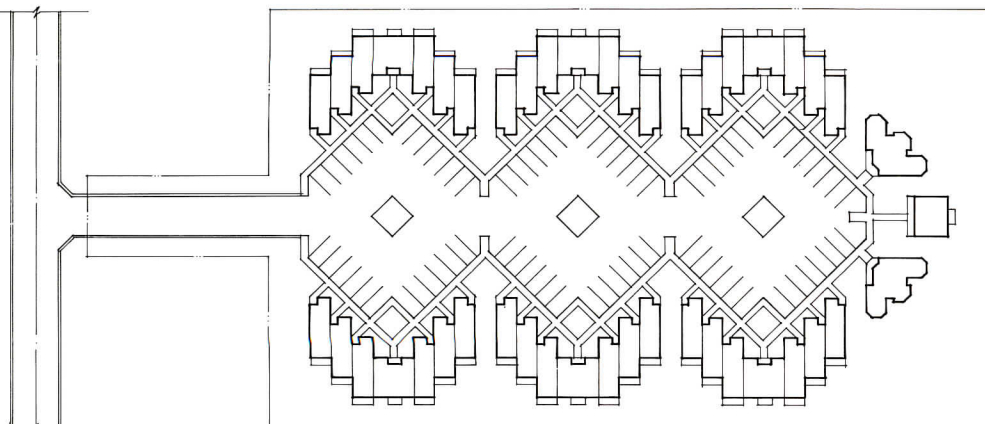
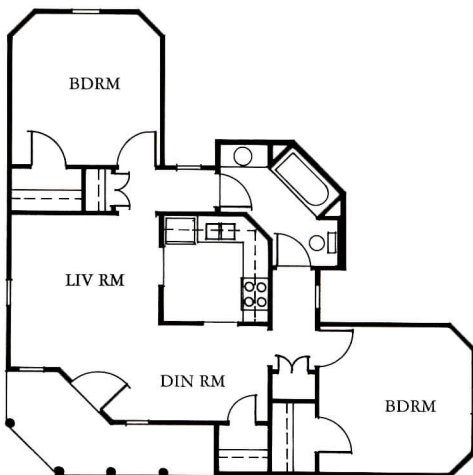


**Keystone Apartments
Mountain Home, Arkansas
Wenzel & Associates**

Visitors often confuse the Keystone Apartments at Mountain Home, Arkansas, (above) with luxury housing. In reality, however, the development serves the same low-income criteria as other FmHA-sponsored housing.

Both the developer and the architect recognized a need for inexpensive housing for young families and singles in the growing Ozark community, and agreed upon a prime site adjacent to an elementary school and a health club. The purchase of the more expensive property forced a tighter design solution to save costs, sending the townhouses up two stories rather than the architect's preferred single-story, garden apartment variety.

Wenzel superimposed a diagonal grid onto the circulation pattern, bordering the parking plazas with staggered units to preserve the extensive trees on the site's periphery (site plan, below). Unlike the typical FmHA blend of one-, two-, and three-bedroom units, the Keystone projects consist entirely of 36 two-bedroom and six three-bedroom, two-story townhouses. All circulation in the two-story houses is internalized within each unit (plan right); spaces abut to avoid corridors. Wenzel uses CADD to produce plans, following a strict four-foot module in all planning.



The tone of Wenzel's housing projects is set by the site. Potential placement varies from pecan groves to urban streets, usually in older, established neighborhoods. The compact units are planned so that they are combined geometrically in interlocking patterns that respond to individual sites—from rear or front sloping lots to narrow, flat plots—near schools for younger clientele or near shopping or churches for older citizens.

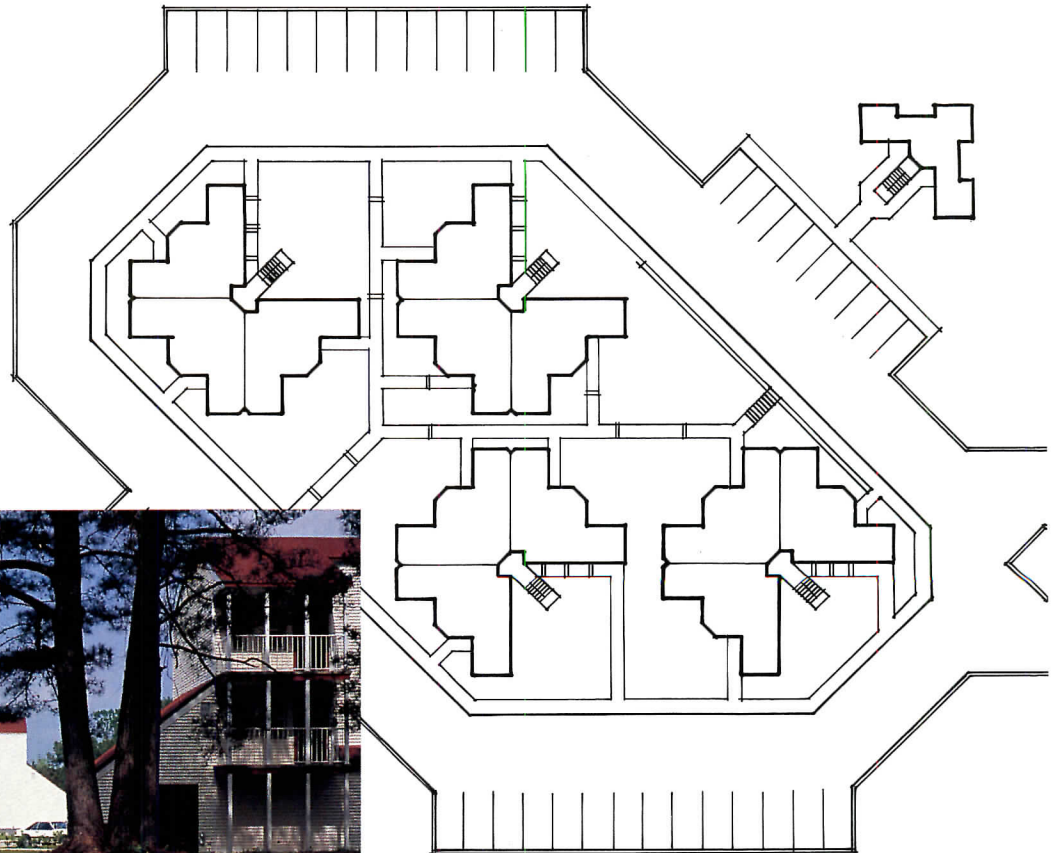
The architect succeeds in creating personalized villages within larger towns, frequently arranging individual units around a central administrative building, or outward to surrounding trees or play areas. While a town's surrounding imagery and the site's topography help determine Wenzel's design direction, the architect has increasingly experimented with massing to create strong, identifiable groupings of units.

For DeQueen Villas in DeQueen, Arkansas, a 37-unit FmHA development near the Oklahoma border, the architect developed a fresh response to local building traditions by creating dignified architecture tied to rural American prototypes. Porches on both front and rear elevations provide shady places to sit, while two-story volumes cascade down the site from cupolas to gabled ends. Angular geometry brings personality to buildings usually confined to the orthogonal grid. The scale of each building is legible and approachable, based on a rigid four-foot module that governs both siting and interiors. Individual units have been honed to the minimum; hallways are almost nonexistent. Daylight expands tightly arranged spaces, introduced through glazed entry doors, a liberty Wenzel seized from guidelines that mention only allowable square feet of glazing, not its placement.

Wenzel also considers total energy costs: FmHA sets creative budgetary guidelines for its projects that consider life-cycle cost. For an FmHA project in Lambert, Mississippi, the architect installed an earth-coupled, water-source heat pump and received the Governor's award from the Mississippi Department of Energy.

Wenzel's desire to push the limits of federal guidelines for his clients has resulted in professional recognition beyond Arkansas and Mississippi. In addition to regular AIA Gulf States Region and chapter honors, Wenzel recently won a 1990 design award from the National Association of Home Builders. The award recognized a pervasive conviction in the work of the 45-year-old architect who insists that he is not a philosopher. As Wenzel maintains: "We had better get down to some basics." The basics he refers to are not only the refinements of design, but a deeper understanding of society's needs for dignified, human-scale housing. ■

—ROBERT A. IVY



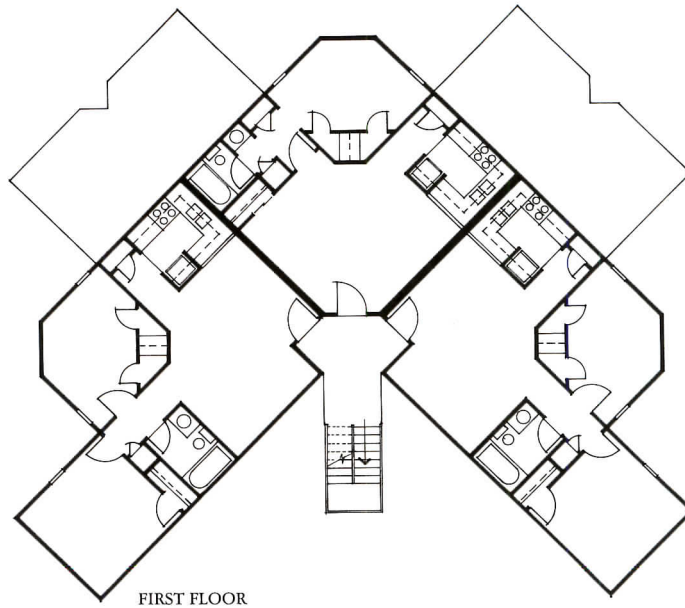
DeQueen Villas
DeQueen, Arkansas
Wenzel & Associates

Where Arkansas and Oklahoma meet, the land slopes and steep lots are the norm. For DeQueen Villas, a 37-unit FmHA development near a Native American reservation in southwest Arkansas, Wenzel concentrated all of the residential units, except the manager's house located at the center of the property, in four clusters (facing page, site plan, and bottom photo), creating a unique residential village.

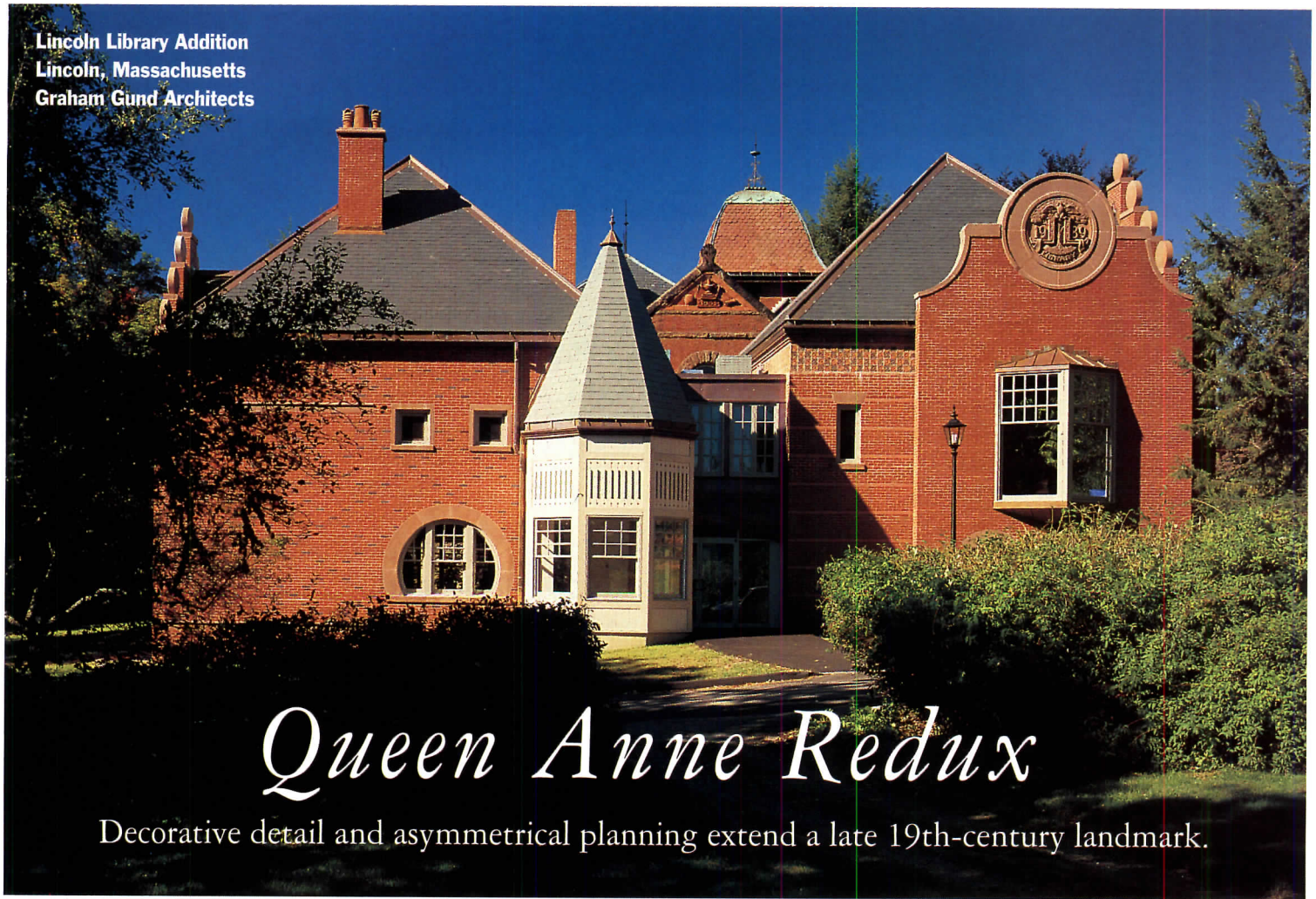
Each residential cluster steps down the site, responding to the topography. Floor by floor the buildings grow into large-scale compositions of dignity and strength (facing page). Parking, staggered around the former cow pasture in a 12-foot grid, surrounds the individual components. The resulting aggregate forms stand tall and spare, recalling prototypical American farm buildings such as barns (right). Cupolas, gables, shutters, and variegated rooflines of the units (facing page, top) hint at the Queen Anne architecture of nearby DeQueen neighborhoods.

Even though the housing exudes strong imagery, it also meets standard FmHA guidelines, conforming to a three-story height limit: the buildings never exceed two stories (plus a mezzanine above grade) by accommodating the steep terrain. All standard FmHA requirements, such as two handicapped units at grade, are met. While unit density at DeQueen exceeds Wenzel's norm, most of the architect's projects limit density to 12 units per acre, which is possible in the rural communities where he builds. He and developers will accept higher land costs to obtain "the best site available," making up the differences in compact unit arrangements. Wenzel admits that construction costs of the clustered arrangements at DeQueen were higher than typical ground-level building, but site costs for the smaller lot required (less than two acres) brought the project into the \$1.1 million budget at \$40.57 per square foot, at an average unit cost of \$29,730.

Aimed at a variety of age groups—seniors as well as the young—the housing includes a blend of unit types: eight one-bedroom units of 550 square feet each; 17 two-bedroom units of 725 square feet each; and 12 two-bedroom townhouses of 828 square feet (plan above right). Units typically form an "L," with living and sleeping space in opposite wings (plan, right, and bottom photo). Included in FmHA's economic formula that determines life-cycle versus first costs are water source heat pumps, employed to reduce total utility bills to \$35 or \$40 per month or less.



Lincoln Library Addition
 Lincoln, Massachusetts
 Graham Gund Architects



Queen Anne Redux

Decorative detail and asymmetrical planning extend a late 19th-century landmark.

AT THE CENTER OF LINCOLN, MASSACHUSETTS, sits a precious, Queen Anne-style library built in 1883, its brick walls crawling with terra-cotta and brownstone ornament. Inside, ample reading rooms with carved woodwork and fireplaces big enough to walk into balance against nooks and crannies—private enclaves in which to curl up with a book beside a window. New England small towns are filled with such libraries, places where young people can lose themselves in fantastic adventures, far off lands, historic moments, and never leave home.

LIBRARIES

The architect of the Lincoln Library's new addition managed to capture such capricious spirit. Graham Gund designed a building that refers to its elder neighbors, in its bulbous envelope, turrets, decorative brickwork, and expressive fenestration. But Gund, more importantly, skillfully manipulated these devices to fabricate a magical place—especially for the young reader. The Lincoln Library addition is a building unlike any other that a child is likely to visit, transporting the imagination and piquing curiosity. "A community library offers a way for chil-

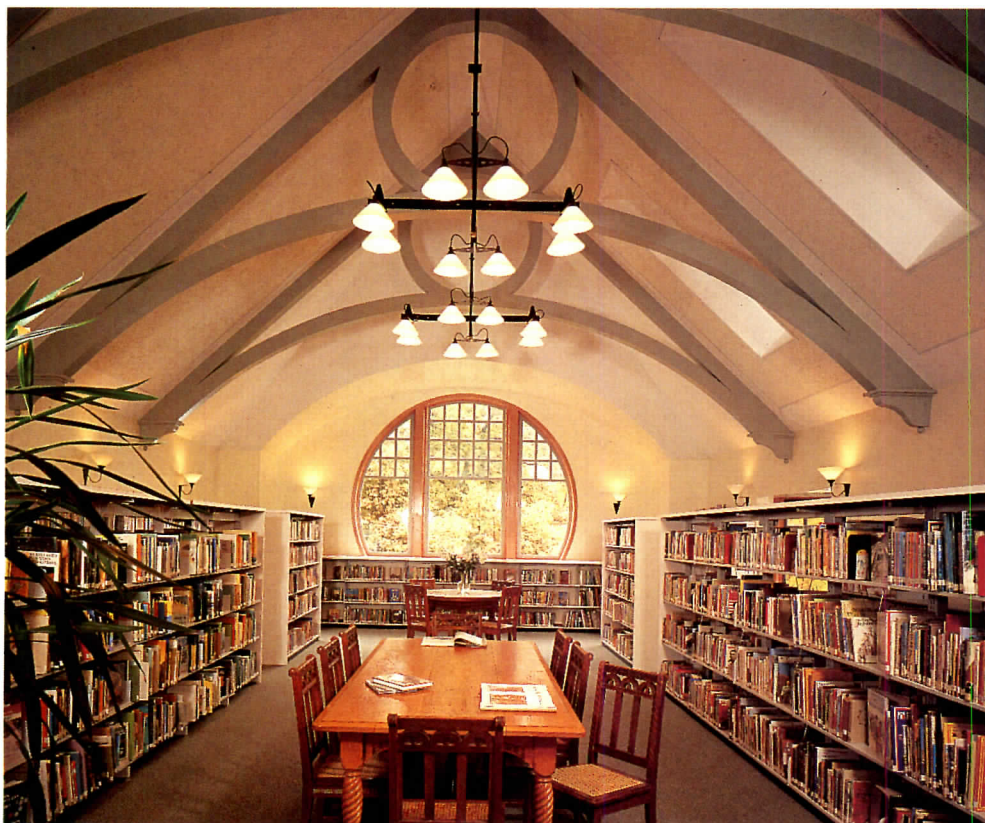
dren to explore what books are all about," says Gund. "I thought that the image of the building should have the character of a real adventure."

Architectural justice was served in razing a bland, flat-roofed, split-level extension built in the 1950s to make way for the new addition. At 12,600 square feet, the Gund addition matches the old library in size, and the architect was concerned about the new overwhelming the old. So he broke down the massing into separate wings, one north and one south, connected by a metal and glass link. This connection extends through the addition as circulation space, and projects to the old building in the form of a bridge, rendered in metal with a wooden sash, that spans a glazed void on the ground level. It's a very sensitive way to connect new to old, and allows each element to stand on its own.



Lincoln Library's addition is at home with the architecture of the original late 19th-century building (left). Wooden turrets containing small reading rooms include one near the front entrance (above) and another attached to the children's library. The south wing's gabled "bookend" (facing page) is punctuated by a horseshoe window and decorative medallions.





The addition's wings are square in shape, topped by hipped roofs and framed by a pair of tall end walls with stepped gables, which appear as massive bookends to the resulting accretionary composition.

One could spend days discovering the twists and turns of decorative masonry in the new addition. The south wing features a diaper pattern of glazed bricks on a red background, for example, while the north wing is layered with nine courses of red brick in common bond and a single course of pink brick. Beneath the cornice of the north wing, a frieze of terra-cotta tile in light and dark shades creates a checkerboard pattern. A cast stone medallion near the entrance heralds the building's date of construction, while on the "bookends" of the north and south wings, more brownstone medallions march up the gables. For all of this rich variety in texture and detailing, none of the new details was copied from the old, yet all perfectly match the building's Queen Anne spirit.

The addition's only fault is its coy entrance located on the east side of the building. It is upstaged by an octagonal turret that thrusts out toward the walkway, and thus casts the entry in shadow for most of the day. Once inside, however, warm, friendly spaces encourage community interaction—a crucial element of the old library that Gund replicated in his addition. Both the check-out desk and the reference library are situated near the entrance, and thus convenient to adults in a hurry to check a fact or track down information. This strategic location of activities near the entrance and expanded services help to establish the library as a community hub.

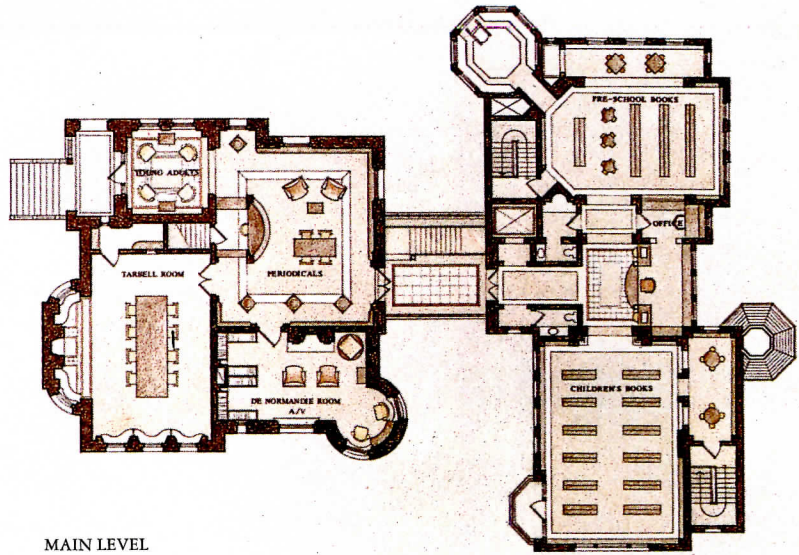
The addition's circulation spine leads from the check-out desk to the bridge connecting old to new. Former stack space on the library's ground level was transformed into gallery space, which is booked for exhibits well into the future, according to the librarian.

The second level of the new addition is entirely dedicated to a children's collection. Two reading rooms with vaulted ceilings, decorative trusswork, bay windows, and window seating are a delight, and an octagonal story-telling room with its tall windows especially appeals to younger readers. The librarian's only lament is that there is not enough built-in seating to accommodate the large numbers of children who frequent the stacks.

Gund is aware that some may find his library addition a bit too eccentric. "It may seem a little strange at first," says the architect, "but after you live with it a while, it takes on a certain character that you never get tired of. There's a lot to explore." ■

—MICHAEL J. CROSBIE

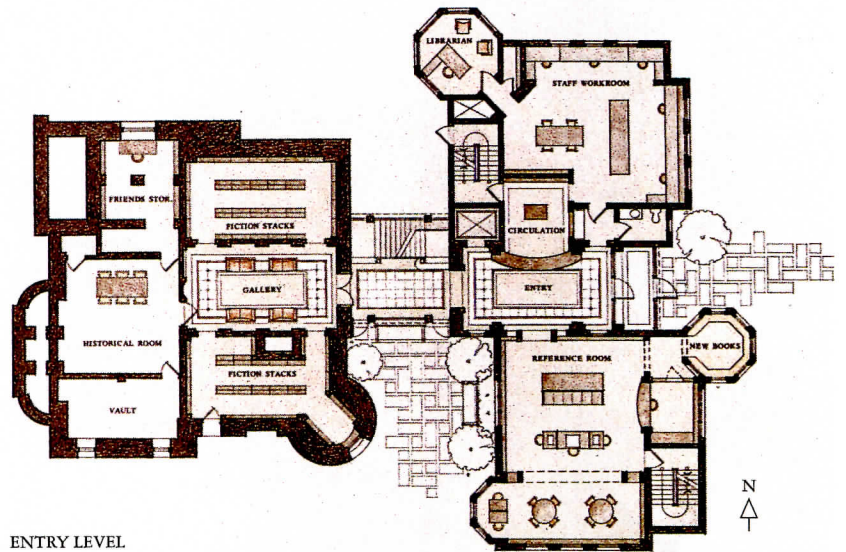
The library's most magical spaces are found in the children's library and reading room. The south wing of children's library (facing page, top) is crowned with decorative trusses, ornate chandeliers and wall sconces, and skylights to the west. Pre-school library (facing page, bottom) is distinguished by ceiling brackets tracing the profile of the exterior wall, colored moldings, and corner bay window which offers views of the entrance. A vinyl tile floor and sink on the west end accommodate children's play activities, and a glazed office between the two reading rooms houses the librarian. Plans (right) illustrate delicate connections and similarities in asymmetrical compositions between old and new. Section (below) reveals glazed link between buildings devoted to circulation, with additional book storage in the basement.



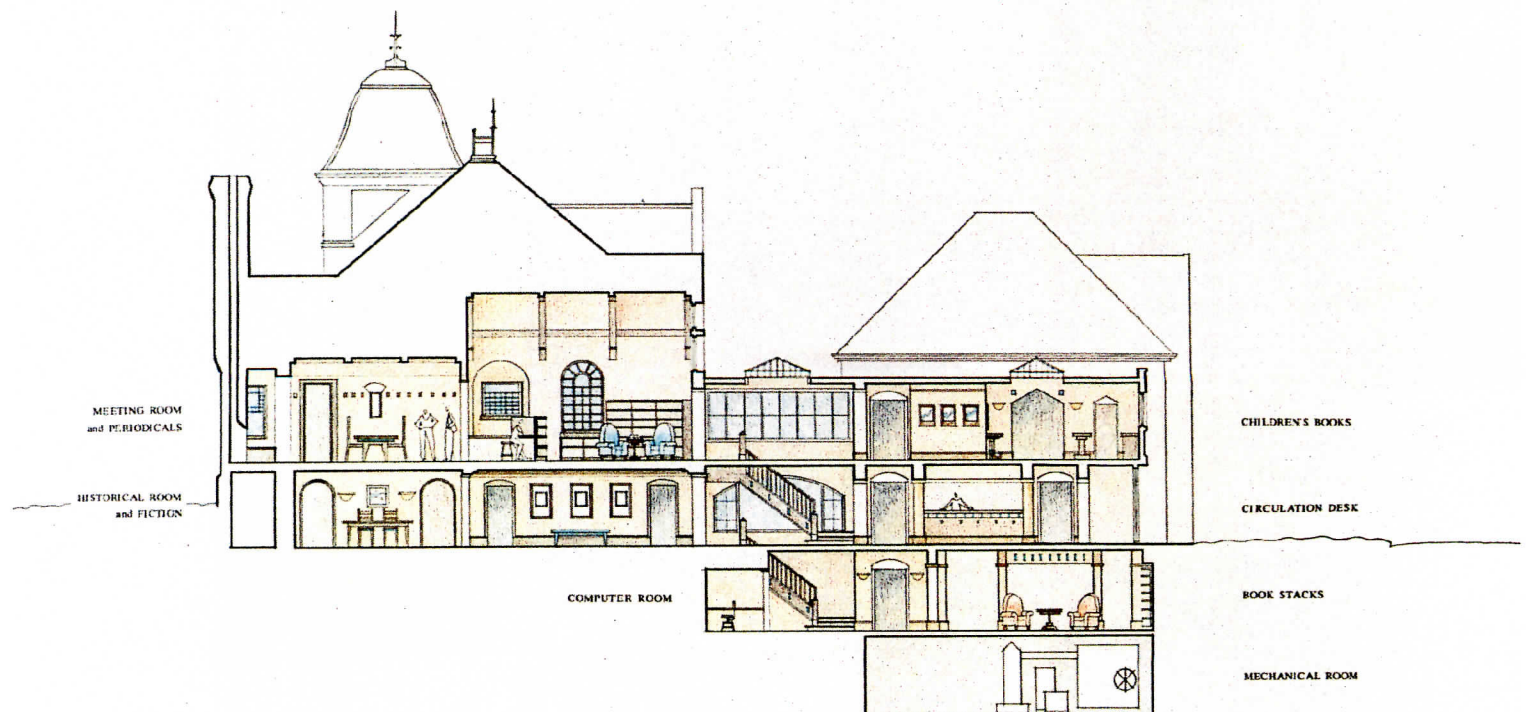
MAIN LEVEL

LINCOLN LIBRARY
LINCOLN, MASSACHUSETTS

ARCHITECT: Graham Gund Architects, Cambridge, Massachusetts—Graham Gund (principal-in-charge); James Cullion (project architect); Robert Arthur, Kathy Cochrane, Judy Mulhern, Dee McKee, Diane Kasprovicz (project team)
ENGINEERS: LeMessurier Consultants (structural); Zade Company (mechanical and electrical)
CONTRACTOR: P&H General Contractors
PHOTOGRAPHER: Steve Rosenthal



ENTRY LEVEL



WEST-EAST SECTION

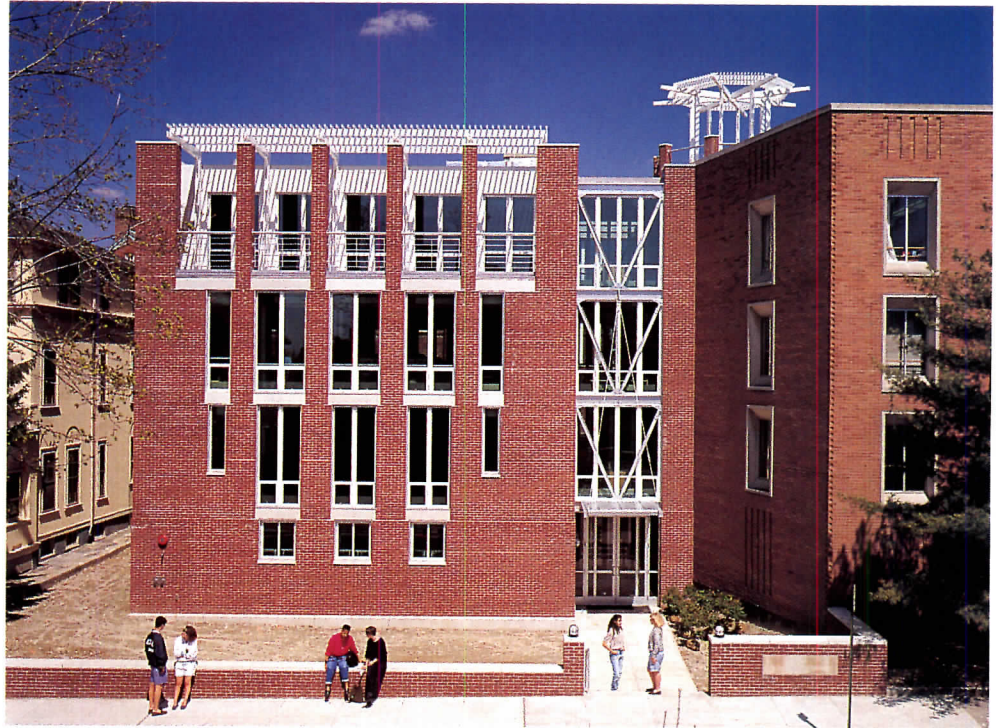
Campus Beacon

A tower establishes a sun-filled gateway to a private school.

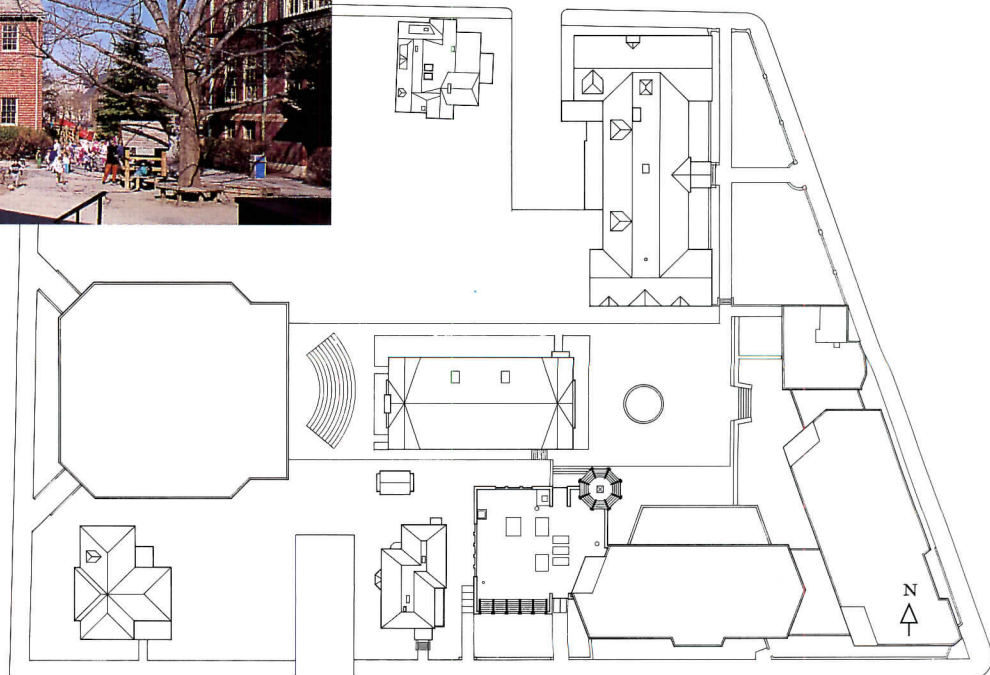
LIBRARIES

THE WHEELER SCHOOL, FOUNDED IN 1889 as a women's art school, has grown to a private, coeducational institution whose 600 students—ranging from kindergartners to high school seniors—share a tight, urban campus just east of Brown University in Providence, Rhode Island. Housed in buildings of different styles, yet each commonly constructed of brick, the school surrounds a small, centrally located courtyard bustling with student activity.

This courtyard now boasts a new landmark that better defines its public space with a strong image that can be seen from blocks around. Designed by Schwartz/Silver Architects of Boston, the new 15,000-square-foot library consolidates the school's collection of books, previously scattered throughout the campus, and serves as the focal point of academic life. Its pivotal location and lively profile are in large measure the



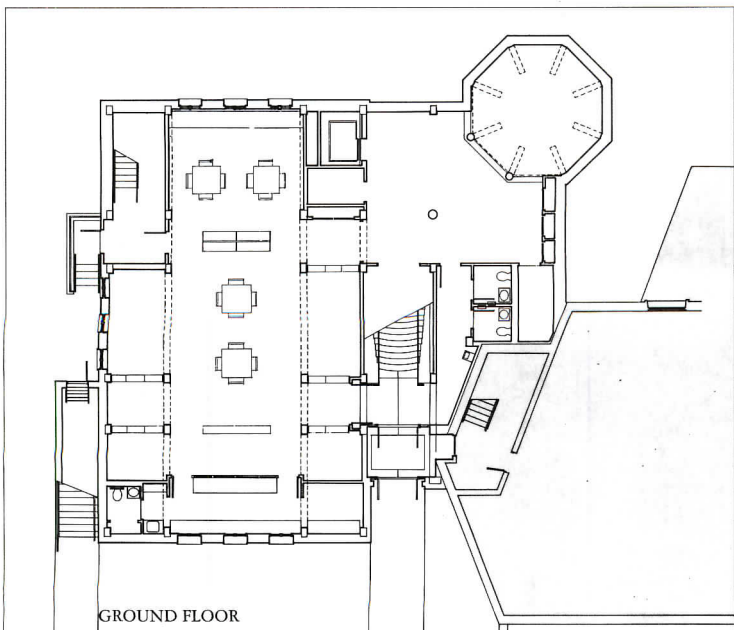
The new library engages an existing classroom building to the east (bottom center in site plan), but is visually separated from it by a glazed slot (above). Its tower (facing page) is the star in the cast of brick buildings enclosing a central courtyard (left). Both the library's tower and south elevation are topped by wooden pergolas (above).



reasons for its success as the school's new standard bearer.

In designing the commission, the architects considered several sites, including a small, vacant slot next to the school's gated entry, and beneath the courtyard in the form of an underground library. The site chosen, between an existing classroom building and a privately-owned house, was formerly a hole in the courtyard's fabric that opened the campus to views of a busy street and presented a distraction from the serenity of the courtyard. By plugging the hole with the library, Schwartz/Silver greatly improved





the courtyard's sense of enclosure. The octagonal tower, crowned with a white-painted redwood trellis that is noticed from the campus entrance to the courtyard, commands attention by establishing its immediate presence.

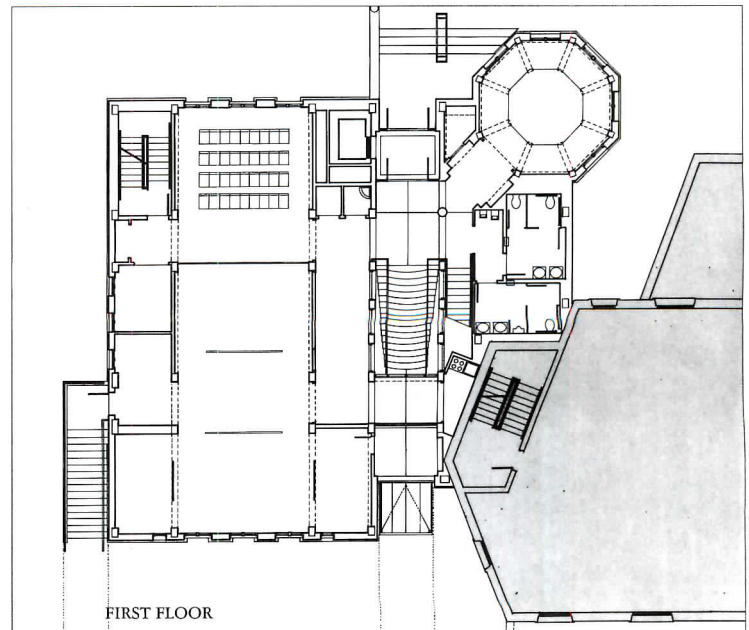
The previously unoccupied site, however, had served as an entry and exit point for students dropped off by car in the morning or picked up in the afternoon, and the sensitive design of the new building preserves that ritual. On the building's street side to the south, a low wall provides a place where students can congregate while they wait for rides. A canopied entrance provides shelter even when the building is closed, and not only attracts students to the library but serves as a bridge between the street and the courtyard, delivering students directly to the heart of the campus.

The building's exterior is sympathetic to its neighbors without being deferential to the stylistic specifics of its surroundings. Brick immediately makes the newcomer feel at home, but its treatment as a thin layer, particularly on the south facade (which reappears as a wrapper around the tower), is unlike the punched window facades of the older buildings. Other departures from the school's context include glazed slots that run the height of the building, exhibiting steel struts and a canopy suspended with pulleys and turnbuckles (a delicate assembly unfortunately cheapened by a coat of silver paint). Pergolas crown the south elevation and the tower, beckoning students to climb to the top of the building and celebrating the library's pinnacle.

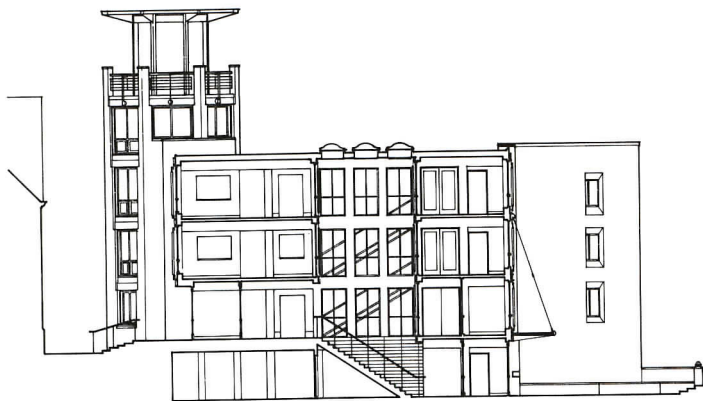
In size, the library is a fairly modest building, but the atrium at the building's perceived center is a marvelous surprise. Filled with sunlight, it focuses on a grand staircase that functions as a bridge between the street and the courtyard, which are separated by a full-story change in grade. The ground level is devoted to spaces used by grade-schoolers—their own library—and a circular reading room which occupies the tower's base.

At courtyard level, the second floor acts as a buffer between the grade-school facilities and the upperclassmen's libraries, and contains general purpose spaces such as a small, unpartitioned gallery, a classroom, and a conference room. The third and fourth levels are devoted to reading rooms, stack space, and administrative offices, and are accessible by a stair that wraps around the glazed atrium which orients the visitor throughout the building. Within the octagon itself are smaller reading rooms with a conference room on the first floor. On the topmost floor is a spectacular, double-height space that offers expansive panoramas of the campus and the solitude of an ivory tower. ■

—MICHAEL J. CROSBIE

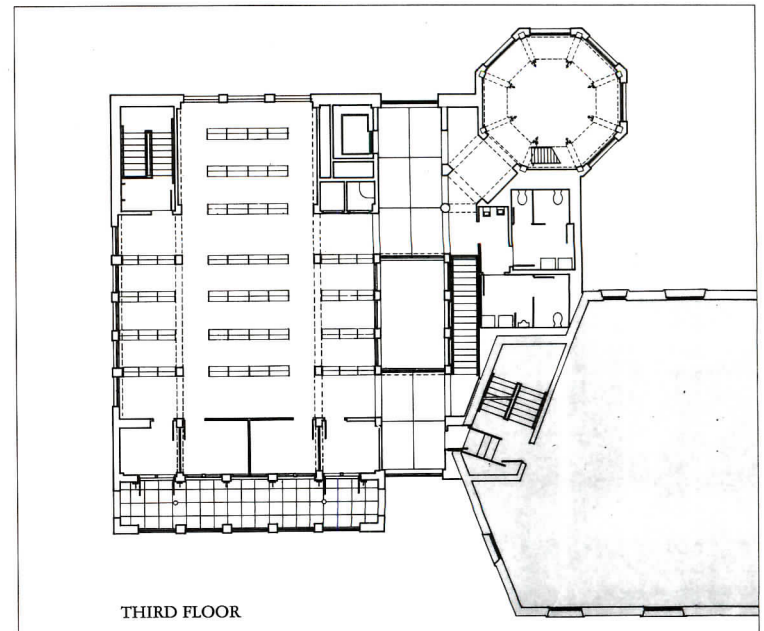
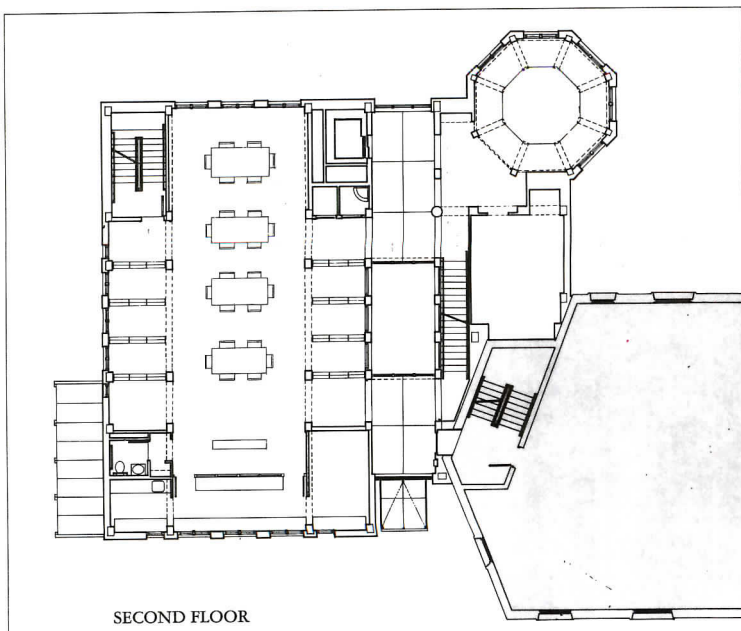
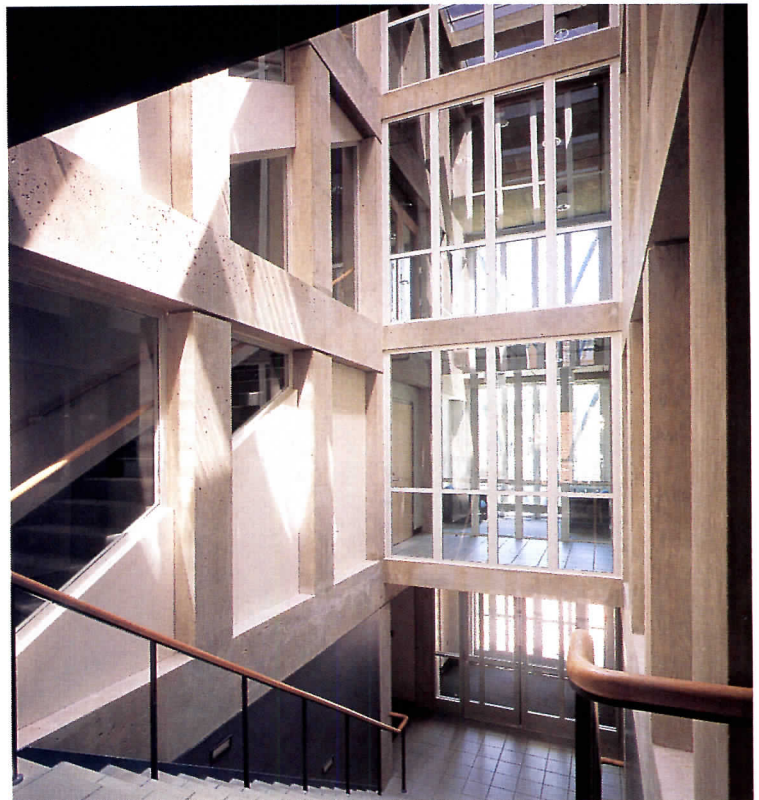


The library interior makes the most out of views and sunlight, captured by generous windows and a central atrium staircase (below right), best understood in section (below) as it negotiates a grade change between the school's upper and lower campus. Reading rooms in the tower's third and fourth levels (facing page, top and bottom) provide vantage points above the courtyard and an oasis for study. The fourth level reading room (facing page, bottom) has a skylight that allows a view of the redwood trellis on the tower roof. Despite the building's substantial depth north to south, the interior is filled with sunlight gained through the atrium, which is wrapped by vertical circulation to the upper two levels, and acts as an orientation device (right, top and bottom). Although grade-school and upperclass libraries are separated by a "buffer" level of multi-purpose meeting rooms (facing page, right plan), students are encouraged by open staircases to explore other areas. Administration and staff are located adjacent to the atrium or on the building's south side. The library's exposed concrete structure is left unpainted inside as a cost-saving and maintenance-free measure. The coffered concrete ceiling is underpinned by light fixtures hung below the ribs (top right).



WHEELER SCHOOL LIBRARY
PROVIDENCE, RHODE ISLAND

ARCHITECTS: Schwartz/Silver Architects, Boston, Massachusetts—
Robert H. Silver (principal-in-charge); James H. McQueen (project architect);
T. Kelly Wilson, Albert Ho, Christopher Downey (design team)
ENGINEERS: Simpson, Gumpertz & Heger (structural); R.G. Vanderweil
Engineers (mechanical and electrical); Todd Anderson (civil)
CONTRACTOR: Frank N. Gustafson & Sons
PHOTOGRAPHER: Jeff Goldberg/ESTO





Latest Edition

A library expansion contributes to a Southern city's architectural revival.

LIBRARIES

CHARLOTTE, NORTH CAROLINA, IS NOT a big city in population, but it is a leading banking and trading center for the Southeast. Like many cities of its size around the country, Charlotte is emerging from an undistinguished period during which commercial sprawl was built at its fringes, while aloof towers arose from a wasteland of surface parking lots uptown. This hub of Southern commerce is now working to change the face of its urban landscape.

Evidence of the city's collective reappraisal of architectural values can be seen within a few blocks of the traditional city center, the intersection of Trade and Tryon streets. A performing arts center and tower by Cesar Pelli & Associates is just under way, and nearby are an urban plaza by Cooper, Robertson + Partners, a tower by Kohn Pedersen Fox, Associates, revived residential neighborhoods, and the expanded Charlotte and Mecklenburg public library.

Since 1903, Charlotte's main public library has stood on the same site. The first building, the Neoclassical Carnegie Library, was demolished in the mid-1950s to make way for a modern library, completed in 1956. Thirty years later, local voters approved funding for an 80,000-square-foot addition to double the existing facility. Local architect H. Woodward Middleton teamed his firm, Middleton McMillan Architects, with Morris Architects of Houston to create, in his words, a "building that would recapture the dignity and traditional character of the original 1903 library."

The architects crafted a totally new and dynamic image by stripping the '50s version to the bone and wrapping the expanded structure with a cladding of brick and limestone trim. The addition's south facade is anchored by two precast towers and a curving wall with continuous windows on the first two floors.

In an existing park on at the northwest corner of the site facing Tryon Street, a curving water wall provides a shielded area for outdoor library activities and responds to a semi-circular drum form of the existing library. Along the 6th Street elevation, an arcade with a ceremonial arch draws pedestri-



A landscaped park and arch draws visitors to the library's new side entrance (facing page). The library presents a strong face to College Street (left). Old and new come together at the four-story central dome, which houses the main entrance and great reading room (below).





ans down to the new entrance, crowned with the sloped roof of the “great room” within.

Inside the library, spaces are arranged along a long, rectilinear floor plan, but to achieve the desired ceiling heights in the addition, the architect dropped the floor on the first level and pushed the ceiling up on the second. A large central stairway, connecting all four levels, serves as a point of reference, visible throughout most of the library.

The new library’s pivotal space is its three-story reading room on the second floor. This great room functions as a central organizing element and becomes an almost seamless transitional space between old and new. Along the connecting wall, a wooden partition detailed with an oversized “union jack” pattern screens the converging structural columns of the older building.

Like other contemporary libraries, the facility is a wonderland of electronic equipment and computerized information systems, yet this technology didn’t deter the architects from drawing from the most traditional vocabulary for the boardroom and the local history reading room on the fourth floor.

The children’s wing features a brightly painted story castle and mural on an existing cylindrical elevator shaft. Recalling the exterior’s sinuous forms, the architects defined meeting rooms and other auxiliary public spaces with curved interior walls.

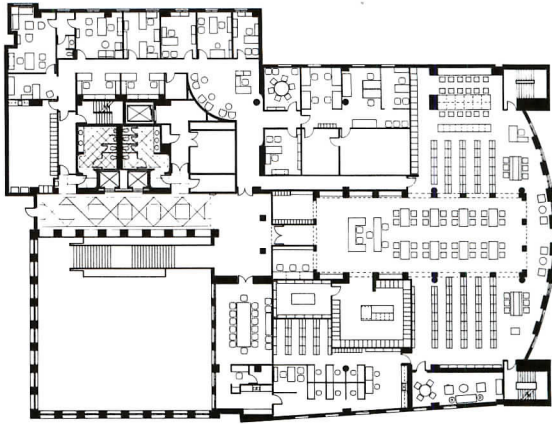
The new library provides a visual focus for the area and has a presence that neither overwhelms its residential neighbors nor is lost amid the nearby 40-story office towers. At the dedication of Charlotte’s first library in 1903, a civic official pronounced the design an “influence of good.” The same might be said of the city’s most recent version. ■

—LYNN NESMITH



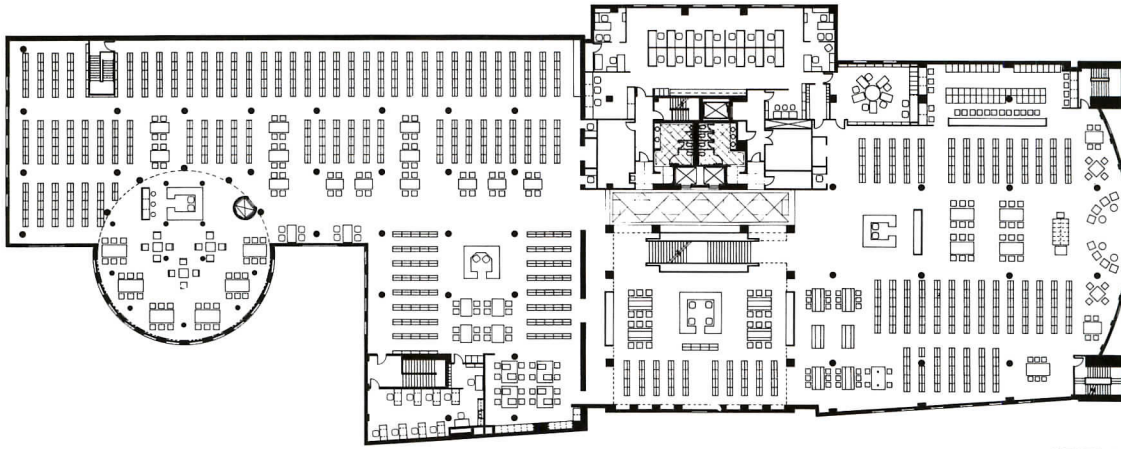
**PUBLIC LIBRARY OF CHARLOTTE AND MECKLENBURG COUNTY
CHARLOTTE, NORTH CAROLINA**

ARCHITECTS: Middleton, McMillan, Architects, Charlotte, North Carolina (architects of record)—H. Woodward Middleton, AIA (principal-in-charge); Randolph K. McMillan, AIA (principal for production); J. Randall Severs (construction administration); Morris Architects, Houston, Texas (design architects)—John H. Wiegman, AIA (principal-in-charge); Eugene Aubry, FAIA (design principal); Donald M. Palmer (senior interior architect); Shirine O’Connell (interior designer)
ENGINEERS: Browning-Smith Associates (structural); McCracken & Lopez (mechanical and electrical); Gifford Nielson Associates (civil)
CONSULTANTS: HBW Associates (library program); PMI Acoustics (acoustical)
COST: \$8 million—\$52/square foot
CONTRACTOR: Shook Building Group
PHOTOGRAPHER: Rick Gardner, except as noted

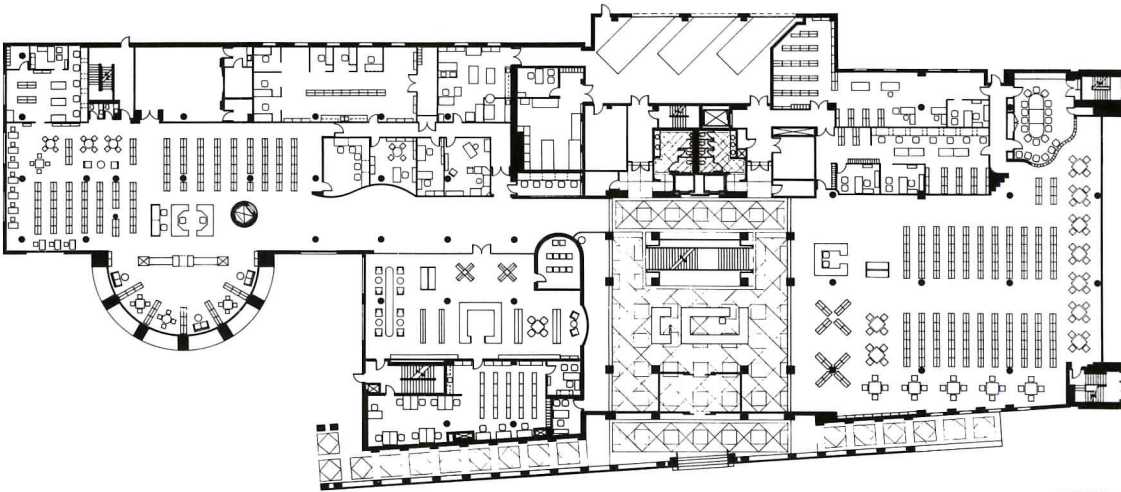


LEVEL 3

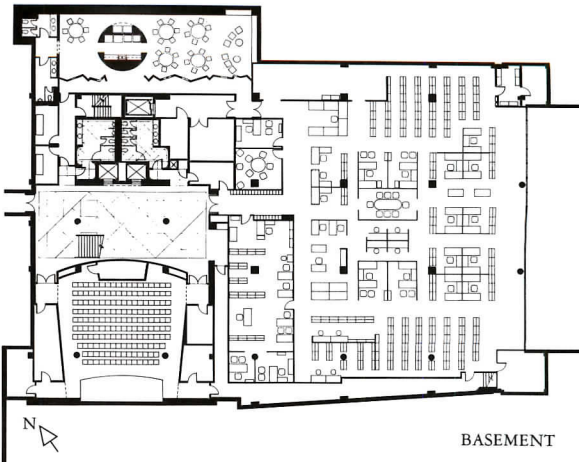
Large arched windows flood the great room with light and offer views to the city's skyline (left and facing page, top). The architects used a detailed ceiling pattern, archways, and pediment-topped shelves for the more intimate Robinson/Spangler Carolina Room (facing page, bottom). A white, angular wall with geometric cut-outs provides a dramatic backdrop for the lower level staff lounge (bottom left). Floor plans illustrate the original two-story, L-shaped library (left in center plans), and the addition (right in plans).



LEVEL 2



LEVEL 1



BASEMENT

Local Bulletin

A suburban branch library attracts community notice.

LIBRARIES

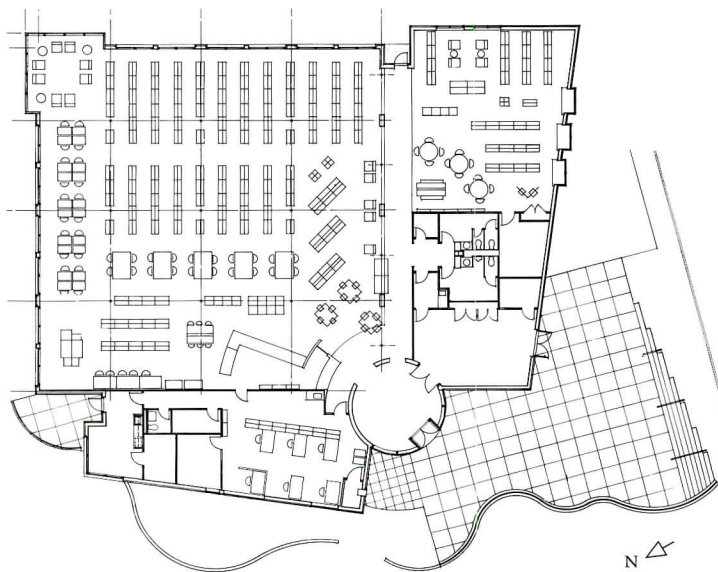
WHEN THE ATLANTA-FULTON COUNTY library system undertook an ambitious building program in 1985 to serve a radically expanding patron base, voters overwhelmingly supported a \$50 million bond issue to develop 14 new branch libraries. The 10,000-square-foot Northside Library in northwest Atlanta was a critical component, needed to replace cramped quarters in an adjacent shopping center. The goals for the Northside branch were broad, according to library planning officer Jim Brooks: to build an extremely flexible 10,000-square-foot facility that could change as technology and residents shifted. To reach its patrons, the library system purchased a lot surrounded by single family homes in the affluent Paces Ferry area.

Encouraged to produce a visible community building, the Atlanta firm Nix Mann Viehman took playful liberties with the exterior. Two striking images dominate the dual wings of the single story building—a “mortarboard” caps the glass drum at the entry and a checkerboard pattern of brick “books” covers the building’s plain walls. The exterior lantern serves as a beacon to the neighborhood, inviting patrons to read and gather; its circular drum doubles as a lobby and gathering space for entering the community meeting room. Radial lines extend from the lantern into the major spaces—circulation area and reading room—relating indoors and out. Invisible, but crucial, are the service areas located behind the circulation desk.

Banks of large windows on two sides bathe the lucid space with cool, diffuse light as they define reading spaces. Although direct light rarely penetrates the space, windows draw readers to a view of hillsides covered with pines, producing the illusion of woodland near a busy city street.

The scale of the interior, defined by rows of books, columns, and checkerboard-tiled floor, brings the large, open space down to human size, kneeling to serve young readers by dropping its ceiling height in the children’s area. Today parents share stories with children on the carpeted floors; window nooks double as reading spaces and as viewing platforms for spotting mom and dad. ■

—ROBERT A. IVY



Nix Mann Viehman organized the library as a square flanked by two wings (plan) with an entry lantern at their intersection (facing page, top). Simple elements such as light fixtures, ceiling grid, and books establish the interior’s human scale (above). Children await parents’ pickup at the plaza’s serpentine wall (facing page, bottom).

ARCHITECTS: Nix Mann Viehman Architects, Atlanta, Georgia—William C. Viehman (principal-in-charge); Barbara Crum (project designer); Chris Cornford (design team)
LANDSCAPE ARCHITECT: Laubman Reed
ENGINEERS: Sedki and Russ (structural); Newcomb and Boyd (mechanical, electrical, plumbing); W.L. Jordan (civil)
CONTRACTOR: Capital Atlanta
PHOTOGRAPHER: Jonathan Hillyer



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Bricks and Mortar

Sizing up the bonds of masonry construction in four libraries.

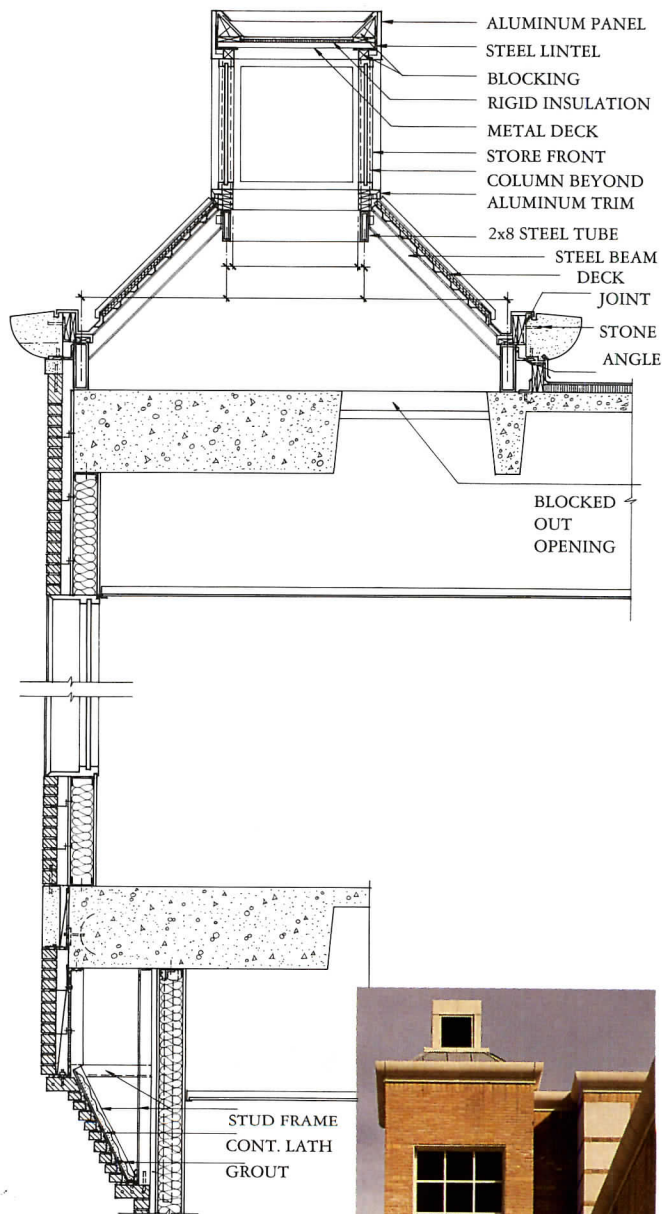
LIBRARY DETAILING

LOUIS KAHN MAY HAVE ASKED BRICKS what they liked to be, but for most architects, designing with masonry is much more complicated. Detailed planning is required for integrating weep holes, and expansion and control joints into a design, in order to avoid having these necessary elements wind up as afterthoughts that detract from the final appearance. It is also much easier to adjust dimensions while the project is on the boards, rather than being forced to make impromptu decisions and compromises later in the field. Although masonry units can always be cut, last-minute adjustments result in additional costs as well as potentially undesirable shapes and patterning.

The decorative possibilities of brick have been explored for centuries using variations in color, bonding patterns, coursing, and corbeled elements to add both variety and interest. Bonding patterns and corbeling have largely lost their original structural functions due to modern methods of reinforcement. However, they still serve as decorative references to past construction methods. Although there is no absolute standard for brick sizes, especially since special shapes of almost any configuration can be molded, brick lends itself to modular design. The most commonly used brick measures 8 inches long, 4 inches wide, and 2-2/3 inches deep. These dimensions allow for attractive bonding pattern proportions with the stretcher face, or length, equalling twice the thickness of one mortar joint, and three times the thickness (plus two mortar joints).

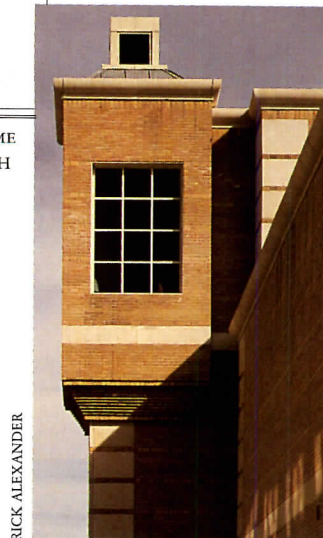
The details selected from the four libraries featured in this issue represent a variety of expressive possibilities that can be constructed with masonry. Additional information on brick design and construction is available from the Brick Institute of America in Reston, Virginia.

—MARC S. HARRIMAN

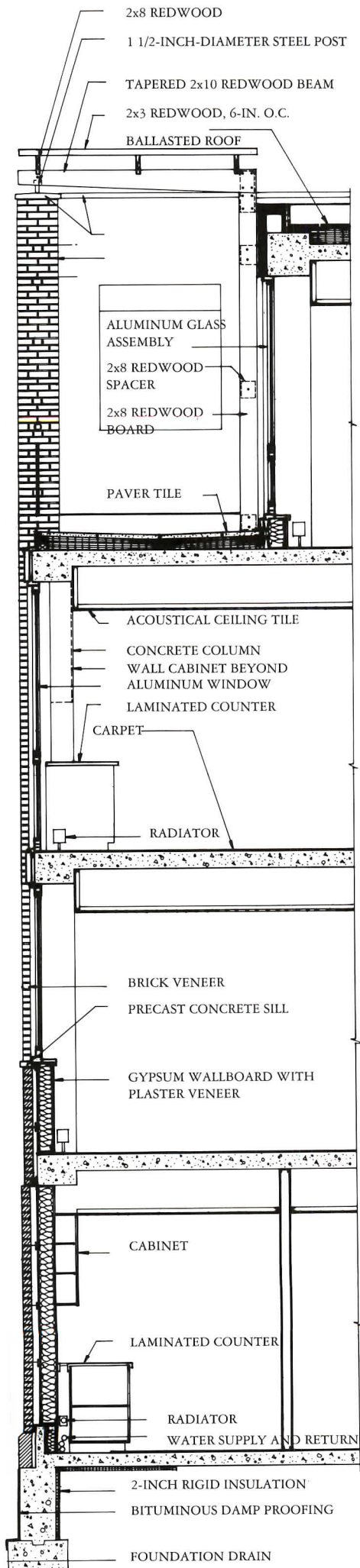


Public Library of Charlotte and Mecklenburg County
Charlotte, North Carolina
Morris Architects and Middleton, McMillan, Architects, Inc.

A turret form projects upward and outward from the main structure of the library, expanding from the apparent support beneath it (below left). The corbeled base suggests the load of the masonry wall above is being transferred to the inset wall below. But examination of a wall section (left) reveals a reinforced concrete structural framework located behind the brick; the exterior is actually constructed as a cavity wall with a brick veneer bonded to metal ties. The corbeling is applied as a purely decorative element, providing infill and softening the transition of the lower wall to the turret. In addition, the corbeling reflects the shape of the sloped roof to the crowning light well. Instead of providing structural support, however, the corbeled brick required its own support. The architects therefore devised angled brackets constructed of studs placed two feet on center, with metal lath spanning between them, specially designed to hold a high slump grout bed. The grout anchors the corbeled courses with metal ties to the structural framework.



RICK ALEXANDER

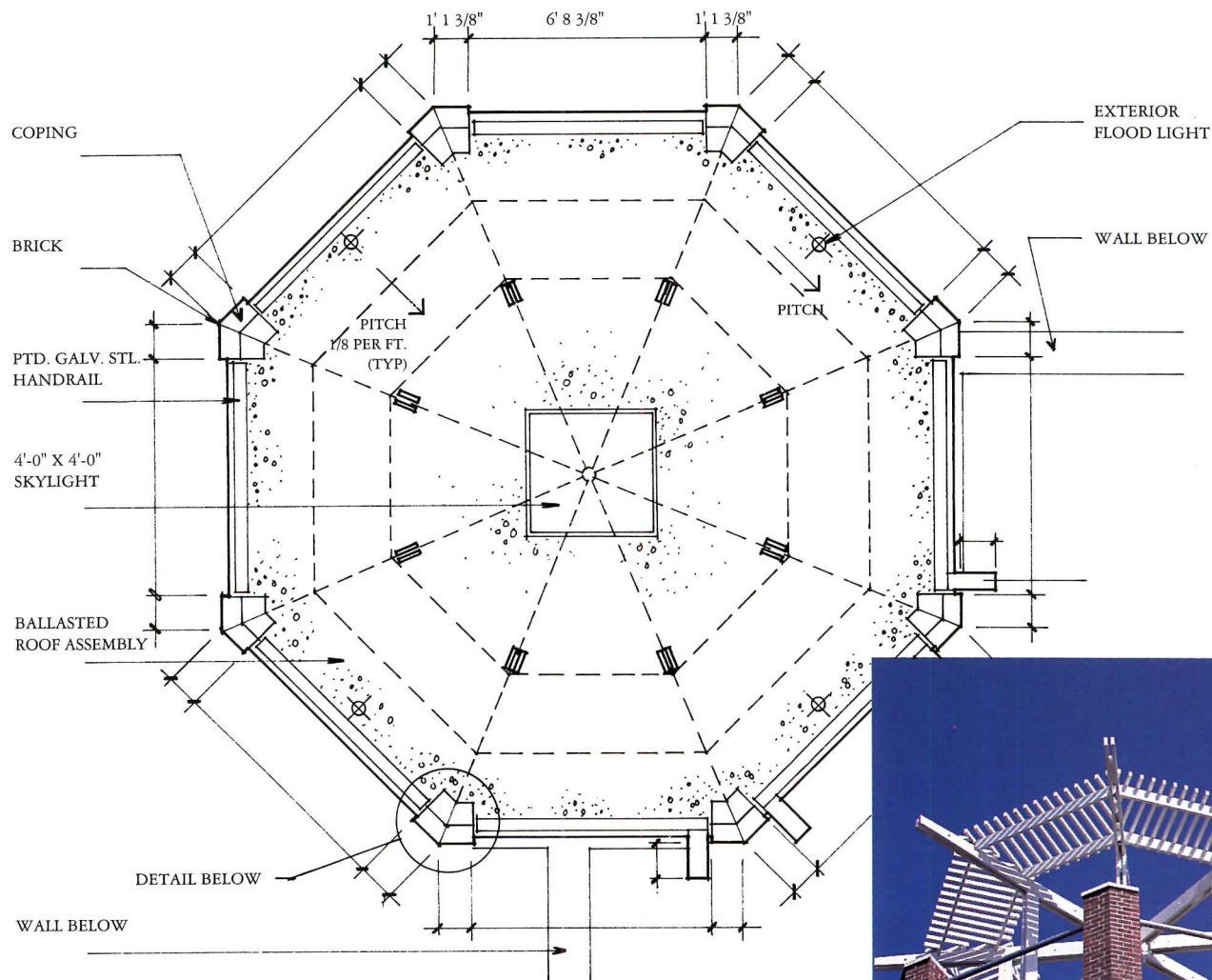


JEFF GOLDBERG / ESTO

Wheeler School Library
Schwartz/Silver Architects
Providence, Rhode Island

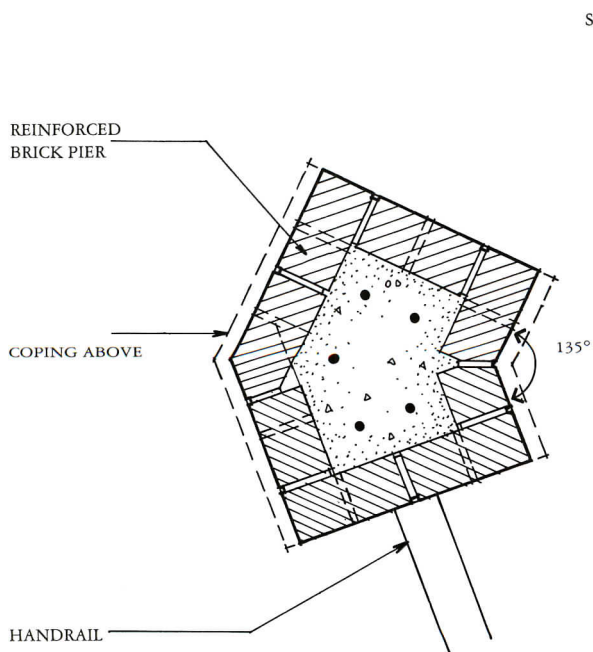
The brick module greatly influenced Schwartz/Silver Architects' dimensioning of the tower for the Wheeler School Library. Dimensioning was carefully calculated to correspond to vertical and horizontal brick coursing. According to the principal Warren Schwartz, the intent of the design was to "create a dynamic element which would express the structure of the wall and produce a transformation from wall to pier to column." As the tower rises, the brick face reduces the wall mass in one-brick increments (or eight inches in width) at each succeeding floor level, ensuring even coursing at each step. The reduction in mass occurs every ten feet or forty-six courses (section at left). The eight-inch reveal at each floor level also provides a four-inch shelf on either side to provide an adequate base for the precast concrete window lintels. A belt course defines the base below the first set of windows, with the piers above slightly inset from the wall face below.

To ensure the columns above the roofline would achieve the desired thickness and necessary structural strength, the dimensioning of the tower design was calculated from the top. The columns supporting the wooden pergola (photo, facing page) were constructed as two bricks wide (roof plan, facing page), and the stepping profile calculated to expand eight inches as the wall progresses downward. The bricks, however, had to be cut for the piers to conform to the tower's octagon form (above). A cross-section through the piers (facing page, bottom) reveals their internal construction with concrete columns providing the structural support beneath the roofline (facing page, bottom right) and reinforced concrete infilling the brick columns above (facing page, bottom left).

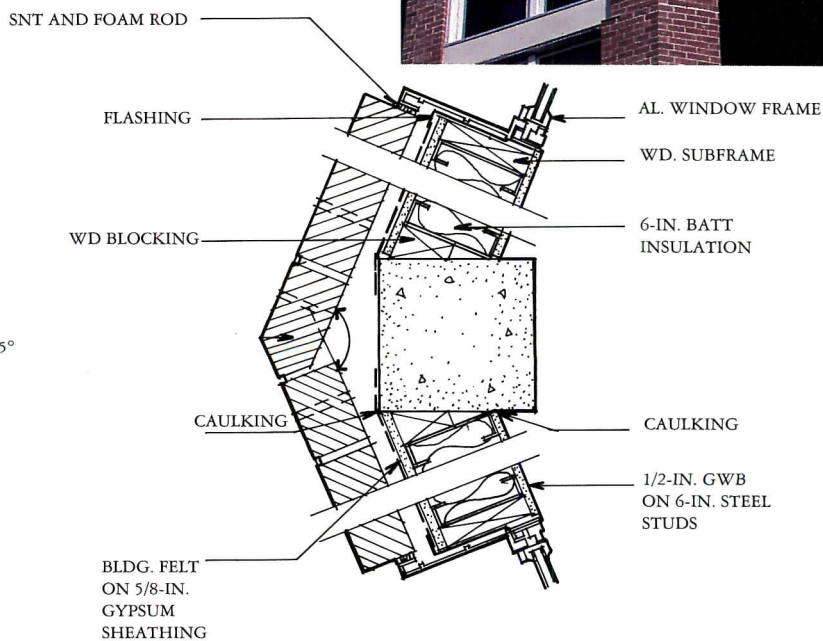


JEFF GOLDBERG / ESTO

TOWER ROOF PLAN



PLAN OF PIER ABOVE ROOFLINE



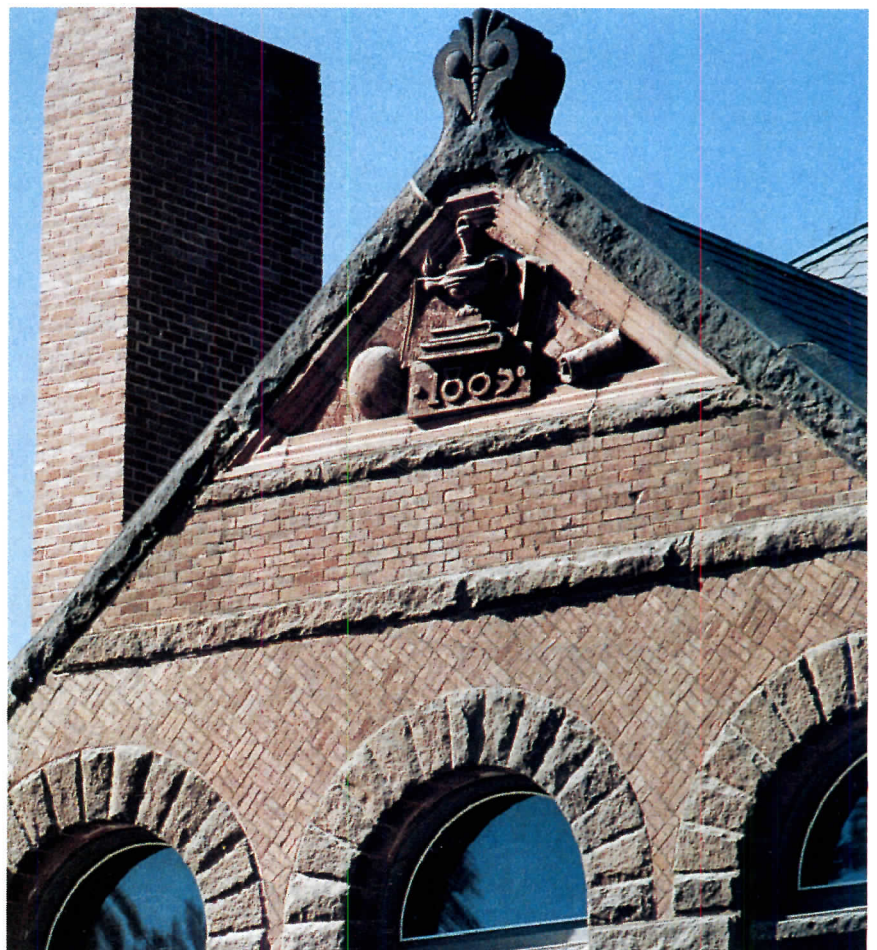
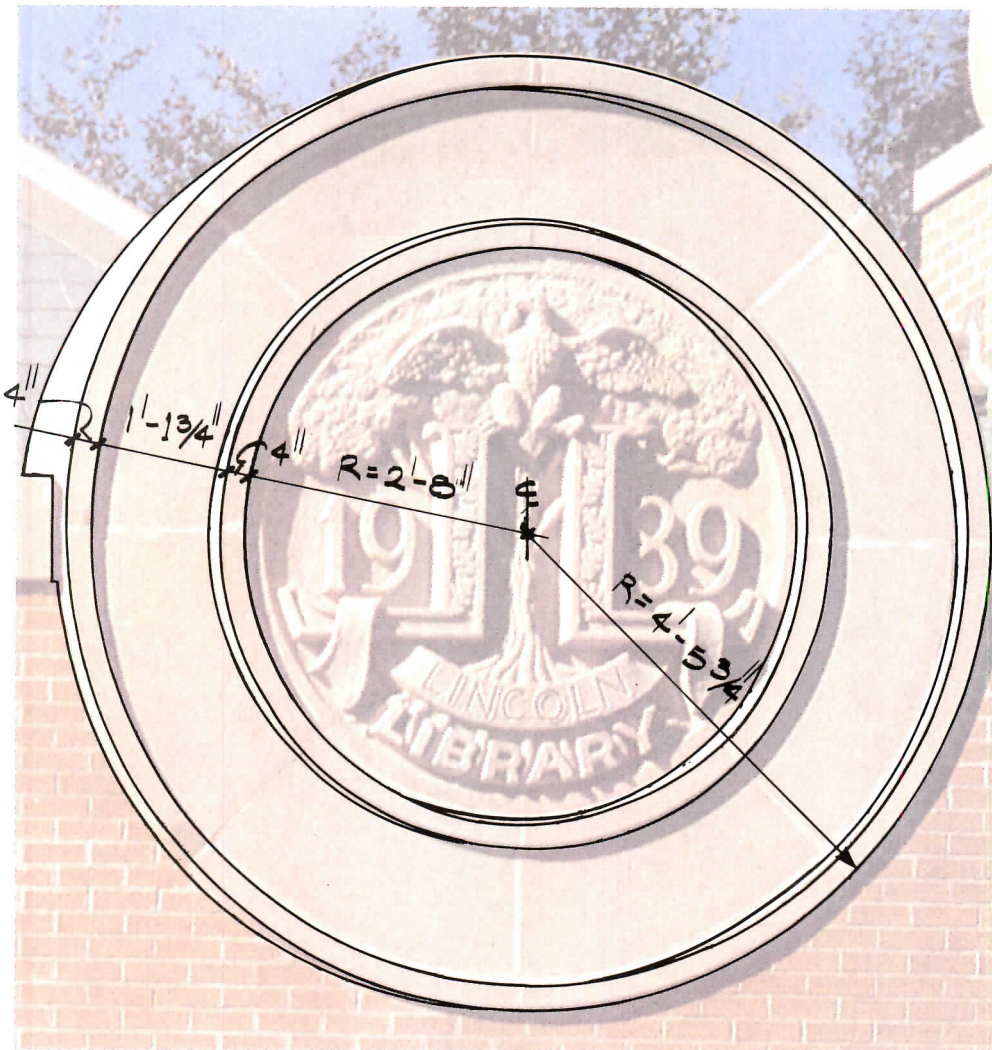
PLAN OF PIER BELOW ROOFLINE

**Lincoln Library Addition
Lincoln, Massachusetts
Graham Gund Architects**

Conscious of the original Lincoln Library's richly decorative vocabulary, the architects created a dialogue between old and new by integrating their addition with masonry design elements interpreted from the 1883 building. The art of architectural sculpting was revived by enlisting sculptor George Krier to craft a new medallion (left) as impressive as the prominent triangular terra-cotta seal displayed in the gable of the original library (bottom right).

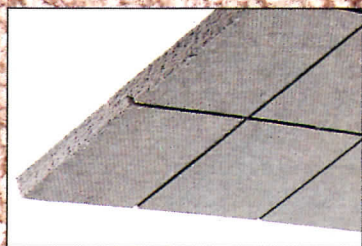
Based on sketches provided by the architects, a half-scale clay maquette was constructed to examine the three-dimensional qualities of the new design. Once architects and sculptor agreed upon the final form, a full-size plaster and clay model was built and a plaster negative mold was cast from the prototype. The mold was then sent to a cast stone plant for the final casting.

The seal was created as a single unit surrounded by eight cast stone pieces attached in the field with steel dowels. Four ferrule inserts bond the seal to the adjacent concrete masonry wall. A checkerboard of terra-cotta tiles, colored brick courses, and diagonal brick patterning (bottom left) also enrich Gund's new addition.



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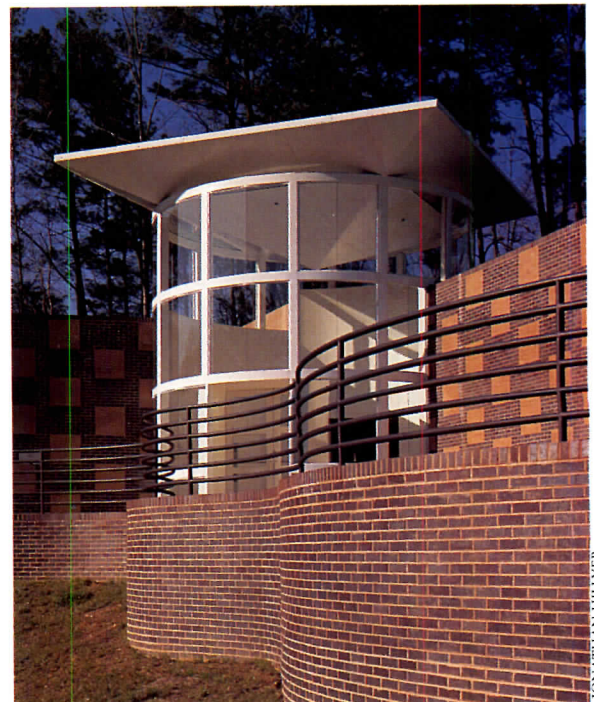
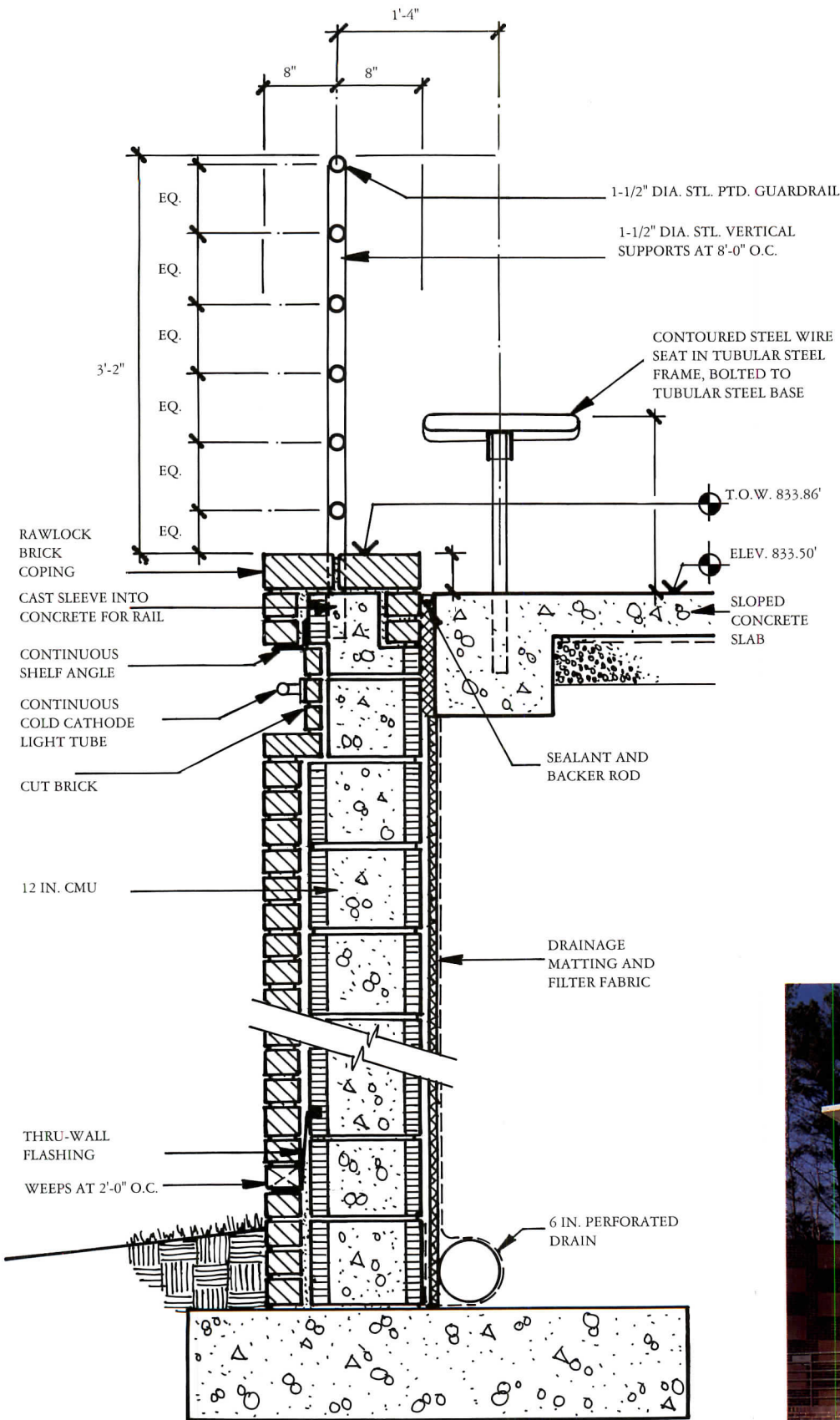


Northside Branch Library
Atlanta, Georgia
Nix Mann Viehman Architects

To create a terrace at the main floor level of the library, the architects responded to the topography of the site, which dictated the need for a retaining wall varying from three to six feet high. The architects infused this utilitarian element with dynamism and visual intrigue by designing a serpentine masonry wall (photo below). The undulations strengthen and stabilize the wall against lateral hydrostatic and soil pressures by increasing the effective thickness of the masonry.

The size of the curves were generated, however, by esthetic considerations. Constructed of 12-inch concrete masonry units filled with concrete (section, left), the wall is faced with brick. For additional flair, a brick-faced inset in the retaining wall was designed with a continuous cathode light tube streaking along the front half of the retaining wall (top of section). This detail was eventually omitted in the constructed wall (below) to reduce costs.

A brick coping consisting of a rowlock brick course, two brick lengths in depth, defines the top edge of the retaining wall. Sleeves for the vertical steel post handrail supports were created eight feet on center, extending through the coping and into the filled concrete block. They eliminated the need for bolting base plates to the coping surface and facilitated the clean, fluid lines of the wall and railing.



Library Science

Planning for book conservation, storage, and information retrieval.

LIBRARY DETAILING

THE TECHNICAL ISSUES IN DESIGNING libraries continue to grow more complex, as computers become more common in the storage and retrieval of information, and as our old and rare book collections continue to age and increase in value. As library technology changes, older buildings may soon be obsolete, literally unable to support and store more books in less space, and accommodate an increasing labyrinth of electronic ducting required for new computerized card catalogs.

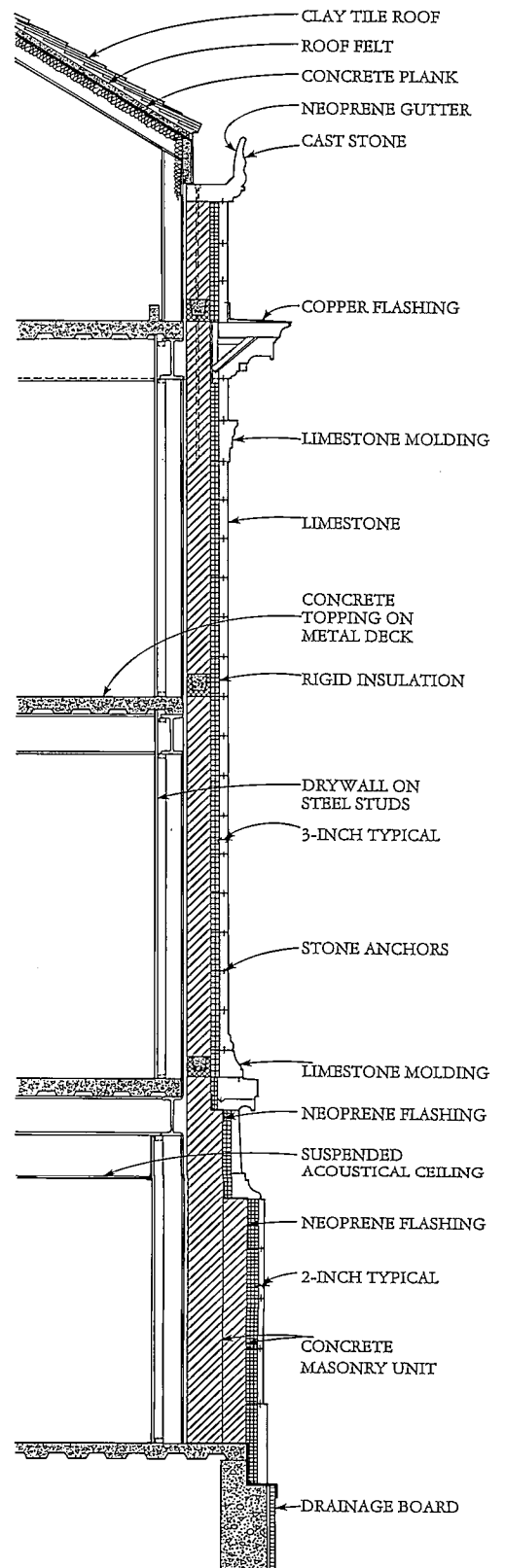
Environmental control

IN LIBRARIES DESIGNED TO HOLD RARE or old books, by far the most critical factor is the control of relative humidity and temperature. The goal for architects should be to create a museum-like environment to preserve the artifacts. According to Washing-

ton, D.C., architect Warren Cox, principal of Hartman-Cox Architects and a collector of rare books, 19th-century books are at more risk than volumes printed earlier. "The older books are printed on good rag paper," points out Cox, "but in the 19th century, publishers switched to wood pulp for paper, which makes the paper highly acidic and more prone to deterioration." Relative humidity levels in rare book libraries generally range from 50 to 55 per-

cent, with temperatures in the vicinity of 65 to 70 degrees Fahrenheit. This combination is usually too cold for library staff and is expensive to maintain. M.J. Long, an architect with Colin St. John Wilson & Partners in London, architects for the new British Library (England's equivalent to the Library of Congress), says that humidity/temperature levels should be modulated for staffed and unstaffed spaces. Relative humidity in the British Library will stay a constant 55 percent in both areas, while temperature in the stacks will be 64 degrees Fahrenheit, and 70 to 72 degrees Fahrenheit in adjacent reading rooms. "In an ideal world, we'd store the books underground," explains Long, "because fluctuations in ground temperature are slow. You shouldn't have more than a five-degree Centigrade difference between where the books are stored and where they are read." Even more important are stable humidity levels. "If an environment is too humid, you risk the growth of spores that grow

mildew, foxing, and acid deterioration," Long points out. "If it's too dry, binding leather deteriorates. Large fluctuations in both temperature and humidity can produce condensation in the bindings, and that's absolutely fatal to a book." Maintaining constant humidity/temperature levels not only means sensitive (and expensive) mechanical systems, but a nearly hermetically sealed building envelope to keep humidity from migrating to other parts

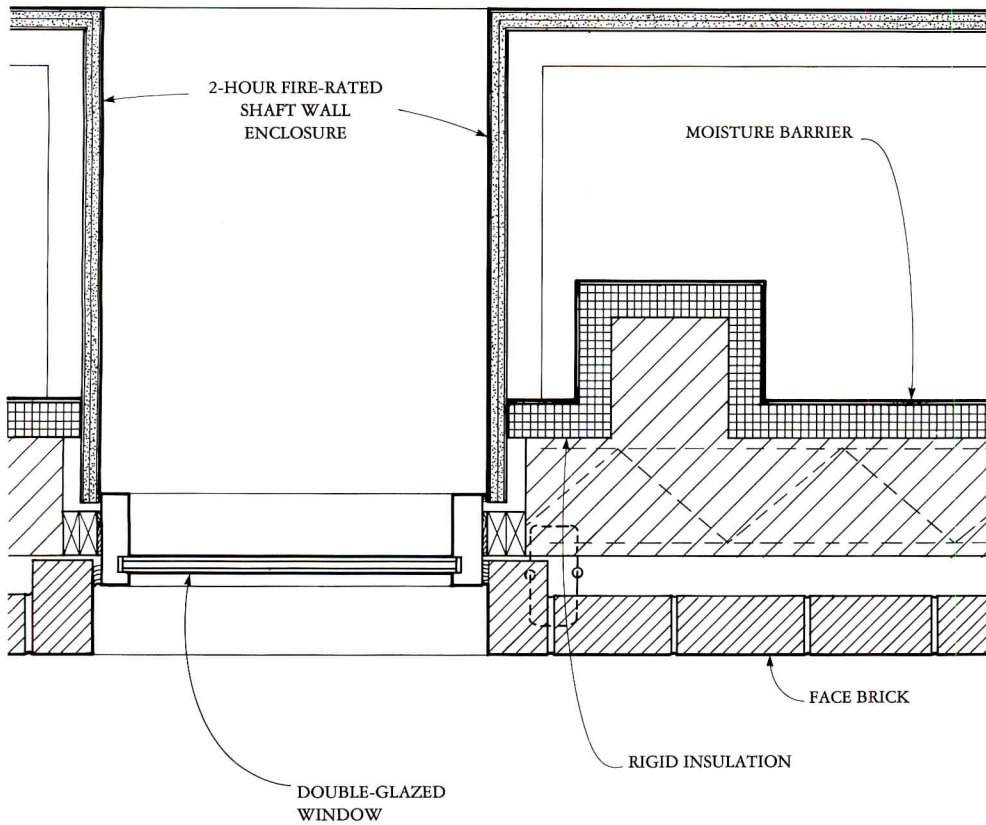


Classical design by the Washington, D.C., firm Hartman-Cox Architects for the new John Carter Brown Rare Book Library at Brown University (elevation above) incorporates a double wall section (right) that provides vapor barrier protection.

ton, D.C., architect Warren Cox, principal of Hartman-Cox Architects and a collector of rare books, 19th-century books are at more risk than volumes printed earlier. "The older books are printed on good rag paper," points out Cox, "but in the 19th century, publishers switched to wood pulp for paper, which makes the paper highly acidic and more prone to deterioration."

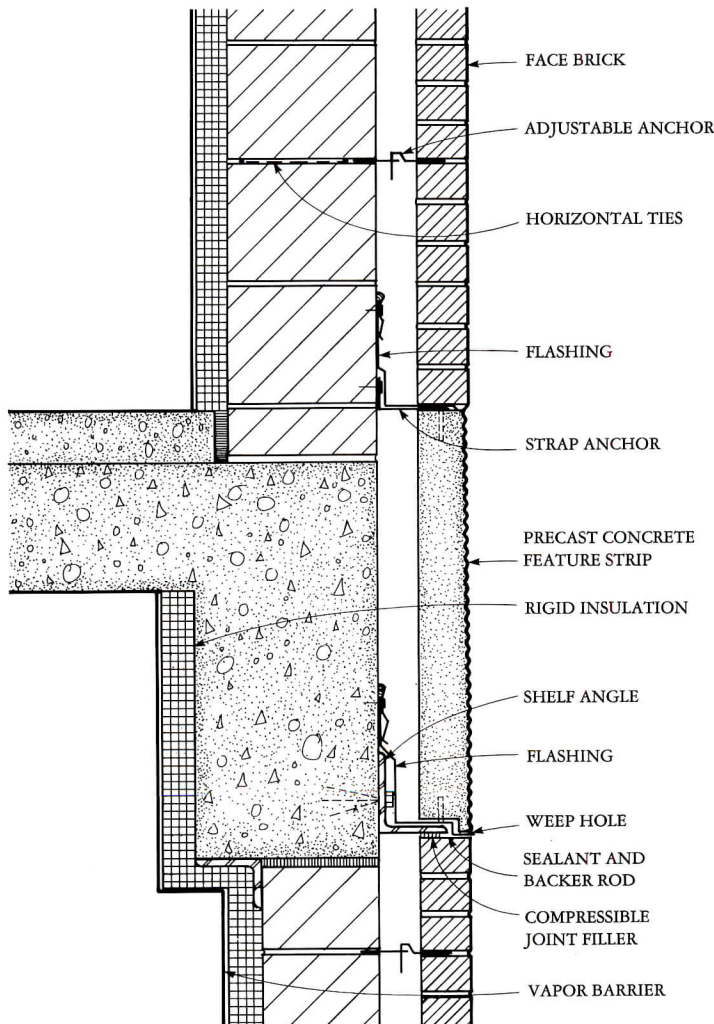
Relative humidity levels in rare book libraries generally range from 50 to 55 per-

ILLUSTRATION BY TIM McDONALD



Vapor barriers

Keeping high humidity levels away from exterior walls is critical in preventing condensation and materials deterioration. Hammond Beeby & Babka (with A. Epstein & Sons) designed a wall system (plan detail, above, and section, right) for the Chicago Public Library, comprised of a conventional masonry cavity wall, with rigid insulation applied to interior surfaces of concrete masonry units. The insulation incorporates an integral vapor barrier which faces the building interior. The finished plaster walls of the Chicago library interior are located more than a foot away from the vapor barrier to limit the chance of barrier punctures and to thicken wall depth.



of the building, particularly the exterior wall. When Hartman-Cox designed the Folger Shakespeare Library in Washington, D.C., 10 years ago, according to Warren Cox, "we did not take other than normal precautions with the vapor barriers, which have a way of being penetrated." As 50 percent humidity enters an exterior wall cavity during winter, when outside humidity may be 15 percent, condensation forms. "If moisture freezes in a masonry wall," says Cox, "you're subjecting the wall to a freeze-thaw cycle, causing deterioration." At Hartman-Cox's John Carter Brown Library at Brown University, now under construction, "we have a double wall system with a special vapor barrier that we penetrate carefully. We seal around the holes," notes Cox. But, he adds, such envelopes are expensive. "You may be adding \$12 to \$15 per square foot of wall surface, plus mechanical costs."

Charles Young of Hammond Beeby & Babka, a firm which designed an extension to the Chicago Art Institute and the new Chicago Public Library, maintains that effective vapor barriers must be designed "with the idea of a Thermos bottle. A continuous vapor barrier must be developed along the entire enclosure of the building," essentially creating a building within a building. Young maintains that a concrete structural system is easier to seal than a metal system "because it's a smoothly finished surface," and adds that the need for a continuous vapor barrier often dictates a library's structural design.

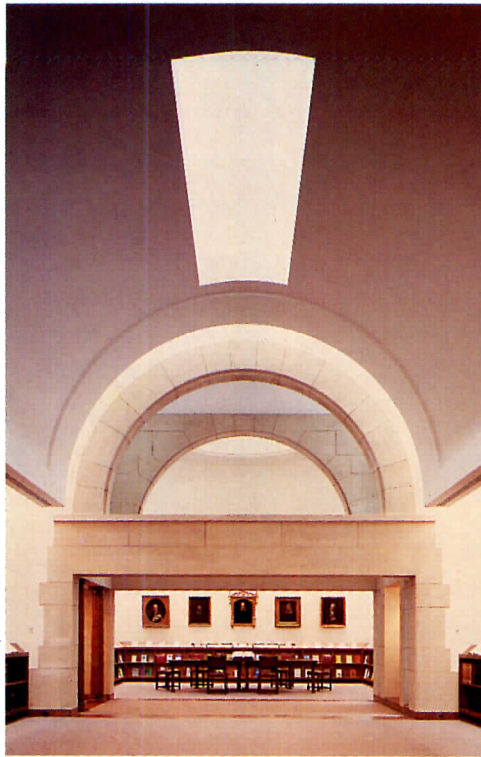
All printed matter, particularly old and rare books, is sensitive to ultraviolet light. Strategies for limiting exposure to ultraviolet light include storing books in windowless rooms, with UV filters installed over fluorescent light tubes. Occasionally, however, precious volumes may be temporarily stored in book conservation labs or in cataloguing and circulation areas, where natural light may pose a problem. Laminated glass with sheets of UV filtration film can offer protection. A greater risk, according to M.J. Long, "are rare bindings permanently stored in areas where their spines are exposed to UV light, which will break down the color of their leather." Reflecting natural light off the wall surfaces can also reduce UV levels.

Book storage

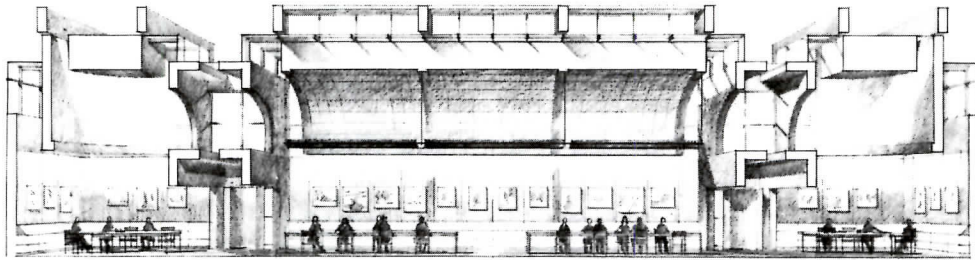
AN ISSUE RELEVANT TO EVERY LIBRARY, public or private, no matter what the collection holds, is the high cost of book storage. As land and construction costs rise, libraries are attempting to store more books in less space, resulting in the installation of flexible storage systems. "Ten years ago, compact storage systems may have been used only on a basement floor," explains M.J. Long. "Now they are being used throughout the library." Compact book storage systems con-



PETER AARON / ESTO



PETER AARON / ESTO



Environmental control

The centerpiece of Hartman-Cox Architects' alterations and additions to Paul Cret's original 1928 Folger Shakespeare Library in Washington, D.C., was a new reading room (photos left, and section) at the rear of the building. The section reveals an intricate structure of skylights and baffles that diffuse natural light. Tall lanterns bounce light on side walls, while longitudinal walls are washed with natural illumination. Hartman-Cox's solution not only provides a more uniform quality of light for reading, without the harsh contrasts of direct sunlight, but reduces the ultraviolet level of light entering the room by reflecting daylight off wall surfaces. Lower UV levels are best for rare and old books, and can also be achieved with UV filtration glass.

The architects learned several other critical lessons in the design of the Folger Library, according to architect Warren Cox. Of primary importance was maintaining the vapor barrier's integrity in the successful containment of high humidity levels and temperature control. The library includes rare book vaults located at the center of the plan, away from exterior walls, thus reducing the migration of high humidity into masonry wall cavity. Such migration can cause deterioration of the wall's exterior, as materials undergo stresses resulting from the freeze-thaw cycle.

sist of movable shelving units that glide on metal rails set on the floor slab. The units are packed tightly together and can be moved to retrieve books. Beefed up structural design will handle the higher loads, but over time, the rails may deflect, making the units hard to move. "Deflection has to be kept within 1/50th of the span," says Long. For the British Library, the architects placed the rails on screw-type jacks, which can be adjusted to counter deflection. The jacks raise the rails approximately six inches above the slab and allow a platform floor for electronic ducting to be used in conjunction with compact storage units.

Raised platform floors, of course, are fast becoming the norm for libraries. Computers are replacing the conventional paper card catalog, and will allow libraries all over the world to share their collections, as written material is translated onto computer disks. Will these electronic developments result in smaller local libraries as books are stored electronically? "It might mean that local libraries get bigger," predicts Long, "because more people can do more things in them," such as access national and university collections. As she notes: "The share of space for books may stay the same, while space for more people and computer terminals will increase." ■

—MICHAEL J. CROSBIE



Book storage

Shelving systems from White Office Systems (above), Kardex Systems (top right), and Tab Products Company (bottom right) are becoming more common in libraries, allowing more books to be stored in tighter spaces. Units move on tracks, allowing the creation of an aisle, and can be operated manually or by electric motor. Compact storage systems demand live load design approximately twice that of conventional shelving's 150 pounds per square foot.



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Thinking Small

AIA-sponsored roundtables reveal successful approaches to diminutive designs.

ARCHITECTS WHO SPECIALIZE IN "SMALL PROJECTS" SAY that to complete them successfully means not just working smaller, but working differently. For these practitioners, there are not many precedents to fall back on, and there is no team of design professionals with whom to confer. Designers of small projects are usually the only professional involved; they do what their judgment and creativity tell them will work best. The principle of Occam's razor is central to the way architects of small projects work: they furnish only that information immediately needed by the owner or builder to make whatever decisions necessary to move the project to the next step, or to abort it. They cut directly to what is essential at the present time.

That process makes small projects very different from larger ones. Of course, every project is different in terms of expectations and results. For the larger project, however, the process of achieving those results has become fairly standard. A national norm is gradually emerging as to how to approach the tasks and sequences of services appropriate for the type of project for which the B141 contract is most applicable.

The B141 process is thought of as essentially linear. Each phase—schematics, design development, etc.—is theoretically a stand-alone service that builds on previous phases. Each phase of service climaxes in a review and approval of all concerned before the project proceeds to the next phase. Certain duplications of effort are inherent in this type of project, and they are not only acceptable, but desirable. It provides a quality control mechanism and makes the B141 more generically applicable. Everyone's interest (especially the owner's) is protected by these cross-checks and overlaps. At its best, the coverage of services is virtually seamless. Yet for a project of any size, the cost of this quality control is only a minor percentage of the fee.

Architects who work on small projects consistently report a very different situation. That same minor percentage of the fee for quality control yields a useless number of dollars because the total fee is so small. There is virtually no contingency funding,

let alone dollars or time in the project for any redundancy or delay. The stakes, though smaller in absolute dollars, are often far higher in terms of impact on the personal life of the client. Compared to larger projects, the time frame is likely to be severely condensed, or fragmented into staccato

Definition of terms

OCCAM'S RAZOR: The maxim that assumptions introduced to explain a thing must not be multiplied beyond necessity. (*Random House College Dictionary, 1975*)

SMALL PROJECT: Less than a house—on the scale of a kitchen remodelling, a bedroom, or bath addition. Not all small projects are residential, but they are of that scale, and involve that level of owner involvement.

bursts at uncertain intervals. The personal relationships between architect, owner, and builder are intensely relevant to both success and risk management.

There are no stand-alone phases in creating a small project and, ideally, an architect might go through the entire project, from conceptual design to final inspection, using only the original drawings. In this model, the original drawings would have information added incrementally as the evolution of the project reveals both problems and solutions. In that sense, every phase of the project involves creativity, and from more than just the architect. The process can be thought of as a spiral moving from the gen-

eral to the particular and requiring both design and implementation in every loop.

A growing number of architects are specializing in small projects as a matter of choice. These practitioners typically seek to provide quality service through hands-on, unilateral, and direct intervention in every aspect of project delivery. They report that design continues in every phase and that it's best to have the builder involved very early. They look for the most expedient process or documentation that can meet the standard of professional care. When the project breaks new ground, that's even more satisfying.

Are these architects running higher risks than their B141 colleagues? In terms of size of exposure, generally not—in terms of frequency, perhaps. Chicago lawyer Paul Lurie says with a smile that "Lurie's Law applies here. The extent of the liability is directly proportional to the size of the fee." Provided the lines of architect-owner communication can be kept open, that seems to be the case in small projects.

Small project practitioners generally report: "We don't have claims—when problems come up, we work them out." To the extent that settlements are reached on the spot, these practitioners are actually self-insured, and do have claims. That they are able to settle them and keep projects moving speaks well for their mediation skills—and for Lurie's Law as well.

Five AIA-sponsored research roundtables were held in five cities across the country earlier this year to learn what procedures are currently being applied to small projects. The 70 participating architects were often surprised (and delighted) by discovering that their colleagues are using the same or similar procedures. But procedures reported as "normal" tend to be the norm only within local geographical markets. Project methodologies vary wildly from urban to rural areas, and among several urban locations across the country.

Procedures also vary a great deal from project to project depending on an architect's decision as to what's expedient—what the project itself suggests that it needs.

SMALL PROJECT METHODOLOGIES

"Routine" procedures vary substantially from firm to firm within a local area, depending on the professional experience and judgment of the individual architects involved. One architect, for example, may prefer to do a minimum amount of drawing while personally directing the builder's forces in the field. Another architect may provide minimum drawings initially, not visit the job on a regular basis, and instead, furnish full-size detail drawings for special conditions as they evolve. Neither of these architects is following B141 sequences or procedures discussed in the *Architects Handbook of Professional Practice*.

Both practitioners will maintain they are not only meeting the standard of care, but are doing so in an extremely professional way. Both will tell you their six-page outline spec (sticky-backed to the drawings where the builder has to look at it daily) is more professional than a "phone-book" Master-Spec that remains unread because it is lost in the back of the pickup truck.

This type of preferred format for specifications is one of the few generalizations that can be made about procedures typically followed on small projects across the country. A great many more can be made about what is typically omitted: board crits, the entire design development phase, check-set peer reviews, in-house team meetings and work sessions, formal change order procedures, and certificates of payment forms. For many small projects, these B141 project activities are unacceptable uses of available time and resources—or simply irrelevant—according to the roundtable participants. The participants claim what is needed is a "sole practitioner attitude." The architect who excels in a small projects practice might be characterized by some or all of the following:

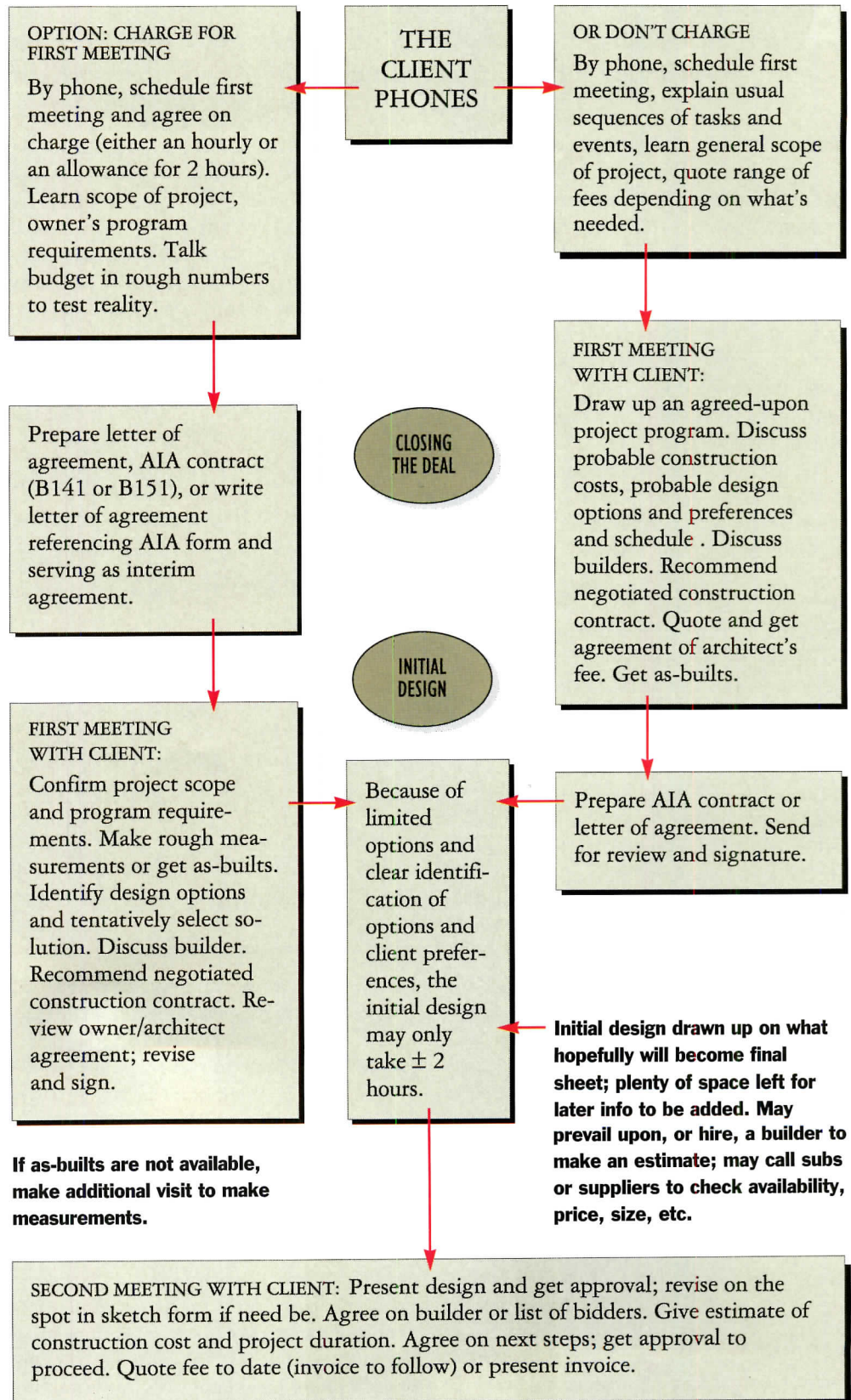
- Has an entrepreneurial "can-do" approach about all aspects of a project, including construction and engineering; wants to see tangible results in the short term.
- Has a pragmatic, get-your-hands-dirty fascination with the construction process, its myriad trivia, and its fascinating mix of participants and interests; above all, a generalist and problem-solving approach.
- Has a value system that not only places service to the client at a very high priority, but tends toward a rather literal interpretation of client communications to determine just what that means.
- Has a disdain for bureaucracy and specialization; a disregard for big firm/big project precedents of standard forms and formats for project contracts, documentation, and process. Though AIA standard forms remain the backbone of project methodology, they often are included only by reference or are used as a resource, an outline, or checklist.
- Has the self-assurance to make immediate

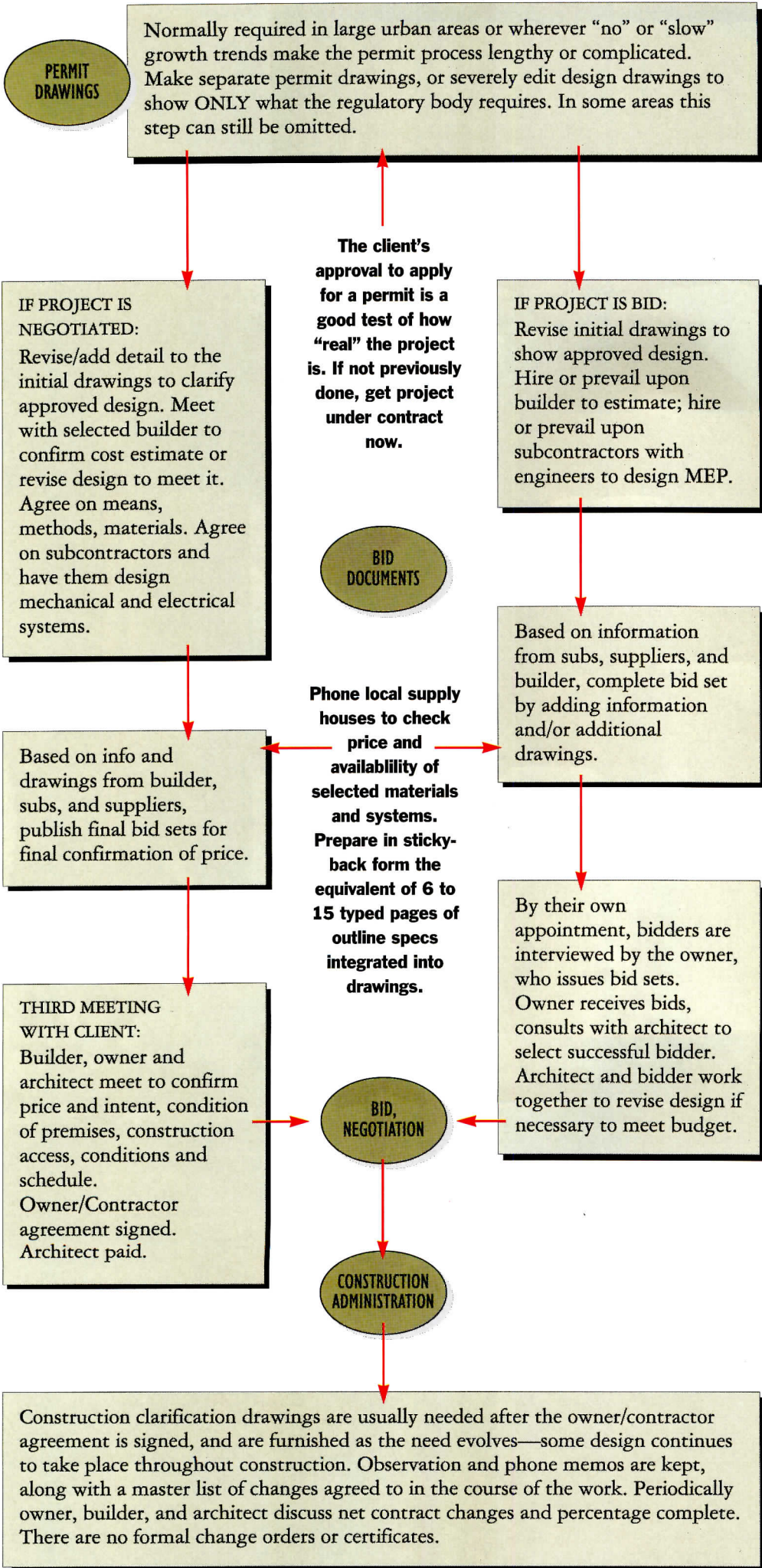
MARKETING

Marketing is virtually all indirect. For example:

- Community activities
- Booth at Home & Garden show
- Newspaper/newsletter articles
- Desktop/Quick-print flyers
- Paragraph in local AIA Directory

Most projects come from referrals from previous clients or are for acquaintances. Occasional "yellow-pager" clients will probably require extra education, or may only want remedial help with regulatory officials and design review bodies.





decisions and a preference for implementing them oneself. Likes to work alone. Will use paraprofessional staff as an extension of self, but knows the project won't support the administrative burden of professional collaboration or team effort.

■ Talks, draws, and writes to convey meaning in the most direct possible way, rather than to disclaim or protect oneself. Listens for information with an open mind and a lively curiosity; enjoys improvisational creativity of working things out on the spot with the owner and builder.

■ Knows when to stop—a believer in Occam's razor.

A generalized composite of the tasks and sequences of services reported for small projects can be summarized in a diagram (these pages) This diagram is not intended to depict a norm or to recommend any set of procedures. It merely reflects the information most frequently conveyed by architects who specialize in small projects. Some specialize by choice, others by necessity. All of them design small projects for profit. More than anything else, that mindset probably distinguishes these practices from the norm. The average firm might report doing small projects as a training ground for young people, as loss-leaders to keep a favored client, as a way for the boss to keep a hand in design, or as fillers. These firms usually undertake small projects only sporadically, and then with the same process as with all their other projects. In contrast, the roundtable participants undertake small projects as a distinctive area of practice—as much a specialty as spec office buildings or schools. The closest comparison in a general practice firm is on those occasions when the principal reports taking the small project home "so the firm won't lose money."

Though most of the firms represented in the roundtables were small- or mid-sized firms, specializing in small projects is not a function of the size of the firm. Two of the firms represented each had a total staff of 20 or more. Becoming a small-project practitioner really seems to have more to do with personal value systems and preferences about how one approaches practice.

With that in mind, it is appropriate to note that William of Occam was a theological philosopher in the 12th century—the period of history in which master builders, griffins, unicorns, and other mythical beasts are reputed to have existed. To the extent that it's possible for architects to live out the myth of the master builder today, it's probably happening among those who specialize in small projects. ■

—JAMES R. FRANKLIN, FAIA

James R. Franklin is a resident fellow of the American Institute of Architects.



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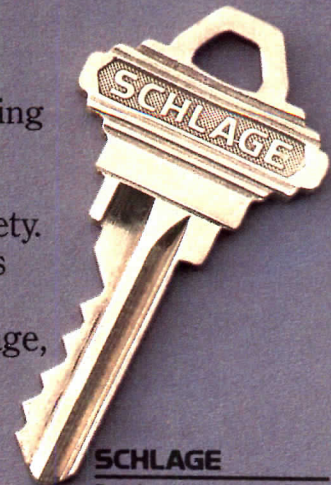
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Plywood Shear Walls

A new report offers updated guidelines for designing quake-resistant structures.

LATER THIS SUMMER, THE AMERICAN PLYWOOD ASSOCIATION (APA) will release a new report on shear walls that reflects critical changes within the construction industry. Although APA has updated its previous research with guidelines for corner bracing and plywood applications in mobile homes, the new report is the first major study of shearwall applications undertaken by the organization since 1965.

In order for a building to resist the lateral forces of the magnitude of the 1989 Loma Prieta earthquake, or the wind forces created by Hurricane Hugo, an architect must design a shear wall system that transfers lateral forces down into a foundation. Like all shear walls, the type constructed of structural panels over wood or metal studs strongly resist lateral forces, but often require greater care when detailing. Both framing size as well as spacing of members and fasteners have direct bearing on the performance of any plywood-paneled shear wall.

"Architects now face developments that weren't even thought of 25 years ago," explains senior engineer John Tissell, who supervised APA's research. In 1965, he points out, only all-veneer plywood panels were tested. Since then, non-veneer structural panels, metal framing, and power-driven fas-

teners (with the problem of over-driving) have been introduced to necessitate a new study. In addition, the new test also measured the effects of framing spaced at 16-inch versus 24-inch intervals. Although double-sided shear walls were tested prior to APA's 1965 report, few applications took advantage of this type of construction. Finally, the original shear wall report was based on under 40 tests while the new report will be issued after over 500 tests have been conducted—each designed to study performance changes in the industry, such as lower quality lumber and poorer quality nails, which can greatly impact performance.

Among other results, these hundreds of tests will address current recommendations in the Uniform Building Code concerning double-sided shear walls. In addition, Tissell explains: "We recently reduced recommended design shears because of the splitting problems, and this report confirmed that it was reasonable." Code issues concerning plywood over gypsum board were also

addressed. The new report reveals that the structural panels over 5/8-inch gypsum board performed equally well against lateral load as the 1/2-inch gypsum construction that was originally tested.

According to Tissell, the major advantage of APA's new report for architects and engineers is its appendix, which not only contains a complete summary of all shear wall tests on record, but also features a chart that shows how to calculate design values from basic tables found elsewhere in the code. This information is particularly useful since the typical building code allows calculation of design shear using principles of mechanics, even though it may not necessarily offer instruction as to how those shear values are to be calculated.

On the following pages, we offer some of the results of the APA study, explaining testing procedures, six types of shear wall construction, and the importance of stud spacing and widths in designing framing. For more information regarding the report, readers should contact the American Plywood Association, P.O. Box 11700, Tacoma, Washington 98411-0700 (telephone: 206-565-6600).

—TIMOTHY B. McDONALD



Located in Aptos, California, just 10 miles from the epicenter of the Loma Prieta earthquake, the Gaspich residence (above) survived the October 1989 disaster without a crack. One reason the 2,200-square-foot beach house performed so well, according to architect Elsbeth Newfield, was its incorporation of plywood shear walls. The exterior shear walls were designed according to Uniform Building

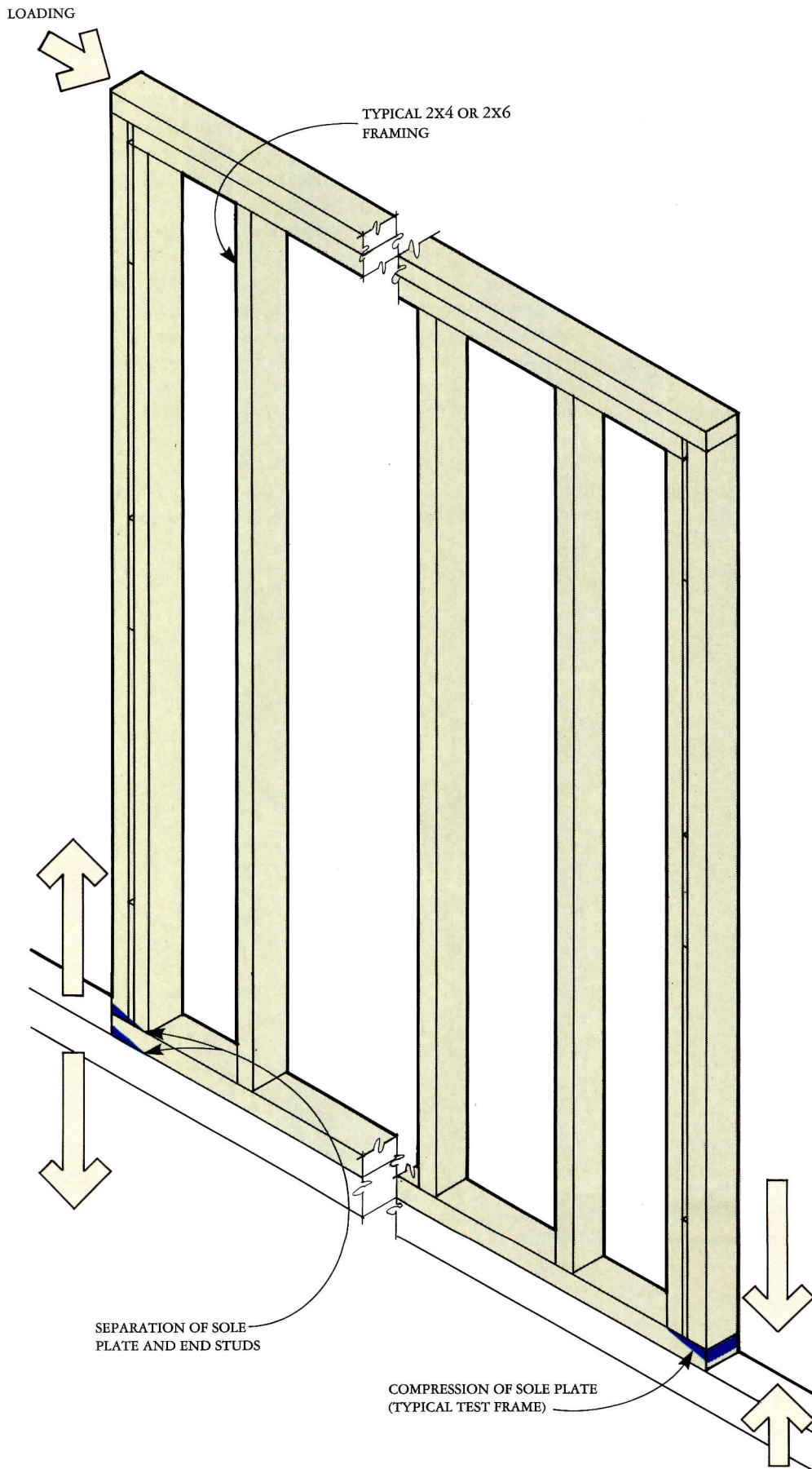


Code guidelines and constructed of 1/2-inch, T1-11 plywood on typical 2x4 framing, while the interior shear walls (above right) were framed up using 3/8- and 5/8-inch APA-rated CDX. Although its design was not based on the yet-to-be published APA guidelines, the Gaspich house clearly illustrates the benefits of plywood paneled shear walls, particularly in areas of high seismic risk.

PHOTOS COURTESY OF AMERICAN PLYWOOD ASSOCIATION

APA testing procedures

Before examining the results of APA's testing, the reader should be aware that APA's laboratory methods deviate from ASTM's testing in several significant ways. These differences are particularly important if an architect intends to compare test results from different laboratories. The first deviation is the magnitude of APA's loading. "ASTM E72 is based on a tradition that came out of the National Bureau of Standards in 1938," explains Tissell. "The testing loads were very low. On the first cycle, they suggest a load of 100 pounds per linear foot, the second cycle 200 pounds, then 300 pounds on the third. If you have designed a wall to support 600 pounds per linear foot and you test it at these low loads, you're not really testing that wall in a manner for which it was designed." Tissell's theory is that under-loading a wall results in a higher ultimate load because that wall has not been stressed to the intended designed load on the first cycle. APA's current tests are conducted according to the designed load during the first cycle, twice the designed load during the second cycle, then the ultimate load on the third cycle. Tissell points out that he has tested many walls at loads of 560 to 650 pounds per foot, and feels that lesser loading of 100 pounds per foot is "an insult," since the results aren't comparable to the structural intent. The size of the loads, according to Tissell, requires another deviation from the ASTM E72 standard testing procedure for measuring deflection. Because the ASTM standard assumes a low load, the APA maintains that the test results in insignificant frame deformation. When a load is applied in the upper left-hand corner of the test wall, for example, the bottom left-hand corner of the test wall automatically pulls up, separating the vertical 2X4 members from the bottom plate. ASTM's placement of a gauge on the left-hand vertical stud measures the uplift of the specimen, but also records the separation of the specimen. APA, on the other hand, measures deflection relative to that corner of the wall's bottom plate. Similarly, in the bottom right hand corner, the plate is crushed under the same load. The original test measures the deflection of the shear wall relative to its sheathing. Under loading, however, the sheathing moves only half as much as the frame, provided the entire assembly rotates correctly, according to Tissell. "That's a 50 percent error in the test method," he points out. "The 0.2-inch deflection limits set up by ASTM are applied to the movement of the top plate, which has twice as much deflection as the sheathing at the top of the wall. There's clearly a problem with this deflection limit."



Blocked vs. unblocked shear walls

Normally, when plywood panels are placed horizontally over framing, blocking is provided between studs along the joint between the panels. This arrangement allows for a continuous fastening surface between the studs. However, the APA felt more testing data was needed to evaluate unblocked shear walls, so they tested 12 unblocked 8-foot by 8-foot walls.

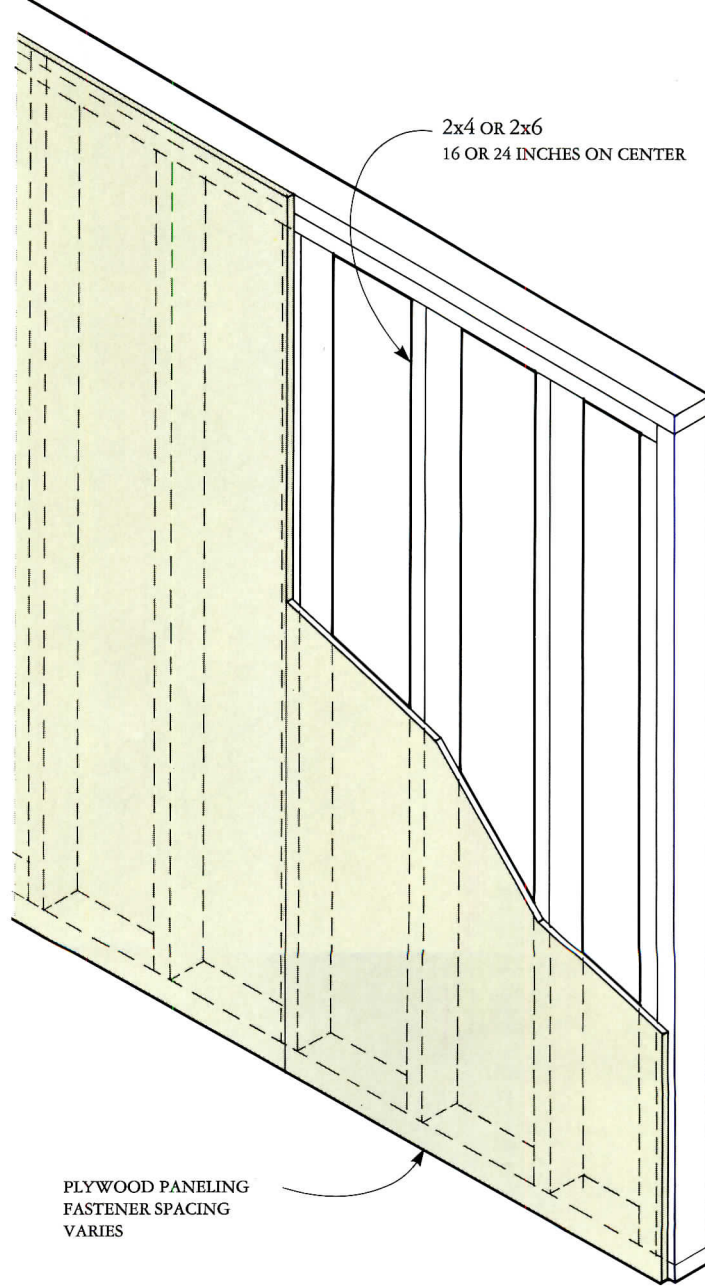
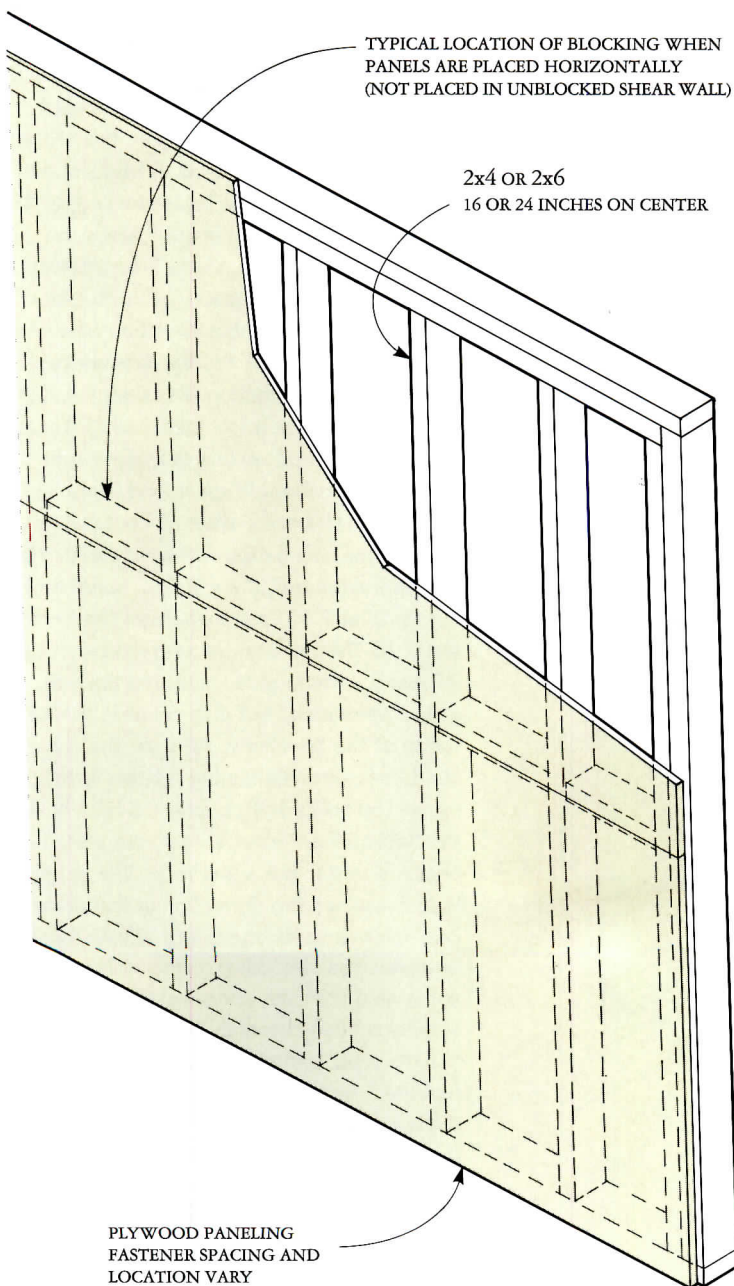
The weak point for unblocked walls is often due to the lack of shear transfer between studs. Typically, failures occur along the unblocked, horizontal joint. The horizontal panels of an unblocked shear wall are able to slide because they are nailed only to the studs. A blocked shear wall, however, consists of panels nailed to lumber members between each stud, resulting in full-shear transfer. The number of shear transfers greatly increases when the wall is blocked, since just the nails at the edges transfer shear. Instead of one nail every 16 inches in an unblocked wall, a blocked wall features one every 3, 4, or 6 inches.

The APA tests found that the unblocked walls were sensitive to nail spacing as well as the number of framing members. Some wall panels were fastened every 6 inches on center along the edge of the panel, and every 12 inches on center at the intermediate framing. On other test walls the nail spacing was even closer, resulting in an increase in shear capacity.

Stapled shear walls

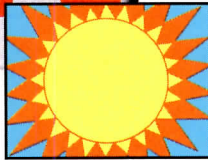
Among other introductions to the construction industry in the past 25 years is the use of power-driven fasteners. To update its studies in this area, the APA tested 25 shear walls fastened with staples. According to Tissell, the pneumatic tool association produces a publication on shear wall and diaphragm values for staples, box nails, casing nails—all types of power-driven fasteners. The APA was particularly concerned because the fastener association suggests one inch as adequate penetration for a staple—a length that doesn't sound like much, but in fact makes all the difference in strength. Increasing the penetration of the staple to 1-1/2 inches, however, didn't seem to make any significant difference in performance.

The primary failure in the tests of stapled shear walls was from the fastener pulling through the panel material. A large number of 14-gauge staples pulled through the 3/8-inch panels, which may indicate the panels were too thin for the staples. Failures of 5/16-inch panels were due to staple crowns pulling through the plywood. The APA report concludes: "The low factors for many walls using 15/32-inch or thicker panels and 16-gauge staples may indicate that the strength of a 16-gauge staple is fully developed by 3/8 or 7/16-inch thick panels, and the use of a thicker panel does not result in a significant increase in shear capacity."



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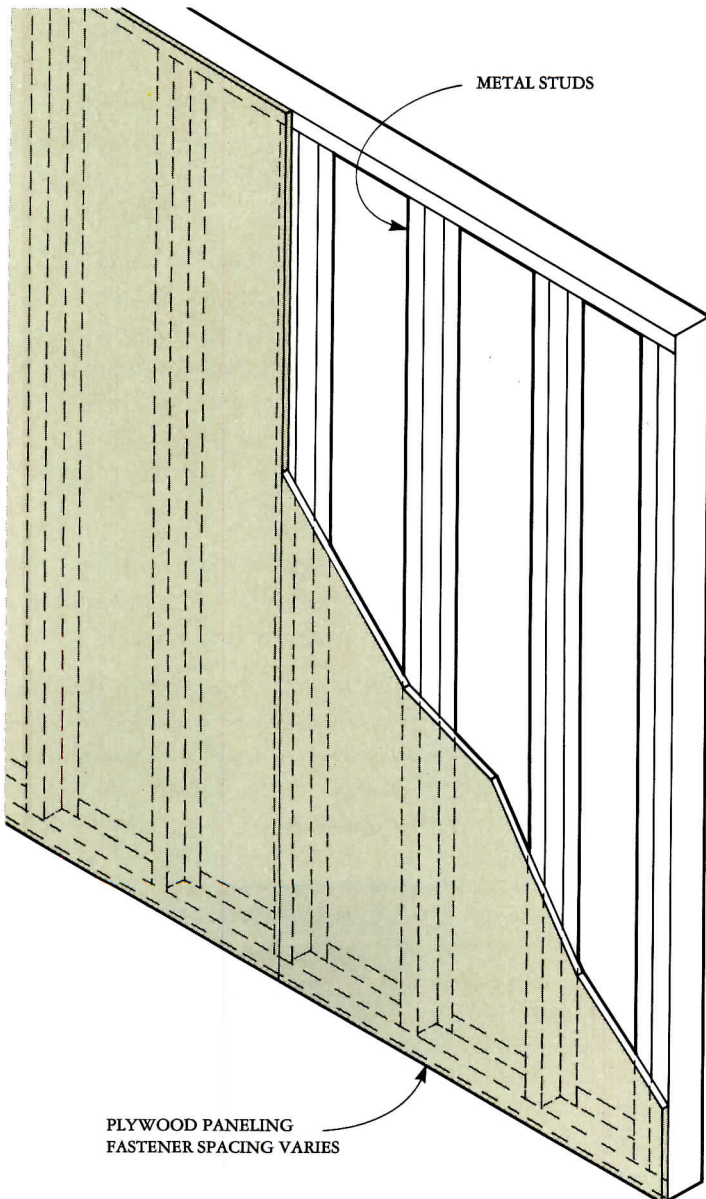
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Metal-framed shear walls

Little information has been published on the shear capabilities of metal-framed walls. In APA's new tests target design shears had to be based on assumptions. The report states: "Most of the tested walls failed prematurely when the end studs buckled, or the bottom plate buckled at the buttress of the test fixture, due to tearing of the bottom track at the anchor bolts."

The main problem with metal framing is its light gauge, typically 22- to 28-gauge, which just doesn't hold the fasteners. Thinness of the metal also proved a problem at the top and bottom plates. The test showed it was difficult to fasten down the bottom or top plates properly in order to transfer the shear in the wall to the foundation, or take the shear in the floor above into the top of the wall. Because of the thin metal, bolts easily ripped out of the bolt holes. A solution to these problems may be to increase the gauge of the metal studs used in shear walls. "Only one failed at the fasteners, and that one had 14-gauge studs and a very thin plywood panel," says Tissell.

Because of the weakness of the metal, the tests weren't "a true indicator of the capacity" of metal-framed shear walls, according to the report. The report goes on to warn that metal shear walls require that the end studs be carefully designed as highly loaded columns with a sufficient number of anchor bolts to provide shear transfer either from the bottom plate into the foundation, or to the diaphragm supporting the wall.

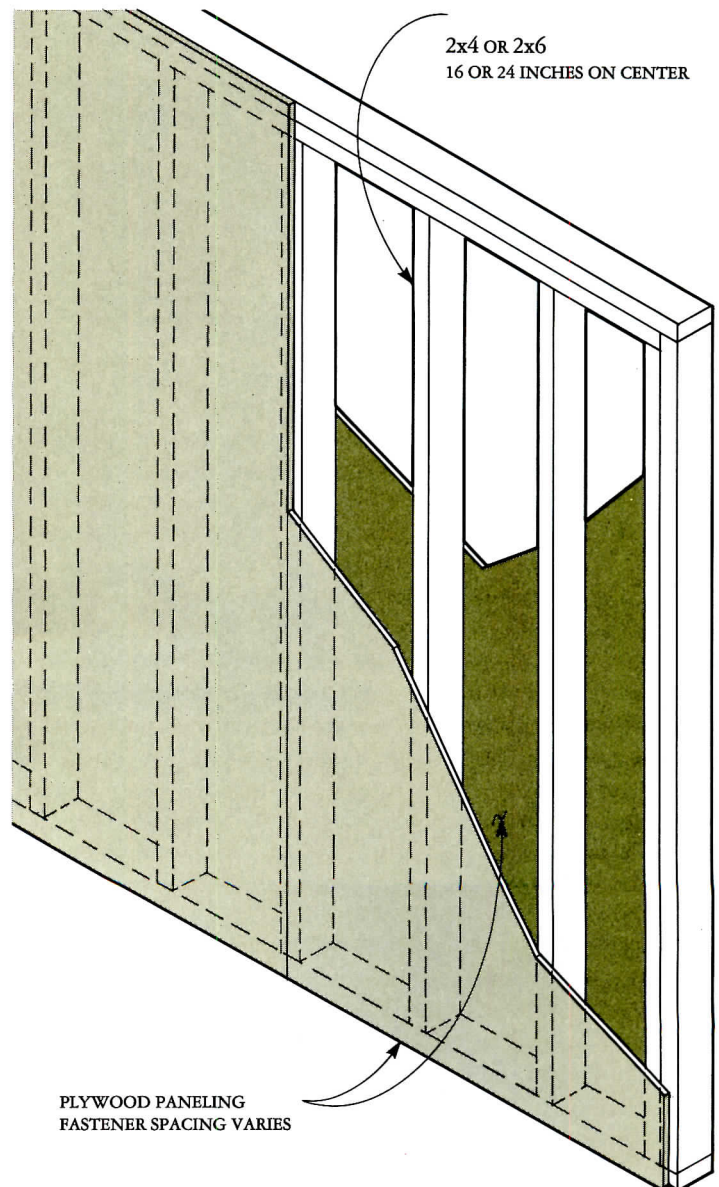


Double-sided shear walls

Double-sided shear walls are normally applied only where extremely high loads are anticipated. Since the APAs' test walls measured only 8 feet by 8 feet, the panel edge joints on both sides had to be fastened to the same stud. In good construction practice, the edge joints on one side would be offset from those on the other side of the wall.

John Tissell pointed out that the APA had to make another assumption that might not be the case on an actual construction site. All the plywood panels on both sides of the frame were identical, not only in thickness but also in the number of fasteners applied. Building codes often state that if two sides of a panel are identical, the shear values are simply doubled. However, if the sides are not identical, the weaker side is doubled, or the stronger side is taken by itself and the weaker side ignored. None of these code calculations apply when gypsum board is applied on one side. Although the APA tested gypsum on one side and found the results "wonderfully additive," the code will not give any credit for it, primarily because of the difference in stiffness between the sides of the wall.

Failures to doubled-sided shear walls typically occur due to compression in the framing, normally where the end studs bear against the bottom and top plates. Compression was particularly severe in stapled walls because of their high design shears. The new APA report recommends that designers "carefully consider column buckling of the end framing members and bearing on the bottom plate."





Top: Credit Agricole, San Francisco, California
 Architect: Michael Marx & Associates
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Panels over gypsum wallboard shear walls

Gypsum sheathing 5/8-inch thick is generally used under plywood paneling, where shear walls have to meet a one-hour fire-resistance rating for the outside. The new APA tests were conducted to verify that design shears for 1/2-inch gypsum under plywood paneling were applicable to 5/8-inch gypsum. The gypsum was nailed to the test framing using a minimum of fasteners. However, the report states that during normal construction, additional fasteners will add strength and stiffness to the wall.

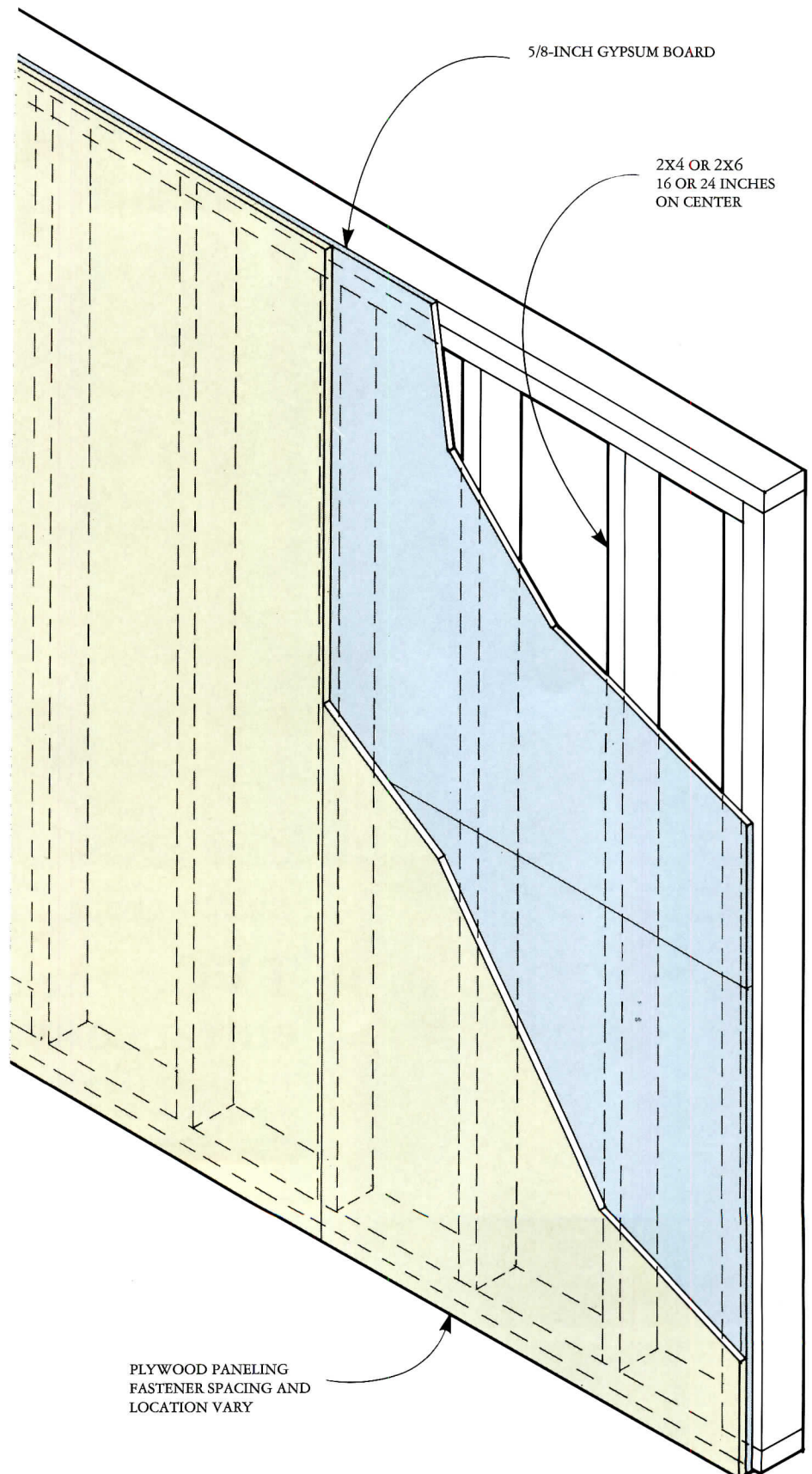
The tests confirmed the recommended design shears for 1/2-inch gypsum board were adequate for 5/8-inch gypsum board. Yet the report also recommends that architects specify nails one size larger than those usually selected for adhering plywood sheathing over gypsum board.

Effects of stud spacing and stud width

Framing spacing is critical to shear walls. The majority of framing in the new tests was constructed of 2x4s. However 2x6 framing was used occasionally, and 3x4s when required because of closely spaced nails. When 10d nails were hammered 2 inches on center, were used, 3x4 lumber was the only way to avoid splitting. The extra dimension allows the nails to be staggered. The APA at first substituted 2x6s for the 2x4s, hoping the greater depth would prevent splitting, but there was no apparent difference.

The recent tests show that 3/8-inch-thick panels tend to buckle when fastened to studs spaced 24 inches on center. Such thin panels placed on studs spaced 24 inches on center have table shears that are about 17 percent less than if the studs were positioned 16 inches on center, or if the panel was placed horizontally. "So on the thin panels, space the studs 16 inches on center, put the panels on horizontal, or go to a thicker panel," advises Tissell.

The new APA report on plywood shear walls includes tables on each of the *aforementioned* shear wall types. The tables include load factors, target design shear and ultimate load, as well as fastener spacing and length which correspond to the appropriate plywood thickness. ■



Toward A Model Fire Code

Recent developments in computer software are changing the formulation of codes.

FIRE MODELS—COMPUTER-GENERATED SCENARIOS SIMULATING the consequences of a prescribed fire—are assessing with increasing accuracy the safety of occupants in existing structures and buildings under development. In the future, they will even provide a tool for architects to convince code officials of acceptable alternatives to otherwise prescriptive codes.

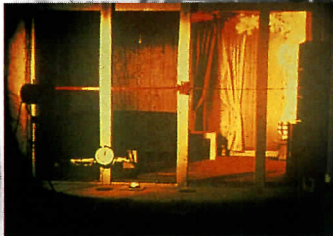
Fire safety is currently enforced through state and local codes intended to provide

time for safe evacuation by the building's occupants. However, codes have not been able to address the important relationship between the time *required* for escape and the

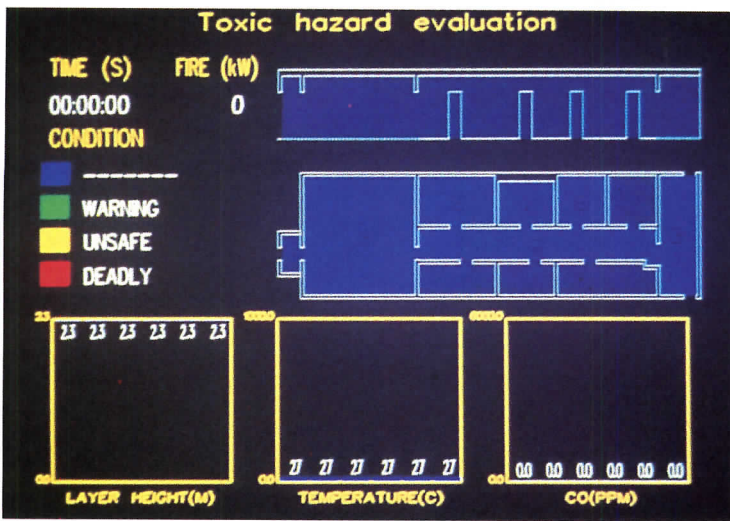
time *available* for escape. With some limitations, fire models can now make those necessary calculations. New materials and design and construction techniques can be assessed for safety before a performance record has been established, ultimately allowing for easier and faster acceptance of untested building methods.

Traditionally, fire codes are formulated by committees of experts evaluating destructive test methods that examine specific fire properties or performance characteristics of building materials and assemblies. Hourly ratings, based on occupancy and use, are prescribed to building construction on the basis of ASTM fire-endurance test results performed on materials and assemblies (below). Intuitive judgment, based on subjective consensus by the local code committees, determines how different provisions for safety combine in a real fire, and how a building can be evacuated safely.

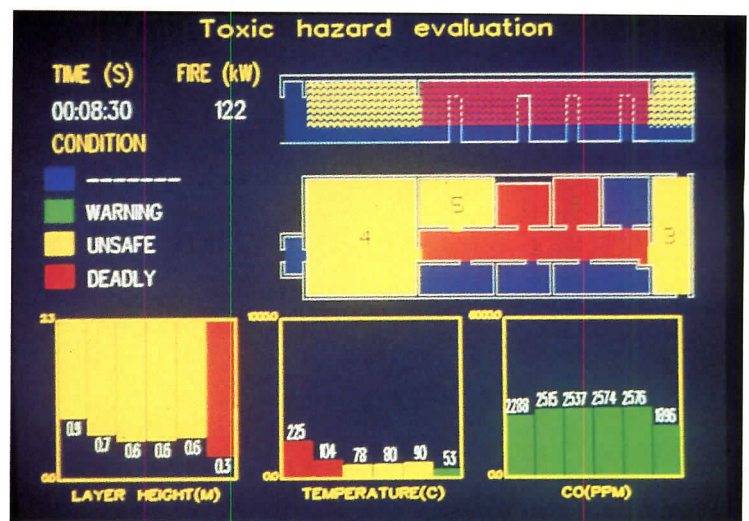
Regional organizations, such as the International Conference of Building Officials (ICBO), Building Officials and Code Administrators International, Inc. (BOCA), and Southern Building Code Congress International (SBCCI) are extremely influential in developing codes, and they all publish model building codes for use in specific locales. Convincing these organizations that fire models are a valid method of determining building safety is critical to changing the nature of codes, from being prescriptive to performance-oriented. Richard Bukawski, manager for the Technology Transfer Center for Fire Research (CFR) at the National Insti-



Currently codes rely heavily on the results of ASTM fire-endurance tests, using mock building assemblies (above, left to right). Fire modeling provided valuable information to investigators in determining the cause of the Dupont Plaza Hotel fire in 1986 (above left).



Based on data entered by the user, the computer screen displays a floor plan and section of the building compartments to be evaluated (above). The variables analyzed (smoke layering, temperature, and toxicity) are represented by bar graphs.



Eight and one-half minutes into the simulation (above) the graphs indicate the danger level for each variable analyzed and their location on the plan and section. The graphs, plan, and section are coded by colors keyed to corresponding levels of safety.

tute of Standards and Technology (NIST), conducted a training class in April for ICBO's staff to address code-equivalency questions. He found that the reaction was very positive, and BOCA and SBCCI have been awaiting ICBO's conclusions before receiving similar training. Within the decade, Bukawski predicts that codes will be based on performance of building design tested by computer models rather than on meeting specific construction criteria.

Fire models have primarily been used to aid fire investigators in evaluating actual fires in existing buildings, and to reconstruct their likely origin and development. Most notably, fire models were used to aid investigators in analyzing the source and development of the Dupont Plaza Hotel fire in San Juan, Puerto Rico (page xx), and have even been introduced as evidence in litigation. A model was used to evaluate the effect of the local fire department's delayed arrival at a fire scene in Fort Hood, Texas, in 1982. The analysis reproduced the fire damage, the escape of those who survived, and the circumstances of three deaths, including the location of the bodies and the autopsy results. It also revealed that the fatalities occurred while the fire department was being notified, determining that the fire department was not liable for any fatalities. The plaintiff settled for less than \$200,000 from the original \$26 million suit. Analysis by a fire model, the U.S. Attorney for the case determined, was almost exclusively responsible for the settlement.

Computer fire model technology has developed since the 1970s, due to powerful and accessible computer resources, with the production of several model types created by using both microcomputers and large supercomputers. Currently, several computer models are available that vary considerably in scope, complexity, and purpose. Special models target a single function, like examining the toxicity or flammability of a single product, or analyzing several characteristics of building fires for a more general assessment of occupant safety.

Two classifications of fire models are of interest to building analysis: field and zone models. Field models, such as a model called Jasmine, are very computer-intensive and require large computers, since they divide the compartments analyzed into a number of cells—from several thousand to more than 30,000. Scenarios can cost as much as \$50,000 per simulation, making them prohibitively expensive and inaccessible for all but the largest structures—like stadiums and shopping malls.

Zone models, however, are likely to exert the greatest influence in the future. These models can be run much faster than field models, and the results are easier to understand. Zone models make the assumption that the buoyancy of hot gases causes air in the compartment to stratify into two layers: a hot, smoke-filled upper layer and a cool lower layer. This assumption simplifies the calculations required for field models because the compartments can be represented by two volumes (upper and lower) with single values. Although simpler, by assuming uniform conditions, but not specifically analyzing temperature and smoke concentration differentials within the zone, such models are inherently no less reliable than field models in analyzing occupant safety.

During the summer of 1989, researchers at the Center for Fire Research, a division of NIST, released Hazard 1, an integration of several zone models in a software package which is PC-compatible and represents the state of the art in fire models. It is the

first computer model to account for the combination of physics, chemistry, fluid mechanics, heat transfer, biology, toxicology, and human behavior to determine the outcome of a fire.

Hazard 1 can be used on a personal computer to predict the fate of occupants in a burning building, and the change in the hazards that result by altering construction materials and design composition. Each analysis is conducted according to a specific context and a

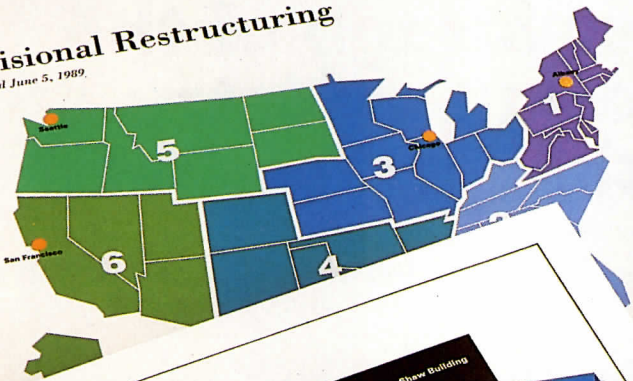


Simulations involving fire development on several floors can be depicted in three-dimensional images (above). In this scenario, the analysis of five compartments is represented.

Continued on page 131

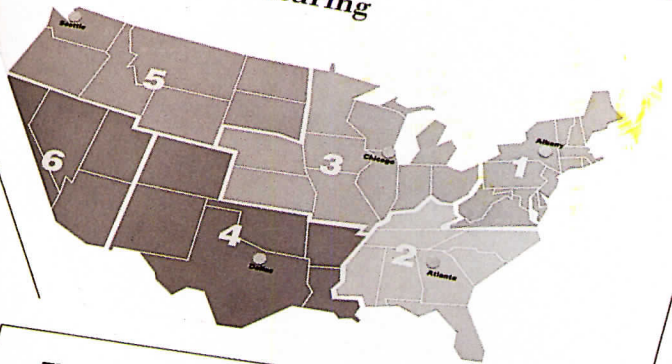
Divisional Restructuring

Amended June 5, 1989

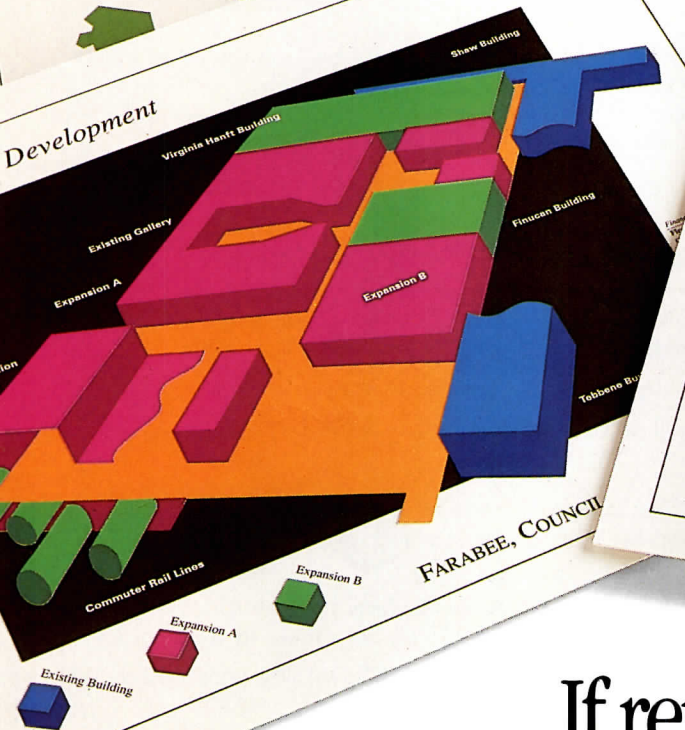


Divisional Restructuring

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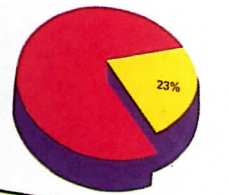
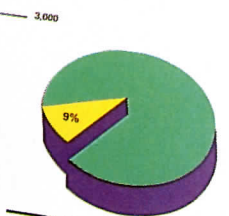
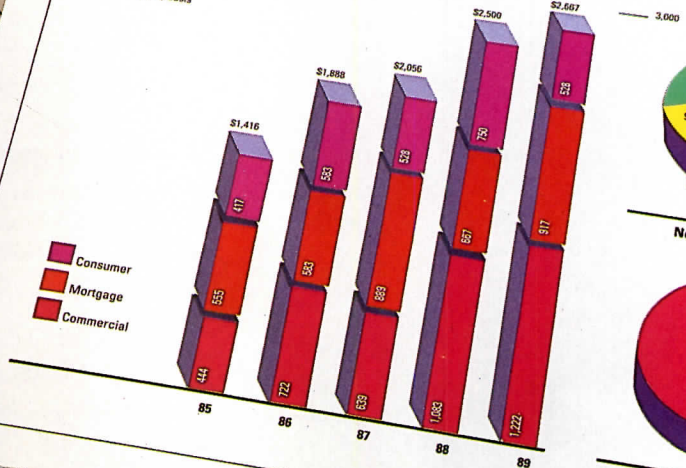


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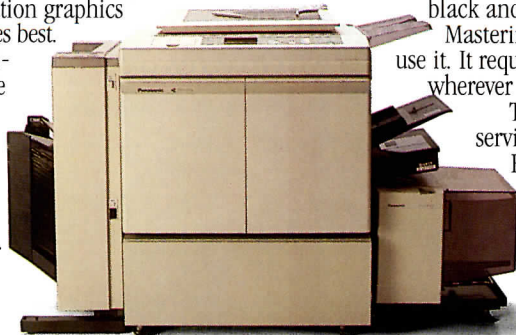
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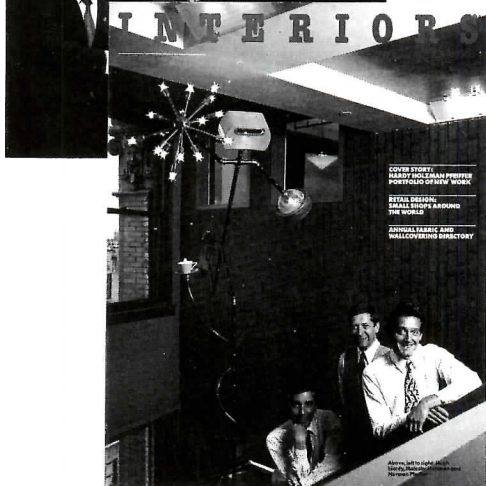
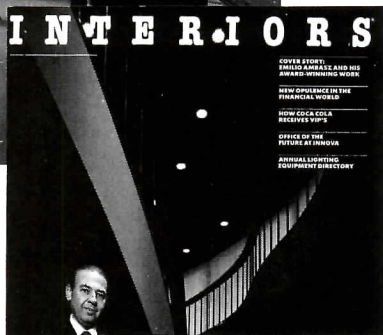
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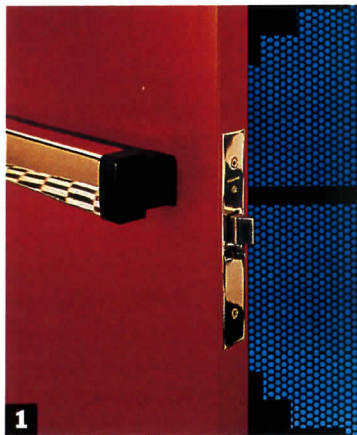
PRODUCTS

FIRE PROTECTION

New building materials resist flames.

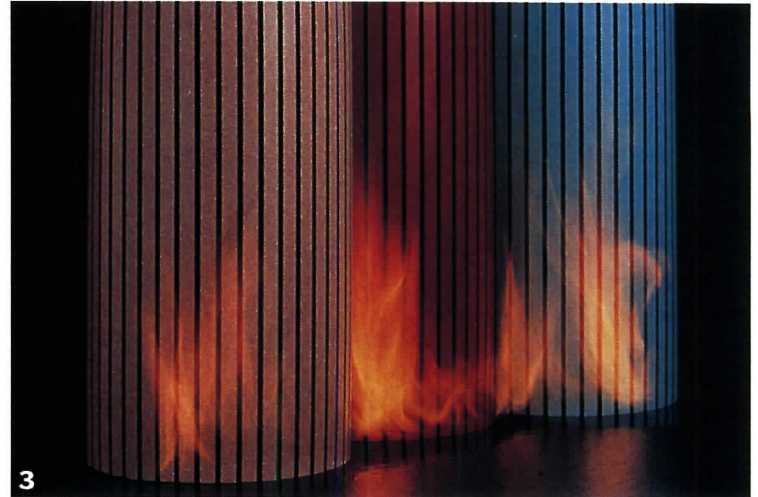
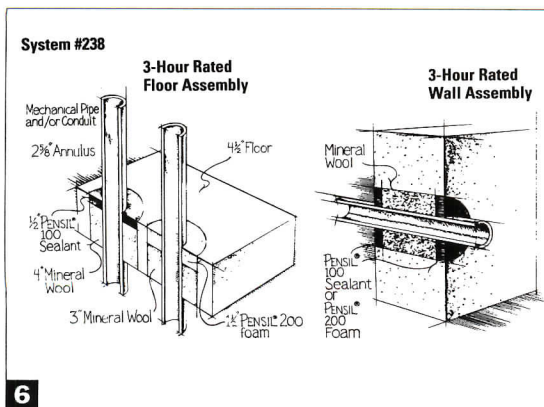
ROUGHLY 80 PERCENT OF ALL FIRE FATALITIES IN THE UNITED States each year occur in residences, according to figures provided by the National Fire Protection Association. Many of these tragedies could be prevented with the installation of a smoke detector or fire extinguisher. Whereas fireproofing a residence is discretionary, protecting a commercial building from fire is mandatory—hourly fire ratings are required by municipal building codes. Unfortunately, the hotel industry does not mandate sprinkler system requirements, despite the obvious need for such regulations. To date, only five states require sprinkler systems in new and existing hotels. A recent hotel industry survey revealed that only 45 percent of the nation's hotels were installed with sprinkler systems as of June 1988. Recognizing the need for more stringent fire requirements, the federal government introduced legislation last November that would provide incentive to hotels to install the systems. If the bill passes, all federal travel patronage, which accounts for \$1.5 billion annually, would go only to hotels with this protection. The measure has been forwarded to a Senate committee, where hearings are expected to begin this month.

—AMY GRAY LIGHT

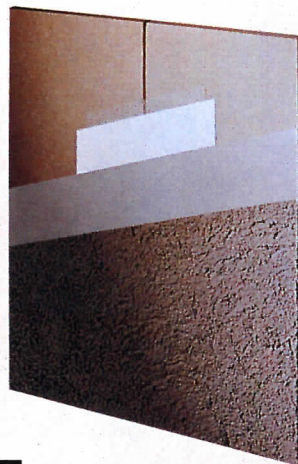


1. The Series 3000 fire-rated exit device is available in a variety of finishes with latching and mounting options for wood, metal, and glass doors. A variety of accessories are described in catalog no. 08716/ADC. Adams Rite Manufacturing Company. Circle 401 on information card.

2. I-Stud Cavity Shaftwall System from Gold Bond Building Products creates a two-hour fire rating using gypsum wallboard framed by metal studs and channels to enclose elevator shafts, stairwells, and vertical service shafts. Circle 402 on information card.

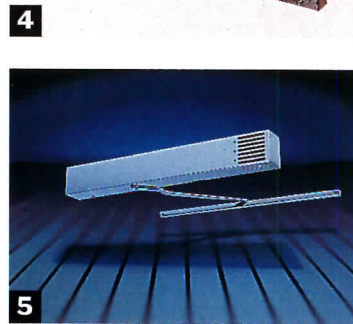


3. Decorative tambours have Class 1A and UL fire ratings and plastic laminate, anodized aluminum, and premium grade wood veneered surfaces. Ralph Wilson Plastics Company. Circle 403 on information card.

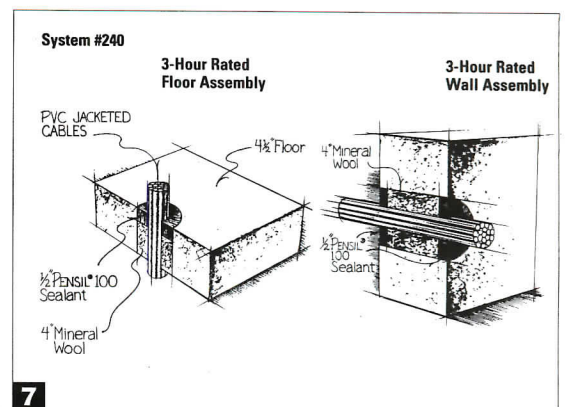


4. Exterior steel stud wall construction faced with Eterspan has a one-hour UL fire rating. Eternit. Circle 404 on information card.

5. The Heritage Smok-Chek UL-listed door holder releases when activated by a smoke detector, isolating fire and smoke. Rixson-Firemark/Yale Security Inc. Circle 405 on information card.



6 & 7. Pensil Through-Penetration Firestop Systems are designed to reseal penetrations in floors and walls to restore them to their specified, fire-rated condition. General Electric Company, Silicones division. Circle 406 on information card.



GRIDS OVERHEAD

Ceiling systems allow speedy installations.

THE NEWEST INTERIOR CEILING GRIDS ON THE MARKET contribute to cost-saving installations, since many systems now come pre-assembled. Chicago Metallic Corporation's Cube cell panels are available in several sizes out of the carton, and Kemlites' Sanigrig system snaps together with heavy clips. Sanigrig is also designed to be moisture- and corrosion-resistant. One way to enhance the design of interior ceilings is by applying grid patterns in a variety of colors and finishes. USG's Pedestals panels feature triple-stepped sections and trimmed decorative sections in four patterns. Some systems offer a combination of materials, such as Norton Industries' nonmodular Glass Impressions panels in wood with a metal suspension system, simulating glass block. Custom grids also create a unique design statement—Alumax's ceiling system allows designers to place integral air diffusers, air-return slots, and built-in lighting where desired, and Hunter Douglas's Round Edge Linear Metal panels can be curved across their length and combined with other systems. —A.G.L.



1

1. Pedestals' acoustical panels with high NRC ratings are available in both Acoustone Frost or Auratone Fine Fissured textures. USG Interiors Inc. Circle 407 on information card.

2. Hunter Douglas offers curved ceiling systems in a range of colors and metallics. Circle 408 on information card.

3. The Cube Open Cell system consists of square open cells separated by 3/8-inch-thick channels. Chicago Metallic Corporation. Circle 409 on information card.

4. The Glass Impressions non-modular system can be specified in white or gray, with custom paint finishes also available. Norton Industries. Circle 410 on information card.



2



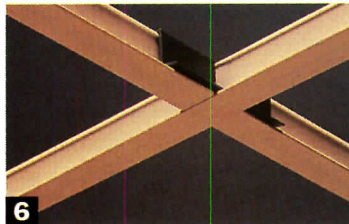
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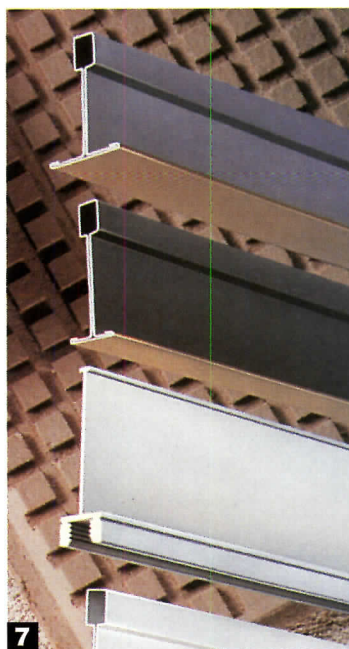
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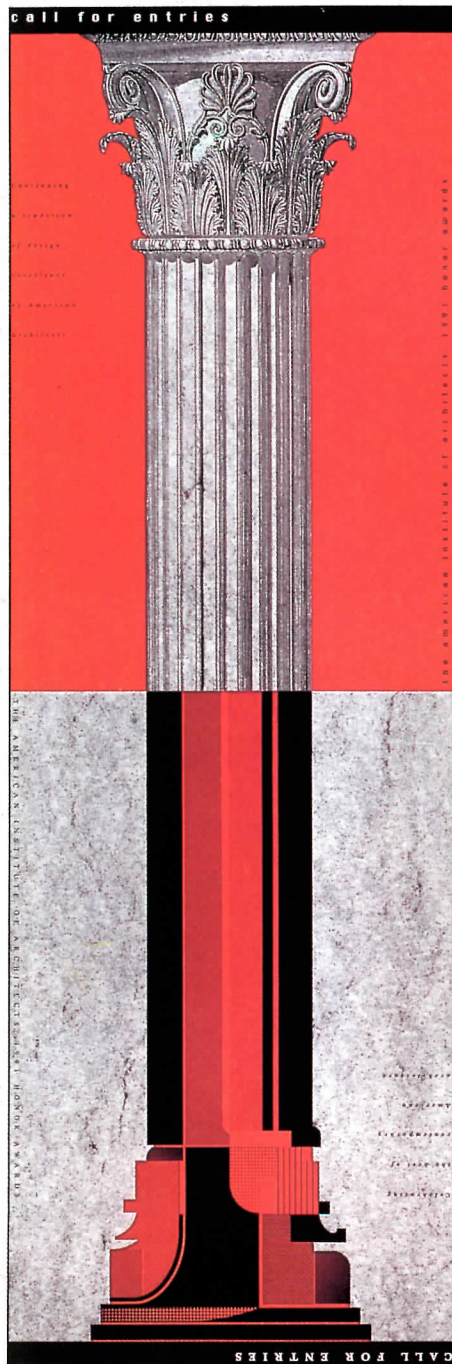
5. Alumax Custom Ceiling Grid Systems permit a variety of design variations in a multitude of colors and finishes such as anodic or acrylic enamel. Dual color combinations are also possible. Alumax/Magnolia division. Circle 411 on information card.

6. Sanigrig suspended ceiling panels, made of fiberglass reinforced plastic, will not corrode or rust. The system is suggested for food and dairy plants where lactic acid in the atmosphere can erode metal building materials. Kemlite Company. Circle 412 on information card.

7. Six grid suspension systems, Suprafine, Prelude, Prelude Fire Guard, Trimlok, Silhouette, and ATS, are illustrated and described in new literature from Armstrong World Industries. The catalog offers technical information such as UL listings, load data, grid/ceiling compatibility charts, and guide specifications. Armstrong World Industries. Circle 413 on information card.



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PRODUCTS



1

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Residential bathroom fixtures and accessories.

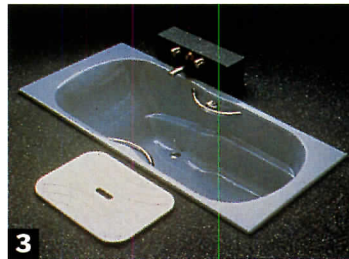
WITH CONSUMER SPENDING FOR NEW BATH INSTALLATIONS and remodeling rising an average of \$6,000 to \$14,000 per year, and some projects reaching the \$30,000 to 50,000 range, bathrooms are fast becoming major design features of houses. One manufacturer's research estimates that nearly 16,000 architects were active last year in the custom bathroom market. Ellen Cheever, director of education for the National Kitchen and Bath Association, predicts a return to traditional bathrooms, and notes that vanity tops of marble, onyx, and granite are becoming increasingly popular.

For more contemporary interiors, the current, wide range of colored fixtures enlivens standard elements. The most important factor in bathroom design is, of course, comfort and safety. Many bathtubs already feature stepped and sub-floor-level hydrotherapy options, arm rest ledges, hand grips, and generously sloped, contoured, lumbar-supported backs. Other tubs incorporate optional bathing platform rests to serve as a bath tray or a shower seat for the elderly or handicapped. Pressure-balancing valves for sink, bathtub, and shower fixtures regulate water temperatures, and conserve water and energy. Other safety considerations include the installation of handholds in strategic locations, and installing effective lighting levels. ■

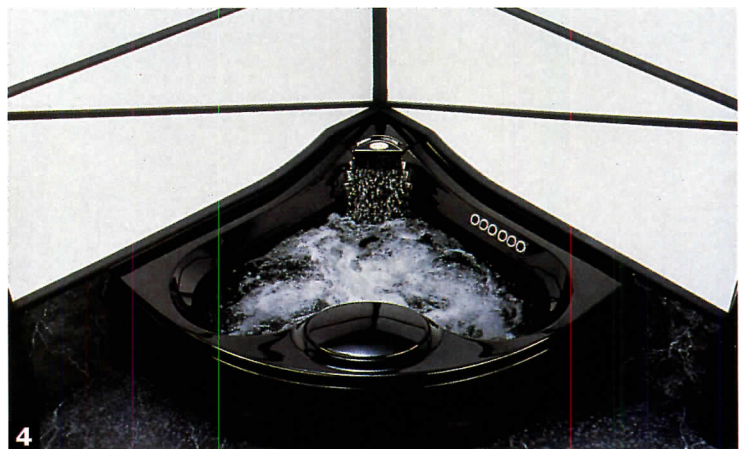
—A.G.L.



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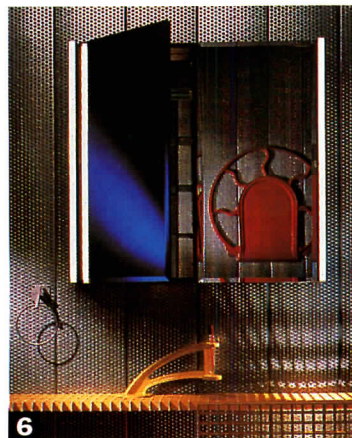
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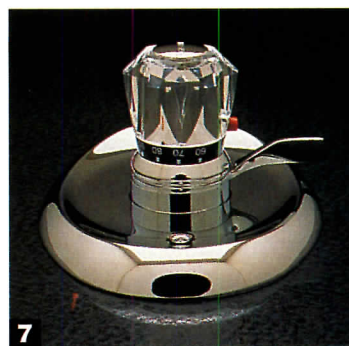
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7



8

1. Free-standing Shower Pavilion is prewired and preplumbed, with factory-installed hardware. Hansgrohe, Inc. Circle 419 on information card.

2. Primavera sink and mirror ensemble from Alape. Euro Source Ltd. Circle 420 on information card.

3. Cast-iron Romaine tub is offered in five- and six-foot versions. Porche, Inc. Circle 421 on information card.

4. Fiore whirlpool bath has cascading waterfall and built-in, hand-held shower. Jacuzzi Inc. Circle 422 on information card.

5. New wall-mounted, fog-resistant mirror from The French Reflection Inc. Circle 423 on information card.

6. Artistic mirrored bath cabinet by Robern Inc. Circle 424 on information card.

7. Grohmix Thermostat/Pressure Balance Mixing Valve. Grohe America, Inc. Circle 425 on information card.

8. Redesigned single-handle bath fixture for tub and shower. Delta Faucet Company. Circle 426 on information card.

Eames Design

John Neubart, Marilyn Neubart, Ray Eames
(Harry N. Abrams, \$95)

IF THE LEGENDARY HUSBAND-AND-WIFE design team of Charles and Ray Eames had created only one chair (the lounge chair and ottoman of 1956); a single residence (their own steel and glass house of 1949); and only one film (the mind-expanding "Powers of Ten" in 1968), they would have been assured a permanent and prominent place in the history of Modern architecture and design. Fortunately, their combined talents resulted in an outpouring of projects during the nearly 40 years of their practice. This handsome new book catalogues every single commission undertaken by this creative pair, in a comprehensive manner.

Ray Eames died in 1988, ten years to the day after her husband and design partner, Charles. Ray did not leave until their work was finished, however. It took her a decade to complete the monumental task of cataloguing, documenting, and safely housing the legacy of their prolific practice. This book (seven years in the making) became the last project of the office, and the only one on which the two of them did not collaborate.

Charles and Ray met at Cranbrook in

1940 at a time when there was an unusual convergence of talent at the school, which included Eero Saarinen, Harry Weese, and Harry Bertoia. They were married the following year and set up their design office in Venice (even then a bohemian section of Los Angeles), in an abandoned warehouse that came to be known as 901, its street number on Washington Boulevard. It was an ordinary-looking building whose exterior gave no clue to the magical works-in-progress within—what one writer has called "part museum, part circus, part library and screening room." From this unlikely location poured forth furniture designs, exhibitions, films, and publications that would revolutionize the world of design.

This hefty and beautiful catalogue raisonné covers everything from Charles's now-classic answers to the question, "what is design?" to Ray's early cover designs for the highly acclaimed *Arts & Architecture* magazine of the 1950s. It traces the early experiments in molding World-War-II-era plywood splints, and how these prototypes spawned a range of contemporary furniture. All of their films, from the first one in 1952, to the last one for the IBM Exhibition Center in 1979, are included. The 1961 "Mathematica Exhibition" which set new standards for all exhibitions to follow is there, along

with the triumphant Bicentennial exhibit, "The World of Franklin and Jefferson."

The book is organized in absolute Eamesian fashion, chock-full of information arranged in a colorful, richly illustrated format. Layers of text and illustrations resemble the "histo-maps" that Charles and Ray used to such advantage in their exhibitions—graphic devices for simultaneously displaying dates, events, and visual images in an all-at-once chronological manner. It is a book that begs thumbing through, almost like an antique comic flip book. In this case, however, it is a serious, full-length book of 456 pages, and a dazzling overview of some of the best Modern design produced in the second half of this century.

The authors succeed in their stated objective of producing "a definitive, factual record of the work only," and have not attempted a critical assessment. The book succeeds too well, however, in assuring proper credit for everyone involved in the numerous projects of the Eames office. This basic concept seems carried out to excessive (almost obsessive) lengths—a bit like having the movie credits run on longer than the movie. For example, the reader is probably not interested in the fact that the motorcycle Charles and Ray are riding in a 1948 photograph "belonged to

Continued on page 130



Dean of the Graduate School of Fine Arts

The University of Pennsylvania invites applications and nominations for Dean of the Graduate School of Fine Arts, a diverse and interdisciplinary school encompassing the Departments of Architecture, City and Regional Planning, Fine Arts, Landscape Architecture and Regional Planning, and programs in Design of the Environment, Energy Management and Policy, Government Administration, Historic Preservation, International Development and Appropriate Technology, Urban Design, and Urban Studies.

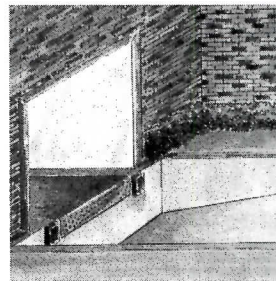
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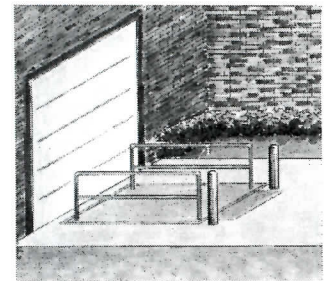
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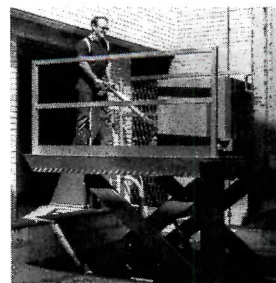
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Books from page 129

Warren Kerkman's son," or that the lettering on the lounge chair drawing was done by Sister Corita Kent, or, for that matter, that Bill Tondreau printed the color photographs for the Franklin and Jefferson exhibition. This relentless need to identify each task and its executor begins to feel at times as if the book's title might, more properly, have been *Credits: Eames Design*.

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—BILL LACY, FAIA

Bill Lacy heads his own consulting firm, Bill Lacy Design, in New York City.

Blueprints for Modern Living: History and Legacy of the Case Study Houses

Essays by Esther McCoy, Thomas S. Hines, Helen Searing, et al. (MIT Press and the Museum of Contemporary Art, Los Angeles, \$50.)

IF YOU MISSED THE LOS ANGELES MUSEUM of Contemporary Art's exhibit on the Case Study Houses, which closed in February, this book provides an excellent alternative. The houses, which were commissioned by *Arts & Architecture* in 1945, and constructed in Los Angeles between that year and 1966, were part of a rare and bold experiment on the part of the magazine's editor, John Entenza. They were field experiments in new designs, materials, construction methods, furnishings, and landscape planning, and showcased the work of such architects as Charles Eames, Craig Ellwood, Richard Neutra, and A. Quincy Jones.

The history and legacy of the program and the houses it produced is presented in eight essays by historians and critics Esther McCoy, Thomas S. Hines, Helen Searing, Kevin Starr, Elizabeth A.T. Smith (who also organized the show), Thomas Hine, Reyner Banham, and Dolores Hayden. The book is filled with great black-and-white photos of the houses under construction (often by the very architects who designed them), the finished buildings, and documentation of what influenced the houses and how they in turn influenced the course of Modern architecture. The book closes with a section on contemporary housing designs by architects Adele Naude Santos, Craig Hodgetts and Ming Fung, Eric Owen Moss, Itsuko Hasegawa, Toyo Ito, and Robert Mangurian, who were commissioned by the Museum of Contemporary Art as an extension of the case study concept. ■

—MICHAEL J. CROSBIE

Fire modeling from page 122

scenario. The context is defined by the building specifications and occupants to be analyzed, and the manner of use of the products in the building. The scenario, on the other hand, is established by entering the specifications of the fire to be analyzed. The user dictates the variables of the fire and its growth, the building design and construction, and the occupants and their location. The software then performs four types of calculations involving four models:

- 1) The development of fire effects, including smoke, gases, temperature, and oxygen depletion throughout the building over time through a model called FAST.
- 2) The model DETACT then estimates the activation of detectors using the same context and scenario outlined for FAST.
- 3) The EXITT model simulates the actions of occupants based on parameters developed from past research on human behavior in fires.
- 4) Finally, the model TENAB estimates the cumulative effect of the exposure of each occupant as he or she proceeds through the building, estimating who survived, who died, and from what cause.

The computer screen displays the developing scenario by assigning colors to different levels of risk which shift over time as the fire progresses (i.e.: green is safe, yellow is unsafe, and red is deadly) to their respective

areas on the displayed plan, section, or three-dimensional drawing.

Currently, there are limitations to Hazard 1 in relation to large buildings. The first version is limited to modeling up to six rooms on multiple floors with accuracy. Validation of the model by comparing it with data from actual structures has only been performed for rooms with dimensions of those equivalent to single-family and multi-family residences. If the rooms are larger, like auditoriums or atriums, or longer, like corridors, stairwells, or elevator shafts, the calculations extend beyond verification by the developer. The model has not yet integrated the effects of sprinkler and HVAC systems.

The next enhancement planned for Hazard 1 is an HVAC system model that researchers hope to integrate by the fall of 1990. By 1993 researchers plan to add a CADD interface compatible with architectural CADD packages, which can automatically read plans and specifications, eliminating the need to enter building dimensions and materials.

There are numerous ways to make a building safe, and until recently, the best method available for determining safety was to rely heavily on the intuitive judgment of fire experts. Fire modeling can provide a tool for architects and code officials to meet the intent of codes and increase design flexibility. By providing an equivalency test to specific requirements, such models fulfill the goal of all codes—to provide life safety. Who will ultimately use the models is still unclear, and experts stress the importance of a fire science background to interpret the results. But whether fire modeling is incorporated into the offices of architects or used by consultants, the way buildings are evaluated in terms of fire safety will certainly be significantly altered by the computer. ■

—MARC S. HARRIMAN

FOR FURTHER INFORMATION
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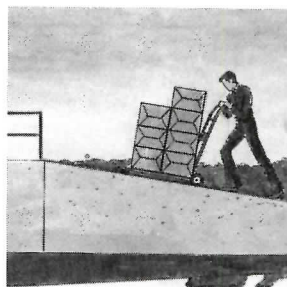
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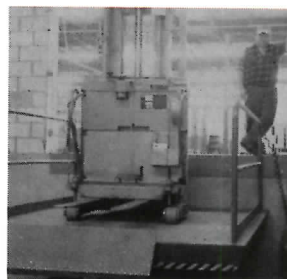
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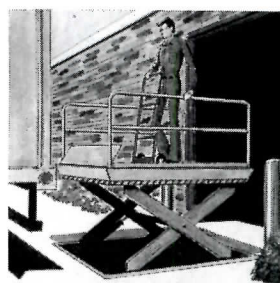
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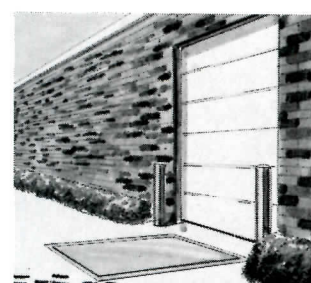
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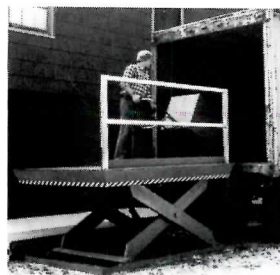
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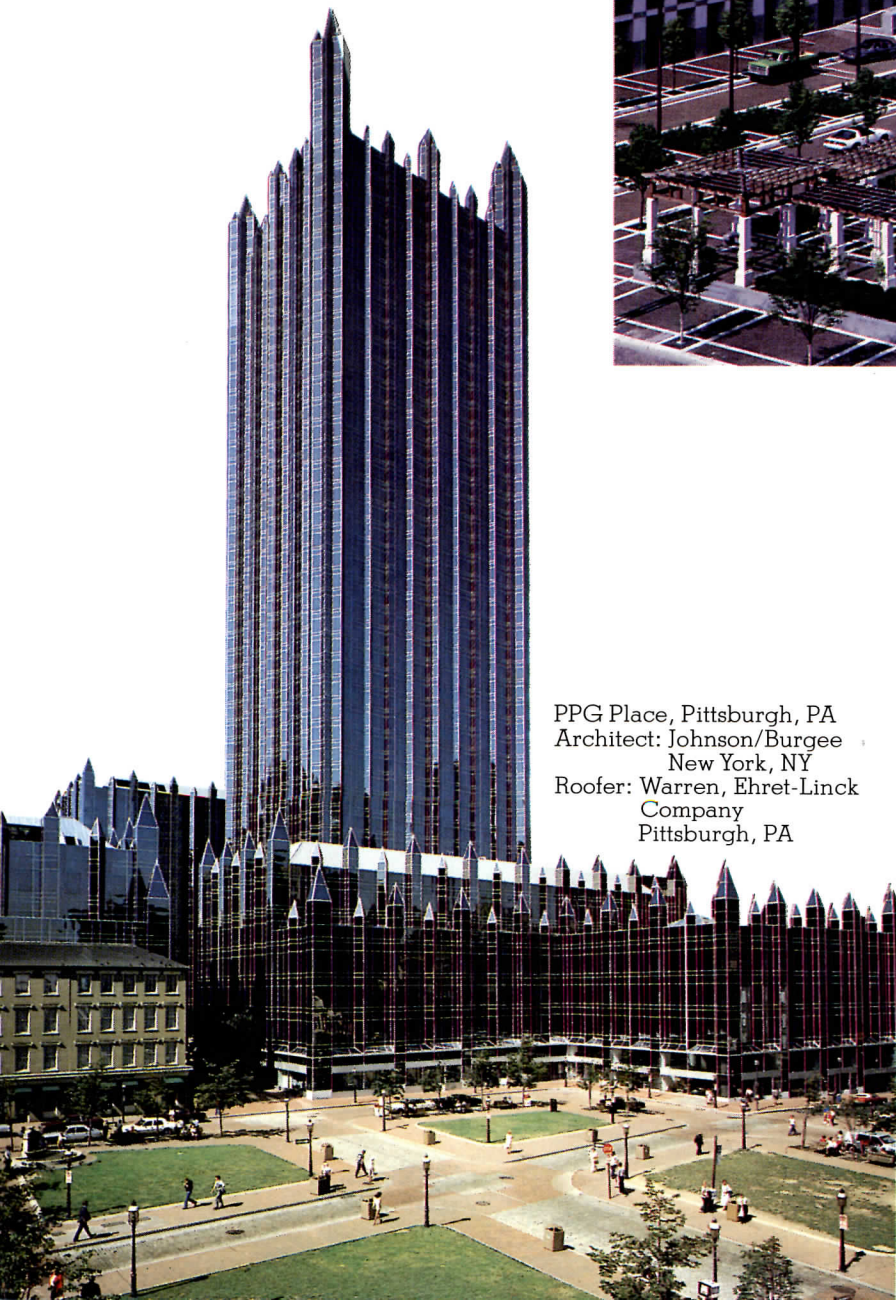
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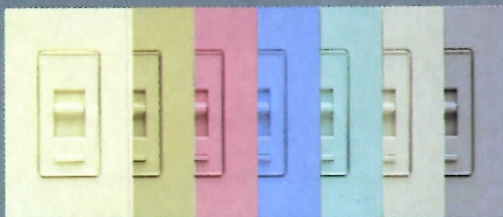
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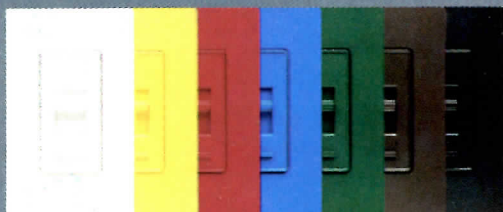
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