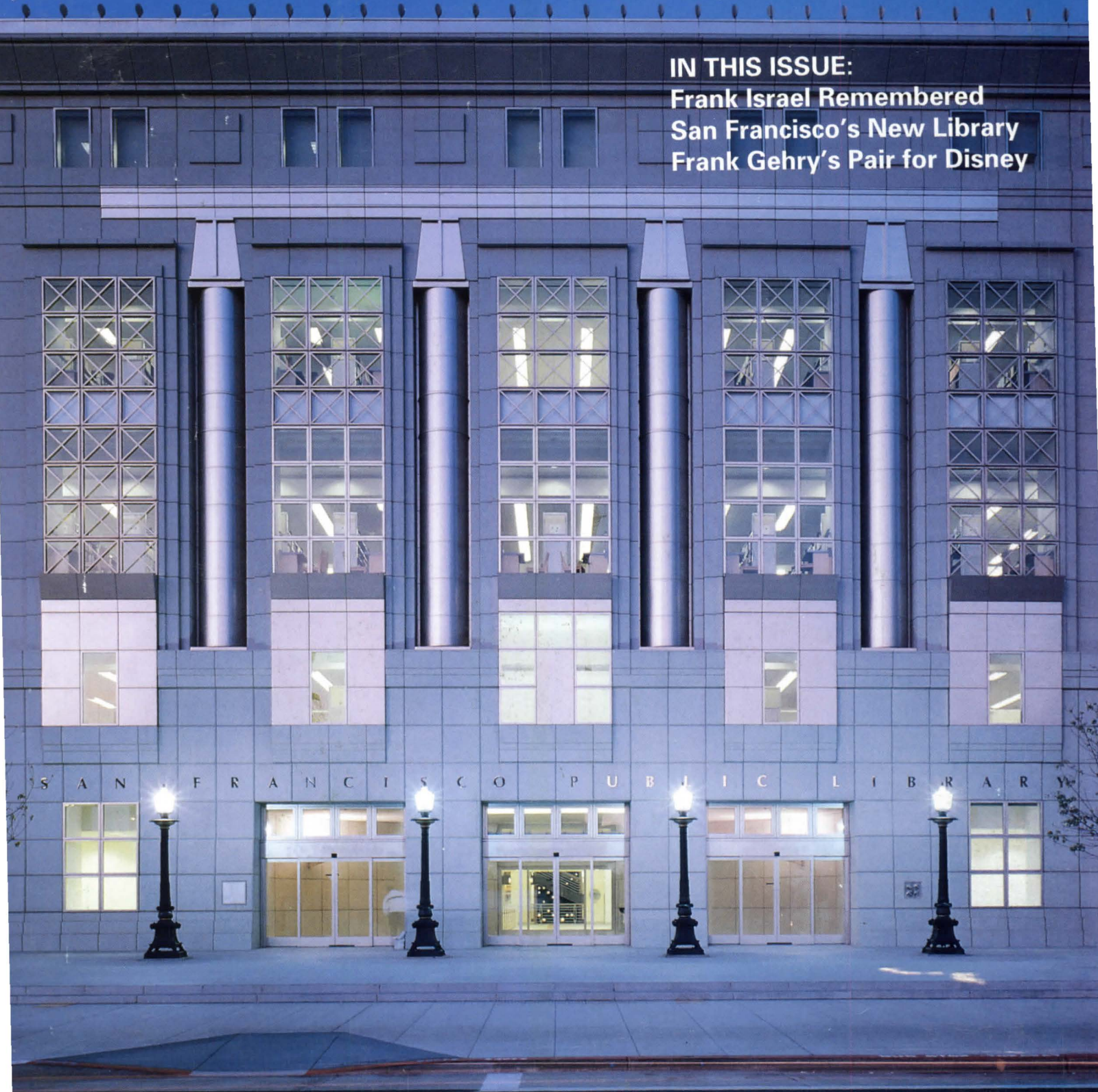


# ARCHITECTURE®

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JULY 1996

**IN THIS ISSUE:**  
Frank Israel Remembered  
San Francisco's New Library  
Frank Gehry's Pair for Disney



**California Civitas**

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## Memorial Madness

*A war memorial competition threatens to diminish a precious national site.*

A land grab is under way on the National Mall. Just when it seemed that the atrocious new Korean War Veterans Memorial (ARCHITECTURE, September 1995, page 15) would be the last war memorial on the Mall, a competition for another, to commemorate all who served in the U.S. Armed Forces during World War II, was announced in April. The new memorial will occupy the Mall's most prominent site—at the eastern end of the Reflecting Pool, smack in the middle of the axis between the Washington Monument and the Lincoln Memorial.

To make matters worse, the American Battle Monuments Commission (ABMC) is hurrying to get its war memorial completed by the year 2000, while some World War II veterans are still alive. Still smarting over the lawsuits surrounding the Korean War memorial design competition, the ABMC has enlisted the help of the U.S. General Services Administration (GSA) to run this latest contest, based on the GSA's Design Excellence program for federal architecture (ARCHITECTURE, January 1996, pages 60-63). Because the program for the \$100 million memorial calls for a 7,400-square-meter underground visitors' center, the GSA initially required competitors to submit credentials and a portfolio of past work.

Angry protesters rightly scorned this experience-based approach as undemocratic. By emphasizing credentials and portfolios over design sensibility, the competition would eliminate potentially brilliant solutions from nonarchitects—students such as Maya Lin, for example, who won the competition for the Vietnam Veterans Memorial while a Yale undergraduate.

The ABMC and GSA listened to this criticism and responsibly revised the competition rules. Now, any U.S. citizen over 18 can enter by submitting a design concept on a 20-by-20-inch board accompanied by a statement of intent. The deadline, however, has only been moved from July 15 to

August 12, hardly enough time to attract a broad cross-section of entrants.

From this first round, at least five finalists will be chosen and then required to team with an architect/engineer of record to develop their design concepts further. A jury of "notable Americans" will select the winner this fall, based on the team's design concept, past design performance, specialized experience, and professional qualifications. The final decision, however, rests with the ABMC. If the commission doesn't like the winner, its competition committee has the right to select another entry.

The biggest challenge of this competition remains the site, one of the most hallowed in the nation. The war memorial will mediate two of America's greatest symbols—the obelisk commemorating George Washington, and Henry Bacon's temple to Abraham Lincoln. Less sensitive locations were considered, including Freedom Plaza on Pennsylvania Avenue, historically the route of returning soldiers, but they were turned down.

Rather than rush to choose a design so that fund-raising for this fast-track project can begin, the ABMC should more carefully weigh the civic and historic consequences of building on the Mall's serene vista. Only an unmonumental monument—low, limited, and landscaped—seems appropriate for this symbolic axis. But such deference is at odds with the purpose of this war memorial: to remind Americans of one of the world's most colossal conflicts. It will take a genius indeed to solve this dilemma and preserve the Mall's vista.

Deborah K. Diekmann

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Deadline for Submissions: September 6, 1996

# P r o g r e s s i v e ARCHITECTURE 44th Annual Awards

## Jury

### **Sarah Graham**

Angéil/Graham Architecture  
Los Angeles

### **Laurie Hawkinson**

Smith-Miller + Hawkinson Architects  
New York City

### **Enrique Norten**

TEN Architects  
Mexico City

### **Antoine Predock**

Antoine Predock Architect  
Albuquerque

### **William Rawn**

William Rawn Associates  
Boston

ARCHITECTURE announces the continuation of the annual **P/A Awards**.

The purpose of this awards competition is to encourage outstanding work in architecture and urban design before it has been executed. Awards and citations will be designated by a jury of distinguished, independent professionals, who will base their decisions on overall design excellence and innovative ideas. The jury will also consider response to program and context, management of the design and construction process, technical solutions and details, and social and economic contributions. Potential entrants are urged to interpret the call for "outstanding work" as broadly as possible. Entries, however, are limited to specific unbuilt projects that have been commissioned by real clients for execution.

Judging will take place in September 1996, and winners will be notified in late September. The winning entries will be featured in the January 1997 issue of ARCHITECTURE.

## Eligibility

### **1 Who Can Enter**

Architects and other environmental design professionals practicing in the U.S., Canada, or Mexico may enter one or more submissions. Proposals may be for any location, but work must have been directed and substantially executed in offices in those countries.

### **2 Real Projects**

All entries must have been commissioned for compensation by clients with the authority and the intention to carry out the proposal submitted. In the case of design competitions, the proposals eligible are those the client intends to execute.

### **3 Architectural Design Entries**

Entries in Architectural Design may include only works of architecture scheduled to be completed after January 1, 1997. Indicate the anticipated completion date on Project Facts page (see item 7 on next page). Prototypical designs are acceptable if commissioned by a client.

### **4 Urban Design Entries**

Entries in Urban Design must have been accepted by a client who intends to base development on them. Implementation plans and anticipated schedule must be explained in submission.

### **5 Verification of Client**

The jury's decision to premiate any submission will be contingent upon ARCHITECTURE's verification that it meets all eligibility requirements. To that end, ARCHITECTURE will contact the clients of projects selected by the jury for recognition. ARCHITECTURE reserves final decision on eligibility and accepts no liability in that regard. Please be certain your entry meets the above conditions.

*(Submission requirements and entry form on the following page)*

## Entry Form: P/A Annual Awards

Please complete and submit all parts intact with each entry (see paragraph 12 of instructions). Photocopies of this form may be used.

ENTRANT:  
ADDRESS:

CREDIT(S) FOR PUBLICATION (attach additional sheet if necessary):

ENTRANT PHONE NUMBER:  
ENTRANT FAX NUMBER:  
PROJECT:  
LOCATION:  
CLIENT:  
CLIENT PHONE NUMBER:  
CATEGORY:

ENTRANT:  
ADDRESS:

PROJECT:

I certify that the submitted project was executed by the parties credited and meets all eligibility requirements (1-5). I understand that any entry that fails to meet submission requirements (6-18) may be disqualified. Signer must be authorized to represent those credited.

SIGNATURE:  
NAME (typed or printed):

FEES: SUBSCRIBER \$90 NONSUBSCRIBER \$125 ENTRY PLUS ONE-YEAR SUBSCRIPTION \$125

### AWARDS EDITOR/ARCHITECTURE

1130 Connecticut Avenue, N.W., Suite 625, Washington, D.C. 20036

### PROJECT:

Your submission has been received and assigned number \_\_\_\_\_  
(ARCHITECTURE will fill in this number and return this receipt.  
Please retain it for reference.)

ENTRANT:  
ADDRESS:

(RECEIPT)

### AWARDS EDITOR/ARCHITECTURE

1130 Connecticut Avenue, N.W., Suite 625, Washington, D.C. 20036

ENTRANT:  
ADDRESS:

(RETURN LABEL)

## Submission Requirements

### 6 Binders

Entries must consist of legibly reproduced graphic material accompanied by adequate explanatory text in English. All entry material must be firmly bound in binders no larger than 17 inches in either dimension (9 by 12 inches preferred). Avoid fragile bindings. Supplementary documents, such as research reports or urban design appendices, may be bound separately to avoid unwieldiness, as part of the same entry. Slides should be submitted only as supplementary material. Unbound material in boxes, sleeves, etc., will not be considered.

### 7 Project Facts Page

To ensure clear communication to the jury, the first page in the entry binder must list Project Facts under the following explicit headings: Location, Site Characteristics, Surroundings, Zoning Constraints, Type of Client, Program, Construction Systems, Funding, and Schedule. Supply hard data (square footages, costs, specific materials) where possible. All project facts should fit on one page. Paragraphs amplifying this data, covering design philosophy, etc., should be on subsequent pages.

### 8 Documenting the Process

Entries should document the design process, as well as its result. Entrants are encouraged to include copies of preliminary sketches, alternative preliminary schemes, information on context and precedents for the design, and excerpts from working drawings.

### 9 Research Behind Projects

Although ARCHITECTURE is cosponsoring a separate competition for architectural research, we encourage the inclusion of any research performed in support of an architecture or urban design project that is otherwise eligible.

### 10 No Original Drawings

Original drawings are not required; ARCHITECTURE will not accept liability if they are submitted. No models or videotapes will be reviewed.

### 11 Anonymity

To maintain anonymity in judging, no names of entrants or collaborating parties may appear on any part of the submission except on entry forms. Credits may be concealed by tape or other simple means. Do not conceal identity or location of projects.

### 12 Entry Forms

Each submission must be accompanied by a signed entry form (left). Reproductions of the form are acceptable.

Fill out the entire form and insert it intact into an unsealed envelope attached to the binder's back cover.

### 13 Entry Categories

Identify each submission on its entry form as one of the following: Educational (including any campus buildings), House (single-family), Housing (multifamily), Commercial, Cultural, Governmental, Health-Related, Industrial, Recreational, Religious, or Urban Design. Mixed facilities should be classified by the largest function. If unable to classify, enter Miscellaneous.

### 14 Copies of Key Pages

To provide the ARCHITECTURE jury with basic information about the entry, please include five photocopied sets of key pages of the submission (including Project Facts page). These sets should be stapled separately and slipped inside the back cover of the binder.

### 15 Entry Fees

An entry fee must accompany each submission. The fee is \$90 for ARCHITECTURE subscribers; \$125 for non-subscribers. (Nonsubscribers can choose to subscribe at a special rate of \$35 per year and pay the \$90 entry fee; see entry form.) Make check or money order payable to ARCHITECTURE. Canadian and Mexican offices must send drafts in U.S. dollars. Fee must be inserted in unsealed envelope with entry form (see 12, above).

### 16 Entry Receipts

ARCHITECTURE will send a receipt by October 1 indicating an entry number to save for the entrant's reference.

### 17 Return of Entries

ARCHITECTURE intends to return all entries by U.S. mail. ARCHITECTURE assumes no liability for loss or damage.

### 18 Entry Deadline

Deadline for sending entries is September 6, 1996. All entries must show a postage date as evidence of being in the carrier's hands by September 6. Hand-delivered entries must arrive at ARCHITECTURE's editorial office (address below) by 5 p.m., September 6. To ensure timely receipt, ARCHITECTURE recommends using a carrier that guarantees delivery within a few days.

### Address entries to:

Awards Editor  
ARCHITECTURE  
1130 Connecticut Avenue, N.W.  
Suite 625  
Washington, D.C. 20036

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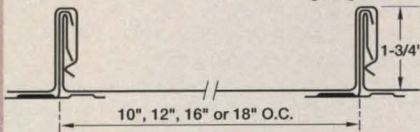
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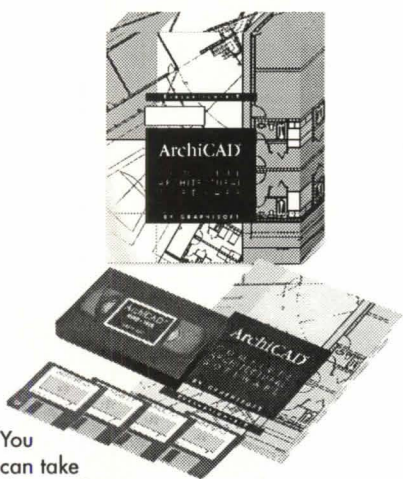


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## Letters

### New Urbanism backlash

Your article on New Urbanism (ARCHITECTURE, April 1996, pages 68-77) included the following misinformation and unproven assertions:

"These places will become middle- and upper-middle-class ghettos."

New Urbanism posits economic diversity within neighborhoods; the article documents a \$30,000 to \$250,000 range for Newpoint lots. Laguna West sells houses from \$110,000 to \$450,000 and plans an affordable rental project.

"Their cutescape of cottage architecture becomes insidiously monotonous when packed into dense settlements." Unlike custom design, production housing rarely affords incremental variation and craft. New Urbanism's attempts to integrate single-family homes, town houses, and apartments should be applauded.

"If you build more streets, people are bound to drive on them." Studies have shown that mixed-use neighborhoods with good transit service and reasonable densities generate half the vehicle miles per household per year as a typical sprawling suburb. The question is not rail vs. bus or pedestrian vs. car, but how to create an environment that supports the broadest range of alternatives.

I did not say, "Building a community is a 200-year phenomenon," but that we are working from a 200-year-old tradition of town-building in this country. If it takes 200 years to build a community, then most of the West doesn't qualify.

We are struggling to achieve affordable, fairly distributed housing, and to resolve sprawl and inner-city disinvestment. Some argue that any effort for change is nostalgic or utopian. I disagree, and hope those who think that our models of community building can make a difference will join us at the next Congress for New Urbanism meeting.

*Peter Calthorpe  
Calthorpe Associates  
Berkeley, California*

*Editor's reply:* Peter Calthorpe was not discussing the American town-building tradition during his taped interview with author Heidi Landecker. He said, "I think the public sector has to take...control over the form of our communities. Building a community is a 200-year phenomenon. The marketplace is intelligent for a one- to five-year period."

The \$30,000 to \$250,000 lots at Newpoint support homes ranging from \$185,000 to \$850,000. Laguna West's \$110,000 houses are at the upper reaches of what a buyer with a median family income of \$39,390 can afford. These houses are aimed at middle- and upper-income buyers.

### Stern's spin-doctoring

Robert A.M. Stern's spin-doctoring against Modernism (ARCHITECTURE, May 1996, pages 77-83) appears based on sound bites rather than sound research. Modernists did not banish the learning of history; they condoned the clichés and pastiches of historicism within a new age of architecture.

At a recent symposium on Lower Manhattan at Columbia University, Stern's preservationists repeatedly blamed SOM's Chase Headquarters (1961) and Marine Midland Bank (1967) for destroying New York's original Dutch street grid and urban fabric. Anyone who knows Dutch street grids knows this is untrue. Lower Manhattan's Modernist buildings still provide choice offices and quality public spaces, and are more flexible for adaptive reuse than Deco and Wedding Cake piles that preservationists ooh and aah over.

Historic districting is a wolf in sheep's clothing. Landmarking districts is really a means of discouraging new, innovative architecture. Landmark structures rely on stimulating dialogue within their context and on tension created by differing architectural philosophies. Without this crucial dialogue, a city will become stagnant and cease to evolve.



If we are to save our Modern landmarks, we must identify why and for what reason. Only then can we begin to convey their true importance.

*David Anthone*

*Founder, Documentation and Conservation of the Modern Movement  
Brooklyn, New York*

*Robert Stern's reply:* The Modernists were against history: not just historical buildings, but the complexities of the past itself. Gropius went so far as to remove architectural history books from the library of Harvard's Graduate School of Design when he was chairman, and relocate them to other campus facilities.

On historic districting: New York's a big city, the U.S. is a big country, so there's still plenty of room to build new buildings, though historic districts do limit development in certain areas. But even in those areas, new buildings can be built—perhaps not “innovative,” but inventive ones—buildings that look back and around them and don't try to second-guess tomorrow.

Lastly, the Chase Bank did break the Dutch grid, not only by creating a superblock that eliminated an old street, but by flattening the land plane. Like Mr. Anthone, I appreciate the building and the plaza. But I see them for what they are: beautiful, historic artifacts reflecting an old way of thinking that regrettably was fundamentally anticontextual if not out-and-out antiurban. Let's not turn taste into a moral crusade.

#### **SOM rebuttal**

There are a few inaccuracies in “SOM Retrenches” (ARCHITECTURE, May 1996, pages 231-235). Our revenues were not \$117 million in 1995, but approximately \$70 million. Our Hong Kong office and Roger Duffy, a new design partner, were omitted. I was in the army in Washington, D.C., for my entire tour of duty, and thus am not a Vietnam veteran.

SOM did not take any action to

not return former partners' capital: SOM did not return capital to active partners if they left the firm; SOM deferred capital payments to former partners as there were no funds to retire the obligation during this time period. Capital payments have now been made, and it is anticipated that they will continue to be made.

All documentation for the Jin Mao Tower was done by SOM. This is not always the case, as you point out, but for that very large, complex project we did all of the documentation.

*John H. Winkler, FAIA*

*CEO, Skidmore, Owings & Merrill  
New York City*

#### **Detroit's comeback**

It was disappointing to read “Detroit is Everywhere” (ARCHITECTURE, April 1996, pages 55-61). In Detroit, new investment totals \$2.2 billion over the past two years; home prices have increased 25 percent since 1992; and *World Trade* rates Detroit as the third-best area in America for importing and exporting. Instead of gloom-and-doom predictions, we need people with the knowledge and skill to find the solutions.

*Arnold Mikon, FAIA*

*Chairman, Detroit Central Business District Association, and President and Chairman, Smith, Hinchman & Grylls Associates  
Detroit, Michigan*

#### **Corrections**

Landscape architect Child Associates was an equal partner with Mitchell/Giurgola Architects in designing the Belvedere (May 1996, page 204). Peter Katz photographed Laguna West Town Hall (April 1996, page 72).

#### **NCARB correction**

Samuel T. Balen, executive vice-president of the National Council of Architectural Registration Boards retires on July 1, 1997, not in June of 1996 (ARCHITECTURE, June 1996, page 61).

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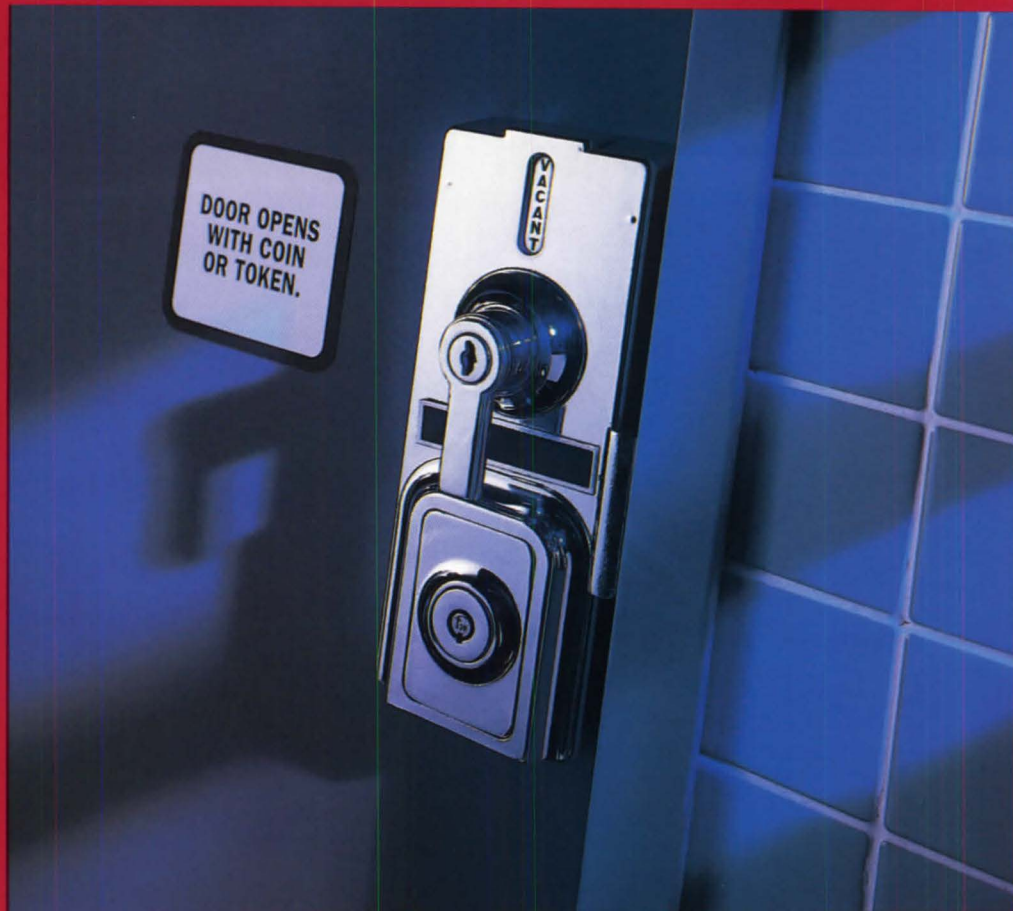


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## Events

### Exhibitions

**BERKELEY.** "The Domestic Architecture of Greene and Greene," through August 18 at U.C. Berkeley Art Museum. Contact: (510) 642-0808.

**CHICAGO.** "D.H. Burnham and Mid-American Classicism," through September 2 at the Art Institute of Chicago. Contact: (312) 443-3600.

"Process and Design in Residential Architecture," through September 13 at the Chicago Architecture Foundation. Contact: (312) 922-3432.

**MONTREAL.** "Frank Lloyd Wright: Designs for an American Landscape," through September 22 at the Canadian Centre for Architecture. Contact: (514) 939-7000.

**WASHINGTON, D.C.** "Frank Lloyd Wright: American Spirit Alive in Japan," through January 19, 1997, at the National Building Museum. Contact (202) 272-2448.

### Conferences

**AUSTIN.** "Construction Project Improvement," September 29-October 1. Contact: (512) 471-6494.

**BALTIMORE.** American Society of Interior Designers meeting, July 31-August 4. Contact: (202) 546-3480.

**BUDAPEST.** International Union of Women Architects conference, September 2-8. Contact: 36-1-212-2239.

**BOSTON.** AIA's annual diversity conference, August 23-25. Contact: (800) 242-3837.

**PHILADELPHIA.** Organization of Black Designers conference, October 31-November 2 at the Philadelphia Convention Center. Contact: (202) 659-3918.

**SEATTLE.** Frank Lloyd Wright Building Conservancy annual conference, September 25-29. Contact: (312) 663-1786.

**WASHINGTON, D.C.** Professional Design-Build Conference, October 10-11, sponsored by the Design-Build Institute of America. Contact: (202) 682-0110.

### Competitions

Excellence on the Waterfront awards. **Entries due August 1.** Contact: (202) 337-0356.

**Progressive ARCHITECTURE Awards for unbuilt architecture and urban design. Deadline for submissions September 6. See entry form in this issue for guidelines.** Contact: (202) 828-0993.

NOVA Award for construction innovation, sponsored by the Construction Innovation Forum. **Deadline for nominations September 15.** Contact: (313) 995-1855.

Architectural Design Honor Awards for Massachusetts architects or projects, and Unbuilt Architecture Design Awards, both sponsored by the Boston Society of Architects. **Deadline for submissions September 19.** Contact: (617) 951-1433, ext. 221.

The Canadian Centre for Architecture's Visiting Scholars Program fellowships. **Applications due October 1.** Contact: (514) 939-7000.

Greenport, New York, waterfront park design competition. **Registration due October 19.** Contact: (516) 477-3000.

Constructive Ideas Competition, sponsored by the Baltimore Architecture Foundation and AIA Baltimore. **Deadline December 4.** Contact: (410) 727-4620 by fax.

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Skidmore Owings and Merrill

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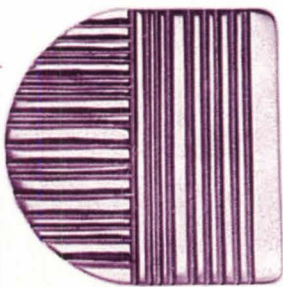
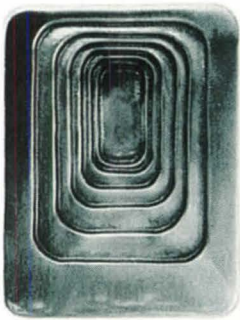
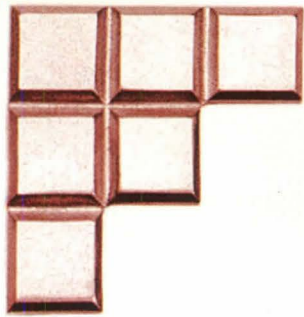
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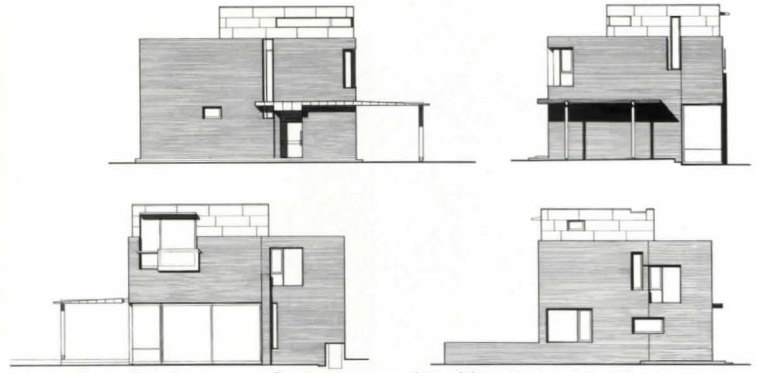
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**LAMY-NEWTON PAVILION:** 1988 Schindler-inspired addition.

## Franklin D. Israel 1945-1996

Architecture lost one of its most talented designers and dedicated teachers last month. Franklin D. Israel died on June 10 of AIDS-related complications. He was 50.

A gifted member of the Gehry-inspired generation of Los Angeles architects, Frank Israel was best known for his interiors and houses. His designs were influenced by Modernists such as Rudolph Schindler, Richard Neutra, and Carlo Scarpa, as well as the contemporary landscape of Southern California. He often described parts of his projects as an "homage to," revealing the source of his inspiration. Yet he never mimicked others, developing a strongly identifiable vocabulary as his career progressed.

Israel's respect for traditions was

rooted in his schooling at Penn, Yale, and Columbia, and in his travels abroad. In 1973, he won the Rome Prize and spent two years at the American Academy in Rome. Israel also worked in London for Llewelyn-Davies under Jaquelin Robertson, and for Giovanni Pisanella in New York. He loved cities and enjoyed comparing them, as reflected in his essay for his 1992 Rizzoli monograph. Israel translated his urban affections into offices and lofts, treating interiors as "cities within"—urban precincts with streets and squares that exploded with color, light, and spatial intensity. His work often projected an air of theatricality, owing in part to his early career as a movie set designer.

In recent years, Israel had begun designing public buildings, such as the expansion of the Southern Regional Library at UCLA, published

in this issue (pages 92-95); the Fine Arts Building at U.C. Riverside; and a housing project in the Netherlands. His growing reputation led the Museum of Contemporary Art in Los Angeles to hold a retrospective of his work this spring.

A sustaining part of Israel's career was teaching at UCLA's architecture school, where his critical eye benefited hundreds of students. He could be devastating in his criticism but wryly funny in delivering it. He was generously supportive of colleagues and friends, often recommending younger architects for commissions and jobs. Despite his long illness, he kept practicing and teaching, conducting a design critique for his students and working in his office a few days before he died. Frank Israel's passion for architecture never subsided, and it touched everyone he knew.—*Deborah K. Dietsch*



**CIVIC CENTER:** At the heart of Burnham's 1909 Chicago Plan.



**FLATIRON BUILDING:** 1902 New York City landmark.



**BURNHAM'S PLAN:** Avenues radiate from Civic Center.



**PLAN FROM LAKE MICHIGAN:** Beaux-Arts symmetry.

## Chicago Show Explores Burnham's Classicism

On the 150th anniversary of Daniel Hudson Burnham's birth, the Art Institute of Chicago has mounted a show of more than 80 drawings and models, presenting the work of this seminal Chicago figure as a precursor to a century of Classically inspired architecture in the Midwest. "D.H. Burnham and Mid-American Classicism," on view through September 2, comprises Burnham's own designs, work by his contemporaries, Classically trained Midwestern students' drawings, Classical buildings constructed in Chicago between the wars—and implausibly for a show about Classicism, postwar Modernist and Postmodernist explorations.

Although the Rookery is represented by several fine hectograph prints, Burnham's early, almost vi-

sionary explorations in high-rise architecture, such as the Reliance Building's glassy expanses and the Monadnock Building's stark masonry sculpture, are absent. The exhibition ignores the more intriguing strains in his work in favor of an overly simplistic reading.

From the World's Columbian Exposition of 1893 to the highly regarded 1909 Plan of Chicago, Burnham's interest in Classical precedents overrode development of new building types and materials into innovative forms. On display are his fine Orchestra Hall and several of Jules Guerin's enduring images of the Chicago Plan. Burnham's Classical work is nothing less than expertly achieved. But, with a few exceptions, neither is it particularly inspired, and the buildings it directly influenced are not the most remarkable in a city noted for its architecture.

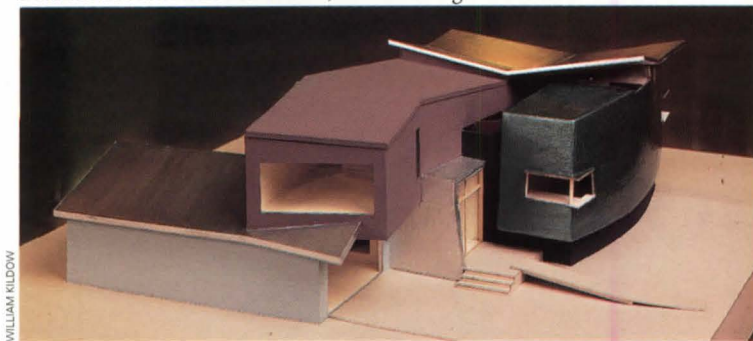
Curator Annemarie van Roessel's curious inclusion of Gene Summers's Miesian McCormick Place and Harry Weese's 17th Church of Christ, Scientist, stretches the definition of Classicism beyond the limits of even the cynical 1980s, appropriately represented here by Philip Johnson's 190 South LaSalle building—a cartoon version of Burnham's long-razed Masonic Temple.

While "D.H. Burnham" purports to celebrate one of Chicago's finest architects, it too narrowly focuses his talents into one category, then ascribes his influence to a century's worth of good, bad, and indifferent local structures. It has long been argued that the World's Columbian Exposition set back Chicago architecture by 50 years. This exhibition all too convincingly demonstrates that Burnham's regressive tendencies still linger.—Edward Keegan



MARK HEFFRON

DOYLE & ASSOCIATES: Lowitz House, clad in corrugated metal.



WILLIAM KILDOW

GAROFALO ARCHITECTS: Addition expands split-level Markow House.

## Houses by Chicagoans Aim for Ingenuity

Louis Sullivan wrote, "Every problem...contains and suggests its own solution." Forty-seven Chicago area architecture firms were recently presented with a somewhat more provocative challenge: to come up with "ingenious solutions" to residential design for an eponymous exhibition. Jointly sponsored by the Chicago Architectural Foundation and AIA Chicago, the installation is on view at the foundation's lobby gallery in Daniel Burnham's Railway Exchange Building through September 13.

One project that can genuinely be described as ingenious is Schroeder Murchie Laya's adaptive reuse of St. Mary's Recreation Center in New Orleans. The design cracks open the existing shell and selectively inserts new pieces in the long-span spaces.

The fissure reveals both found and invented urban spaces, creating a rich fabric for new housing.

Garofalo Architects' Markow House is a striking two-story addition to an existing split-level residence. Architect Doug Garofalo claims the aggressive interaction between the new and existing elements suggests "sibling rivalry," though the metaphor better describes the dysfunctional family of forms that the architect has contrived.

Drawing on such diverse sources as Edwin Lutyens, Le Corbusier, and the Arts and Crafts period, a house by Stuart Cohen and Julie Hacker Architects deftly meets the client's requirement for a home that is "modern without being stark and that has a traditional exterior." Mounted on a 2-foot-tall monolithic black base, a delicate model of Valerio Dewalt Train Associates' Gard-



INDIAN MUSEUM SITE: Adjacent to Air and Space Museum on Mall.



CARDINAL'S CURVES: Museum evokes eroded mesa.

ner Apartment (ARCHITECTURE, May 1996, page 209) cleverly depicts its spatial concepts within the anonymity of an urban high-rise.

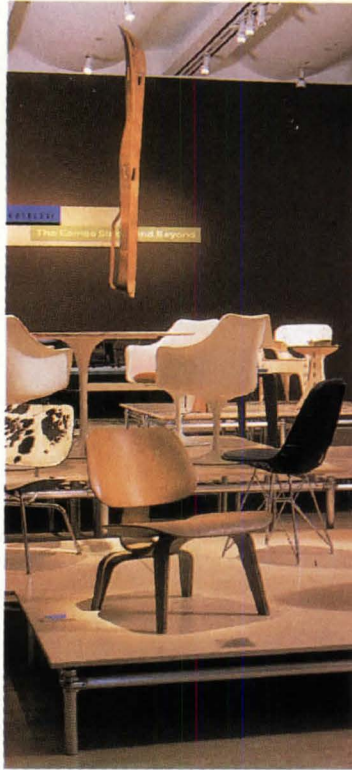
"Ingenious Solutions" promises more than it delivers. Most of the work shown is decent design, carefully presented. Many of the participants cite tight budgets and difficult client requirements as evidence of their ingenuity. But difficult realities do not necessarily create ingenious solutions.—E.K.

## Design of American Indian Museum Unveiled

The Smithsonian Institution has unveiled the preliminary design of the National Museum of the American Indian, to be located on the National Mall in Washington, D.C. Designed by architect Douglas Car-

dinal, the new 250,000-square-foot museum will be built adjacent to HOK's Air and Space Museum. Philadelphia-based GBQC Architects is coordinating a culturally diverse design team with participants from several Native American tribes, including Cardinal, a Canadian of Blackfoot ancestry; landscape consultant Donna Elizabeth House, of the Navajo and Oneida tribes; and architecture and landscape consultant Johnpaul Jones, of Cherokee and Choctaw descent.

The museum will be rendered in a warm-colored stone to complement the masonry of structures in the city's monumental core. The building's curvilinear form will contrast with the triangular geometry of I.M. Pei's East Building of the National Gallery of Art across the Mall. Construction is scheduled to begin in 1998.—Ned Cramer



FURNITURE: Augments conference room.



CONFERENCE ROOM: Walls mounted on Jennings-designed scaffolding.

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## Eames Room Exhibited In San Francisco

When the San Francisco Museum of Modern Art (SFMOMA) bought the contents of Charles and Ray Eameses' conference room after Ray's death in 1988 (Charles died 10 years earlier), then-curator of architecture and design Paolo Polledri saw the acquisition as capable of much more than recalling a historical moment. Now, "Humane Technology: The Eames Studio and Beyond," on view at SFMOMA through early 1997, has been organized by Polledri's successor, Aaron Betsky, who grounds the Eameses' legacy of humanizing technology within the context of exemplary mid-century Modernist and contemporary local work.

The title of the show is somewhat misleading, as only the conference room is installed here. The rest of the couple's studio was bought by the Swiss furniture manufacturer Vitra and recreated in 1994 at the Vitra Design Museum in Weil am

Rein, Germany, replete with maquettes, prototypes, and the Eameses' personal archive of furniture.

Lacking these valuable materials, Betsky augments the conference-room display with a selection of furniture designed by the Eameses as well as by Jean Prouvé, Charlotte Perriand, Eero Saarinen, and several innovative Bay Area designers. Unfortunately, the large furniture display—classic pieces by now familiar to a wide audience—dominates the gallery to the point where it almost seems a separate show, overwhelming the more noteworthy reconstruction of the conference room.

This unique environment is a natural vehicle to convey the process of creation so critical to understanding the Eameses' genius. But in the show, their workspace has been reduced to two walls—admittedly the more significant ones and, according to photographs displayed nearby, accurately reassembled. The two floating walls are mounted on a straightforward metal scaffolding, designed by San Francisco architect

Jim Jennings, in an extension of the Eameses' premium for standard mass-produced and visibly articulated assembly techniques. Nevertheless, this confusing L-shaped slice fails to create a sense of the space that once brimmed with the energy and ideas of these vibrant designers.

The short end of the L-shaped platform holds a conference table surrounded by various iterations of the Eames executive chair, which demonstrate how the Eameses fabricated and used working pieces during the course of their development. A projection screen hangs above the table, for film was instrumental to the pair's ideation and communication artistry. Highlights from their many films are continuously shown—wonderful collages of action, color, shapes, and sound which reflect their kaleidoscopic vision.

As they did with nearly everything they approached, Charles and Ray Eames reinvented the very discipline of exhibition design, employing an unprecedented range of multimedia effects so as to engage all the senses

and communicate information on various levels. One would expect an exhibition devoted to the pair to express a similar range of technique and detail, explicating, as the couple sought to do throughout their careers, the interrelatedness of art and science, content and communication, meaning and media.

At the very least, in homage to the Eameses' intention for their designs to be accessible, the exhibition could have provided an area of usable seating (preferably with a view of the film screen) that would have allowed visitors to experience, while reclining in a stock Eames lounge, for example, the many merits of their work. Instead, SFMOMA's fractured display forces an inordinate amount of attention on the preciousness of the individual, artfully arranged artifacts, and does little to convey the development, evolution, and application of Eamesian ideas that endure today.—Cathy Lang Ho

*Cathy Lang Ho is managing editor of Design Book Review.*

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## New Commissions

French architect **Christian de Portzamparc**, winner of the 1994 Pritzker Prize, is designing his first building in the United States, a 23-story headquarters for LVMH Moët Hennessy Louis Vuitton on East 57th Street in New York. Scheduled to open in 1997, the tower will be clad in opalescent and green glass. Portzamparc is also designing two projects in Paris: a housing master plan for the Massena district and an addition to a 1960s convention center near the Porte Maillot. He has been approached by the Japanese cartoon and toy company Bandai to design a cultural complex in Tokyo. An exhibition of his work is scheduled to be shown in New York, Los Angeles, and Vancouver next year.

The Roman Catholic archdiocese of Los Angeles has selected 1996 Pritzker winner **Jose Rafael Moneo** to design a new cathedral, beating out Santa Monica-based architects **Frank Gehry** and **Thom Mayne** of Morphosis. The archdiocese in-

tended to tear down the 120-year-old St. Viviana Cathedral, causing local preservationists to seek a restraining order against demolition. New sites are now being considered.

In June, the U.S. Department of State finally announced **Moore Ruble Yudell** the winner of the design competition for the U.S. Embassy in Berlin, which was juried in September 1995. **Steven Ehrlich** and **Gensler and Associates** have been selected to design a 300,000-square-foot animation studio in Glendale, California, for Steven Spielberg, Jeffrey Katzenberg, and David Geffen's recently formed entertainment company, Dreamworks SKG.

**Daniel Libeskind** has been selected to design an addition to London's Victoria and Albert Museum from a shortlist that included **Norman Foster** and **Zaha Hadid**. San Francisco-based **Esherick Homsey Dodge & Davis** is designing a performing arts center for Mills College, restoring Stanford University's Art Gallery, and renovating the Seinhart Aquarium at Golden Gate Park. The cor-

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ner of 59th Street and Ninth Avenue in Manhattan will be the site of two 49-story apartment towers by **Buck/Cane Architects**. **Ellenzweig Associates** is designing a 70,000-square-foot science building for Millikin University in Decatur, Illinois, and a power station on Boston's State Street for the Massachusetts Bay Transportation Authority. **The Hillier Group** has been approached by the Johnson Foundation to restore Frank Lloyd Wright's Wingspread house in Racine, Wisconsin. The Experience Music Project has selected **Frank O. Gehry & Associates** to design a new museum near the base of the space needle in Seattle Commons. Seattle-based **Olson Sundberg Architects** recently completed the museum's master plan and program.

### Awards and Honors

Several architects stand among the 66 recipients of this year's American Academy of Arts and Letters awards for cultural achievement. **Philip**

**Johnson** was awarded the Academy's Gold Medal for Architecture; **Tod Williams** and **Billie Tsien** shared the Arnold W. Brunner Memorial Prize in Architecture; and **Maya Lin** received the Academy Award in Architecture.

The Phoenix Central Library by **Will Bruder** and **DWL Architects & Planners**, and a poolhouse in London by **Simon Foxell** of the Architects Practice are the winners of this year's Benedictus Award for Innovation in Architectural Laminated Glass, sponsored by DuPont.

### Happy Birthday, Philip

Philip Johnson turns 90 on July 8, and the New York design community is commemorating the occasion with a host of celebratory events and publications. The party started in February with a retrospective Johnson colloquium sponsored by the Museum of Modern Art (MOMA) and Columbia University's Graduate School of Architecture (ARCHI-

TECTURE, May 1996, pages 42-43). Controversy quickly clouded the roast, however, prompted by Columbia faculty protests to Dean Bernard Tschumi, citing Johnson's history of political incorrectness.

A soliloquy by Johnson in a new Academy Editions monograph of his recent work finds the architect obliquely defending himself from fascist labels. Recounting his notorious sojourn in Germany before the outbreak of World War II, Johnson claims that in his "intoxication" with Berlin's modern life, "I completely missed the underlying political difficulties that were developing."

Several other Johnson publications are timed for release around the architect's birthday. *Domus* magazine's June issue contains a map of built and unbuilt projects Johnson designed for New York City, accompanied by an essay by architect Emilio Ambasz. *ANY* magazine is devoting its entire July issue to Johnson, including essays by Paul Rudolph, Michael Graves, and Rem Koolhaas. Also, a book entitled

*Philip Johnson Built Work*, written by Peter Blake, is being released in July by Swiss publisher Birkhäuser. The American Academy of Arts and Letters has awarded Johnson its Gold Medal for Architecture.

Following February's colloquium, MOMA organized a series of other events that recognize Johnson's contributions to the profession and his involvement with the museum, such as the landmark International Style exhibition that Johnson co-curated in 1932. A show of art donated by the architect, "From Bauhaus to Pop: Masterworks Given by Philip Johnson," includes pieces by artists Mark Rothko, Andy Warhol, Agnes Martin, and Frank Stella.

Another MOMA show, curated by Matilda McQuaid, features drawings donated by Tadao Ando, Zaha Hadid, Hans Hollein, and others in Johnson's honor. MOMA also approached Johnson to organize a new installation of its sculpture garden, which he designed in 1964, and where he was honored June 5 at the museum's annual gala.—N.C.

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**Piano Sued for Plagiarism**

Renzo Piano is being sued for plagiarism for allegedly basing his Kansai Airport on a 1970 competition entry for the Genoa Airport by local architect **Grazia Repetto**. Despite the publicity surrounding the 1989 competition and Kansai's mid-1994 opening, Repetto only spotted Piano's design last summer in a magazine. Piano, she alleges, copied her unplaced, unpublished, and unexhibited design. She claims it was shown in a 1971 exhibition, of which no record exists. (Piano was working in London with Richard Rogers at the time.)

The case has caused a stir in Italy and Japan. Piano's success provokes jealousy in Italy, where few architects build much, and local architects are encouraging Repetto's suit. Moreover, there is a striking resemblance between the Piano and Repetto designs: in land-to-airside section, both roof lines adopt a remarkably similar curve.

However, Repetto's sketchy curve

is gratuitous, at odds with the spaces below it and structurally unsupported. Besides surging like a wave to guide the flow of space, passengers, and air forward, Piano's curve evolved slowly, through clearly charted stages. The trusses were first arched for structural efficiency, then curved asymmetrically to entrain the ventilating air-jets, and finally disciplined by the design's innovative geometry.

Although too preposterous to succeed, Repetto's case has worrying implications. The European Union is enacting even tougher copyright laws than those existing, but paradoxically, these will present more opportunities for gold-diggers. Besides, the implicit notion of art created from scratch is antagonistic to architecture and culture—evolving collective enterprises in which each work refines, extends, and comments on precedent. Strictly applied, the laws would make Classicism and Postmodernism impossible, let alone Corbusians, Kahnians, and Venturians.—*Peter Buchanan*

**Torre Settles Suit**

Susana Torre's lawsuit against the Cranbrook Academy of Art, following her departure as director of the school, has been settled out of court (ARCHITECTURE, March 1996, page 39). While the terms of the agreement are undisclosed, Torre says that she feels vindicated.

**New Urbanism Chartered**

At their May congress in Charleston, South Carolina, the New Urbanists drew up their version of CIAM's Athens Charter. But unlike the 111-proposition document that grew out of the Modernists' deliberations aboard a Mediterranean cruise ship in 1933, the Charleston charter avoids design dogma. San Francisco architect **Dan Solomon**, a contextual Modernist who eschews the picket-fence imagery of most New Urbanism, capily added an intriguing line right after "Individual architectural projects should be

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seamlessly linked to their surroundings." Solomon's insert—"This does not imply that new buildings should mimic historic forms"—spurred debate within the congress. According to Congress for New Urbanism Executive Director Peter Katz, more tradition-minded New Urbanists, including Andres Duany, challenged the insert, arguing that it seemed to chastise members whose designs rely on historicism. The line was changed to read, "This issue transcends style."

But issues of marketability may ultimately transcend them all. A survey of 1,650 home-buyers and shoppers in California, Colorado, Florida, Michigan, Texas, and Washington state indicates that while buyers might enjoy an old-timey atmosphere of small shops in retail areas, more than 80 percent want to be able to park nearby.

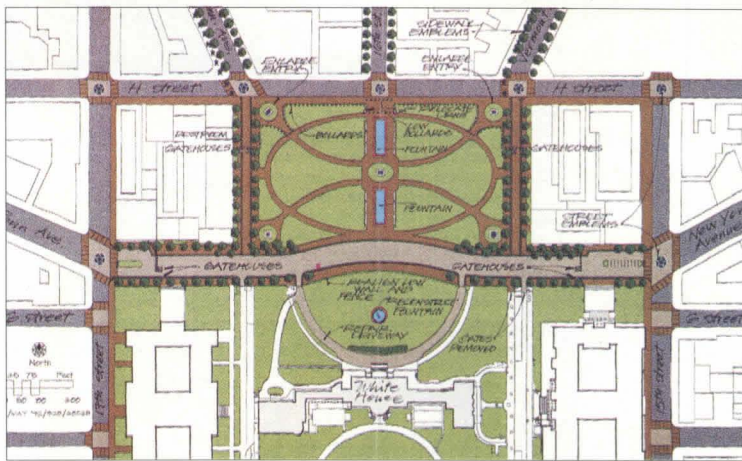
The study, by American Lives, a San Francisco-based consumer research firm, reveals that 80 percent of home-buyers also prefer cul-de-sacs and courts over New Urbanist grids, because they believe children

will be safer. More than two-thirds prefer the privacy of big yards and houses set back from the street, away from noise.—Heidi Landecker

## Pennsylvania Avenue Plan Revised

When federal security officials closed Pennsylvania Avenue in front of the White House last year, design advocates called for an open competition to generate a scheme that would replace the hastily erected temporary guard stations and concrete barriers. Hoping for a faster solution, the White House scuttled the idea, and directed the National Park Service (NPS) to handpick a design team.

The 14 members of the team, which was led by NPS Director Roger Kennedy and included architects David M. Childs, Hugh Hardy, David Lee, and Harry G. Robinson, proposed five design solutions. The preferred \$45 million solution integrates Lafayette Park and the Ellipse into a larger "Presidential Park."



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Outdoor furniture and a unified paving scheme for sidewalks, plazas, and crosswalks will distinguish the new precinct from its surroundings. The White House fence would bow outward on the north side, gesturing toward Lafayette Park. Curbs along Pennsylvania Avenue would be removed, providing a continuous paved surface from the park's edge to the White House lawn.

As dictated by the White House, all the schemes propose blocking Pennsylvania Avenue to vehicular traffic, although the new bollards and guardhouses could be removed for parades. The NPS publicly displayed the proposals for 30 days, even as it planted the site with holly trees and geraniums. A final design reflecting public response is expected to be unveiled in September.

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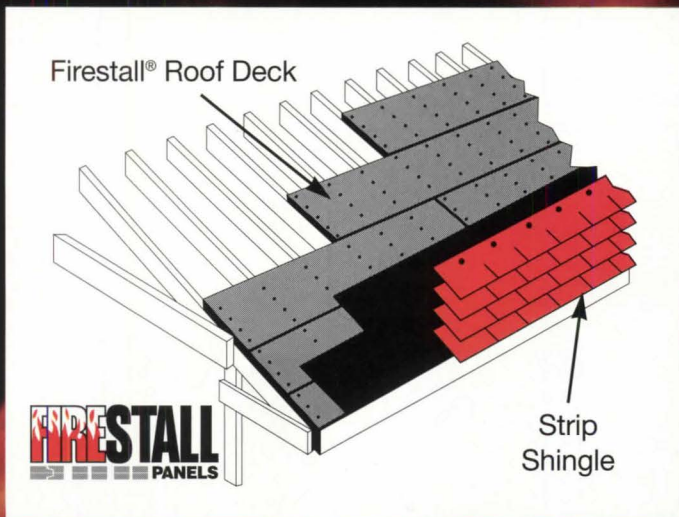
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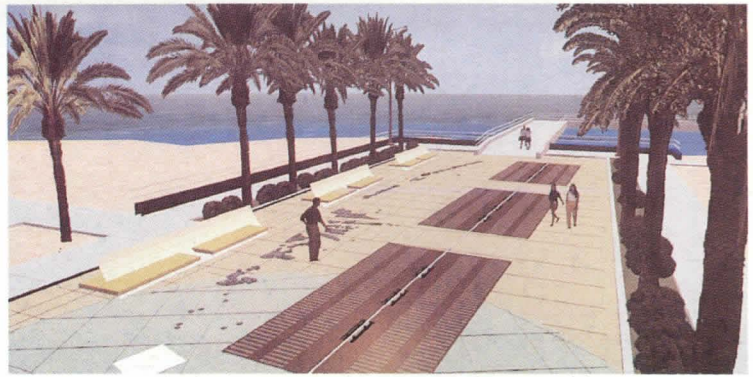
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**AIDS Memorial Breaks Ground in Key West**

Since the days of Ernest Hemingway, bohemian Key West, population 26,842, has drawn artists, writers, and tourists—many of them gay—to the southern tip of the Florida Keys. The town's light-hearted spirit has been tempered by the sobering shock of AIDS: more than 1,500 Key West residents have died of complications related to the disease since 1985—the highest death rate from AIDS-related illness in the country.

To remember those it has lost, the city initiated a design competition for a beachfront AIDS memorial last fall, boosted by support from political activist and openly gay Clinton consultant David Mixner; men's clothing designer Ron Chereskin; Tom Reed, director of public affairs for Miller Brewing Company; and Democratic Florida Congressman Peter Deutsch, whose district includes Key West. Financial support came from a combination of private



**AIDS MEMORIAL:** Wheeler Group extends name-incised granite slabs to pier.

and corporate donors, including Miller, the biggest single sponsor.

The Minneapolis-based Wheeler Group's winning scheme, selected in late March from nearly 150 entries, is a simple rectangular plaza defined by rows of palm trees, terminating in an existing city pier. A map of the Florida Keys is flanked by granite slabs inscribed with names of local AIDS victims, extending along the center of the plaza, and by granite pavers bearing quotations.

A shady sanctuary with dense palm

plantings might have been a better respite from the harsh Florida sun, but instead, the architects paved over a stretch of beach and exposed it to the elements.

With its new memorial, Key West will become only the second city in this country to pay permanent tribute to the AIDS epidemic, after San Francisco. The memorial breaks ground this month and is scheduled for completion in time for the observation of World AIDS Day on December 1.—*Raul A. Barreneche*

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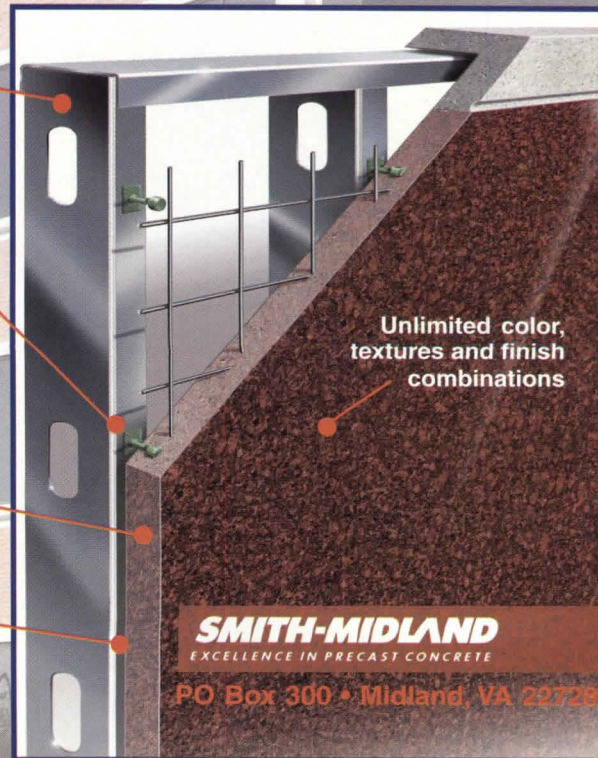
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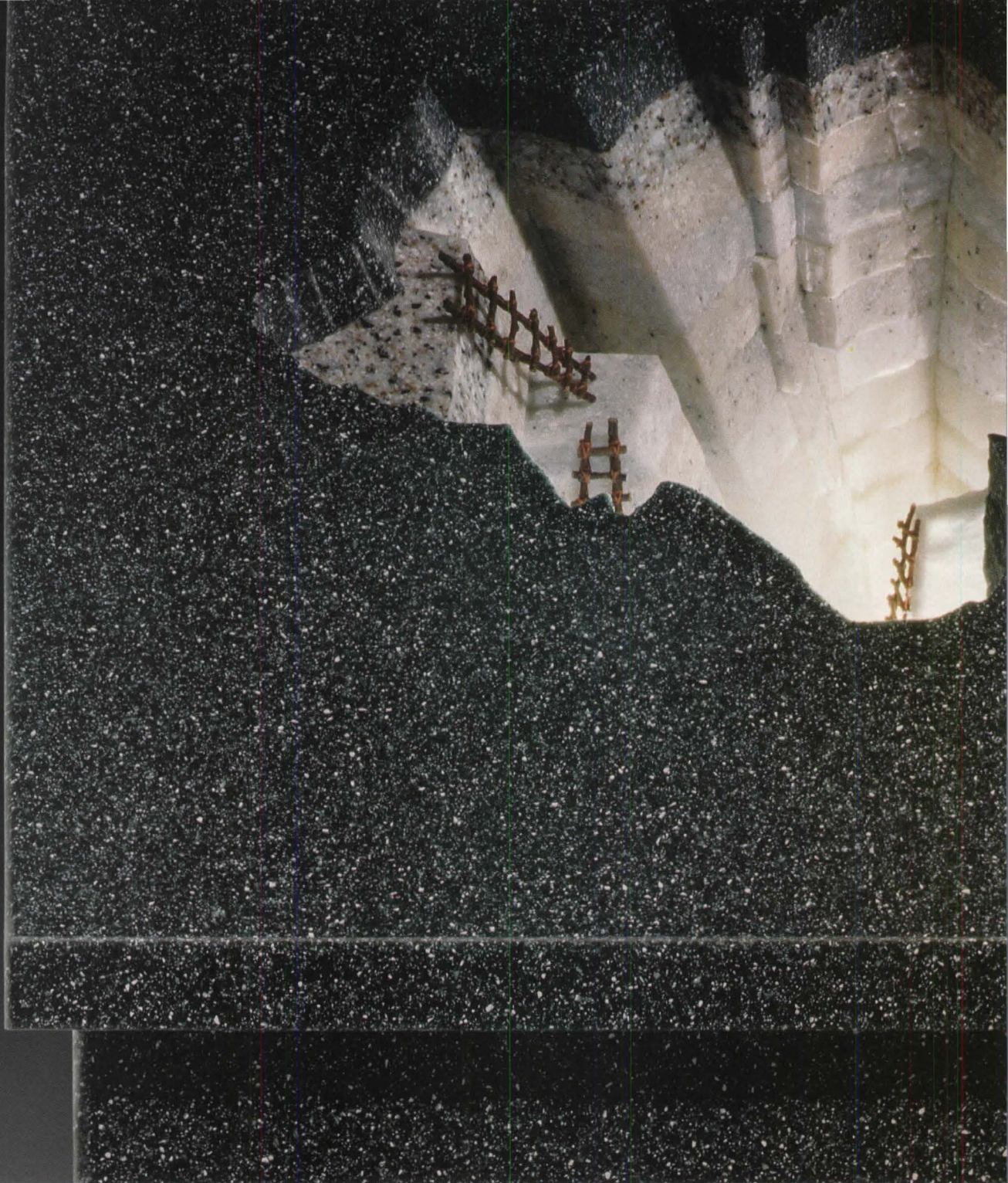
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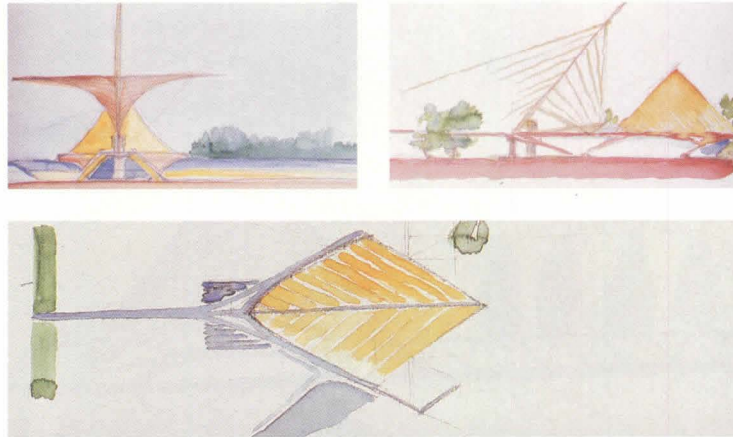
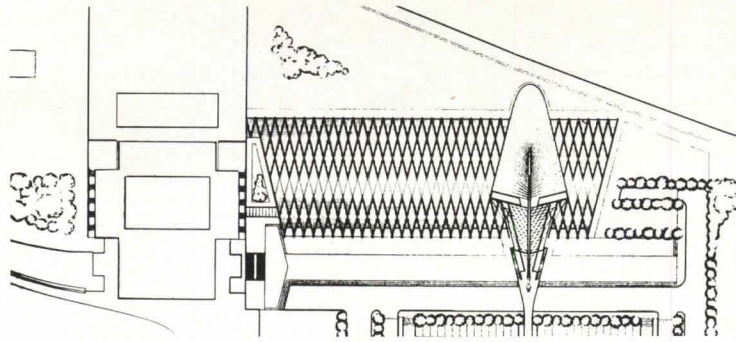
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## On the Boards



### Milwaukee Art Museum Milwaukee, Wisconsin Santiago Calatrava and Kahler Slater, Architects

A large, birdlike building by Santiago Calatrava will alight on the Milwaukee lakefront in 1999. The Spanish architect is continuing the legacy of Eero Saarinen's sculptural buildings by adding an expressive 58,000-square-foot addition to Saarinen's cubic, cantilevered concrete Milwaukee Art Museum.

A single-story, vaulted gallery wing following the shoreline of Lake Michigan will connect Calatrava's 60-foot-high entry pavilion with the landmark 1957 museum building to the north. A pedestrian bridge supported by a cable-stayed, 100-foot mast will link the pavilion with downtown Milwaukee across an expressway; a second mast will support the glazed enclosure of the pavilion. Kinetic, electronically controlled fins attached to the pavilion's mast will modulate daylight and temperature, flapping open and closed around

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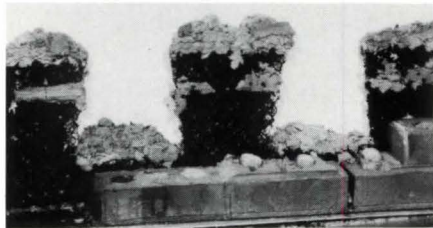
the pavilion like the wings of a bird taking flight. When the wings are fully extended, the pavilion will recall Saarinen's great avian essay, the TWA Terminal (1962) at New York's Kennedy Airport.

Despite a 1975 addition designed by Calatrava's architect of record, locally based Kahler Slater, the museum is sorely overcrowded. Shifting support functions to the new wing will open up exhibition space in the original museum. Calatrava's gallery wing will also add 25,000 square feet of exhibition space. The pavilion will accommodate up to 800 visitors for major events; a new lecture hall will seat 300.

The addition's true benefit, however, is symbolic. Museum Director Russell Bowman hopes the "bold, futuristic" pavilion will serve as an architectural symbol for Milwaukee, comparable to Saarinen's St. Louis arch (1964) or Jørn Utzon's Sydney Opera House (1966). What remains to be seen is whether Calatrava's pavilion will overpower Saarinen's original building.—N.C.

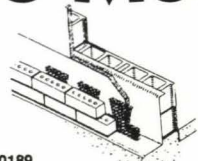


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## On the Boards

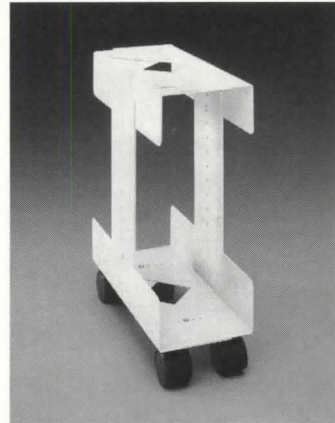
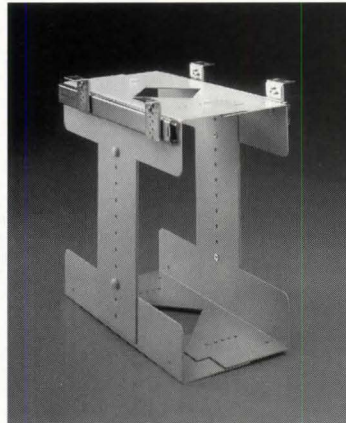
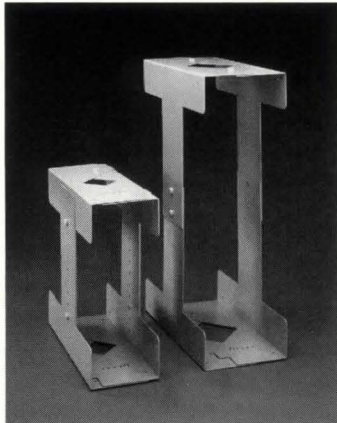
*A new museum activates  
Wichita's riverfront.*



Exploration Place  
Wichita, Kansas  
Moshe Safdie and Associates  
Schaeffer, Johnson, Cox, Frey,  
and Associates, Architects

Bold, irregular geometries typify Moshe Safdie's design of Exploration Place, a science and children's museum to be sited near downtown Wichita, Kansas, at the confluence of the Little Arkansas and main Arkansas rivers. Safdie divides the 90,000-square-foot museum into a riverside pavilion for auditoriums, a café, bookshop, and offices; and a gallery pavilion on an artificial island in the river. Both volumes are organized along curving internal spines that conform to a bend in the riverbank, and are connected by an enclosed bridge. The concrete-walled pavilions are covered by convex and concave vaults supported by wooden beams. An outdoor green for exhibitions and activities will be located along the water's edge. Construction will begin in early 1997.—N.C.

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*A Manhattan tower's garish new skin further demeans a struggling public space.*

## Urbanism Trumped on Columbus Circle

New York City's Columbus Circle is one of the great unrealized moments in American urban planning, now suffering an ignoble fate as a glorified traffic roundabout. With Philip Johnson's recently reconstituted high-rise for developers Donald Trump and the Galbreath Company, New Yorkers have one more reason to despair that the circle will never reach its full potential as a public place.

The re clad 44-story tower revamps the 1968 Gulf and Western Building into upscale condominiums and a fancy hotel, now called the Trump International Hotel and Tower. Its new garish, gold-tinted curtain wall, whose color was purportedly dictated by Trump, serves only to accentuate the tower's height. Transformed into a gilded exclamation point, the shaft overpowers the circle and its lonely 1892 monument to Christopher Columbus, as well as the masonry street wall of Central Park West.

The tower and adjacent 1956 Coliseum exhibition hall shy away from the circle's perimeter. Currently, only the Edward Durrell Stone-designed 1965 Gallery of Modern Art, now housing the New York City Department of Cultural Affairs, defines the small, curved southern segment of the circle with an elaborately detailed, white marble curtain wall. Building out to the street edge, which would have lent much-needed spatial definition to the circle, seems to have been outside of Trump's interests. According to Johnson, "Size, massing, height, setbacks, and materials were tightly restricted. The design of the building is further impacted by a select group of highly qualified consultants, each focused on a different set of development goals." Presumably, in hiring Philip Johnson, Ritchie & Fiore, Trump assumed he would be getting a sig-



**COLUMBUS CIRCLE:** Overshadowed by Johnson's tower for Donald Trump.

nificant design statement. But by giving Johnson so little leeway, he might as well not have bothered.

The Coliseum site has also generated its share of controversy. Developer Mortimer Zuckerman's 1985 mixed-use scheme for the site, designed by Moshe Safdie, was nixed by New York preservationists who claimed that the proposed behemoth would darken Central Park. Zuckerman then teamed up with

the New York office of Skidmore, Owings & Merrill for a redesign, but backed out of negotiations with the Metropolitan Transportation Authority (MTA), owners of the site, in 1994. The MTA is planning to make the property available for development proposals again, raising once more the possibility of improving Columbus Circle—an opportunity the new Trump Tower missed.—*Ned Cramer*

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\*(An affliction affecting building professionals manifested by abnormal anxiety about steel stud/brick veneer wall systems.)

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## Earn Your Client's Respect

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**R**ecent articles and seminars have pushed architects' problems out of the closet: low pay and a resultant lack of stature and self-confidence. It is an embarrassing statistic that a graduate architect with years of education and long hours of design work at school receives only \$22,880 a year as an average starting salary—that an architect with a master's degree is paid only \$11 per hour.

To argue that architecture offers compensations beyond money is a denial of responsibility to ourselves, our families, and our profession. Having fun doing our work does not justify our low pay at every level from draftsman to partner. All useful work has rewards beyond financial return—no doubt a doctor also experiences pleasure when a patient gets better. Dentists, teachers, and lawyers also design and execute their own creative thought processes, which are evaluated for achievement and rewarded accordingly. If architects are providing a useful service, why is our return so much less than other professions that require comparable time and expense for education, licensing, and legal responsibilities?

Clients are willing to pay more if they understand the value of the work and agree with the terms of payment. Misunderstandings about our services lead to clients' perceptions that architects are too expensive, are out of touch with real costs and construction issues, and only increase project costs. To correct these misperceptions, we need to step back and honestly evaluate our work: What are the tangible assets and benefits we offer to our clients? What services do clients expect that we do not provide? Satisfied clients are the measure of our success. But how many of us conduct a post-project interview requesting comments on our performance? If our services fail to fulfill clients' needs, no wonder our profession is undervalued and our services underpaid.

Architectural services must become more attractive to and affordable for more potential clients. With this goal in mind, after 10

years of a solid career as a partner in an international firm, I started my own practice, Accessible Architecture, in 1985. To get an idea of what clients expect from an architect, I surveyed 100 clients of different types. In response to the question, "What do architects do?" 98 percent answered, "Make blueprints." To "What do doctors do?" 94 percent replied, "Create health and protect well-being."

I then ran a series of local advertisements, addressing what exactly architects can do, using plain speech tailored to clients' needs. For example, beneath the question, "How do architects help your business grow?" one ad replied, "By designing a space that will make your employees more efficient; your products more appealing; the right impression on your client; and the most of valuable space."

I decided to offer full or partial services at reasonable rates, focusing on homeowners and commercial clients needing renovation or expansion, adaptive reuse, or code deficiency corrections. I monitored the results of each ad by recording the amount of public response and evaluating the rates of resulting contracts. Then I analyzed my clients' satisfaction with the firm's performance, and made necessary changes in the practice. With this approach, I attracted numerous clients and built a strong and profitable firm with a staff of 10.

My prime goal is to satisfy the needs of a large segment of the public while remaining true to my professional standards. I give each client the best possible service—and in turn, I ask for and receive favorable payment. Each contract has a clear product checklist explained in plain language; clients may choose full or partial services. The consequences or limitations of a choice are discussed in depth.

Architects constantly complain about extra work performed without pay and appreciation. Each of us could learn to become dramatically more effective in the business side of practice. But before we can change, we must understand our shortcomings. Fear of losing a job can lead to falsely accommodating the client. We get the project, ourselves, and the

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profession into trouble when we accept a budget too low to cover either construction or our fee. Our present method of evaluating the cost at the bidding stage is a self-defeating spiral. We must present realistic cost estimates to the client in the programming phase that allow restructuring if required, and be accurate and firm in our practice.

In order to be compensated for any work, architects must monitor the time spent versus the project's objectives, and at each review provide updated timesheets and discuss the status of the project. Clients are made more aware of the extent of our services, and thus are more willing to compensate the services rendered. If the results are not satisfactory at any given stage, additional time is requested in writing. By establishing this written agreement, we avoid the trap of investing "unbillable" time in correcting diverging expectations.

Another problem is the misperception regarding who is responsible for project development. Construction management achieved a high level of growth and profit in the 1980s, and continues to do so in the 1990s. At one time this service was an integral part of our scope, but poor management abilities, casual attitudes about budgets and schedules, and lack of flexibility in accommodating design with other issues resulted in the relinquishing of our profession's construction services to builders and consultants.

Project development, as a result, has become increasingly complex. Cost and schedule overruns are a stale joke among clients at parties. What the client usually lacks is a single point of coordination, management authority, and responsibility. We all know of the delay, confusion, unforeseen costs, and finger-pointing crises that occur when this function goes unfulfilled. With design/build and project management approaches, some of these problems are being addressed, but the average architect remains isolated in the design thought-process. We need to regain a strong role in managing project development.


For our clients, we must become like a general practitioner, who oversees the team of specialists to give the project a signed bill of health.

We can gain only so much training in five or even six years of study; specialization may be necessary if we are not to sacrifice our design education. In the interim, we can look to partners with diversified skills and knowledge, or we can include different specialists as subcontracting consultants. "Partnering" may be useful for architects learning to become con-

struction managers. In the long term, we need to restructure our training for future generations of architects. We must find a way to smoothly direct the process to a final product that is appealing, timely, and under budget.


But most importantly, we must undergo a fundamental shift in our professional self-definition. In 1986, while I was at the Ecole des Beaux Arts, I learned that the architect is an elite professional whose judgment was not to be questioned. But due to a single client's

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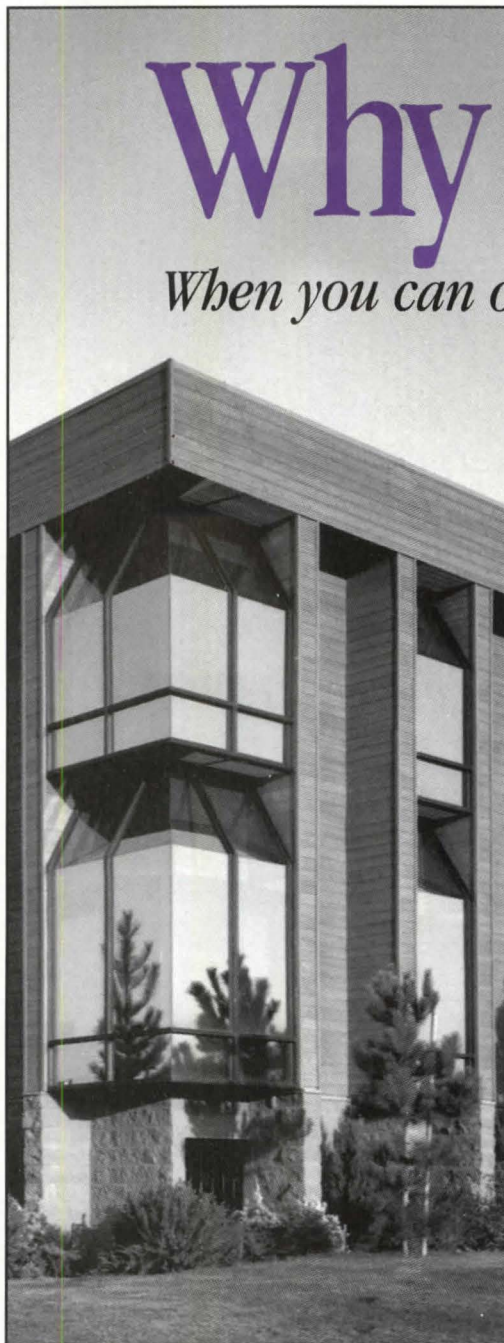
demand, my attitude changed drastically to a service-oriented approach.

This client insisted that I design an 18th-century-style addition to an English mansion. He also wanted the interiors to adhere to period details, which I disliked and knew little of. Trying to convince me to do the work, my client said, "Since you don't like the 18th-century style, there is more chance that you will design what I like!" To please a good client who had great confidence in me, I finally accepted the commission.

After much research and hard work, the project was successfully finished to my client's satisfaction. What had started as a nightmare became a valuable education in self-discipline and service. A fortunate few architects may find the occasional patron whose taste or desire matches their own, but patronage will not sustain our profession. I learned that a harmonious space that meets the client's needs, no matter what shape or style, can be just as creative as an avant-garde design that is admired only by peers. Our image of our own "style" may mask and stifle the range of our true creative abilities. Architects must make sure that we are addressing all of our clients' needs and offering comprehensive services. In doing so, we may well increase the fees that we can command.

I believe that we are all aware of our shortcomings, but rather than seek solutions, we hide within the scholastic thought and language in which we feel most comfortable, writing monographs and giving each other awards. If we do not act immediately and positively to reform architectural practice into a service-oriented profession, the result will be an ever-diminishing role for architects in society. At most, we will become a player in an orchestra rather than the conductor of a symphony.—*Noushin Ehsan*

*Noushin Ehsan, AIA, is president of New York City-based Accessible Architecture. Steven Hall, a consultant in Farmington, Connecticut, contributed to this essay.*



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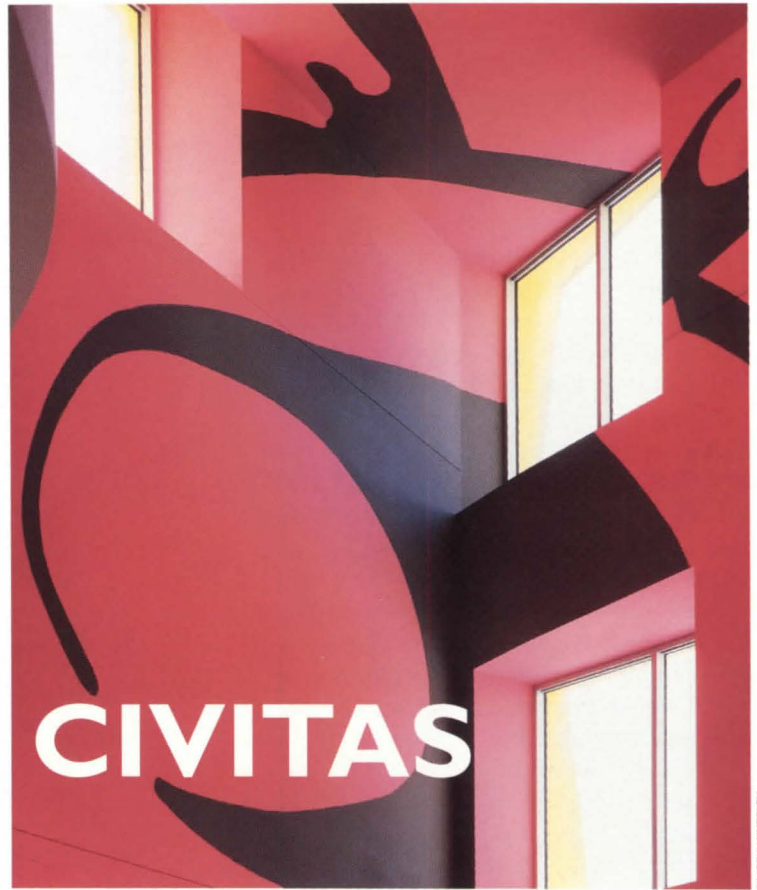
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# CALIFORNIA CIVITAS



TIMOTHY HURSLEY

**C**alifornia is finally awakening from its five-year economic coma. State-wide, according to Construction Market Data, the volume of construction bids is up 15 percent from this time last year. Employment, income, and retail sales are up, reports the Urban Land Institute, and San Francisco's economic prospects are "notably positive." And as the state stirs again, it is revealing a beguiling new civic face. Arriving visitors will know they're in L.A. when they're greeted by Katherine Diamond's homage to aviation history—the new control tower at Los Angeles International Airport. In Anaheim, where Disneyland meets the real world, Frank Gehry's Team Disneyland Administration Building fuses entertainment chimera with freeway urbanism. Gehry's Disney Ice Center for the Anaheim Mighty Ducks, in the city's heart, crystallizes cartoonish wit into an animated hockey rink. In downtown L.A., Mehrdad Yazdani's fleet service building for the Department of Water and Power brings Constructivist order to a rough-and-tumble industrial district. At UCLA, Franklin D. Israel's Southern Regional Library addition burrows books into a magisterial landscaped berm. And in San Francisco, the new Main Library by James Ingo Freed and Cathy Simon completes the city's Beaux-Arts Civic Center with an eminent urban block of plural personalities to suit the city's diverse population.



**L**ike most dream factories, the back lot of Disneyland in Anaheim is shockingly matter-of-fact—densely populated with corrugated-metal industrial sheds lining asphalt roads trafficked by trucks, cars, and electric service carts. The heights of the Matterhorn, snowcapped year round, can be seen in the distance rising above the wrong side of outdoor stage sets. This is an environment that is actually disillusional: what you see is what you get. Still, it is a corner of Disneyland, and therefore a special precinct straddling the orders of fantasy and reality.

It would seem the perfect site for a design by Frank Gehry, who has built a career in a similar zone between high art and popular street culture. In an invitation pregnant with possibilities and pitfalls, Disney asked Gehry to design an office building to house an 1,100-strong administrative staff and consolidate several office facilities into a single structure. For Gehry, the task was to respond with a building that acknowledges the character of his client without succumbing to Disney imagery or equivalent cuteness. In short, Gehry had to stay Gehry without going Disney, and also avoid producing an exotic structure that would brand him another creature in Disney's menagerie.

Describing the pilgrimage to Chartres, Abbé Suger once marveled at how the Cathedral rises up from the plains; a Disneyland pilgrim similarly sees the Matterhorn emerge over the suburban tree- and rooftops of Anaheim. The difference is one of speed along the pilgrimage routes, which changes perception and even the notion of what constitutes a milestone. Just up the freeway, the famous Assyrian facade of the old Samson Uniroyal Tire Company still marks a station of the cross on the way to Disneyland, and the Team Disneyland Administration Building now establishes a second. As they whiz by, pilgrims pass an iridescent streak that is the dominant impression of the new 900-foot-long building's freeway facade. Like Saarinen's General Motors headquarters, the rigorously



**TOP LEFT:** Linear stainless steel canopy leads to spatially complex entry of Team Disneyland office block.  
**THESE PAGES:** Quilted, stainless steel sheet metal clads freeway facade.

# Back-Lot Bravado

Team Disneyland Administration Building  
Anaheim, California  
Frank O. Gehry & Associates and  
Langdon Wilson Architecture, Architects









regular facade was designed to be seen at high speeds, but unlike that structure, the color of Gehry's quilted, stainless steel cladding shimmers ambiguously between blue, green, magenta, and navy. Movement alters the perception of the building, yielding an architectural version of a motion picture.

A very different pedestrian context on the other side of this 300,000-square-foot office block gives rise to an *entirely different* facade. As in all large buildings in Southern California, the destination building is approached through a parking lot or garage—and Gehry, realizing that the potential for urbanism here occurs between the car and the desk, designed an architectural encounter suited for pedestrians who have just left the garage.

Drivers park in a multistory structure and take a stairway down a tower that affords glimpses of a long wavy plaza foregrounded by a building painted canary yellow. Its facade roils with long canopies of stainless steel, shiny metal ribbons that unfold along

the length of the facade and center on a spray of broken volumes forming the main entrance. The canopy of this basically conventional office block leads to a baroque centerpiece. The long, narrow plaza is bracketed on the north end by an equally baroque theater, and at the south end by a galvanized metal shed housing the company canteen. At the bottom of the stairtower, pedestrians arrive at a long, narrow plaza that allows views of the whole architectural event.

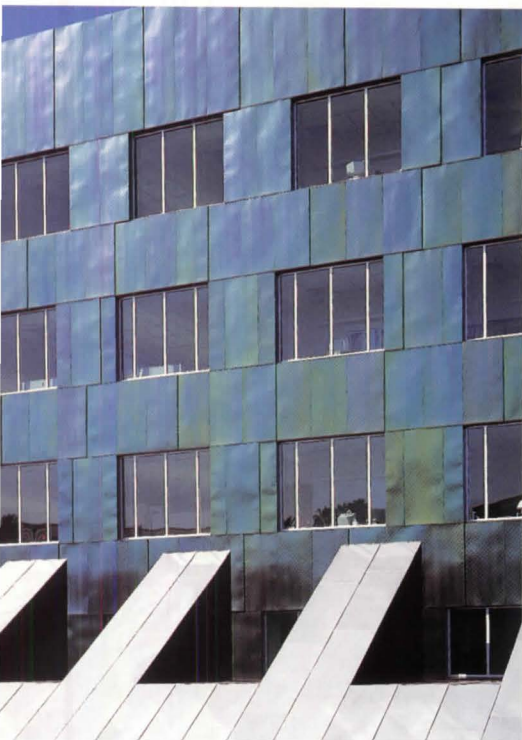
Gehry here is applying new imagery to an old parti. In the early 1980s, the architect designed a long block of classrooms for Loyola Law School near downtown Los Angeles, and cracked the basically Rationalist facade open with an explosive staircase that thrust students out into thin air above the plaza. Confronted again by a budget allowing few exceptions in an otherwise conventional structure, Gehry reverted to a familiar parti but in a different idiom. Since designing the Vitra Furniture Museum (1989) in Basel,



**FACING PAGE:** Office building (left) and garage (right) define public promenade leading to main entrance (rear) and cafeteria beyond.

**TOP:** Stucco four-story entrance is structured with a welded steel frame.

**ABOVE:** Auditorium exterior, including a mechanical tower, forms sculptural centerpiece on promenade.

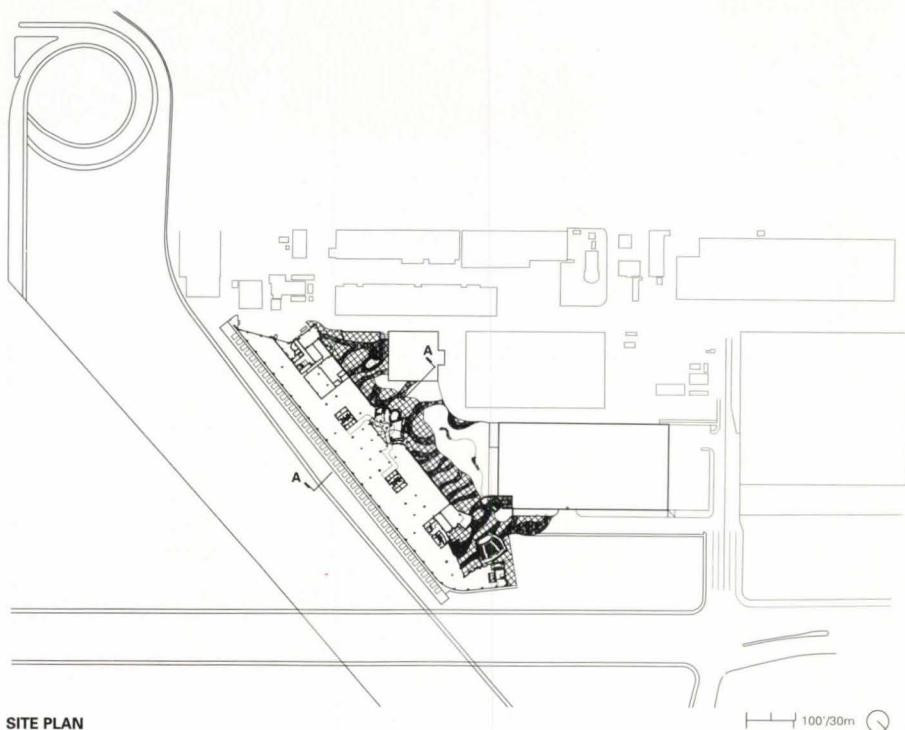


**ABOVE:** Iridescent quilted sheet metal panels of freeway facade shift colors as motorists pass.

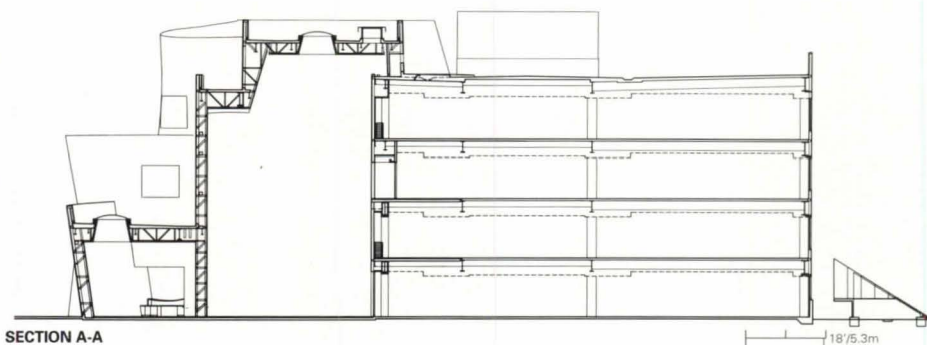
**PLAN:** Conventional layout typifies all floors of office block, which forms long wall to adjacent freeway.

**SECTION:** Entrance's turbulent stucco skin masks welded steel structure appended to steel structure of offices.

**FACING PAGE:** Crenellated rampart functions as visual transition between facade and freeway.



SITE PLAN



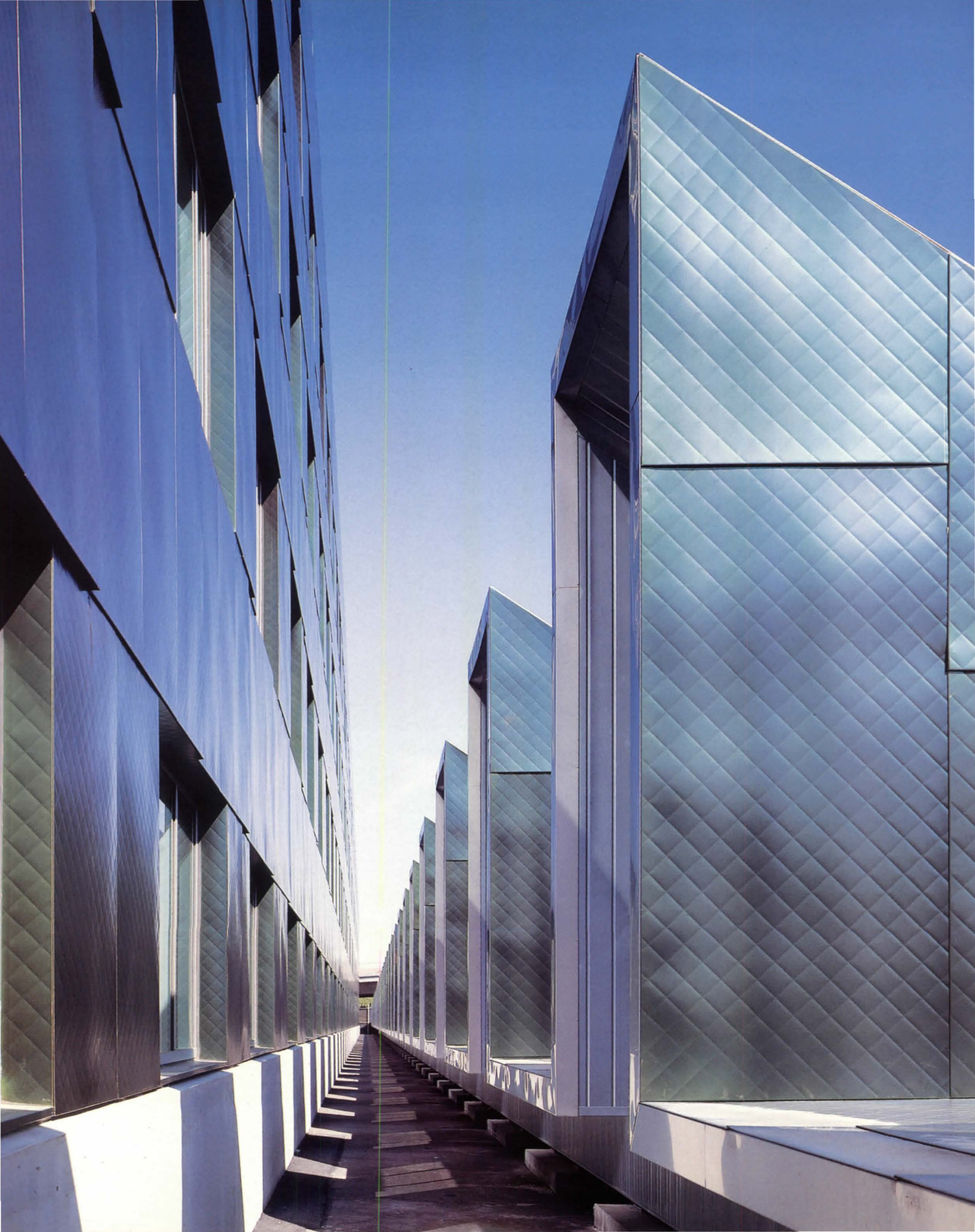
SECTION A-A

Switzerland, he has been interested in an architecture of apparent movement, with waved forms that create a constantly changing formal and spatial experience. At Team Disneyland, he applies ribbons that unfurl at the scale of a building. Movement sets the building in motion, relativizing the parts.

The formal virtuosity of Gehry's buildings leads many to think he is simply a formalist, but at Disney—as in all his projects—Gehry works as both urbanist and functionalist. The architect first of all breaks open the program by isolating elements outside the offices, deploying the theater, its courtyard, the main entrance, and cafeteria outside the office block along its entire length. These separate parts create points of destination on a facade that becomes a promenade accompanied by metal canopies offering shelter from sun and rain. The walk here takes on the social value of a *paseo* (or of Disneyland's Main Street). The waves in the facade inspire graphic waves in the concrete and in the

curved embankments of landscaping. The curvilinear lines give the environment a spontaneous, gestural feel, as though this were a line drawing in space.

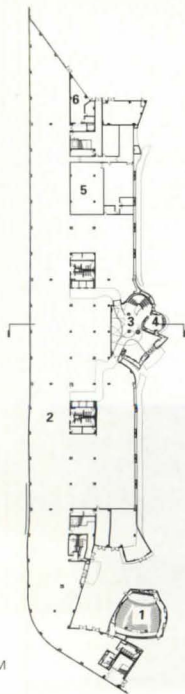
The canopies are only appliquéd onto the facade, but the idea roots deeply in the main lobby, where Gehry verticalizes the ribbons. The great undulating curves of the staircase, within a volume that itself convulses in compound curves, are also gestural and stand out against a graphic abstraction of Goofy painted black against a hot pink background. In a teasing encounter between Gehry's abstraction and Disney representation, the gesture of a line drawing in space meets a variation of a cartoon. The result is a great pink, black, and white dialogue—a cascade of stairs spilling into a glowing pool that seems to suspend matter in a weightless gravitational system. The ambiguity of an animated cartoon inscribed on the walls is heightened by the apparent motion of an almost animate building.



**BELOW:** Stepped sections of Douglas fir plywood surface auditorium's interior.  
**PLAN:** Open-plan office building is punctuated by service cores and irregular geometry of theater and main lobby.  
**FACING PAGE:** Main lobby's curvilinear cast-in-place concrete stair is housed in shell of compound curves.



STOCKER PHOTOGRAPHY



- 1 AUDITORIUM
- 2 OFFICE SPACE
- 3 ATRIUM
- 4 RECEPTION
- 5 COMPUTER ROOM
- 6 LOADING

**GROUND-FLOOR PLAN**



**TEAM DISNEYLAND ADMINISTRATION BUILDING  
 ANAHEIM, CALIFORNIA**

**DESIGN ARCHITECT:** Frank O. Gehry & Associates—  
 Frank O. Gehry (design principal); Randy Jefferson  
 (project principal); Bruce Biesman-Simons (project  
 architect); Edwin Chan (project designer); Kevin  
 Daly, Jonathan Davis, David Gastrau, Robert G.  
 Hale, Patricia McCaul, Michael Resnic, Todd  
 Spiegel, Randall Stout, Lisa Towing, Greg Walsh,  
 Tim Williams (project team)

**ASSOCIATE ARCHITECT:** Langdon Wilson Architecture  
 —Asad Khan (partner-in-charge); James D. House  
 (project director); Douglas Gardner, Scott Taylor,  
 Niall Kelly (project architects); Behrooz Kooklan,  
 Daniel Nuguid (project coordinators); Ralph  
 Delgado, Larik Avavat, Kenton Zlab, Wai Ki Fong,  
 Robert Lucero (project team)

**LANDSCAPE ARCHITECT:** Emmet Wemple Associates  
**ENGINEERS:** John A. Martin Associates (structural);  
 Rosenberg + Associates (mechanical); Kocher &  
 Schirra (electrical); Psomas Associates (civil)  
**CONSULTANTS:** Gensler and Associates (interiors);  
 LAM Partners (lighting); Paul S. Veneklasen Asso-  
 ciates (audiovisual); Peter Muller (curtain wall)

**GENERAL CONTRACTOR:** Dinwiddie Construction  
**PHOTOGRAPHER:** Timothy Hursley, except as noted

The building's protrusions also create deep involutions; one narrow slot to the side of the main entrance offers a hallucinatory experience within the intense, tall fold of yellow. A more open and urban involution occurs at the far end of the block and leads to studios and a theater. In this conventional proscenium theater, Gehry bends and molds plywood à la Charles and Ray Eames into compound curves, applying it as overlapping scales on the walls and ceilings. Surfaces angle and bulge in an acoustically lively chamber that exhibits a masterful treatment of space. The design is commanding, though done with what seems an offhanded simplicity.

Gehry bought these exceptional spaces with the economies achieved in an utterly conventional office block, sympathetically designed inside by Gensler and Associates. Conversant with Gehry's language, the interior designers used his palette of materials, including plywood, as well as a Gehry lighting strategy: uplights from the office landscape reflect off ceilings made plain and simple by the absence of lighting fixtures. The ambient light is even and gentle.

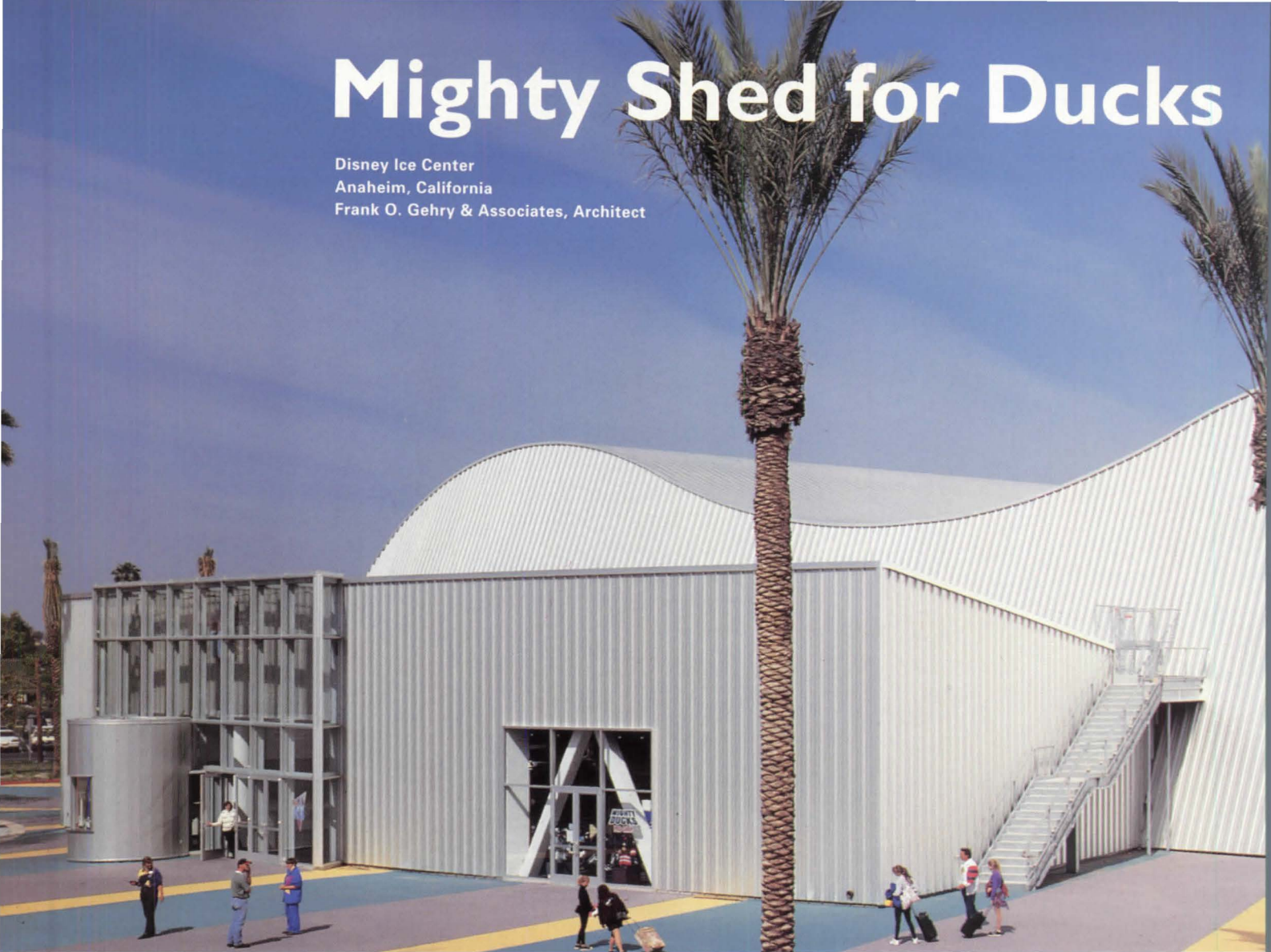
A rendering of a Wild West Buffalo Bill shooting gallery hangs in one of the lobbies, depicting a basic wood-frame building with a Western storefront facade. In many ways, the Team Disneyland Building is comparable, though it achieves its spirit not by recalling familiar types from other times, but by working directly with space, color, and form within a context that Gehry has urbanized. The front facade consistently sweeps pedestrians into its movement, and at several points the forms exercise the spatial pull of an undertow.

Gehry has brought his interpretation of fantasy into the lives of managers and executives who use this building, bridging Disneyland and everyday reality. This is a building that makes people feel more alive, and Disneyland presumably will be better for its stimulation of the people who administer and invent it. The back lot now rivals the show.—*Joseph Giovannini*



# Mighty Shed for Ducks

Disney Ice Center  
Anaheim, California  
Frank O. Gehry & Associates, Architect



Whether, in Robert Venturi's formulation, a building is basically a decorated shed or a duck was a choice too categorical for Frank Gehry when he designed the Disney Ice Center in Anaheim, California. The Los Angeles architect brilliantly reversed the issue from either/or to both/and by creating a shed that is also a duck. Moments away from Disneyland, just off the Santa Ana freeway in the heart of Anaheim's Civic Center, he posited a bicameral skating rink under an undulating roof clad entirely in anodized corrugated aluminum. A sculpted analog to the rhythmic glide of a skater, the roof peaks and dips and peaks in slow curves; the two sides of the building fan in a gentle radius. The Southern California sun caresses its surfaces, and reflections follow its radii as attentively as those glinting off the stainless steel crown of the Chrysler Building in New York.

One resorts to the nomenclature of animals to describe its gull-wing or camel-back

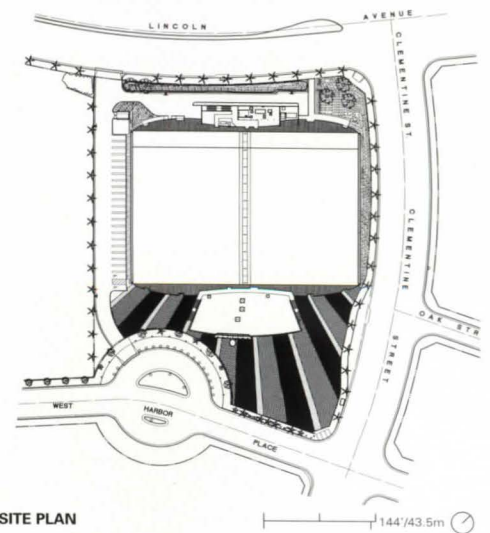
curves, but the rink's biomorphic figure is shaped very simply by a regular rib cage of long, thick laminated-wood beams that have been individually molded and spliced together. An enthusiastic hockey fan and persistent skater, Gehry wanted to settle a warm quality on the rinks, which usually look as cold as they are. To do so, he evoked old-fashioned wood skating structures by using wood beams and a plywood roof left unpainted and exposed. The long, deep beams allow wide spans that cover a regulation Olympic-size rink on one side and a National Hockey League rink on the other. (The rink is a practice and training facility for the Anaheim Mighty Ducks.) Between the two rinks, beneath the depression in the curved roof, he ran the bleachers, changing rooms, service facilities, and a long, heated, glazed viewing room.

Appended to the front is a wedge-shaped structure which houses the entrance, skate-rental desk, equipment store, and snack bar.

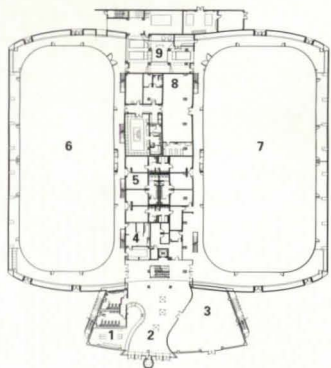
It also recalls, with walls converging in forced perspectives, Gehry's trapezoidal Ron Davis House (1972). This entrance, with curved counters and walls that bulge and force visitors together toward the center, is the great socializing space of the building (and one of the best in the Civic Center), where families informally meet, plan, and regroup before and after the rinks and parking lots. Despite the rubber floor, it rings with chatter.

The building's problems are those of application. With beams resting on beautifully powerful (but hidden) steel spring points at the two ends, the structural system is strongly one-directional and offers little suggestion on how to enclose the two sides—particularly where Gehry places the entrance. Previous iterations not permitted by budget included curvilinear canopies riding up from the saddle in the roof toward the parking lot and chaotic, super DUCKS graphics, each letter toughing it out as though brawling on the ice. Sadly, the as-built solution is just stuck on.

THESE PAGES: Sheathed in lightly anodized corrugated aluminum, entrance shed designed in forced perspective leads to two skating rinks.  
BELOW: Cylindrical ticket booth and glass facade add layers of space to shed.  
SITE PLAN: Rinks' curvilinear forms mask deceptively simple orthogonal plan.

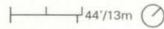


SITE PLAN



- 1 SKATE RENTAL
- 2 LOBBY
- 3 GIFT SHOP
- 4 SNACK BAR
- 5 CHANGING ROOMS
- 6 NHL RINK
- 7 PUBLIC RINK
- 8 TEAM AREA
- 9 SERVICE

GROUND-LEVEL PLAN



Inside, skaters glide against the grain of the beams, not in visual sympathy with the roofscape (as in Saarinen's wonderful Ingalls Rink at Yale). Furthermore, the bleachers and facilities massed in the center cut each half of the roof off from the other, so that the swayback so graceful on the outside is visually lost inside. The crude placement of HVAC ducts at one end of each rink doesn't help the curves that Gehry works hard to achieve.

The faults, however, are of practice rather than idea. Conceptually this design is Gehry at his best: a building that takes the vernacular found in the everyday cityscape—laminated wood, plywood, corrugated aluminum, and sheds—and recombines and reinvents the parts, deconstructing the typology so that the building emerges with an architectural freshness and urban radiance that are original. Within the general anomie of Anaheim, the Ice Center is a contemporary equivalent of General Ulysses Grant bronzed on a horse: a working monument that focuses civic space and defines an exceptional moment in a largely drive-by context. Gehry, again, has made the common uncommon, though this time he has done it in—and with—a public arena.—*Joseph Giovannini*

**DISNEY ICE CENTER**  
ANAHEIM, CALIFORNIA

**DESIGN ARCHITECT:** Frank O. Gehry Associates, Santa Monica, California—Frank O. Gehry (design principal); Randy Jefferson (project principal); Michael Maltzan (project designer); Tomaso Bradshaw (project architect); Mok Wai Wan, Gaston Nogues, Stefan Helwig (design team)

**EXECUTIVE ARCHITECT:** Langdon Wilson Architecture, Los Angeles—Asad Khan (partner-in-charge); James D. House (project manager); Douglas Robertson (project architect); Behrooz Kooklan (job captain); Paul Belogro, Kenton Zlab (project team)

**ENGINEERS:** John A. Martin & Associates (structural); Kocher & Schirra (electrical); Rosenberg & Associates (mechanical)

**CONSULTANT:** University of Michigan Sports Facilities Research Laboratory (ice rinks)

**GENERAL CONTRACTOR:** Matt Construction

**PHOTOGRAPHER:** Timothy Hursley, except as noted





**FACING PAGE, PLAN:** Two skating rinks are serviced by spine of changing, bathing, and storage facilities, with bleachers on either side and enclosed viewing room on top level.  
**THESE PAGES:** Laminated wood beams under plywood roof vault each rink.





**T**he Central Service Center designed by Ellerbe Becket for the Los Angeles Department of Water and Power (DWP) is unexpected in the rough-edged industrial district of downtown Los Angeles: a set of provocative forms and sophisticated details that manages to retain the directness of industrial architecture. The secret partly lies in Design Principal Mehrdad Yazdani's virtuoso manipulation of cost-effective materials, which lends a clear identity to each individual component within a complex scheme. An elfin playfulness is at work throughout, bringing both forms and materials into surprising juxtapositions.

The four-acre complex is composed of an open storage yard surrounded by an administrative building, a warehouse for hazardous materials, covered parking, and a new fleet service building for truck repair. The DWP owns 260 large trucks, some equipped with cranes, which are used to maintain electrical equipment and power lines citywide; a total of 16 can be parked in the yard for servicing.

The project was built in three phases, starting in 1989. At that time, the city's Cultural Affairs Department, which reviews the design of public buildings, rejected an earlier scheme by Ellerbe Becket as too varied in form, and asked the firm to prepare a coherent scheme with consistent forms that would accommodate various functions.

Yazdani, who has since left Ellerbe Becket and joined Dworsky Associates (pages 125-129, this issue), responded by creating what he calls a "syntax" of both forms and materials. Partly inspired by Russian Constructivism, the 35-year-old architect decided that each function should have its own characteristic shape and cladding—a strategy that would satisfy the city's desire for internal consistency while providing the opportunity to "piece various components of the program together through volumetric collage, juxtaposition, and collision," as he notes.

Accordingly, each function has its signature shape and material. The front gate is



**TOP LEFT:** Security building's curved form (left) echoes lower portion of administration building (right).

**THESE PAGES:** Ellerbe Becket's complex for L.A.'s Department of Water and Power includes fleet service building (left), truck parking structure (lower left), and security building (center).

# Power Complex

Los Angeles Department of Water and Power  
Fleet Service Building  
Los Angeles, California  
Ellerbe Becket, Architect





**FACING PAGE, TOP:** Security building's aluminum-and-glass curtain wall is partly obscured by perforated galvanized-steel signage.

**FACING PAGE, BOTTOM:** Stainless steel-clad fleet service building supports corrugated-steel awning.

**BELOW:** Arc of corrugated-steel canopy over truck parking area inverts curve of fleet service building's awning.

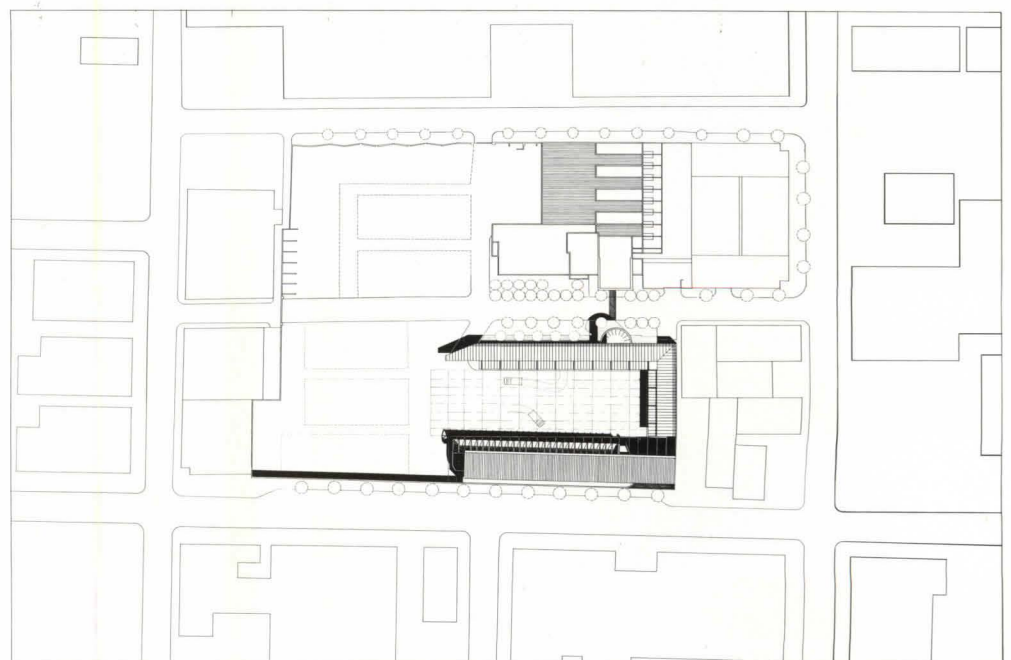
**SITE PLAN:** Administration building (top) and fleet service facilities (bottom) flank entrance gate (center).

framed by a pair of distinctive circular structures, the administration building and the guardhouse. Covered in an aluminum-and-glass curtain wall, the guardhouse is shaded by a curved scrim of perforated galvanized steel emblazoned with DWP's logo. The steel canopy of the parking area has an unmistakable curve, as does the steel awning above the fleet service building's garage. A bow-truss-shaped cornice announces the warehouse portion of the administration building.

The influence of Constructivist architects such as Konstantin Melnikov can be seen in the geometric boldness of the administration building (ARCHITECTURE, February 1993, pages 68-93), a cube mounted on a drum. This building's slablike upper story, covered in glass block, is meant to echo the office slabs of downtown Los Angeles that are clearly visible to the north. The composition collides with a series of boxy, brick-clad light monitors which bring natural light into the warehouse portion of the building. Designing this building from the outside in reflects Yazdani's interest in reflecting volumetric relationships in elevation.

The newer fleet service building, in contrast, is designed from the inside out: the spatial envelope of the truck bays and the high overhead space needed to accommodate a crane determined the form. Working largely in axonometric, Yazdani and his associates conceived the building as a series of interior and exterior planes.

To express the planar character of the building, as well as indulge in a game of "now it's inside, now it's outside," the architects erected a continuous plane of a single material—a wall of translucent fiberglass panels—and deployed it in several dissimilar ways throughout the building. The panels are visible in the front elevation, where they serve as sheathing for the protruding doorway. Inside the building, the paneled wall assumes a curve, forming the partition for a circular lunch area. Behind this room, the fiberglass wall joins the rear wall of the build-



SITE PLAN

1/80' = 24m

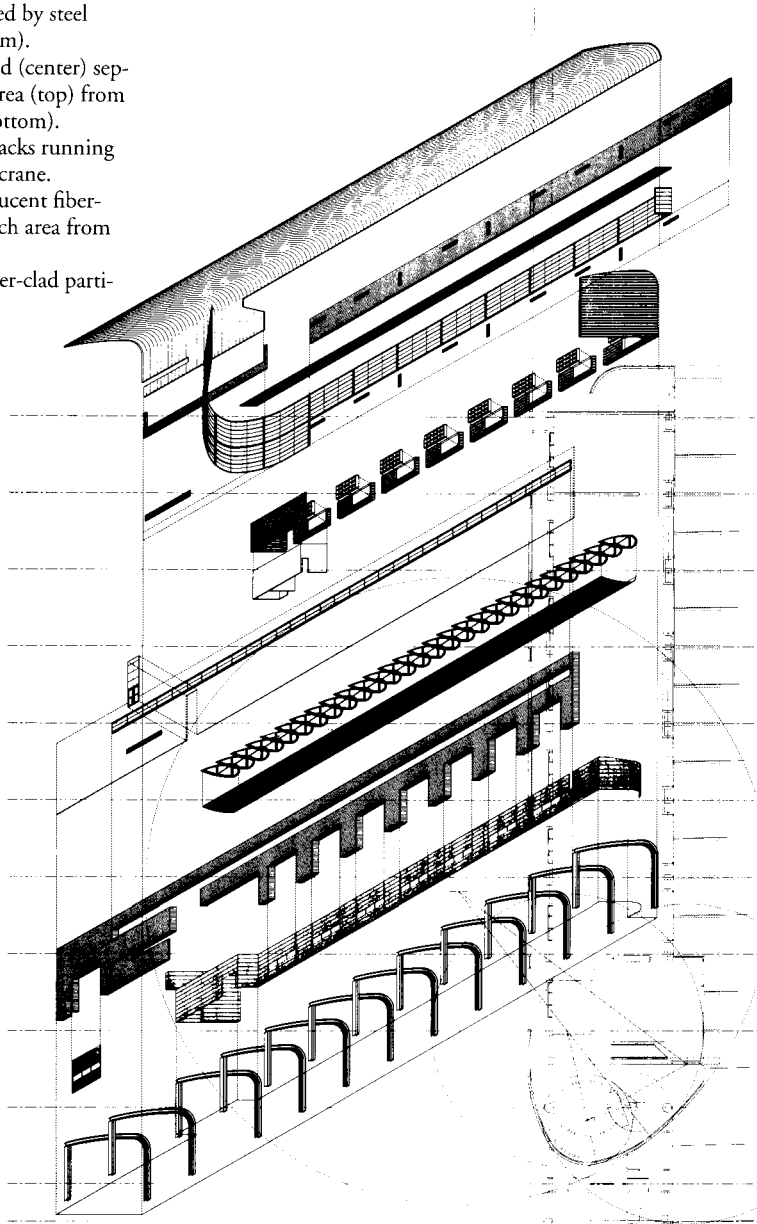
**AXONOMETRIC:** Copper-roofed fleet service building is supported by steel movement frame (bottom).

**PLAN:** Open concrete yard (center) separates covered parking area (top) from fleet service building (bottom).

**FACING PAGE, TOP:** Steel tracks running under roof will support crane.

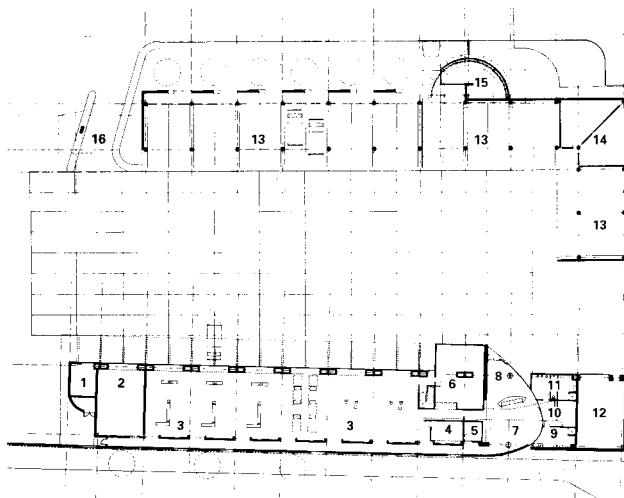
**FACING PAGE, LEFT:** Translucent fiberglass panels separate lunch area from open repair space.

**FACING PAGE, RIGHT:** Copper-clad partition encloses kitchen.



**AXONOMETRIC OF FLEET SERVICE BUILDING**

- 1 OIL/LUBE STORAGE
- 2 WASH BAYS
- 3 TRUCK REPAIR AREA
- 4 OFFICE
- 5 JANITOR'S ROOM
- 6 STORAGE ROOM
- 7 LUNCH AREA
- 8 ENTRANCE
- 9 WOMEN'S LOCKERS
- 10 ELECTRICAL ROOM
- 11 MEN'S LOCKERS
- 12 CABLE SPLICING
- 13 TRUCK PARKING
- 14 STORAGE
- 15 SECURITY
- 16 GAS PUMP AREA



**GROUND-FLOOR PLAN OF FLEET SERVICE YARD**

1/40' / 12m

ing, and serves as a layer of exterior cladding. The very planar east elevation is covered in corrugated stainless steel; Yazdani says the material will survive the low maintenance allowed such buildings.

Unlike many industrial projects, the Fleet Service Yard acknowledges its context. "Although the buildings are interior-oriented, we wanted to respect the edge of the street," Yazdani maintains. To avoid the monotony of a blind wall, he punctured the wall with narrow glass-block windows. On the northern end of the project, the perimeter wall assumes a zig-zag footprint that breaks the wall into a series of diagonal planes.

The workmanship is surprisingly good for a low-budget project. Yazdani agrees: "To get this level of detail on a public building is amazing. I have done a number of public buildings, and I know how difficult it is to get the result you want." Perhaps the people who frequent this part of downtown L.A. also appreciate that quality—in an area where graffiti is endemic, even the oldest parts of the Fleet Service Yard complex remain almost graffiti-free. For Ellerbe Becker, which is closing its Los Angeles office after a long local history as a distinguished provider of Modernist architecture, this project is an honorable *l'envoi*.—*Morris Newman*

**LOS ANGELES DEPARTMENT OF WATER AND POWER**  
**FLEET SERVICE BUILDING**  
**LOS ANGELES, CALIFORNIA**

**ARCHITECT:** Ellerbe Becker, Los Angeles—Mehrhad Yazdani (design principal); Sam Burnett (project manager); Craig Booth, Andrew Wong, Pedro Newburn, Jose Barez, Bruce DeJong, Tasha Reeder, Adjutor Yunson, Alireza Hadian, Michael Nardi (project team)

**LANDSCAPE ARCHITECT:** Fong & Associates

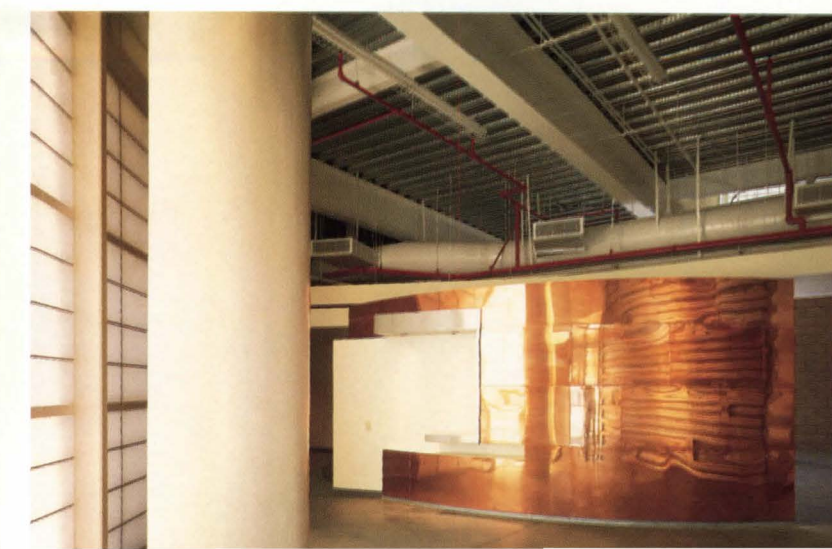
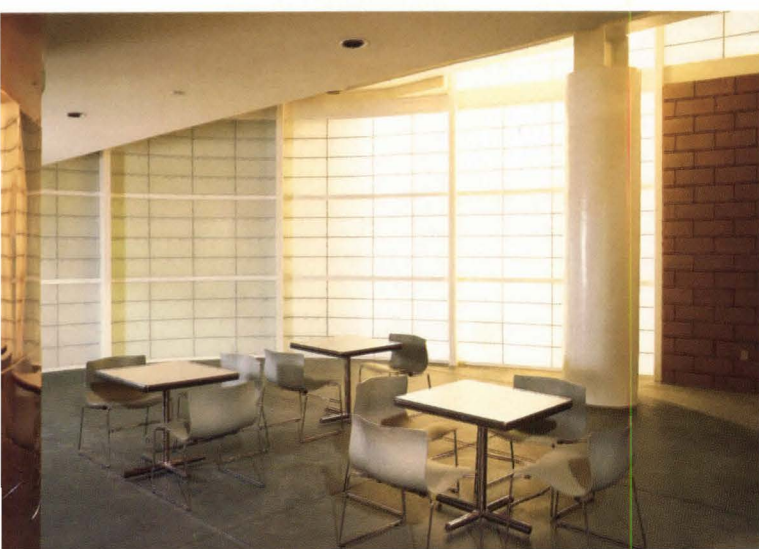
**ENGINEERS:** Matti J. Prabhu & Associates (structural); Psomas & Associates (civil)

**CONSULTANTS:** Specifications, Inc. (specifications)

**GENERAL CONTRACTOR:** J.A. Jones Construction

**COST:** \$4.2 million

**PHOTOGRAPHER:** David Hewitt/Anne Garrison Architectural Photography



# Civic Readings

San Francisco Main Public Library  
San Francisco, California  
Pei Cobb Freed & Partners and  
Simon Martin-Vegue Winkelstein Moris, Architects



THESE PAGES: At southeast corner near Market Street, New Main presents Modernist facade opened to reveal functions housed in distinct volumes.  
FACING PAGE: Classical facade faces Pioneer Monument on Fulton Mall.





In America at the turn of the century, many City Beautiful schemes were started but few were completed. Among the grandest visions was Marshall Square in San Francisco's Civic Center, where the columns and arches of deeply sculpted Beaux-Arts buildings flanked a wide, symmetrical and axial plaza centered on a splendidly domed City Hall. The formal composition has long been finished—but for one gaping hole at the southeast corner. Over the years, the question grew over just how to fill the vacancy: since Marshall Square was built, two world wars were waged and at least as many paradigms in architecture and urban planning shifted.

This April, Pei Cobb Freed & Partners supplied a deeply satisfying answer: the new San Francisco Main Public Library, a six-story, granite-and-stainless-steel structure with Classicized walls that complement the facades of the old Main Library opposite. Designed by James Ingo Freed in association with Cathy Simon, design principal of Simon Martin-Vegue Winkelstein Moris, the 376,000-square-foot New Main doubles the book storage capacity of Old Main. It also brings the library electronically up to date, with power and conduit grids racing through all the floors. Traditional on the outside, the new building pulses within.

From Marshall Square, the library presents a unitary image—at one with the square, at one with itself—but the facades are just that: civilized masks hiding a building of many characters. Unlike its Beaux-Arts companions, whose every gesture is subsumed within a hierarchy ultimately responsible to the dome of City Hall, this is a complex building of many parts, whose independence embodies the architectural pluralism with which it was conceived. The library is an analog for San Francisco as a community.

Freed took the buildings around Marshall Square at face value—that is, he understood that the structures, built for natural ventilation and light, formed long, continuous walls only 40 feet deep. He matches the “occupied



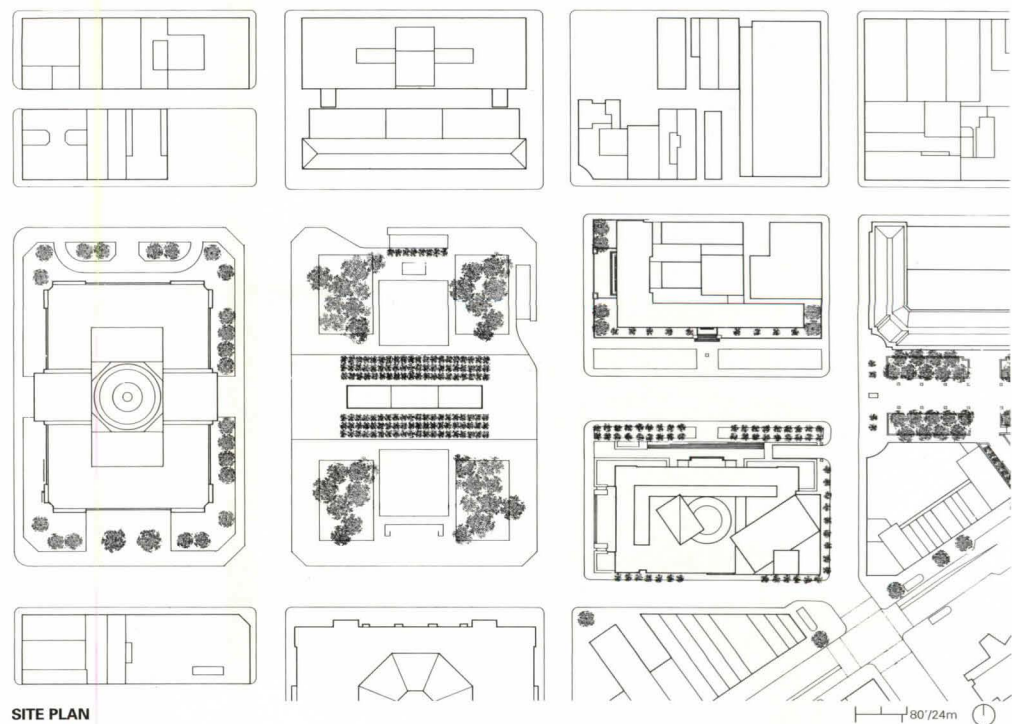
**FACING PAGE, TOP:** Stainless steel detailing distinguishes granite-clad facades.  
**FACING PAGE, BOTTOM:** Old Main (left) and New Main (right) define east wall of Marshall Square.  
**BELOW:** View toward City Hall reveals north elevation and rotated volume housing compact book-storage stacks.  
**SITE PLAN:** New Main's angled volumes (lower right) are oriented to grids of Market Street and Marshall Square.

walls" of Old Main (inspired by Labrouste's 1850 Bibliothèque Sainte-Geneviève in Paris) by creating Classical front and side walls that form an L, embracing the rest of the building. On the New Main's far side, outside the Classical precinct, Freed designed a Modernist, almost Rationalist, facade with deep, square windows regularly placed along a flat plane that parts above the entrance to reveal divergent inner geometries. On Hyde Street, farthest from Marshall Square and nearest the BART subway entrance, the very notion of facade breaks down entirely in a jumble of volumes in several scales and materials that corresponds to the complex program inside.

The palette of exterior materials offers the first clue that this apparently Beaux-Arts building simultaneously breaks and holds rank with its neighbors, and is at ease in the contradiction. Centered on columns sheathed in stainless steel, the facade does not tell the usual story of a Classical building whose walls express lines of gathering weight. Instead, Freed has clearly inscribed implicit messages on the entire facade, commenting especially on the passage of architectural time in practice, technology, and tradition. The stainless steel columns, dematerialized with sunlight and uplights at night, do not read visually as though acting in compression. The granite itself is not cut in rectangles to represent blocks laid on each other (as in Old Main), but shaped in squares to represent the thin curtain wall it is. The wall looks suspended rather than gravity bound.

The architect's comments accelerate on the far side on Grove Street, where, after the decent interval of a wide reveal, the putative Classicism gives way to an orderly Modernist facade with episodic irregularities that hint at other stories inside. Never does Freed allow a single image to domesticate all the library's independent parts. Inside and out, the building changes with context and circumstance.

Three entrances—two across bridges and the third a ramp winding through a field of columns—lead to an interior with the fasci-



**SECTION:** Atriums throughout New Main create spatially porous structure.  
**PLANS:** Symmetry and asymmetry mix on Grove Street level and typical floor.  
**FACING PAGE, TOP:** Compact book-storage volume (center) interrupts orthogonal grid of east and south facades.  
**FACING PAGE, LEFT:** Reveal housing fire stairs separates Classical west and Modernist south facades.  
**FACING PAGE, RIGHT:** North facade's columns are sheathed in stainless steel.



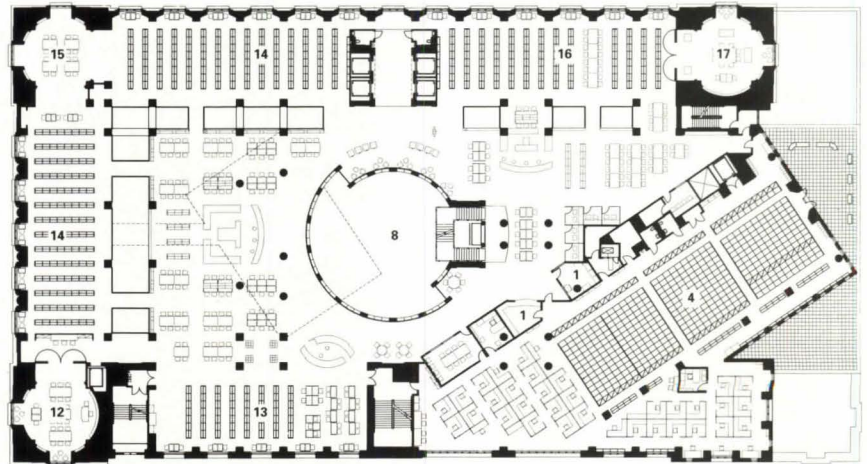
EAST-WEST SECTION

nating complexity of a Fabergé egg. The heart of this spatially complex library is a five-story rotunda, illuminated by a conical skylight designed with a forced perspective that angles acutely to an off-center oculus. Though Freed has cleverly manipulated the entrances and paths to converge on a single control point in the atrium, the library does not look or act like a building controlled from its center. The atrium is open rather than closed, and with tangential geometries, it spins out from the center to other spaces and forms equally transitive. The circles disperse rather than contain: the physics of the space is vectorial, propelling rather than confining.

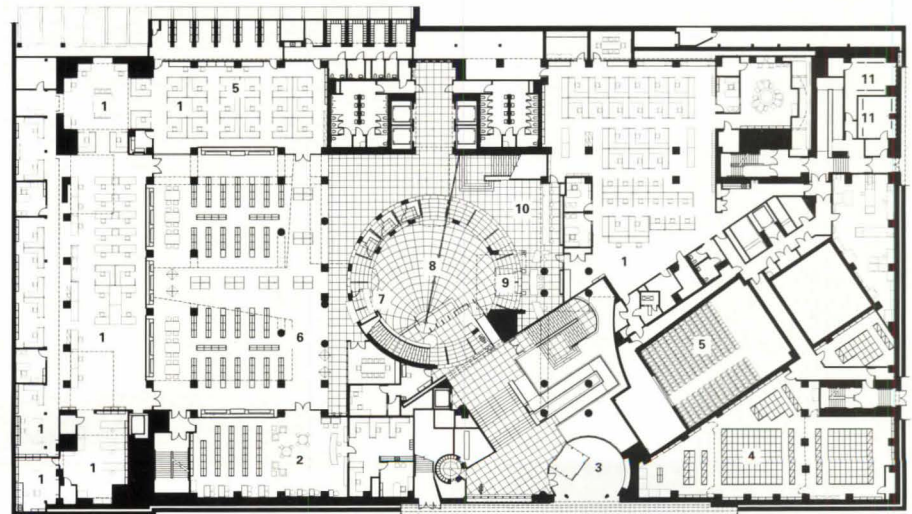
Set off-center within the structure, the atrium subdivides the building into unequal parts, none too large to escape its turning sphere of influence. A staircase embedded in the atrium's side invites visitors to step into what Freed calls the "spatial dance"—circulation that activates the whole interior into a three-dimensional realm of discovery. Unlike other urban libraries, the interior is not a stack of pancakes, but a rational structural field interrupted beyond clear recognition by exceptional spaces and volumes.

The building becomes spatially more complex as it rises, and at the top, the floors give way to a three-story valley at the foot of a glass prism that juts into the atrium and breaks into the skylight. Brilliant site-specific pieces by New York sculptor Alice Aycock, spiraling in their own vortices, reify the ideas of spatial flux that inspired Freed's design. This is a building that leads visitors through many points of view; it is not intended to be seen and understood from a one-angle-fits-all perspective. Freed explains, "You are almost physically involved in the physic-intellectual rush of possibilities—nothing holds together, all is in flux. No resolution is sought...."

The periodical reading room anchoring the top of the atrium is only one of several pieces of the program (the compact book-storage tower is another) that enjoys its own independent geometry and position within a

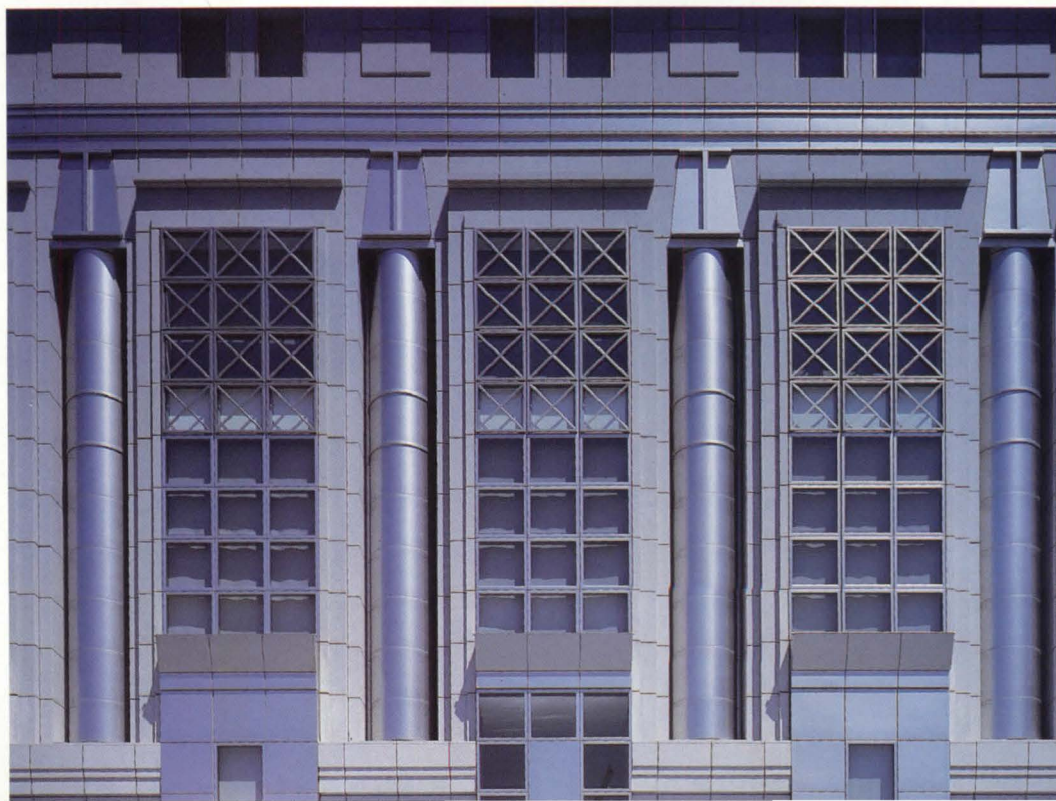


THIRD-FLOOR PLAN



GROUND-FLOOR PLAN

- |                         |                                   |                                  |                                     |
|-------------------------|-----------------------------------|----------------------------------|-------------------------------------|
| 1 LIBRARY SERVICES      | 9 RESERVE DESK                    | 16 ARTS CENTER                   | 22 BRIDGE                           |
| 2 DEAF SERVICES         | 10 BOOK RETURN                    | 17 MUSIC COLLECTION              | 23 HUMANITIES READING ROOM          |
| 3 GROVE STREET ENTRANCE | 11 BIKE PARKING                   | 18 CHILDREN'S ROOM               | 24 BUSINESS/TECHNOLOGY READING ROOM |
| 4 COMPACT STACKS        | 12 CAREER CENTER                  | 19 READING AREA                  | 25 PERIODICALS READING ROOM         |
| 5 AUDITORIUM            | 13 AUDIOVISUAL COLLECTION         | 20 ART/MUSIC READING ROOM        | 26 PERIODICALS COLLECTION           |
| 6 BROWSING COLLECTION   | 14 BUSINESS/TECHNOLOGY COLLECTION | 21 GOVERNMENT INFORMATION CENTER |                                     |
| 7 REFERENCE DESK        | 15 READING ROOM                   |                                  |                                     |
| 8 ATRIUM                |                                   |                                  |                                     |







**FACING PAGE AND BELOW:** Stairwell rotates around site-specific steel sculpture by Alice Aycock, funded by percentage-for-art program, and leads to periodical reading room.

**BOTTOM:** Stairs lead down from south Grover Street entrance through lobby with intersecting geometries.







FACING PAGE AND BELOW: Asymmetrical skylight with shifted oculus illuminates central rotunda, whose space is penetrated by glass-enclosed periodical reading room and open staircase.

structure that itself has a double nature. One grid agrees with the street pattern north of Market Street, while the second parallels Market's diagonal path. The corners of each floor are occupied by special collections in rotundas designed by Pei Cobb Freed for affinity groups—African-American, Chinese, and gay and lesbian communities, for example—who support the library. On the second floor, Simon designed a sprawling children's library that itself spins off the circular circulation desk to the corners of the building.

This is a building of many parts, and between the separate parts, natural light always falls. Freed is able to build beyond the old 40-foot depth because he breaks the volume and keeps it from becoming monolithic. A five-story linear atrium bordering the L of the north and west facades allows light to filter deeply into the space. The building's porosity, which permits overlooks and proximity to stacks, creates a sense of community throughout that is especially intense in the populous main atrium.

There are, of course, weaknesses. The highly literate facade fronting the square, intentionally thin and shallow, is cumulatively too flat for the building's mass. The antefixes at the facade's top remain little doodads, vestigial Roman decoration too slight to read from Marshall Square. The rotunda space might have been more figural, and the Modernist facade touched more explicitly by the building's conceptual nonlinearity.

The New Main's greatest accomplishment is that the whole is not equal to or greater than the sum of the parts, because there is no sense of a whole or any notion of completion. Freed avoids the obviousness of a full block structure reduced to a simple diagram and a single language, in favor of formal and spatial complexities that allow a rich and poetic expression of the library's many functions and identities. San Franciscans can now read and research in a field of possibilities. This enormously civilized building is touched by a sense of wildness. Bravo.—*Joseph Giovannini*



**BELOW:** Suspended reading room and Aycock sculptures occupy three-story space of secondary atrium.

**BOTTOM:** Grilled gate, patterned after rotunda skylight, opens to James C. Hormel Gay and Lesbian Center.

**FACING PAGE:** Light well traversed by bridges illuminates spatial reveal between interior volume and 40-foot-deep Classical facade.



**SAN FRANCISCO MAIN LIBRARY  
SAN FRANCISCO, CALIFORNIA**

**ARCHITECT:** Pei Cobb Freed & Partners, New York City—James Ingo Freed (design partner); Werner Wandelmaier, Michael D. Flynn (managing partners); Lloyd G. Ware (managing associate partner); Christopher L. Olsen, Jennifer Sage, Robert Madey, Kyle Johnson, Richard Gorman, Abby Suckle (senior associates); Kirk Conover, Nancy Sun, Gianni Neri, Albert Taylor Hennings (associates); Eric Cugnart, Ali Gidfar, Kevin Johns, Ramin Rezai, Sandra Lutes, Mercedes Stadthagen, Mark Hill, Shadi Nazarian, Felecia Davis, Patricia Lubary, William Lee, John Lee, Hotae Kang, Sara Rose, Jennifer Adler, Frank Starkey, Oreste Drapaca, Carol Averill, Michelle Transou, Marc Diamond (project team); Eli King, Emily Sidorski, Monica Coe, José Bruguera, Mark Hill, Price Harrison, Victor Viera (interiors team)

**ASSOCIATE ARCHITECT:** Simon Martin-Vegue Winkelstein Moris, San Francisco—Cathy Simon, Phyllis Martin-Vegue, Lamberto Moris (design principals); Anthony Bernheim (senior associate/project manager); Beverly Moris (senior associate/design); Alan Stile, Wahid Iskanderzada, Robert Diaz, Frank Chin, William Bondy, John Long, Alysha Verzhbinsky, Ron Aguilas (associates); Ben Larson (job captain); Ivan Yeung, Louise Louie, Mark Zall, Harshila Amin (project team); Edie Chaska, Melissa Orias, Nicole L'Heureux, Donald Cremers, Carol Kranhold-Ames, Matt Davis (interiors team)

**ASSOCIATE INTERIOR DESIGNER:** Kwan Henmi—Sylvia Kwan (principal-in-charge); Gregory Miller (project manager); Rachel Hagner (project designer); Thomas Edmonds, Ken Berman (job captains); Al Stone (architect)

**ENGINEERS:** OLMM Structural Design (structural); Forell/Elssesser Engineers (seismic); Flack & Kurtz, SJ Engineers, Peter O. Lapid & Associates (mechanical/electrical/plumbing/telecommunications); F.E. Jordan Associates (civil)

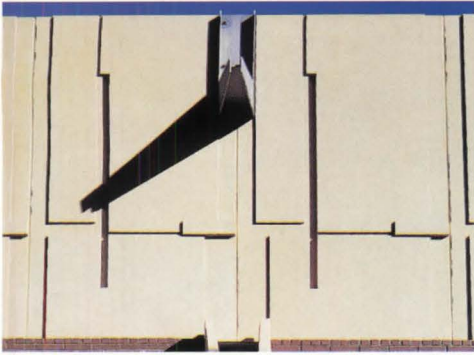
**CONSULTANTS:** Carter Tighe Leeming + Kajiwarra (landscape); Rolf Jensen Associates (safety); Fisher Marantz Renfro Stone (lighting); Hesselberg, Keesee & Associates (elevators); Paoletti Associates (audio-visual/acoustics/security); Con-Tech (security); Page & Turnbull (historic preservation); X (+C) Limited, Studio A (graphics); Hal Levin & Associates (air quality); John Raeber (specifications); Adamson Associates (cost estimating); Donald Kaufman (color); Lance Roof Inspection Service (roofing); Lerch, Bates & Associates (exterior maintenance); Bruce Purdy (hardware)

**GENERAL CONTRACTOR:** Huber, Hunt & Nichols

**COST:** \$137 million

**PHOTOGRAPHER:** Timothy Hursley



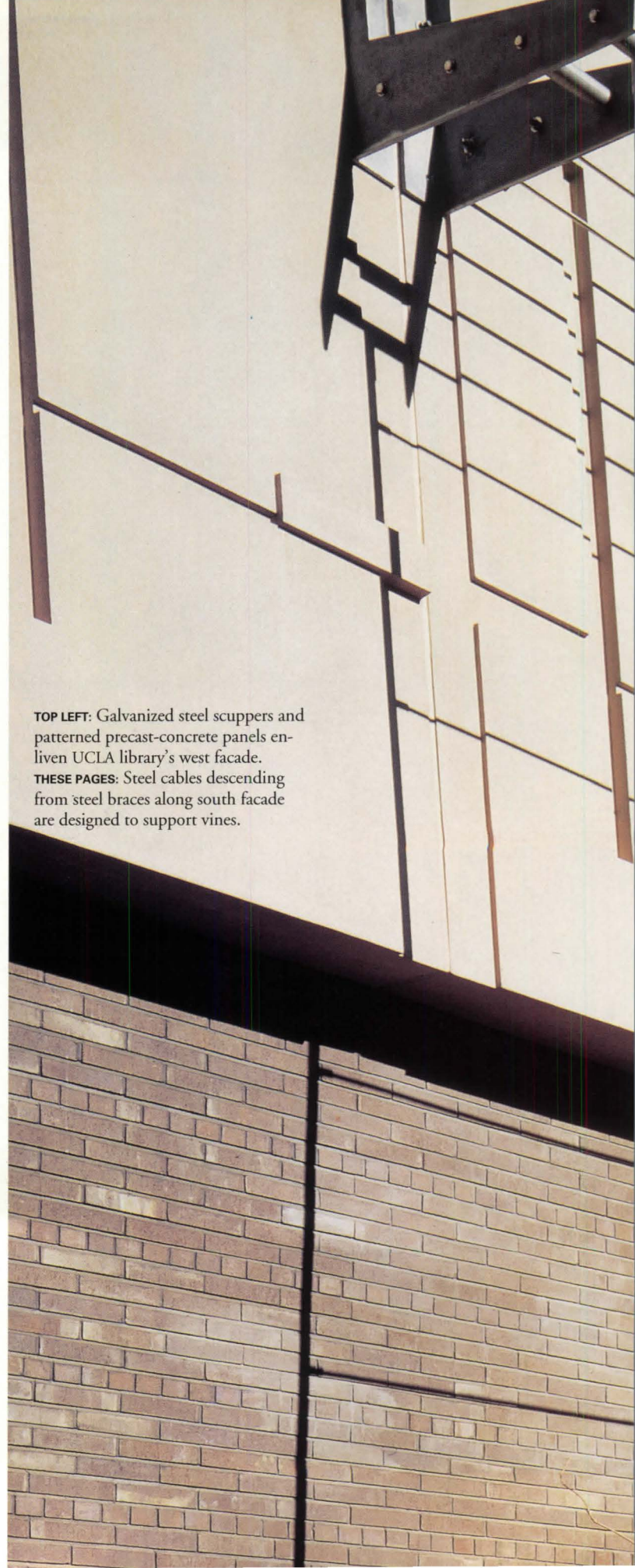


In expanding its Southern Regional Library, the University of California, Los Angeles (UCLA) handed Franklin D. Israel a difficult assignment. A storage house for books and films, the library occupies the west edge of campus, knuckling up to the residential neighborhood of Westwood. For this second stage of a three-phase project, UCLA wanted a building that would strongly define a prominent campus border formed by the corner of Gayley and Veteran avenues. But neighbors overlooking the site didn't want to see another UCLA building, least of all a 90,000-square-foot bunker for books.

Israel's response was to bury two stories of the three-story addition beneath bermed earth, screening the library's south-facing, Gayley Avenue facade behind a planted trellis. In an interview shortly before his death on June 10 from complications related to AIDS, Israel explained, "This building was designed not to be seen. But at the same time, we wanted to make a statement about creating an edge to the university." Consequently, the simple horizontal volume is at once demure and enduring, with details that evoke a Mayan ruin or a giant, ancient sepulchre half emerging from the land.

The new wing is entered from the existing library, completed in 1987 by the Glendale firm Leidenfrost/Horowitz Architects, which invited Israel to join its team in vying for phase two. A rectangular box with a 12-foot-tall parapet on its west and south facades, the addition is clad in brick at its base to blend with the original structure, a functional, unattractive volume. Along the west facade, precast concrete walls are interrupted at 32-foot intervals by galvanized steel scuppers, which spill rainwater into concrete drainage channels at grade. On the south facade, steel braces support a steel cable trellis, on which wisteria has already started to grow. As the plants mature, the building will gradually disappear into its landscape.

Israel delivered a big design for this small, low-profile project, creating a monument out



**TOP LEFT:** Galvanized steel scuppers and patterned precast-concrete panels enliven UCLA library's west facade.

**THESE PAGES:** Steel cables descending from steel braces along south facade are designed to support vines.

# Campus Cornerstone

Southern Regional Library Expansion  
University of California, Los Angeles  
Westwood, California  
Franklin D. Israel Design Associates and  
Leidenfrost/Horowitz Architects



**BELOW:** Steel scuppers empty rainwater into drainage channels at berm's top.

**ELEVATION:** Berm and trellis are designed to blend building into landscape.

**SECTION:** Berm sides up to addition, exposing a single story to neighbors across street (left).

**FACING PAGE:** Wall sections detail pre-cast panel assembly (top), attachment of trellis frame to south-facing facade (center right), and west facade's galvanized metal scupper and drainage channel (bottom right).

**UCLA SOUTHERN REGIONAL LIBRARY  
WESTWOOD, CALIFORNIA**

**DESIGN ARCHITECT:** Franklin D. Israel Design Associates, Beverly Hills, California—Frank Israel (principal-in-charge); Annie Chu (project architect); Jay Deguchi, Rick Gooding, Morton Olrik, Jim Chang Tsai (project team)

**EXECUTIVE ARCHITECT:** Leidenfrost/Horowitz Architects—Oscar Leidenfrost (principal-in-charge); Lucy Padilla (vice-president-in-charge); Shumet Ghebremichael (project architect)

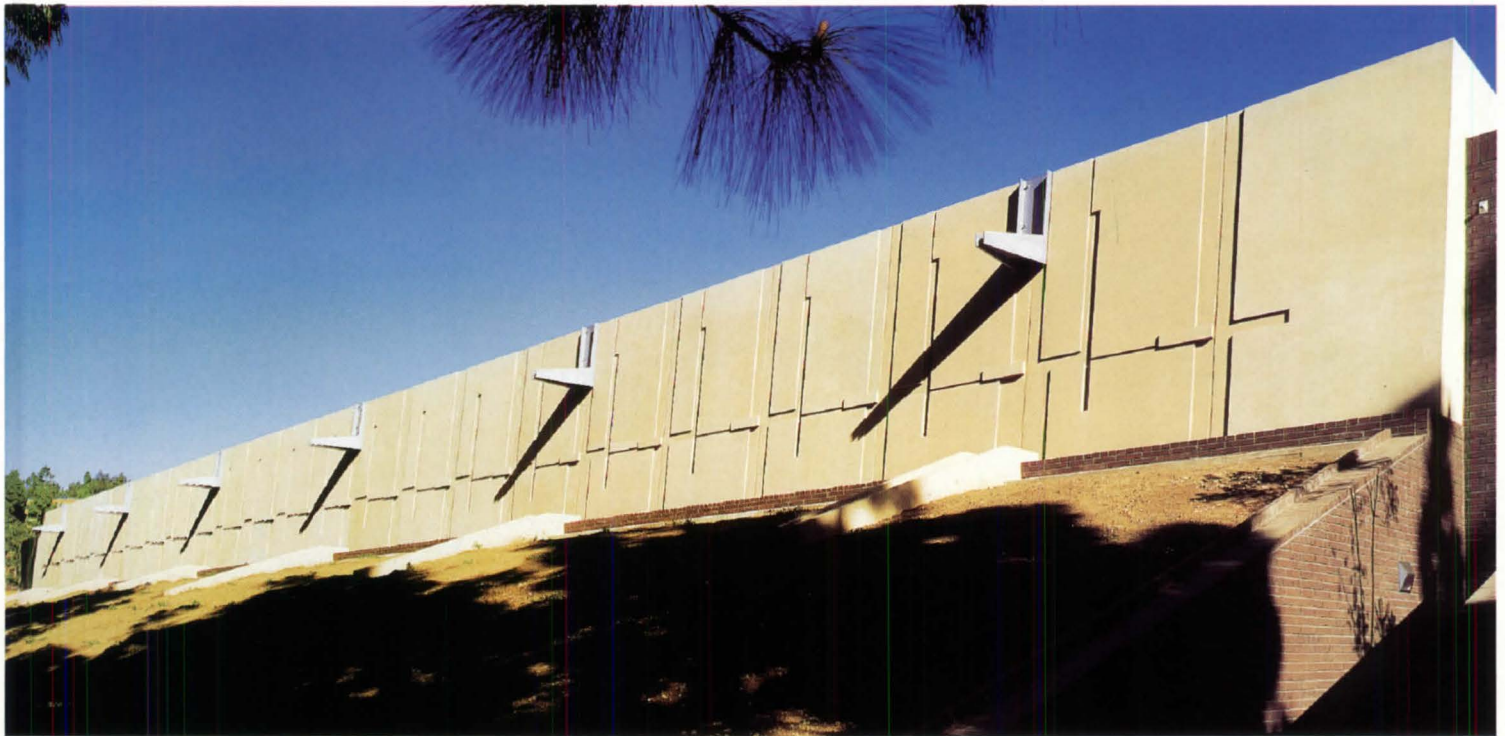
**LANDSCAPE ARCHITECT:** Lawrence R. Moss & Associates

**ENGINEERS:** Barelli & Associates (structural); d'Autremont-Helms & Associates; John Snyder & Associates (electrical); RBA Partnership, NCH (civil)

**GENERAL CONTRACTOR:** Ray Wilson Company

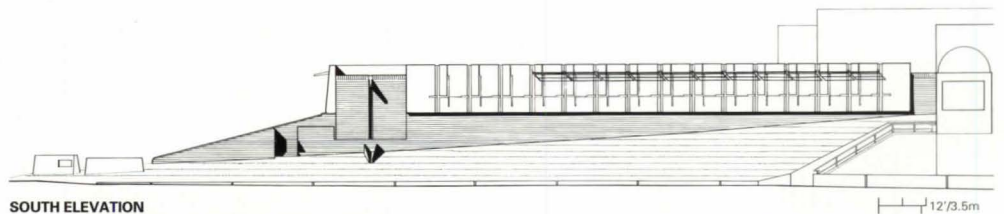
**COST:** \$11 million

**PHOTOGRAPHER:** Grant Mudford

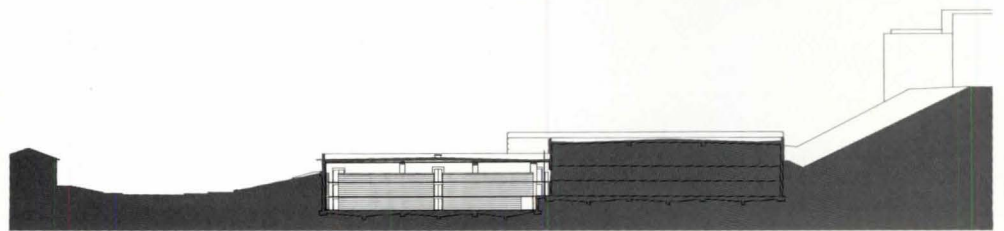


of a windowless box. The new building acknowledges the Mayan-influenced houses of Frank Lloyd Wright, and its concrete walls are a nod to Rudolph Schindler's own tilt-up concrete house on King's Road. And like Israel's 1991 gallery pavilion for Los Angeles art collector Frederick Weisman, the addition defers to its neighborhood with a quiet, unobtrusive presence.

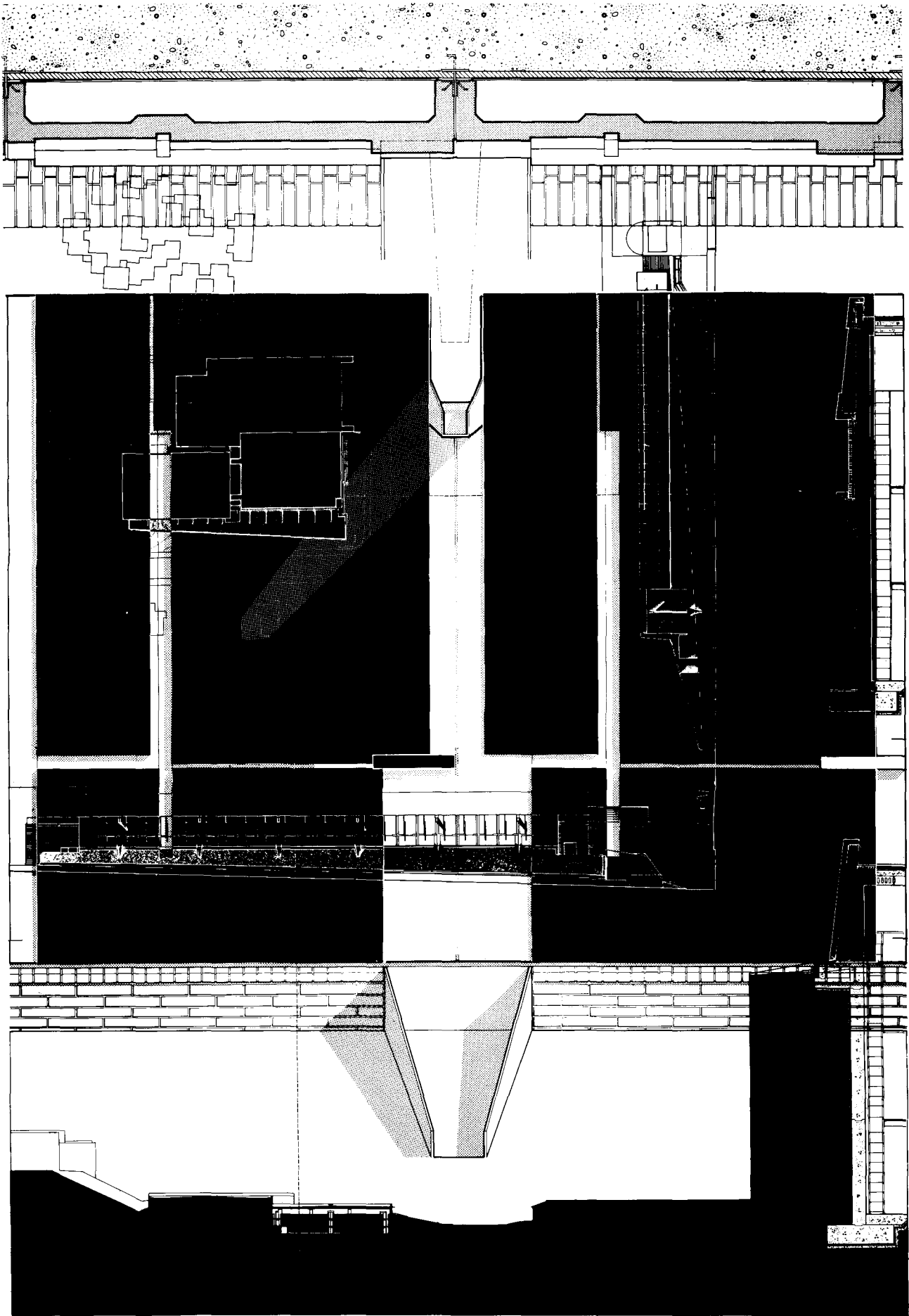
The library for UCLA is Israel's last public building in the United States. Unfortunately, a towering wire-and-plastic fence has been in place since the early 1980s along the site's western edge. Designed to keep students from parking in Westwood, it barricades an entire block, screening Israel's richly satisfying sculptural ensemble from view. The ugly fence represents a typical town-gown problem: a community that benefits from the university doesn't want to suffer its trespasses. But UCLA should tear down the fence—and stand by its growing tradition of design excellence. Neighbors can be taught.—Heidi Landecker



**SOUTH ELEVATION**



**WEST-EAST SECTION**



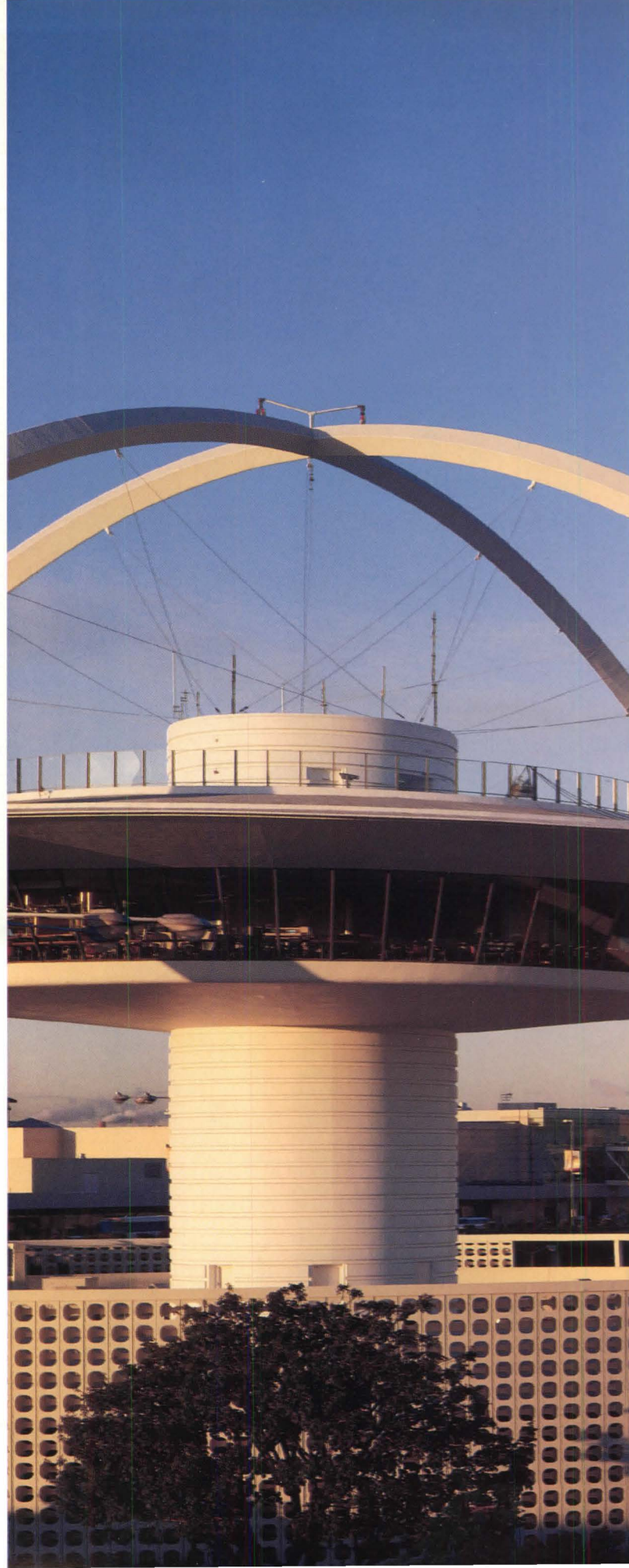


**A**t Los Angeles International Airport, known as LAX, a new air traffic control tower designed by a team of five women is anything but feminine. To some, the assertive 277-foot-tall tower recalls an extraterrestrial dreamed up by Steven Spielberg; to others, it's a fedora-topped gangster like John Huston in *Chinatown*, or a space-age structure worthy of *2001*.

The building, designed by Kate Diamond of Siegel Diamond Architects with Adriana Lovinescu of Holmes & Narver, in collaboration with landscape architects Pamela Burton and Katherine Spitz and artist Sheila Klein, has sparked controversy since the design's unveiling. Attorney Johnnie Cochran, an airport commissioner at the time the drawings were reviewed, reportedly took one look and uttered, "Not at *my* airport." But whether Angelenos like it or not, their city deserves praise for forcing the Federal Aviation Administration (FAA) to alter what local architect Elyse Grinstein calls the "upside-down flashlight" it wanted to build.

Clearly, the city's Cultural Affairs Commission, which has final say on buildings to be constructed on city property, wanted something different. When LAX decided to update its 1960 tower, the commission, then chaired by Grinstein, overruled the FAA's government-issue cylinder and requested a highly visible gateway to the city. Holmes & Narver, which held a five-year contract with the FAA, invited architect Kate Diamond of Siegel Diamond, an important Los Angeles connection for the Orange-based office.

"We began by deconstructing the FAA prototype," Diamond explains, deciding which elements should be left alone for functional reasons and which offered design opportunities. They didn't change the prototype's "cab," where controllers direct planes by radar and sight. But for the rest of the tower, the architects borrowed liberally from aviation history and space technology, studying old biplanes and the lunar landing module. Roof curves echo the camber of an airplane wing; the ex-



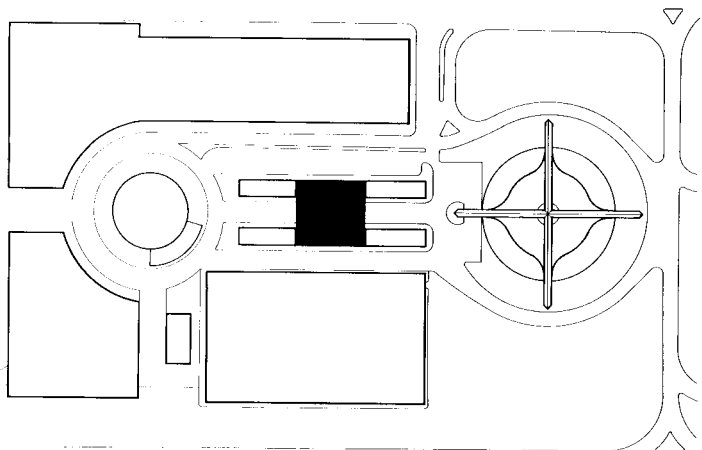


# Women Take Control

Air Traffic Control Tower and Administration Building  
Los Angeles International Airport  
Los Angeles, California  
Siegel Diamond Architects  
Holmes & Narver, Architects

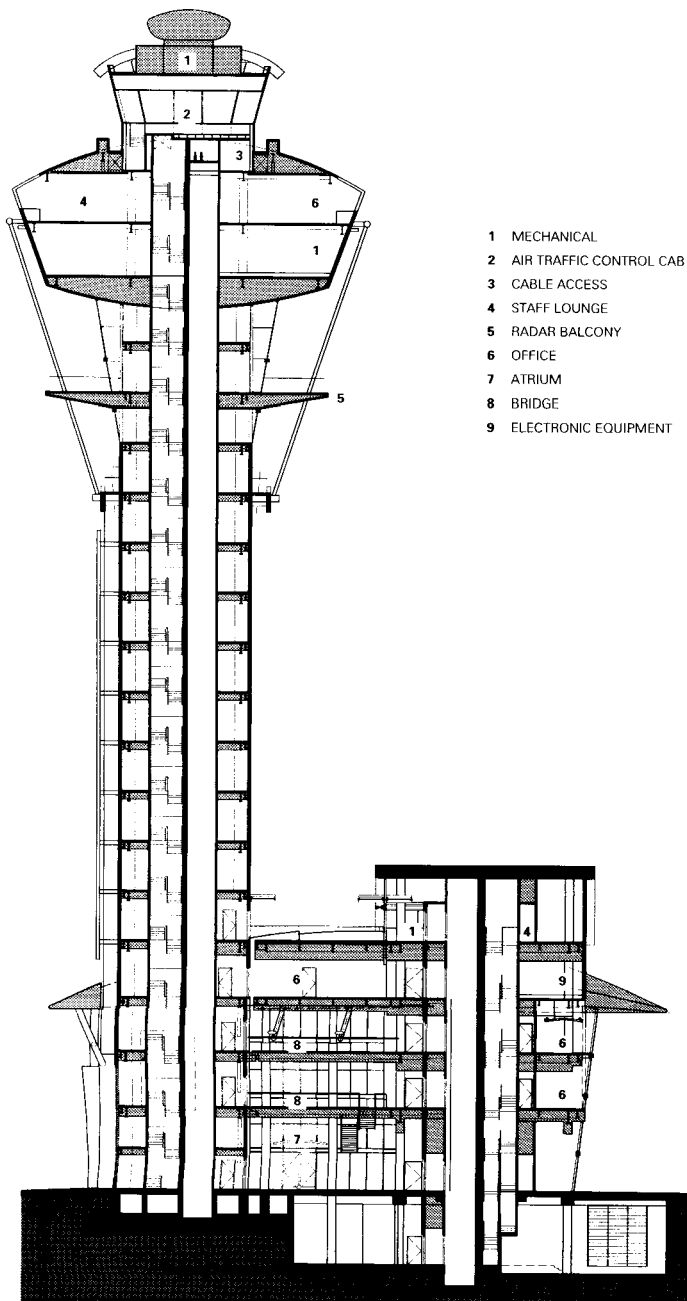


**TOP LEFT:** New air traffic control tower and Theme Building (1962) by William Pereira are focal points at LAX.  
**THESE PAGES:** Twenty-one-story tower clad in glass-fiber-reinforced concrete is flanked by five-story office building.



SITE PLAN

100/34m



- 1 MECHANICAL
- 2 AIR TRAFFIC CONTROL CAB
- 3 CABLE ACCESS
- 4 STAFF LOUNGE
- 5 RADAR BALCONY
- 6 OFFICE
- 7 ATRIUM
- 8 BRIDGE
- 9 ELECTRONIC EQUIPMENT

WEST-EAST SECTION

12/3.5m

**SITE PLAN:** Service buildings (left) and Theme Building (right) flank tower.

**SECTION:** Three-story atrium links tower with office building (right).

**FACING PAGE, TOP:** Cabled light sculpture by artist Sheila Klein is abstraction of local endangered butterfly.

**FACING PAGE, LEFT:** Prominent struts for office building roof recall early biplanes.

**FACING PAGE, RIGHT:** Control cab occupies 21st story; 19th floor, clad in dark aluminum panels, houses lounge.

posed structure recalls biplane struts; and radar is positioned on open balconies, rather than concealed as in the prototype. "This is a high-tech building," asserts Diamond. "I don't find showing its guts at all offensive."

The 56,000-square-foot building comprises a five-story office building and a 21-story tower, linked at their base by a three-story atrium lobby. To accommodate parking on the tight, 130-by-167-foot site, the architects raised the administration wing and cantilevered it 40 feet out from its structure. Floors two, three, and four contain offices; the fifth floor houses a staff lounge.

The air traffic control tower, clad in concrete panels and supported on 50-foot-deep concrete piers, is structurally separate from the lobby and office building, enabling the architects to surround it with an 8-inch seismic joint. "In an 8.0 earthquake," explains Lovinescu, "the tower would swing like a pendulum—as much as 2 or 3 feet at the top."

The 850-square-foot air traffic control cab perches above the brim of the "fedora" at the 21st story. A digital data link permits departure clearance to be transmitted via computer instead of radio. With 26 miles of fiber-optic cable and touch-screen video monitors, the tower's technology is among the most sophisticated in the country.

But instead of incorporating clean, aerodynamic forms to reflect the high-tech program, the designers indulged in historical aviation metaphors, and the result is Quonset hut imagery. Curved roofs echo the geometry of William Pereira's nearby Theme Building Restaurant, but the new building's chunky proportions dominate, rather than complement, the 1962 building's spidery elegance. In celluloid terms, the esthetic isn't "Star Trek," it's *Brazil*. Nevertheless, some important off-site users aren't bothered by these design details. "It's gorgeous," exclaims USAir pilot Jim Owens, who flies into LAX regularly. "It's different," remarks Dick Mitchell, a Delta Air Lines supervisor, adding, "This is Hollywood, after all." —Heidi Landecker

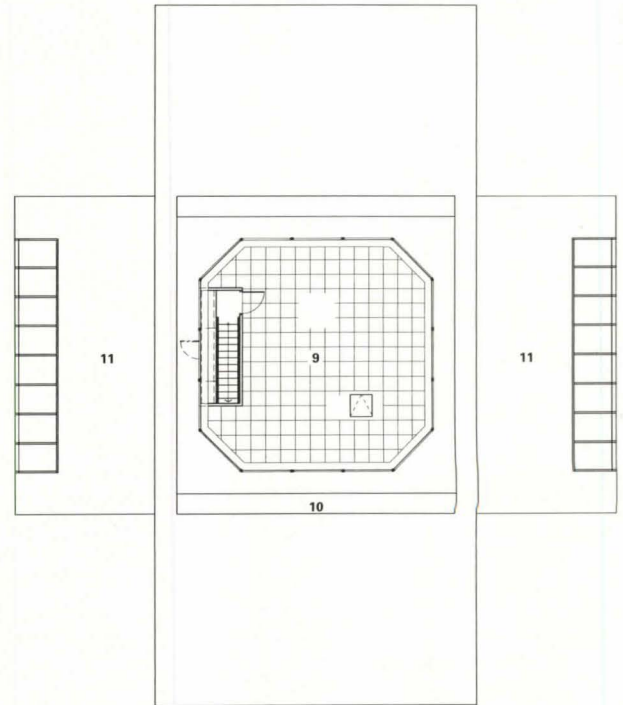
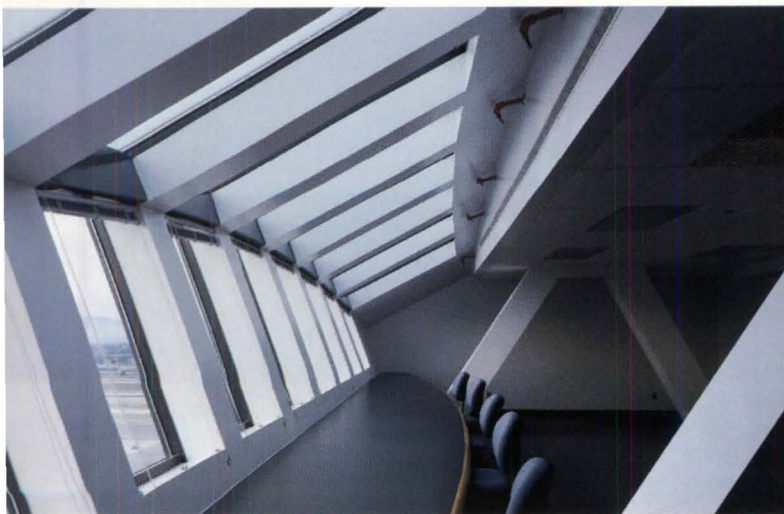


**AIR TRAFFIC CONTROL TOWER  
AND ADMINISTRATION BUILDING  
LOS ANGELES INTERNATIONAL AIRPORT  
LOS ANGELES, CALIFORNIA**

**DESIGN ARCHITECT:** Siegel Diamond Architects, Los Angeles—Katherine Diamond (partner-in-charge); Warren Young, Rachel Lewis, (project team)  
**ARCHITECT OF RECORD:** Holmes & Narver, Orange, California—Adriana Lovinescu (principal); Vijay Jadhav, Jerry Rozycki, Isis Selim, Mick Yuan (project architects); Ursula Crupi

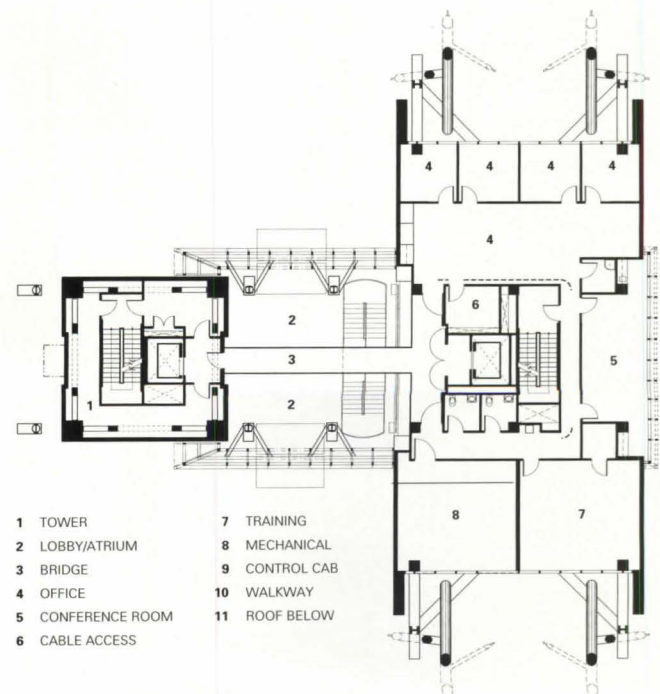
(interiors); Lee Harper, Tom Grant, David Wirtz (project managers); Joseph Mada (director)  
**LANDSCAPE ARCHITECT:** Burton & Spitz  
**ENGINEER:** Holmes & Narver—Vince Szeto (structural); Sassan Yazdizadeh (mechanical); Ben Marscardo (electrical); Tom Grant (civil)  
**CONSULTANTS:** Sheila Klein (public art)  
**GENERAL CONTRACTOR:** Swinerton & Walberg  
**COST:** \$20 million  
**PHOTOGRAPHER:** Timothy Hursley

**BELOW LEFT:** Bridges traverse atrium at second and third stories.  
**BOTTOM LEFT:** Skylights and windows in break room overlook airport.  
**PLANS:** Cab (top), accessible only by stair, is surrounded by walkway and roofs below. Tower (left) and office building (right) appear joined by atrium. Connecting bridges are designed to slide during seismic activity.  
**FACING PAGE:** Tower's curved roof shields controllers in cab above from nighttime light and glare.



**CAB/WALKWAY PLAN**

8'2.3m



- 1 TOWER
- 2 LOBBY/ATRIUM
- 3 BRIDGE
- 4 OFFICE
- 5 CONFERENCE ROOM
- 6 CABLE ACCESS
- 7 TRAINING
- 8 MECHANICAL
- 9 CONTROL CAB
- 10 WALKWAY
- 11 ROOF BELOW

**THIRD-FLOOR PLAN**

12'3.5m



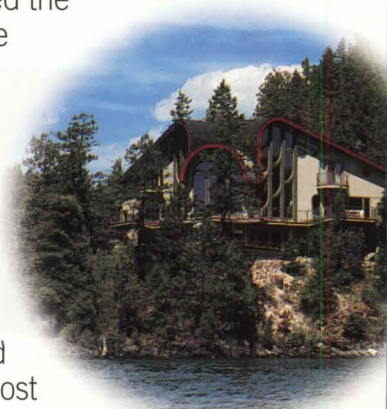
# AND TO THINK OTHER WINDOW MANUFACTURERS SAID I

Architect Richard Smith grew up in Montana's Flathead River valley, exploring its forests, paddling its lakes and streams and marveling at the abundance and variety of its wildlife. So when he was asked to design a home perched above the waters of Flathead Lake, his inspiration was the majestic bird that makes its home in the same idyllic setting: the osprey.



Since the windows would be the key element in creating the look of a bird in flight, Richard spoke with all of the top manufacturers. More than one claimed they were impossible to build. Others were eliminated from consideration because their solutions compromised the design. Still others, because they couldn't provide the low maintenance finish the owner requested. Only one company rose to the challenge. Marvin Windows & Doors.

True to Richard's vision yet mindful of builder Len Ford's timetable, Marvin's architectural department began designing the windows and creating the necessary production specifications. But a change in plans became necessary when the owner brought up his concerns about the frequent high winds coming off the lake. So Richard designed a special steel framework for the window openings and Marvin produced 24 direct glazed units with custom radii. Not only that, they were clad in extruded aluminum that exceeds A.A.M.A. 605.2-92 standards; the industry's most





**O**ur focus on new buildings in post-recession California continues in this month's Technology & Practice section. Dramatically tougher seismic standards following the Loma Prieta and Northridge earthquakes drove architects Pei Cobb Freed & Partners and Simon Martin-Vegue Winkelstein Moris to reconfigure the structure of the new San Francisco Main Public Library. As our technology feature shows, the resulting seismic base isolation system is just one of the technical advances of the \$176 million building: A flexible universal cabling system, for example, links power, telecommunications, and building management systems; and interior atriums are engineered to act as giant chimneys, exhausting smoke in the event of a fire.

Besides its earthquakes, the Golden State is well known for boasting some of the nation's most expensive housing, particularly in San Francisco. To help alleviate the lack of affordable housing—especially for local artists—the city government enacted ordinances to encourage the building of live/work spaces in the city's burgeoning South of Market area. This month's residential feature presents new live/work lofts by three of San Francisco's most innovative architects.

California has always been fertile ground for cultivating design talent. Now, cutting-edge designers from the state and other parts of the country are being courted by large practices that want to bolster their time-tested project delivery methods and business savvy with strong, identifiable esthetics—and to better compete for lucrative design commissions. Our practice feature this month profiles four such imported design directors, and reveals how these marriages of politics, personalities, and power aren't always matches made in heaven.

Northern California is home to the U.S. division of Graphisoft, the Budapest-based company that last year revolutionized the CAD world by incorporating affordable virtual reality software into its flagship ArchiCAD package. Our computer feature on ArchiCAD 5.0, unveiled this month, evaluates the more sophisticated database links and smarter drafting tools included in the newest release.

# SOMETIMES A CO CALLS FOR THE U

It's not every day that bridge building techniques are used to expand a convention center. Yet, when the growth of Bartle Hall Convention Center in Kansas City was hemmed in on three sides by buildings and on the fourth by Interstate-670, there was but one way to go: over the highway.

Since this project broke new ground from an engineering standpoint,



90' Vulcraft steel joists.

the designers insisted on tried and true materials they knew they could trust. Like strong, economical Vulcraft steel joists. There's no margin for error when you're spanning six lanes of traffic with 550 tons of 90' steel joists. Only the engineering expertise of the world's largest steel joist company will do.

A further challenge of the project was that there was no storage area for materials. Vulcraft easily overcame that obstacle by making 20 separate, on-time deliveries, each containing precisely the correct materials. And, Vulcraft successfully handled the complex detailing required for these joists.

So, if economy, service, and engineering mastery is what you're looking for in a steel joist provider, choose the company that brings unconventional expertise to even the most conventional projects.

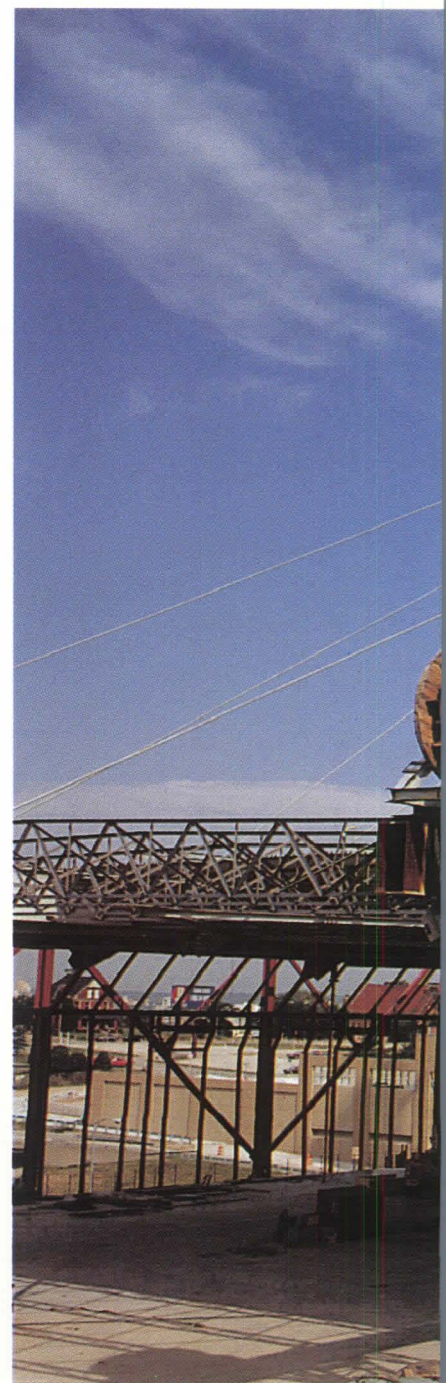
Contact Vulcraft or consult Sweet's  
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Architect-Engineer: HNTB Corp.; General Contractor: Walton General Contractors, Inc.;  
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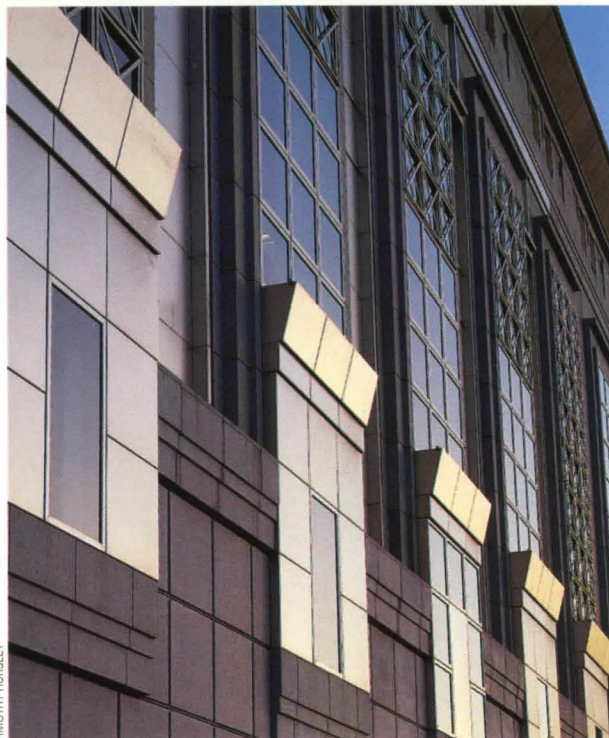


Bartle Hall Convention Center, Kansas City, MO



## Library Intelligence

*Universal cabling controls multiple systems of San Francisco's Main Public Library.*



TIMOTHY HURSELEY

**ABOVE RIGHT:** Pei Cobb Freed & Partners' 3-foot structural grid unifies granite-and-stainless-steel curtain wall.

Computers control the new San Francisco Main Public Library, designed by Pei Cobb Freed & Partners in association with Simon Martin-Vegue Winkelstein Moris (SMWM), regulating its mechanical and electrical systems as well as its state-of-the-art telecommunications system. The library's desk lighting, for example, is hooked into the building's automated energy-management system, which shuts down electric lights when natural light levels are sufficient. Other components of the energy-management system include air-flow monitoring devices placed in ducts to measure indoor air quality, and computer-adjusted window shades that allow natural light into the library based on outdoor light levels. These functions are coordinated by individual computer-operated systems, but eventually, they will be connected by a universal cabling system designed by mechanical and electrical engineer Flack + Kurtz.

"The idea of universal cabling is to provide an infrastructure that will accommodate any low-voltage application," explains Flack + Kurtz Director of Telecommunications Greg Alston. "A system that's flexible and accessible throughout the building is the challenge." The library's universal cabling system presently supports only voice, data, and local area networks, but in the future, completely automated energy-management, security, and audiovisual systems will be linked to this cabling infrastructure as systems are updated. In addition, the universal cabling will enable the United States Geological Survey (USGS) to monitor the library's seismic performance with instruments placed throughout the building. And the architecture required to support these high-tech systems is surprisingly simple and inexpensive—a network of vertical and horizontal raceways, composed of standard cable trays, which will allow connections to be updated easily.

Staying on top of quickly outmoded digital technologies is the biggest challenge facing today's library. The New Main's built-in circulation network means that future expenditures can be directed at new equipment, rather than new cable trays, to deliver the latest information.—*Ann C. Sullivan*

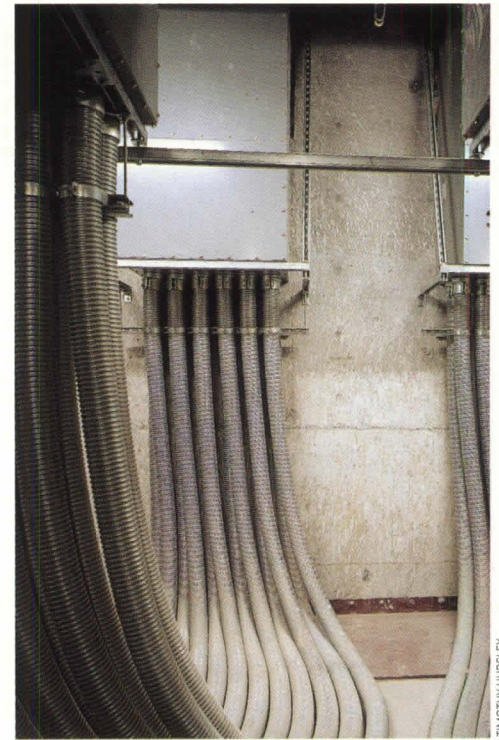
## Wiring the Library

Computers are as important as books in San Francisco's New Main. The building boasts a computerized catalog, which is accessible from 125 on-line public access catalog (OPAC) workstations in the library as well as from remote personal computers; 20 public terminals with access to the Internet; 11 workstations for the visually impaired and learning disabled; and 300 data ports, located at reading tables, that allow visitors with laptop computers to tap into electrical power and telecommunications lines.

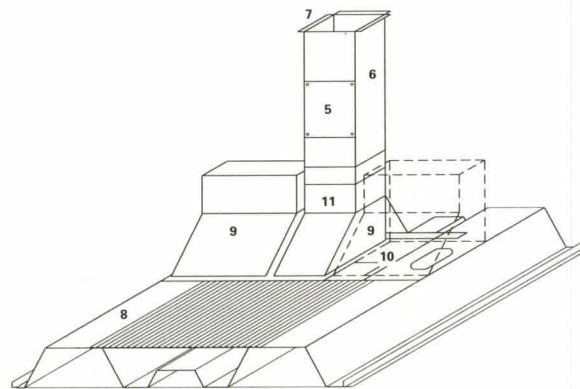
The vital component of the New Main's telecommunications system is the universal cabling developed by Flack + Kurtz. Operating as a single system, the cabling supplies the computer linkages for cataloging, Internet access, and laptop hook-ups. Eventually, it will also power the desk lighting—linking it to the building's energy-management system, which switches fixtures on and off at predetermined times—and transfer signals to the computer-controlled window blinds, which adjust to daylight. Rather than a tangled mess of different wires, the same multipurpose category 5 copper cabling, appropriate for any low-voltage application, will run all of these PC-controlled systems.

The heart of the telecommunications system is the mainframe computer located in the fifth-floor main equipment room, which houses the library's private branch exchange (PBX) and main distribution frame (MDF). External telephone lines and internal fiber-optic cables converge at this hub. The cables are fed from the mainframe computer through vertical raceways hidden in closets that are stacked in the corners of the library. From these raceways, copper cables are diverted through trench headers running along the perimeter of the electrified floor deck, which supports outlets located every 2 and 3 feet on center.

The key to the system is flexibility. When programming for the library began in 1989, "we didn't know what computer system the library was going to use, and we certainly didn't know what was going to happen to the technology in the future," explains SMWM Associate Principal Anthony Bernheim, "so we created the raceways. Over time, the library can go back and add whatever cabling is necessary."



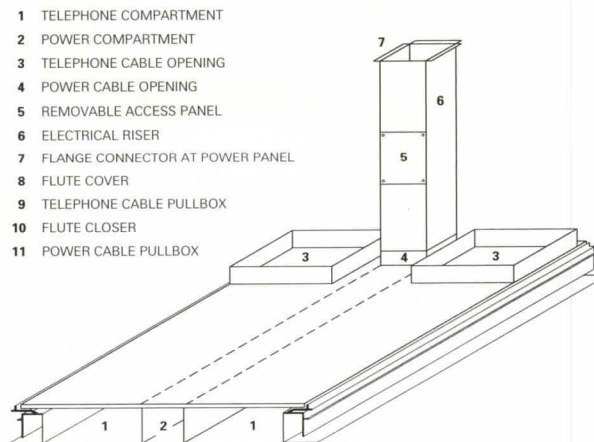
TIMOTHY HURSELEY



DETAIL OF SERVICE CLOSET TO CELL FEED

### POWER AND DATA DISTRIBUTION LEGEND

- 1 CONDUIT THROUGH ACCESS CEILING
- 2 CONDUIT IN SLAB
- 3 TELECOMMUNICATIONS CLOSET
- 4 FLOOR OUTLET
- 5 WALL OUTLET
- 6 WORKSTATION TABLE
- 7 TERMINATION BLOCKS
- 8 CONDUIT IN PARTITION WALL
- 9 STATION CABLE
- 10 J HOOK
- 11 4"-DIAMETER SLEEVES
- 12 BACKBONE CABLE TO PBX/MDF ROOM



DETAIL OF SERVICE CLOSET TO TAPWAY

### FIBER-OPTIC NETWORK LEGEND

- 1 TELECOMMUNICATIONS CLOSET
- 2 24-PORT PATCH PANEL
- 3 12-STRAND MULTINODE CABLE
- 4 12-STRAND BACKBONE CABLE
- 5 12-STRAND INTERCLOSET TIE CABLE
- 6 PBX/MDF ROOM
- 7 72-PORT PATCH PANEL CABLE SUPPORT



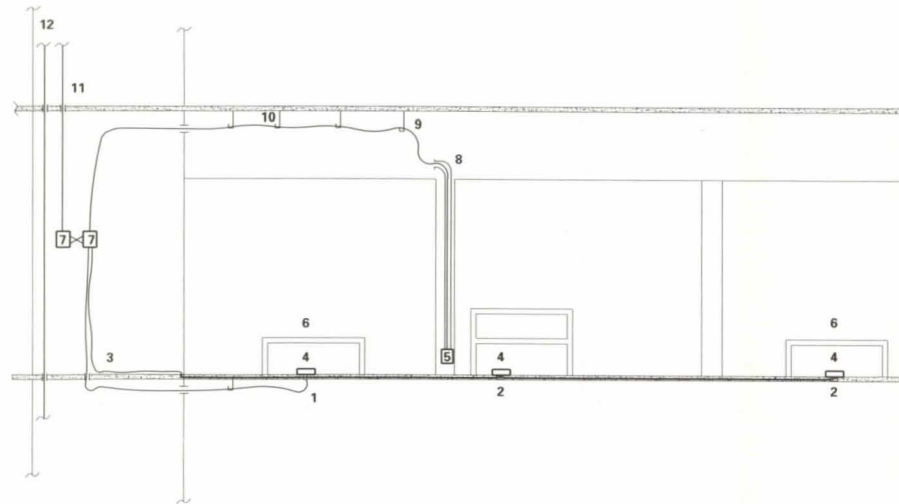
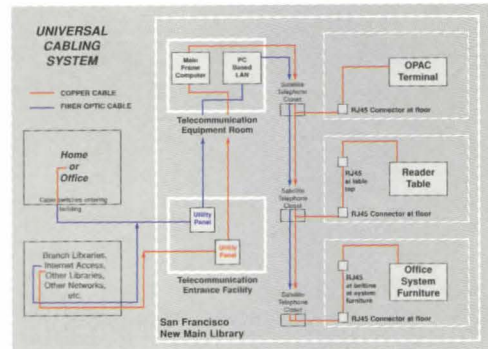
**FACING PAGE, TOP:** Extra-long conduits at seismic moat prevent power lines from snapping in earthquake.

**FACING PAGE, DETAILS:** Power and telecommunications wiring is routed from closet to electrified floor and cellular floor deck.

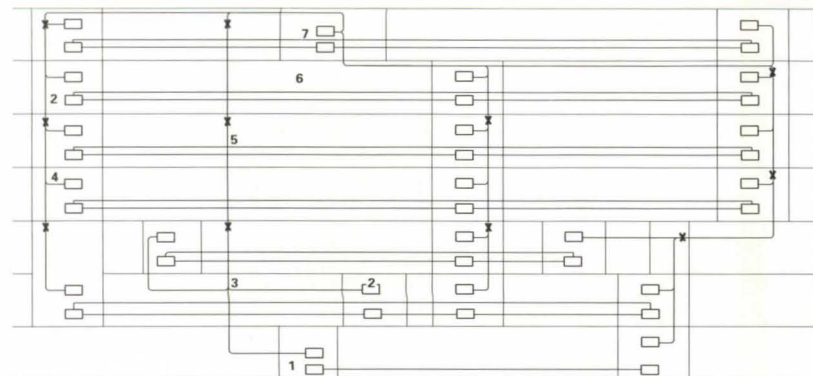
**LEFT:** On-line public access catalog (OPAC) workstations and reading tables plug into universal wiring system.

**BELOW LEFT:** Diagram outlines course of fiber optic and copper cabling.

**SECTIONS:** Electrified floor deck powers custom-designed reading tables (below). Fiber-optic cables link fifth-floor control room with satellite closets in corners of library (bottom).



TYPICAL HORIZONTAL DISTRIBUTION OF POWER AND DATA



FIBER-OPTIC CABLE NETWORK

To save money, the electrified floor decks are limited to the library's center, where public reading tables and service desks are located. Perimeter spaces containing stacks do not incorporate accessible floors for power and data, because the books will likely remain where they are. To relocate bookshelves that have been structurally trued and bolted to the floor would require seismically reengineering the units at great expense, explains Bernheim.

The remarkably straightforward system did not involve a huge investment in terms of infrastructure. The vertical raceways are essentially holes cut into the floors of the stacked satellite closets, through which power and data cables feed. The horizontal raceways consist of standard cable trays similar to metal deck and concrete flooring, with some flutes closed off for the cable raceways. "From the architectural standpoint it's very basic. It took a lot more design effort to get the furniture to work than the building," remarks Bernheim, referring to the reading tables custom-designed by Pei Cobb Freed & Partners, SMWM, and interior architect Kwan Henmi in conjunction with Flack + Kurtz.

The architects resorted to customized reading tables after unsuccessfully searching for commercial products that would allow visitors to plug a personal computer into the reading station and access the main-frame computer, and that would permit the library to reorganize the furniture layout without hiring an electrician, as is typically required when a workstation is hardwired. Instead of being hardwired, the tables work like simple appliances: power and data extensions plug into floor outlets with standard electric and telecommunications ports. Stow Davis, the manufacturer, had to obtain Underwriters' Laboratories approval for both the entire unit as an assembly and each component.

How will the system perform in the future? As the library puts more and more magazines and books online, faster communication will be imperative. Copper cables will likely be replaced with fiber optics and other cables capable of higher-speed transmission as their costs decrease. "In the meantime, we've got everything set up to go—you open the electrified floor deck, open the trench header, and thread the new cabling through," explains Bernheim. "It's as simple as that."

## Smoke Management

The irregular volumes of the library's central and linear atriums influenced the building's mechanical design, explains Flack + Kurtz Principal Reginald Monteyne. Designed to flood the building with natural light, the skylit spaces do not conform to the typical code-defined geometry of an atrium. The number of floors that are open to the atrium is greater than the three stories generally allowed by code, and the area is interrupted by bridges and a cantilevered reading room. At only 9 and 15 feet wide, the linear atriums are narrower than the standard minimum dimension of 30 feet.

Because of the protruding bridges and balconies in the central atrium, smoke control was a critical concern of building officials and fire inspectors. If a fire began on ground level, the obstructions would interrupt the smoke's path, allowing it to spill over onto the platforms rather than shoot straight to the top. "More air would be entrained into the smoke plume because a greater area is involved," explains Monteyne. "There would be more smoke generated, which requires a much higher volume of exhaust air to remove or dilute."

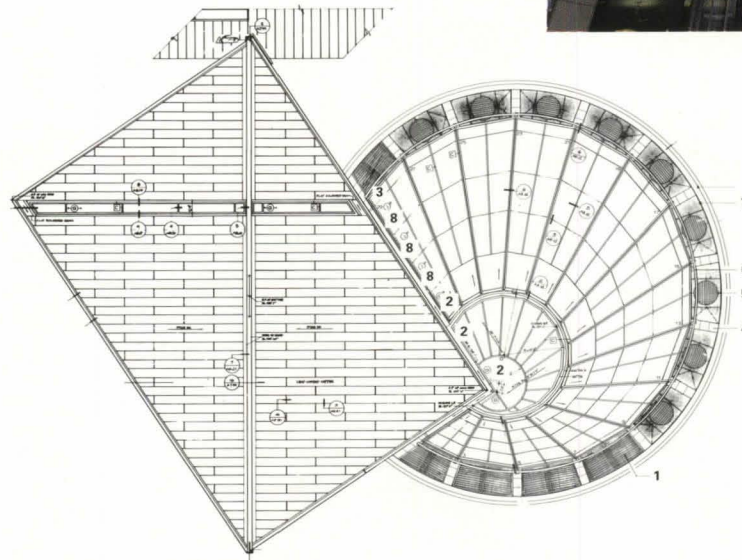
Adhering to an early version of the 1992 National Fire Protection Association (NFPA) Standard 92-B, which addresses smoke control in atriums, Flack + Kurtz calculated the air quantity required to exhaust smoke from the central atrium. The balcony conditions increased the necessary volume of air by approximately six times, estimates Monteyne, considerably increasing the number of exhaust fans required around the central skylight's perimeter.

In the event of a fire in the stacks, the narrow linear atriums will perform like giant chimneys, exhausting smoke through fans in the vaulted roof. Eight-inch tempered-glass baffles protruding from the ceilings in the stack areas into the linear atriums will limit the width of the smoke plumes, helping to control the amount of air that the fire can entrain and reducing the burden on the exhaust fans.

The fans in both the circular and linear lightwells measure 36 inches in diameter. In the event of both a utility power loss and an emergency generator failure, they are designed with a large open area between blades so that if the fan isn't running, air will be naturally relieved.

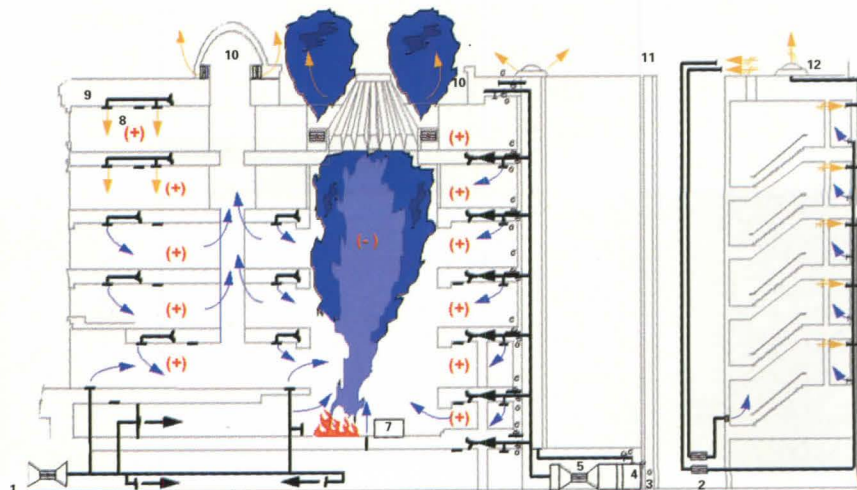


TIMOTHY HURSELEY



PLAN OF CENTRAL SKYLIGHT

- 1 STAINLESS STEEL GRATE OVER SKYLIGHT
- 2 3/16" CLEAR LAMINATED GLASS
- 3 PAINTED ALUMINUM FRAME
- 4 CONCRETE PAVER
- 5 REMOVABLE STEEL COVER
- 6 STEEL WINDOW-WASHING TRACK
- 7 ALUMINUM COPING
- 8 3/16" TRANSLUCENT LAMINATED GLASS



FIRE MODEL OF ATRIUM

- 1 ATRIUM EMERGENCY SUPPLY ON
- 2 VESTIBULE SUPPLY ON
- 3 OUTSIDE AIR INTAKE MOTORIZED DAMPER OPEN
- 4 RETURN AIR DAMPER
- 5 SUPPLY FAN ON
- 6 STAIR PRESSURE ON
- 7 AUTOMATIC CONTROL PANEL WITH MANUAL OVERRIDE
- 8 RETURN AIR DAMPER CLOSED
- 9 RETURN AIR PLENUM
- 10 EXHAUST FANS ON
- 11 OUTSIDE AIR INTAKE
- 12 VESTIBULE EXHAUST FAN ON
- 13 QUADRANT SMOKE EXHAUST FAN ON



**FACING PAGE, TOP:** Cantilevered reading room obstructs normal passage of smoke from floor to ceiling.

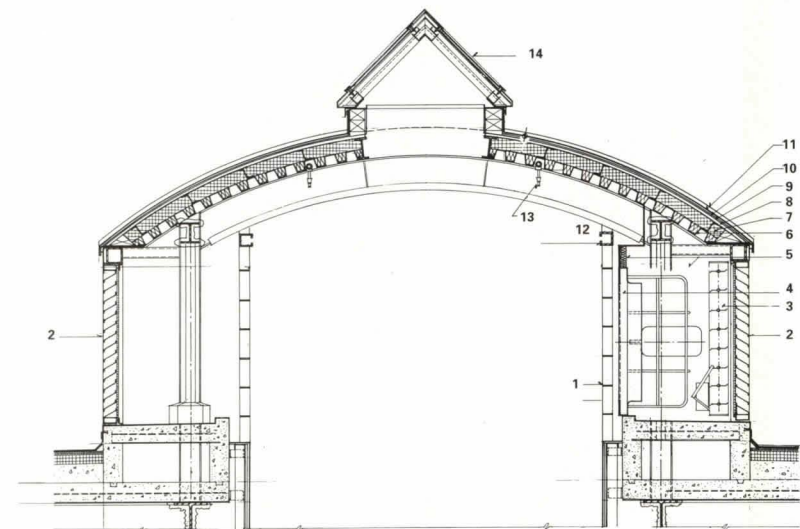
**FACING PAGE, PLAN:** Exhaust fans built into skylight perimeter exhaust air during normal operation and expel smoke in the event of atrium fire.

**FACING PAGE, SECTION:** Return air dampers close to stop air's recirculation when emergency system is activated.

**LEFT AND TOP SECTION:** Exhaust fans are mounted beneath glazed linear vault.

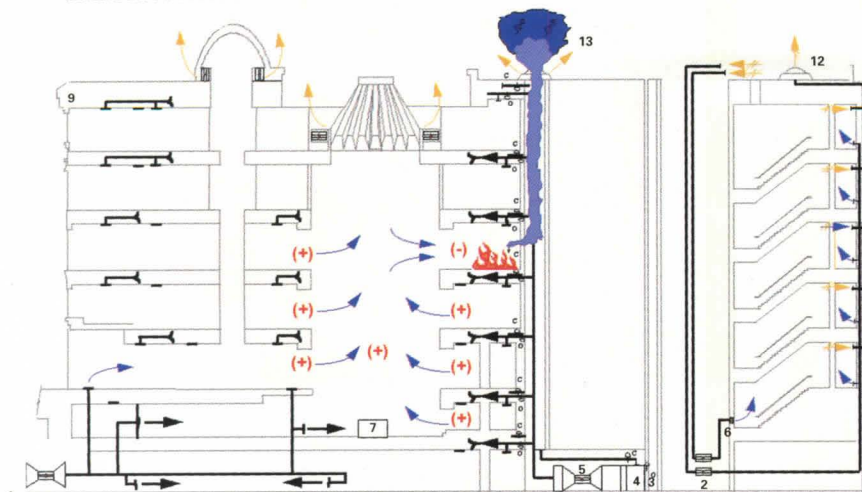
**BELOW LEFT:** Linear atrium's slender width breaks traditional geometry.

**BOTTOM SECTION:** Linear vaults act like chimneys to expel smoke from stacks.



- 1 DECORATIVE GRILLE
- 2 FIXED-BLADE LOUVER
- 3 DEMOUNTABLE MECHANICAL DAMPER
- 4 36"-DIAMETER EXHAUST FAN
- 5 PERFORATED METAL PANEL WITH INSULATION
- 6 ACOUSTICAL METAL DECK
- 7 RIGID INSULATION
- 8 3/8" PLYWOOD
- 9 30 LB. FELT
- 10 ROSIN PAPER
- 11 LEAD-COATED COPPER ROOF
- 12 WINDOW-WASHING TRACK
- 13 SPRINKLER HEAD
- 14 ALUMINUM-AND-GLASS SKYLIGHT

NORTH-SOUTH SECTION OF LINEAR ATRIUM VAULT



FIRE MODEL OF STACKS

Conceived for smoke removal, the 43 atrium fans also double as exhaust for building ventilation during normal operation. When the library uses outside air for cooling, stale air passes into the atrium and exits out the top. Given San Francisco's climate, Bernheim anticipates that the New Main will use 100 percent outside air for 50 percent of the year. "The fire department liked that the fans are operational during normal occupancy," explains Monteyne, "because it meant they would be maintained on a regular basis."

Air-flow monitoring devices placed in ducts keep track of the ratio of outdoor and recirculated air. An electronic control system allows an operator to override the devices if necessary. As part of the atrium design process, the architects ran a cold smoke test to confirm that sufficient air quantities as calculated were delivered, and that all components operated as designed—fans started, dampers opened—when the emergency sequence was initiated.

The smoke management system was designed, constructed, and tested under the auspices of building commissioning, a project delivery strategy that team members adopted for those systems susceptible to trouble. "The commissioning process is a quality assurance program for construction," explains Bernheim, who orchestrated the procedure. It was implemented as part of a healthy building campaign staged early in the project after the library staff raised questions about indoor air quality.

The mechanical system was a principal target. The engineers located the air intake units on the building's roof, away from street-level pollution. The team specified a dual filtration system with filters of 30 percent and 85 percent efficiency, designed to deliver an average minimum ventilation rate of 25 cubic feet per minute per occupant—25 percent higher than the volume recommended by the American Society of Heating, Refrigeration, and Air Conditioning Engineers.

To limit the growth and spread of bacteria in the mechanical system, acoustical and insulation panels within the air handling units, ductwork, and variable air volume units are protected by a thin mylar covering, perforated metal liner, or foil facing. The library funded a maintenance program to help ensure the system's continued performance.

## Seismic Design

The New Main is poised to withstand an earthquake measuring 8.3 in magnitude—2.3 points higher than the architects intended when they began designing the structure in 1989. The revamped seismic strategy is the result of findings from two significant California earthquakes during the library's design and construction: the 7.1 magnitude Loma Prieta earthquake in 1989, and the 6.7 magnitude Northridge earthquake in 1994.

Two years after the Loma Prieta earthquake, the United States Geological Survey issued a report predicting a 67 percent chance of a 7.0 or greater event within 30 miles of San Francisco in 30 years—not the 50 percent chance of a 5.5 event in 50 years predicted earlier. Ensuing federal regulations resulted in significant upgrades of buildings in the Bay Area. Halfway into the library's design, the architects were faced with two choices: beef up the structural system as designed, or add base isolators to the foundation.

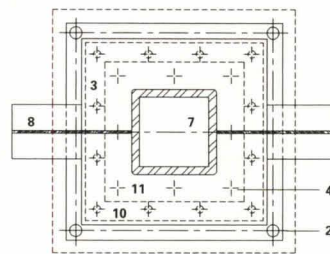
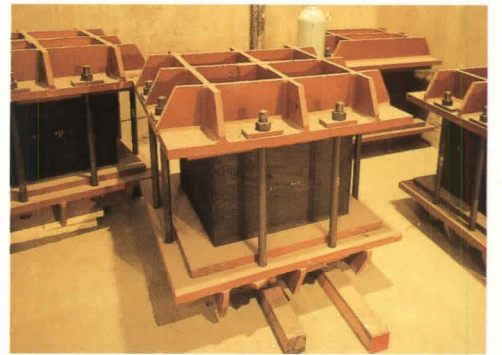
Increasing the capacity of the original moment-frame structure proved impractical. It meant compromising the building's design to accommodate a stronger frame and upper-level shear walls. The angular volumes and reentrant corners of the facade were vulnerable in the moment-frame scheme; as designed, the expansion joints on the granite curtain wall were too slender to accommodate interstory drift. Bolstering the moment frame also proved expensive—one point of protection on the Richter scale roughly translates into the equivalent of double the weight of steel, or \$17 million, estimates Bernheim.

As a result, the architects opted for base isolation, which allowed them to maintain the structural frame as it was designed. With structural engineer Olm Structural Design, the team specified 144 "high-damping" rubber isolators fabricated from alternating layers of steel and rubber vulcanized around a solid lead core, and situated between a 4½-foot-thick concrete mat and the bottom of the building's structural columns.

Stringent fire regulations required the isolators to meet a three-hour fire rating. Rather than wrap each isolator with multiple layers of costly fireproofing material, the engineers devised a system of steel stub columns that flank two sides of each

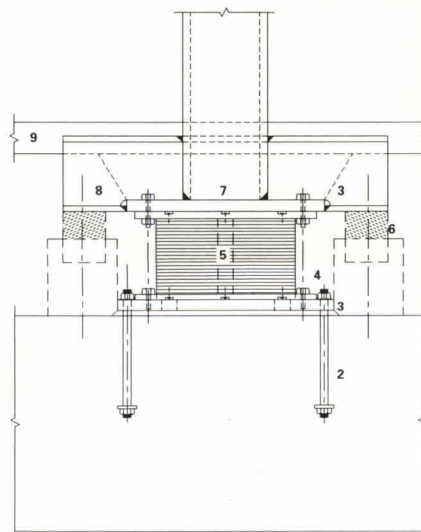


TIMOTHY HURSELEY PHOTOS

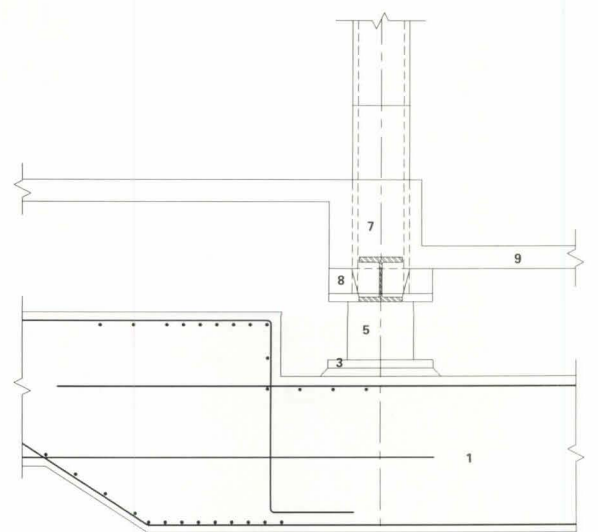


PLAN OF BASE ISOLATOR

- 1 CONCRETE MAT FOUNDATION
- 2 ANCHOR BOLT
- 3 MOUNTING PLATE
- 4 MOUNTING BOLT
- 5 ISOLATOR
- 6 FUTURE JACK
- 7 STRUCTURAL STEEL COLUMN
- 8 JACKING BEAM
- 9 CONCRETE SLAB
- 10 1½" THREADED CONNECTOR ROD
- 11 ISOLATION BEARING



BASE ISOLATOR SECTION



FOUNDATION SECTION



**FACING PAGE, TOP:** Steel stub columns encased in fireproofing material flank base isolators.

**FACING PAGE, CENTER:** Base isolators stored in library basement will be tested against installed isolators to measure damage following earthquake.

**FACING PAGE, PLAN AND SECTIONS:** Base isolators bolted to 4½-foot-thick concrete mat measure 19 inches tall and 24 to 37 inches wide.

**LEFT:** Base isolation allowed expansion joints to remain slender. Stone cover plates are flush with sidewalk.

**DETAILS:** Beveled edge of seismic joint covers allows stone panels to lift open.

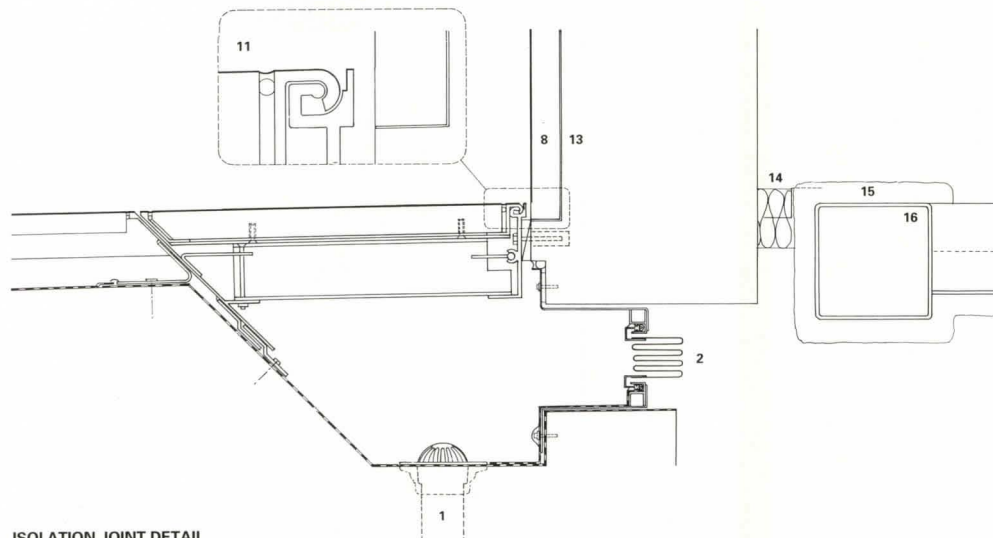
base isolator. The stub columns are welded to the structural column and raised 1½ inches from the ground. If a fire ignites inside the concrete foundation and the rubber isolators burn, the building will settle 1½ inches and rest on the stub columns until the isolators are replaced.

In principle, base isolation allows a building to move independently of the earth's movement, cushioned on its bed of shock-absorbing isolators. An 18-inch moat around the perimeter of the library accommodates the earth's displacement, which could potentially reach 12 inches in an 8.3 event, estimates Michael Flynn, technology partner at Pei Cobb Freed & Partners.

Bridging the 18-inch moat presented an interesting architectural challenge. With Muncy, Pennsylvania-based Conspec Systems, the architect devised a system of seismic joint covers attached to the building with hinges at sidewalk level. In a severe earthquake, the earth's movements will push up the cover rather than buckle the sidewalk. Electrical conduits, plumbing, and ducts must bridge the same 18-inch gap, since emergency services must not be cut off by power lines snapping or sprinkler pipes disconnecting. To compensate for the movement, the library features power lines with excess lengths, plumbing pipes with three-ball joints, and air ducts with accordionlike bellows.

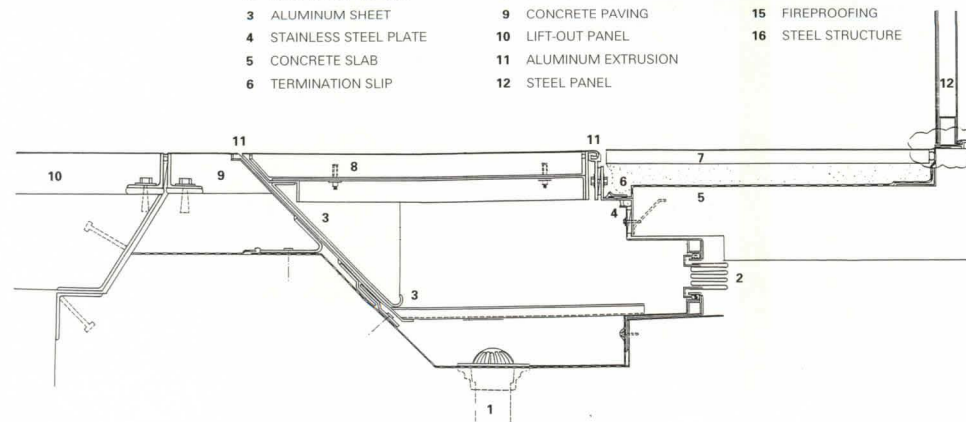
Following the 1994 Northridge earthquake, the New Main was hit a second time with revised seismic criteria regarding the previously accepted method of welding beams to columns in a moment-frame connection. A time-consuming welding-enhancement program was initiated to test and strengthen the library's already-welded connections.

The suspect welds were located on the underside of beams. Welders' view of the surface as it was secured was frequently obstructed by a backup bar attached to the bottom flange. Undetected dirt or air pockets often spoiled a connection, cautioned engineers. In an earthquake, a crack could potentially develop between two imperfections; in an aftershock, there would be no strength left in the weld because of the crack, and the connection could fail. To remedy the situation, the architects removed the backup bars, tested the welds with ultrasound to see if there were any imperfections, and repaired the welds as required.



ISOLATION JOINT DETAIL

- |                         |                       |                    |
|-------------------------|-----------------------|--------------------|
| 1 DRAIN                 | 7 STONE PAVING        | 13 NEOPRENE        |
| 2 NEOPRENE FLASHING     | 8 STONE PANEL         | 14 INSULATION      |
| 3 ALUMINUM SHEET        | 9 CONCRETE PAVING     | 15 FIREPROOFING    |
| 4 STAINLESS STEEL PLATE | 10 LIFT-OUT PANEL     | 16 STEEL STRUCTURE |
| 5 CONCRETE SLAB         | 11 ALUMINUM EXTRUSION |                    |
| 6 TERMINATION SLIP      | 12 STEEL PANEL        |                    |



ISOLATION JOINT DETAIL

YOU SUPPLY THE VISION  
WE'LL MAKE IT HAPPEN.

**ENGINEERING DESIGN**

**TESTING**

Test Results (Continued)

| EXTRUSION | Load (lbs) | Deflect (inch) |
|-----------|------------|----------------|
| #3        | 108.87     | 0.100          |
|           | 224.57     | 0.120          |
|           | 342.42     | 0.140          |
|           | 461.12     | 0.175          |
|           | 582.82     | 0.192          |
|           | 705.52     | 0.220          |
|           | 829.22     | 0.258          |
|           | 954.92     | 0.297          |
|           | 1081.62    | 0.348          |

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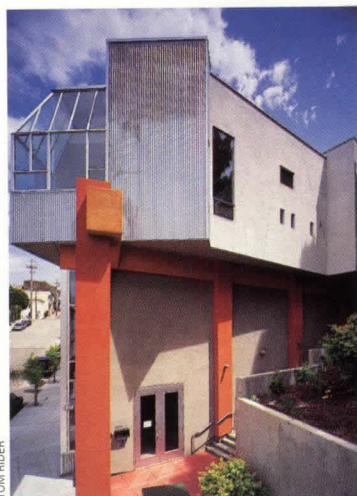
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## Live/Work Housing

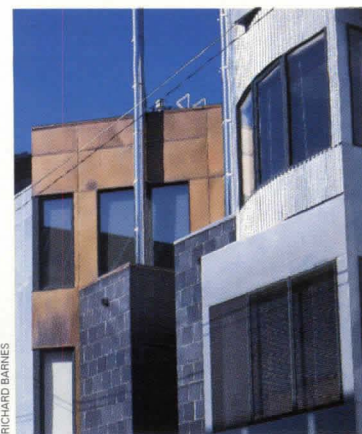
*Recent ordinances are encouraging San Franciscans to work at home.*



TOM RIDER



CESAR RUBIO



RICHARD BARNES

**ABOVE LEFT:** David Baker stacks live/work units above parking and theater at entrance.

**ABOVE CENTER:** Double-height volumes by Stanley Saitowitz can house office or living functions.

**ABOVE RIGHT:** Toby Levy marks changes of function with variegated materials.

For years, many San Francisco artists have wanted to live in their studios, to save money in a city that ranks with New York as one of the nation's most expensive places to live. Their preferred location was "South of Market" (SOMA), an area just beyond downtown's edge, which was targeted for redevelopment in the late 1970s and is now home to Yerba Buena Center (ARCHITECTURE, February 1994, page 54-57). Responding to a national campaign by the arts advocacy organization Artist's Equity, the city revised its housing code in 1979 to allow for live/work occupancy. But the revision mandated a number of residential features, such as backyard access for tenants, that proved unrealistic in urban warehouse districts. Further, landlords feared that live/work tenants would subject commercial spaces to the city's strict residential rent-control guidelines. And a spate of warehouse-to-office conversions in the early 1980s had planners worried that the city's remaining production- and service-oriented businesses—SOMA's primary occupants—might be driven to the suburbs by escalating rents.

San Francisco then issued a new live/work ordinance in 1988, and a specific plan for SOMA in 1990. The regulations extend live/work throughout SOMA, but narrowly define the type of tenant who can occupy certain spaces. For instance, architects and interior designers—who might be willing to pay higher rents—are excluded from most (but not all) live/work spaces in SOMA. In the city's other industrial quarters, the ordinance restricts live/work housing to artists only.

The 1988 ordinance limiting live/work to artists does not require them to earn a living from art: anyone who can show that they participate in art can qualify for a loan. As a result, well-heeled home-buyers with paintbrushes or a potter's wheel have snapped up the loftlike spaces, which sell for 25 to 33 percent less than units in other areas. The competition has driven many artists out of SOMA, and the city is becoming more vigilant about granting live/work-related permits. But new construction continues, offering architects an opportunity for both new projects and more affordable housing for themselves in San Francisco.—Reed Kroloff

**Natoma Street Loft Building**  
**San Francisco, California**  
**Stanley Saitowitz Office**

San Francisco is a city of architectural slivers: narrow buildings slotted cheek by jowl onto deep lots. In his gleaming South of Market live/work building, Stanley Saitowitz extends and distills that morphology with a Modernist interpretation of the venerable Bay Area row house.

The 7,500-square-foot building is a study in efficiency, driven by a tight budget and an even tighter site (25 by 80 feet). Saitowitz thickened the two party walls into 5-foot service cores containing kitchens, bathrooms, storage units, access stairs, and fire escapes (which also serve as outdoor space), and left the remaining 15-foot width as clear-span, multipurpose space.

Completed in 1994, the building contains three units, each with a different plan and multilevel section featuring mezzanines opening onto double-height central volumes. Assigning function to the spaces is up to each tenant. For instance, Saitowitz's own mezzanine-level living area overlooks a larger, double-height office, reflecting his greater need for office space. The configuration could easily be reversed to create a larger apartment with a smaller work area.

The floors are supported by trussed joists visible along the front elevation as well as within the building. The joists are hung from an exposed, trabeated framing system of composite beams and columns. Sections of each floor can easily be removed to reconfigure each loft.

At the front and rear of the building, cantilevered, aluminum-wrapped sections project through a steel moment frame, which, since it is non-loadbearing, can be revealed along the exterior. These cantilevered bays abstract San Francisco's Victorian row house tradition and pull light deep into the interior.

The exposition of the entire structural system, combined with the architect's budget-driven choice of untreated finish materials, lends the project an industrial quality which complements the gritty urban context of Natoma Street. "The structural system is the esthetic," says Saitowitz. The building's tailored skin and precision detailing, however, demonstrate that industrial can indeed connote elegance as well as function.



**ABOVE:** Aluminum-wrapped window bays cantilever through moment frame.

**LEFT:** Saitowitz building maintains cornice line of neighboring structure.

**FACING PAGE, LEFT:** Composite structural members are revealed throughout.

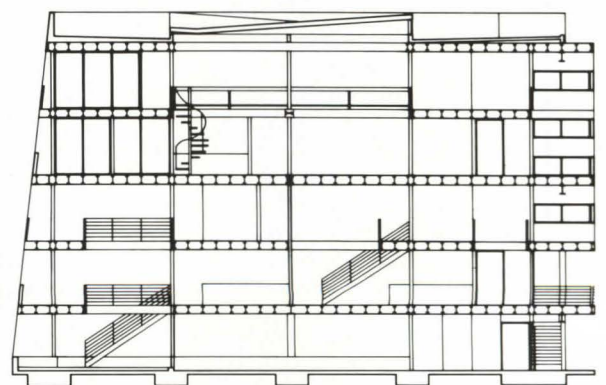
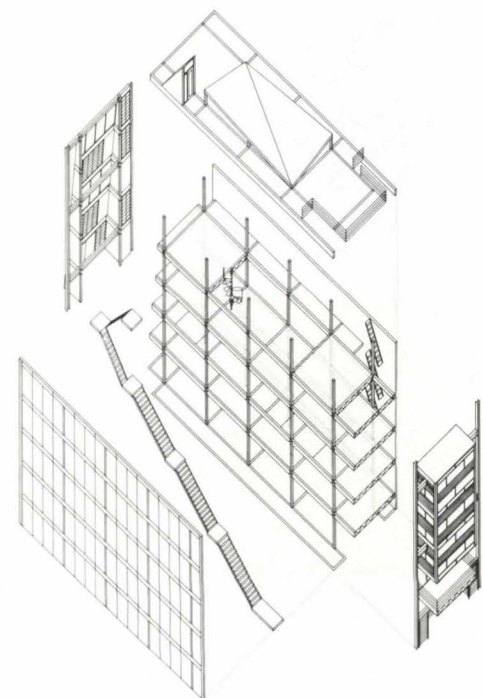
**FACING PAGE, TOP RIGHT:** Kitchens and baths are stacked along party wall.

**FACING PAGE, BOTTOM RIGHT:** Double-height space serves as work area.

**AXONOMETRIC:** Structure consists of 15-foot-square bays sandwiched between 5-foot service spaces.

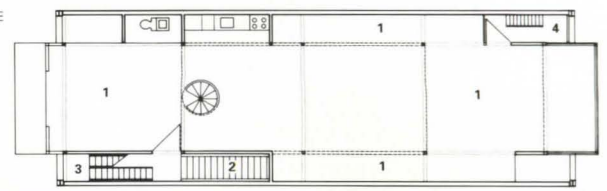
**SECTION:** Cantilevered front and rear projections maximize daylighting.

**PLAN:** Services and mezzanines at perimeter flank central loft space, which can be subdivided.



NORTH-SOUTH SECTION

- 1 MEZZANINE ABOVE
- 2 ENTRY STAIR
- 3 STAIR TO ROOF
- 4 FIRE ESCAPE



FOURTH- AND FIFTH-FLOOR PLAN

10/3m

**G2 Artist's Housing**  
**San Francisco, California**  
**David Baker Associates**

Only one organized group of artists has successfully built its own live/work development in San Francisco. The nonprofit Goodman Group arts collaborative was evicted in 1983 from an historic downtown building slated for redevelopment. An ensuing decade-long fight with the city over resettlement costs netted the group of 19 artists seed money, which, when applied as part of a very complicated private development deal, enabled them to build a new home last fall in the city's Potrero Hill area. Designed by local architect David Baker and Associates, the G2 (Goodman 2) project comprises 29 subsidized and market-rate live/work units. The units share a 1.5-acre site with 65 market-rate row houses and lofts, which along with additional city funds, subsidized the construction of G2.

Lying adjacent to a neighborhood school, the 27,213-square-foot project straddles a steeply raked and folded site of serpentine rock undercut by an abandoned railroad tunnel. The project's mixed-use program includes indoor and outdoor performance facilities, a multimedia training lab, and extensive gallery space in addition to the apartments and underground parking. A large central gallery also serves as a public gathering area for the residents, who share in the building's management. "The program was complicated," explains Baker, "but the building ended up straightforward."

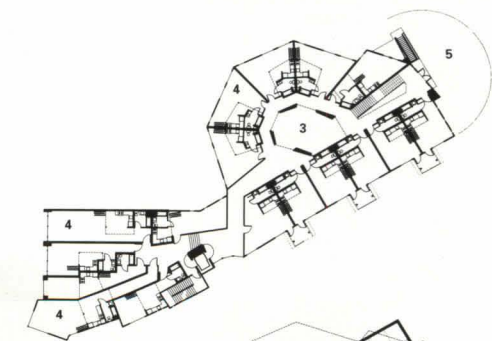
The architect applied standard wood framing over a concrete garage, with steel lateral support. Galvanized sheet metal, extensive glazing, and blocky, broken forms abstract the neighborhood's unusual mix of light industrial and residential buildings. Each of the live/work spaces is laid out as one room with a loft, but the 29 units boast no less than 10 different floor plans unfolding like a nautilus shell around the central gallery/meeting space.

"The variety represents the idiosyncratic nature of the residents and the project as a whole," says Baker, who has designed a significant percentage of San Francisco's most prominent live/work projects. Inside, the spaces are minimally finished, encouraging residents to adapt them to their own particular needs for living and working.

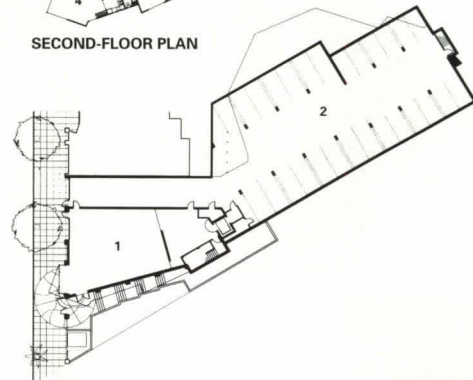




**FACING PAGE, TOP:** Storefront windows mark public performance space.  
**FACING PAGE, BOTTOM:** Market-rate housing shares steep site with project.  
**LEFT:** All live/work units comprise lofts with kitchens and baths on lower level.  
**BELOW:** Gallery and gathering area for residents forms nucleus.  
**BOTTOM LEFT:** Amphitheater is tucked below landscaped court.  
**PLANS:** Apartments spiral out from central gathering space.



SECOND-FLOOR PLAN



FIRST-FLOOR PLAN

- 1 PERFORMANCE SPACE
- 2 GARAGE
- 3 GALLERY
- 4 LIVE/WORK UNIT
- 5 AMPHITHEATER



**South Park Mixed-Use Building**  
**San Francisco, California**  
**Levy Design Partners**

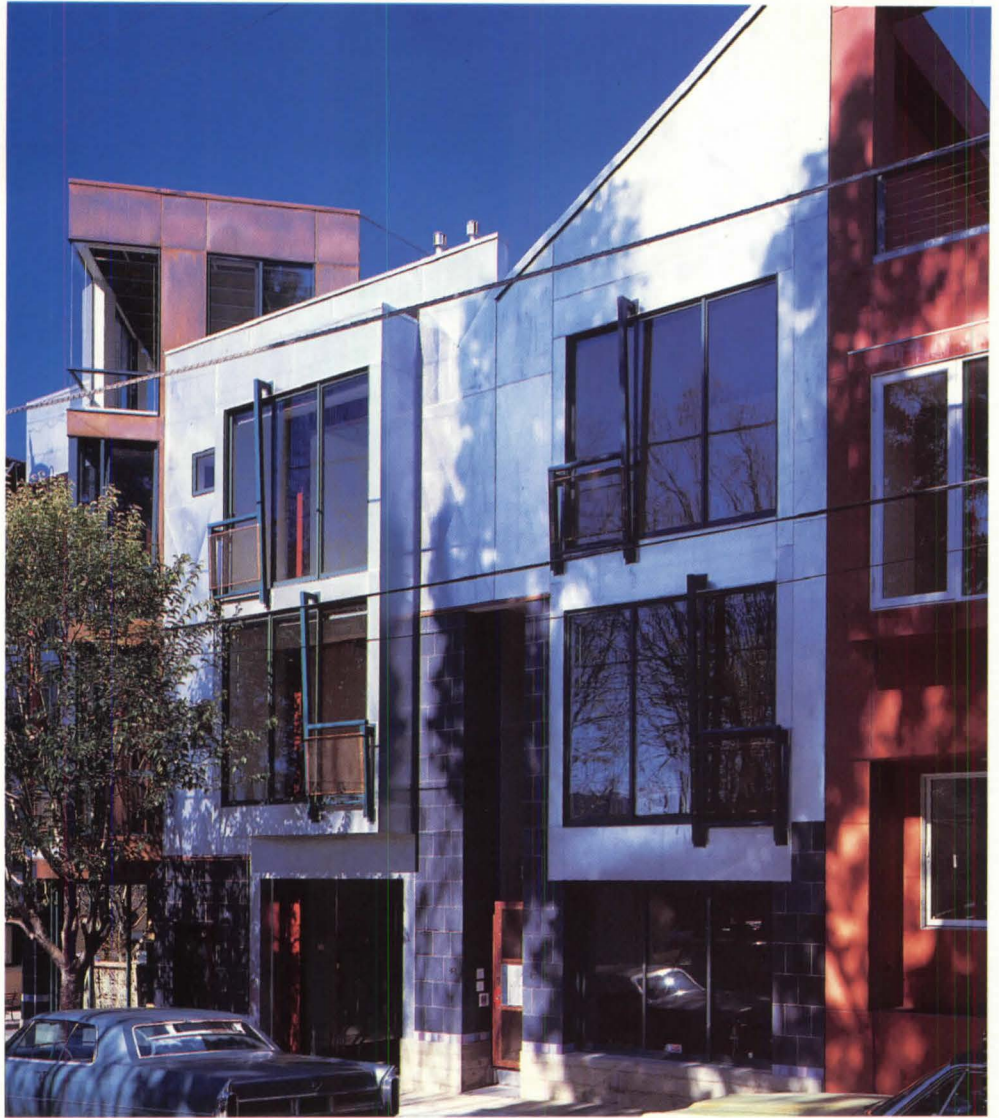
Toby Levy and Associates' new mixed-use project is not live/work in the artist's-loft sense of a small living area overlooking a large studio space below. Instead, Levy harkens back to an even more venerable model: the home above the store, the apartment atop the mom-and-pop shop.

Located in an unusual South of Market neighborhood of three- and four-story structures surrounding a small park, the new corner building houses four residential units over two commercial spaces, one of which is a gift shop and the other, Levy's own office. She and her family live in two 2,200-square-foot apartments; two other 1,200-square-foot units were sold at market value. Levy works downstairs, while her husband works at home.

Housing above commercial space is not uncommon in San Francisco (or in this neighborhood), so no special-use permits or zoning variances were required to build the complex. But Levy was one of the first to reintroduce the building type at a small scale. "Typically, the economics of lending works against this sort of project," laments Levy. "It's too big for a single-family loan, and not big enough for a standard commercial loan."

Although the building's structural system is conventional—pier-and-beam with a single moment frame—the materials are not. Wherever possible, Levy turned to renewable, recyclable, and nontoxic products. Steel structure and framing eliminated the need for most dimensioned lumber. Floors are built of recycled, bonded sawdust panels as well as recycled compressed rubber. Walls are insulated with recycled cotton batting. A combination of copper and galvanized-metal panels, stucco, and colorful slate tile enlivens the facade. Interior materials are even more eclectic: "Many came right out of our office samples," Levy laughs.

The building's formal diagram is straightforward, even if its eclecticism is not. Levy intersects a simple rectangular solid with cubic volumes that are rotated 45 degrees. This arrangement allows her to maintain the street line along the building base while using the canted angles and variegated material patterns to create varied spaces inside.



**TOP:** Entrance serves market-rate units.

**ABOVE:** Second-floor courtyard is shared by all residents.

**RIGHT:** Four-level building maintains scale of established neighborhood.

**FACING PAGE, LEFT:** Third-floor study doubles as home office.

**FACING PAGE, TOP RIGHT AND PLANS:** Bedrooms are rotated off orthogonal bays.

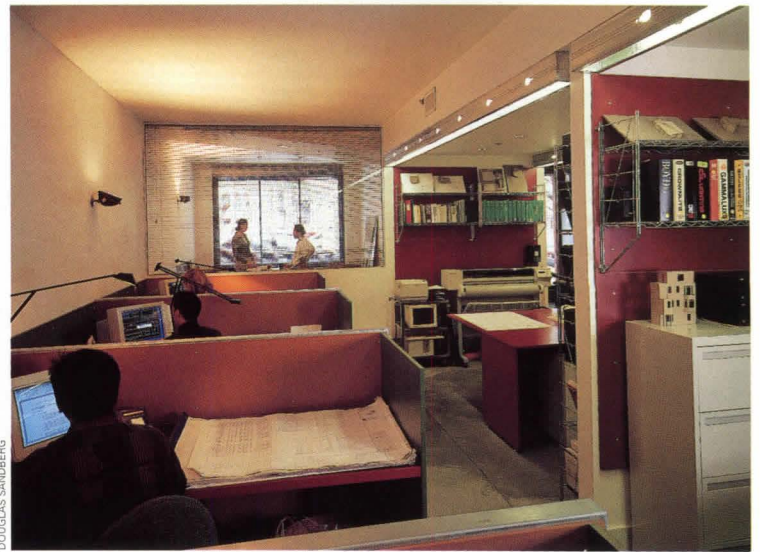
**FACING PAGE, BOTTOM RIGHT:** Levy's own office is located on street level.



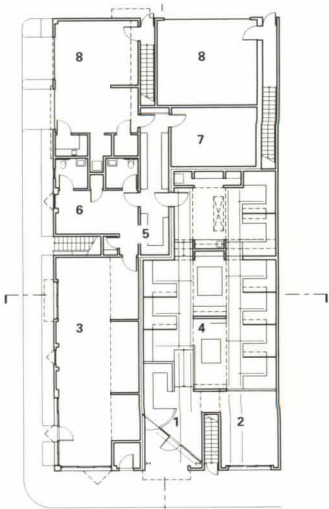
DOUGLAS SANDBERG



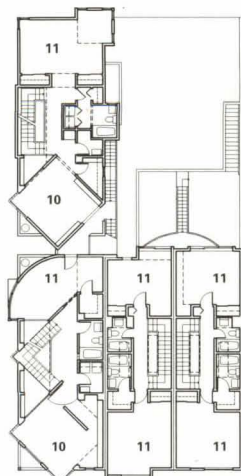
RICHARD BARNES



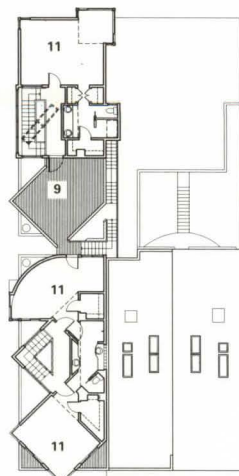
DOUGLAS SANDBERG



FIRST-FLOOR PLAN




THIRD-FLOOR PLAN



FOURTH-FLOOR PLAN



- 1 RECEPTION ROOM
- 2 CONFERENCE ROOM
- 3 RETAIL
- 4 ARCHITECT'S STUDIO
- 5 BLUEPRINT ROOM
- 6 EXERCISE ROOM
- 7 STORAGE
- 8 GARAGE
- 9 DECK
- 10 STUDY
- 11 BEDROOM



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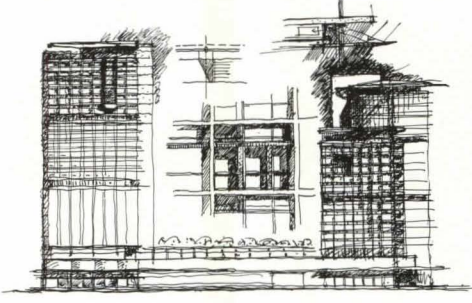
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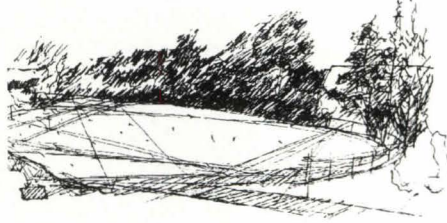
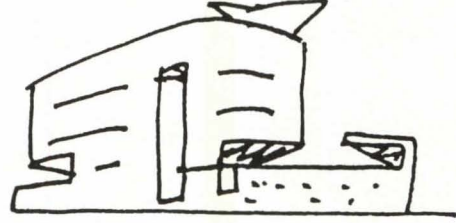
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# Importing New Design Talent

*Can hiring a design star rescue a large firm's reputation?*



**ABOVE RIGHT:** Work by new corporate design directors includes (clockwise from top left) Dubai Creek development by Richard Clarke of Leo A Daly; mountain cabin by Wes Jones of The Hillier Group; Whittemore Arena at University of New Hampshire by HNTB's Richard Friedson; and Santa Monica police and fire facility by Dworsky Associates' Mehrdad Yazdani.

**W**hy does a large, thriving architecture firm court upheaval by taking on iconoclastic, even rebellious design talent? It may be the Rodney Dangerfield syndrome: senior principals at “service-oriented” firms conclude they aren’t getting enough respect for design, and hire architects well known for design leadership to pump up their firms’ profiles.

More often the motivation is strictly business. Employing new talent—even imperious new talent that agitates the corporation and upsets the status quo—is part of a deliberate effort to revitalize the foundations of a firm. To compete better for important and hotly contested work, firms are seeking to meld smooth-functioning service-delivery techniques and well-honed business practices with cutting-edge esthetics. “Simply put,” says Laurin McCracken, vice-president of HNTB Corporation, “we want to be an excellent architecture firm, and Richard Friedson, who is an excellent architect, is here to help us do just that.” HNTB hired Friedson in early 1996 after a national search.

Leadership succession is also an issue. “Let’s face it,” says Dan Dworsky, principal of Dworsky Associates, “I had been design director since I founded this practice in 1953. Now I’m 68. Life doesn’t last forever, and it’s my responsibility to ensure that we have what we need to survive and prosper as a firm.” Bringing Mehrdad Yazdani, a former project designer with Ellerbe Becket, into his practice was a central step in his firm’s transition. “Mehrdad is design director now,” says Dworsky, who refers to himself as a “helper and critic.”

The Hillier Group’s decision to take on Wes Jones—formerly of the San Francisco firm Holt Hinshaw Pfau Jones, and more recently of Jones, Partners Architects—as a new design force was part of a “strategic mission” to seek the best talent in the country, contends Barbara Hillier, director of the firm’s Philadelphia offices. “We want to be a leading design firm, with all that implies,” she adds.

Similar corporate motives explain recent appointments of new design directors at other large firms, such as Richard Clarke’s migration from Kohn Pedersen

**Mehrdad Yazdani**  
**Dworsky Associates**  
**Los Angeles, California**

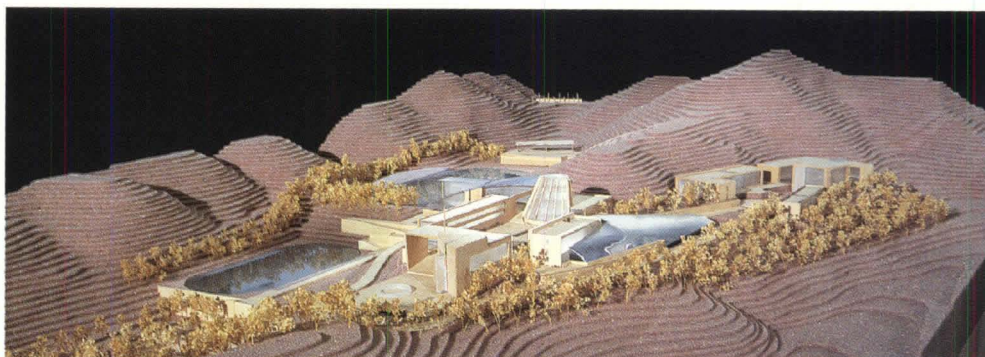
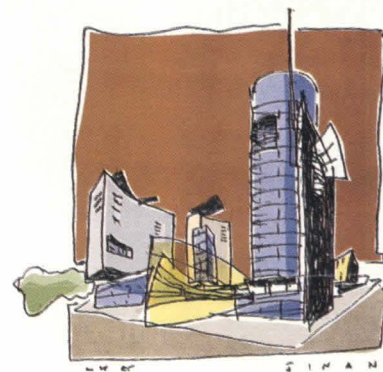
After seven years as a design principal with Ellerbe Becket, Mehrdad Yazdani joined Dworsky Associates in mid-1994. He had already gained a reputation for turning utilitarian public buildings into high design (pages 74-79, this issue), but Ellerbe had, in his words, begun to tighten up and specialize. "I wanted a situation that would allow me to work on large and small projects," he says. "Dworsky had the right ethics and compatibility."

He describes his new firm as exceptionally solid, well versed in a variety of public projects, and an incubator for leading-edge designers such as Thom Mayne. Now a partner in the 43-year-old business, 35-year-old Yazdani sees Dworsky positioning itself for the next 40 years through expansion to broader geographic markets and emphasis on design for public clients. His personal goal is to marry excellent practice and excellent design: "I am very much interested in building. That requires discipline. Establish the idea, but then modify it to meet client needs. You can always push the envelope."

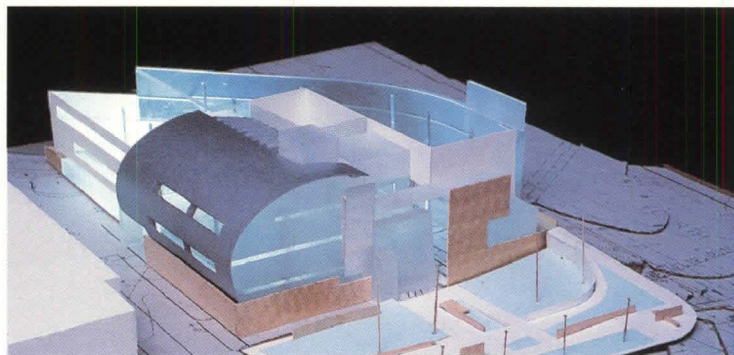
Where Dworsky had fallen increasingly into the executive architect's role, Yazdani is drawing attention to the firm with his playful Modern manipulation of form and ordinary materials. He is leading Dworsky to new work, including a victory in the heated competition for a new police academy in Korea and a twin-tower project in Jakarta. Having hired seven new designers, Yazdani would like to "sustain an environment where people can experiment" while performing on time and within budget. He sees his job as keeping the spirit of exploration alive, but informing Dworsky's design with a command of pragmatic details and a realistic sense of clients' needs.



SIA ARYAI



TOM BONNER



**TOP LEFT:** Design Director Mehrdad Yazdani of Dworsky Associates.

**TOP RIGHT:** Concept for Jinan, China, redevelopment.

**CENTER:** Proposal for Korean Police Academy.

**BOTTOM LEFT AND RIGHT:** Sketch and model of Santa Monica emergency operations center.

Fox after 12 years, to Washington, D.C.'s Leo A Daly Associates as design director. Clarke sees firms responding to a new insistence on good design by public and private clients: "Look at the General Services Administration's Design Excellence initiative. Firms have to show capacity in all areas."

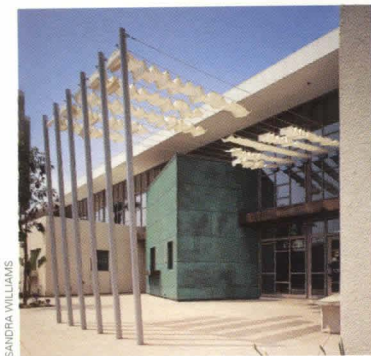
If successful firms have concluded, purely on business terms, that design figures prominently in landing major projects, they also seem to have concluded that the fastest—if not always the surest—way to get better design is to insert new talent at the top.

But such marriages are not guaranteed success, even under the most promising circumstances. Most firms recruit their design-meisters through word-of-mouth, as in Yazdani's case, or through professional talent scouts. Once they land the new designer, they realize that shifting emphasis to achieve design excellence requires time, the right combination of incentives, generous resources,

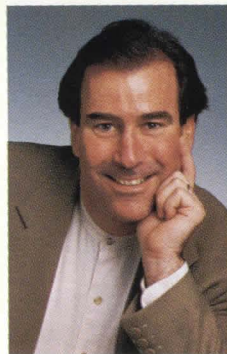
and sometimes pain for a buttoned-down firm. People from the "old" firm may have thought they were doing just fine, and do not always get along with (or find room in) a new pecking order. Mutual respect between designers and technicians is necessary but not always forthcoming. Personalities count for a great deal in determining whether the insertions work: "You must have an individual who is willing to work with the firm, not just a big ego," confirms Dworsky.

Some of the new design directors are among the last personalities one would expect to find in corporate practice, but have been lured by the chance to undertake large-scale commissions. Moving to Hillier, for example, offered Wes Jones the prospect of larger projects, arising from the firm's proximity to a concentration of corporate and university clients in the Philadelphia area.

Enlisting powerful new design talent is hardly a novel gambit for long-established



SANDRA WILLIAMS



**Richard B. Friedson**  
HNTB Corporation  
Alexandria, Virginia

Forty-four-year-old Richard Friedson was attracted to HNTB Corporation in early 1996 from Boston, where he had been working with Sasaki Associates after leaving San Diego-based Visions Studio in search of new opportunities. Friedson believed his options were too limited in a small practice, and that his New England experience had run its course.

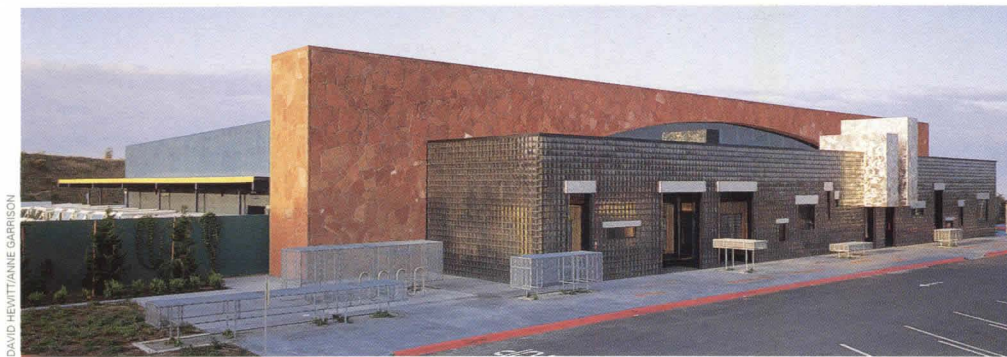
"This is an unusual organization, not a typical A/E firm," he says of HNTB, pointing to its civil engineering origins. The firm came to architecture through an acquisition in the 1960s, and now concentrates 20 percent of its work on architectural projects spread throughout about a third of the firm's 35 offices. (HNTB's architectural services group is based in Alexandria.)

HNTB Vice-President Laurin McCracken says Friedson was retained to "improve the quality of our designs and to remake our image as an architecture firm, not just a large, full-service firm." Serving as HNTB's principal architect and director of design, Friedson aims to build the firm's urban design practice, a market in which he foresees major growth.

But before agreeing to join the firm, Friedson says, he reviewed past work. "I was pleasantly surprised to find consistently high quality," he says, stressing the firm's expertise in sports facilities, convention centers, educational buildings, and airports. A practice focused heavily on public buildings and comfortable with working in modern idioms fit well with Friedson's desire to engage in "critical practice that is still respectful and responsive," and the move has resulted in his successfully informing HNTB's utilitarian commissions with his leading-edge design.



PETER VANDERWARKER



DAVID HEWITT/ANNE GARRISON

**TOP LEFT:** Norman Park Center, designed by Richard Friedson while at Visions Studio in San Diego.

**TOP RIGHT:** HNTB Design Director Richard Friedson.  
**CENTER:** Whittemore Arena at University of New Hampshire in Durham, designed by Friedson during his tenure with Sasaki Associates.

**BOTTOM:** Post Office 92129, designed by Friedson while at Visions Studio.

firms, but it does seem to be increasingly common as large service-oriented firms enter periods of transition, or must reposition in response to market challenges. Renard Roy, an architect in Austin, Texas, and a monitor of such trends, insists that the practice of hiring new design stars is definitely on the upswing, citing a list of firms in the U.S. that have tried to import new designers in recent years. "There's even a hack firm down here offering clients optional, fee-based access to a 'special' design studio service!" Roy decries, naming a noted architect in academia. "What do you get if you don't take their studio option?"

Identifying, retaining, and believing in talent are not enough to accomplish major shifts in firm direction. Design is a culture that involves strong-willed, unconventional, independent-minded, sometimes abrasive people; it is also a business that requires major resources. "It does take money," says HNTB's Friedson. Unless management backs

up the renewed commitment to design and presentation with resources, budgeting for design becomes a thorny issue in firms accustomed to tight control over all costs.

Also, confrontations inevitably occur between management, technical support, and new design talent when questions of power-sharing arise. "Carried to logical conclusion, design authority is final decision-making and total power," asserts architect Edward R. Frenette, design director of Symmes Maini and McKee Associates in Cambridge, Massachusetts, who has closely studied corporate firm design issues as a Harvard Loeb Fellow. "People may say they are 'for' design over cocktails, but are they really ready to relinquish all of that power to a designer?" Perhaps not, suggests Hillier's Jones. "I'm not sure yet if it's more than lip service," he says, insisting that good design prevails only when other considerations remain subservient.

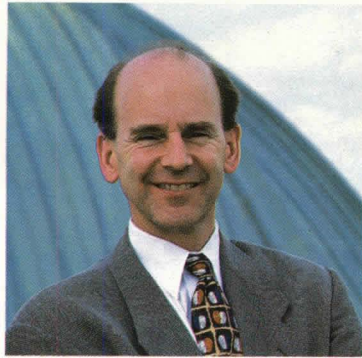
"Firms want to do jewel-box projects, but

**Richard Clarke**  
**Leo A Daly Associates**  
**Washington, D.C.**

“Firm size isn’t an issue to me,” Richard Clarke says, noting that during his 12-year tenure as a designer with Kohn Pedersen Fox Associates (KPF) in New York, the firm was often larger than the 90-person Daly office in Washington, D.C. Although he says his time at KPF was “extraordinary,” giving him a chance to work on a wide variety of project types, the 44-year-old architect saw greater opportunities for professional growth in the Daly setting—and perhaps a chance to step out of the shadows cast by KPF’s giants.

His objective was to organize and direct a design studio lodged in a full-service office. This strategy has required hiring an additional 10 design staff members, mainly by word of mouth, to work for Clarke, who is vice president and director of design. He says that the Daly staff shows great enthusiasm for his influence: “They stay late and work hard.” Clarke confines his efforts to projects in the firm’s Washington offices, although he envisions other elements of the Daly firm eventually working with his group “almost as they would with an associate architect.”

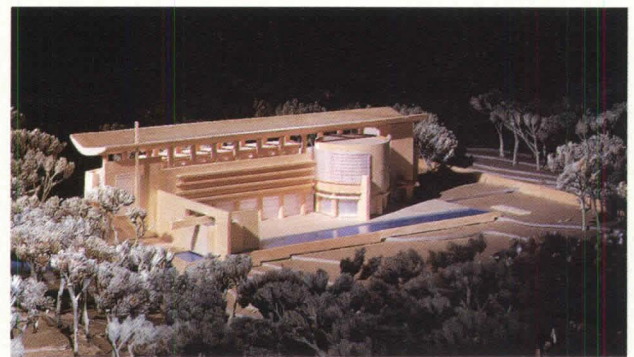
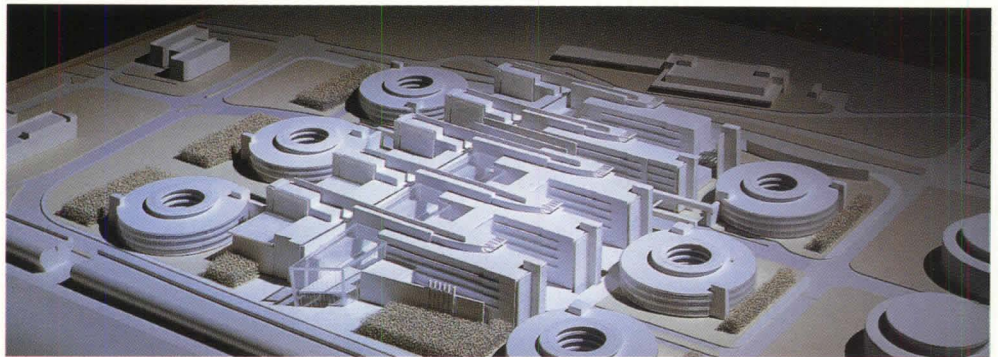
Clarke’s involvement in a large mixed-use project near Berlin, he says, has turned the tide of past criticism in the firm’s favor. He also points to a mixed-use project under way in Dubai, United Arab Emirates, as an example of how “design aspirations can be raised within the firm and among its clients.” The firm’s far-reaching, well-established global connections should also provide Clarke with broad opportunities. Referring to an ongoing project for the headquarters of a major Hong Kong developer, he says, “We have a genuine exchange about design—we’re not just in a production support role.”



SALIM RAFIK



MICHAEL FISCHER



**TOP LEFT:** Design Director Richard Clarke of Leo A Daly Associates.

**TOP RIGHT:** Model of Dubai Creek twin office towers in United Arab Emirates.

**CENTER:** Model of Airport City, a 220,000-square-meter mixed-use development in Berlin.

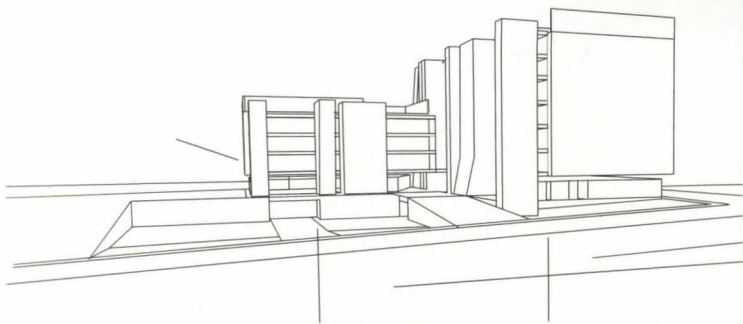
**BOTTOM LEFT AND RIGHT:** Model of John Paul II Cultural Center in Washington, D.C.

don’t see what that will cost them,” agrees Marjanne Pearson, a self-described architecture talent scout from Oakland, California. She explains that such moves must be part of a strategy to address identified markets, which in turn must be linked with firm processes and organization. The personality fit may also pose a problem, Pearson adds, although not an insurmountable one: “I think the key is having well-managed egos.”

The longest-enduring example of importing top talent is probably Alan Chimacoff, who has served as design director of Hillier’s Princeton headquarters since 1986. Chimacoff joined Hillier after teaching for almost 20 years at Cornell and Princeton. His charge was to raise Hillier “to the first tier” in architectural design, a mission he believes has been accomplished through careful, steady effort. “You have to stress quality, not appearance—you can’t operate in the realm of style or observable signature,” he says.

Large firms, according to Chimacoff, have too many clients and too diverse a set of interests to become “trapped in the signature style mode.” Others agree that firms seeking to buy “style” or “signature design” will be sorely disappointed. Wide ranges of project types, locations, and scales may make larger firms inherently eclectic in their approach to design. “Eclecticism is difficult to understand and even harder to master,” says Frenette. “Nobody wants to embrace it—it’s easier to advocate a similar approach for every project.”

The scope of the designer’s role is pivotal. Frenette casts the design director as esthetic problem-solver, neither stylistic advocate nor partisan. But Yazdani speaks of keeping alive the spirit of an “experimental” practice within the constraints of a corporate enterprise that is devoted first and foremost to making satisfactory buildings. He and others observe that firms often feel they need to rein in the designers’ exploratory efforts. There are two



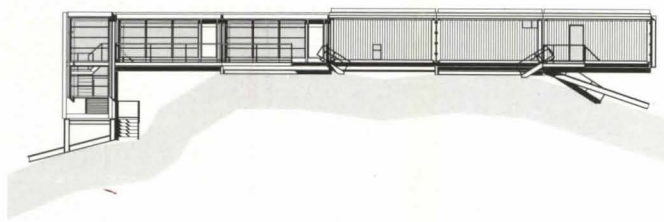
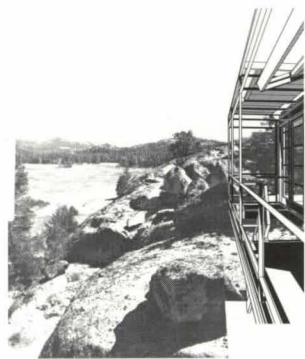
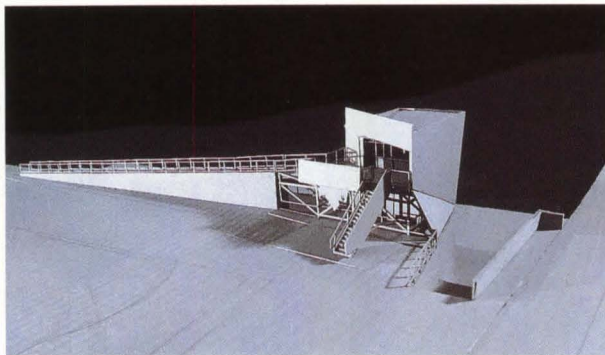
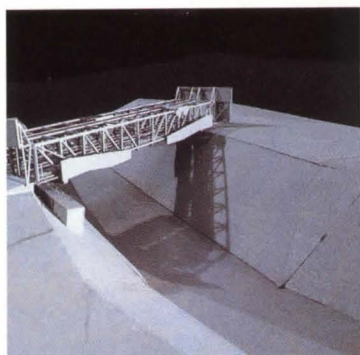
LUCA VIGNELLI

**Wes Jones**  
**The Hillier Group**  
**Philadelphia, Pennsylvania**

A staffer describes The Hillier Group's Philadelphia office as "a 35-person profit center in a firm 10 times that size." (Hillier is headquartered in Princeton, New Jersey, and has six other offices.) Wes Jones, after the early 1990s dissolution of Holt Hinshaw Pfau Jones, opened a firm bearing his name in San Francisco that continues to operate while he works with Hillier—underscoring the tentativeness of his new affiliation.

"We sparred for months around various forms of joint venture," says the 37-year-old Jones, but in the end, Hillier simply retained his firm "to provide design direction services for a two-year period." With remarkable candor, Jones admits he finds it tough going. Part of the problem is pure culture shock: "After all, firms like this were basically 'the enemy' for years. They produced the work we hated." He remains doubtful about the impact he's having, as well as the depth of Hillier's commitment to design excellence: "They get so big that they become their own world, with no real appreciation for their reputations." Jones says that clients are confused when he delivers his structural expressiveness rather than Hillier's typically lower-key design. He worries that the firm is too set in its ways, unwilling to make the sacrifices needed to recruit and nurture new talent.

At previous firms, Jones recalls, he was absolute dictator, even in business and financial matters: "We structured the entire firm to support design. Everything went through my filter." But employees who gravitate to large firms, he believes, may be seeking security and a 9-to-5 regimen rather than a total focus on design: "In firms committed to design, people will work for free, just for the chance to do that kind of work."



ends of the firm spectrum, Yazdani claims: "Large, service-oriented firms just do whatever is wanted. Smaller ones devoted totally to design aren't often profitable, and they have a tendency to make problems for clients," by getting bogged down in design while letting service slip.

Even while acknowledging that their design cachet is supposed to serve the firm as a "client magnet," some designers draw a sharp distinction between getting projects and doing projects. "I don't think you can develop business and do design," Friedson opines; HNTB has another senior partner generating new business. But the line between duties is elastic. "It is vital for the business developer to have design sensibilities," says Friedson, "just as the designer has to be sensitive to referrals and repeat clients." Yazdani stresses that designers are always challenged to make their specific talents relevant to a particular client and project.

Design fervor must sometimes be kept in check. "The client must be satisfied, and the project must be technically proficient, within budget, and acceptable in terms of fee," summarizes Chimacoff. Every successful designer seems to acknowledge and manage these factors. In any case, it may be foolish to try and work every project at the same design pitch.

Some architects remark that large firms subvert talent, coopting designers such as Chimacoff and subsidizing weakened work. But in the best of situations, new design talent is a mature, positive force directing well-managed projects toward obvious excellence, and firms toward new aspirations—even new self-images. In the final analysis, vigorous young talent may be essential for firm survival. Yet the best usually cannot be bought temporarily, or cheaply.—*Thomas Vonier*


*Architect Thomas Vonier divides his time between offices in Paris and Washington, D.C.*

**TOP LEFT:** Competition proposal for Federal Aviation Administration complex, designed by Wes Jones at The Hillier Group's Philadelphia office.

**TOP RIGHT:** Hillier's Design Director Wes Jones.

**CENTER LEFT AND RIGHT:** Models of Confluence Point Pedestrian Bridge and Visitors' Center by Jones, Partners Architects.

**BOTTOM LEFT AND RIGHT:** Perspective and north elevation of Coyote Rock Cabin by Jones, Partners.



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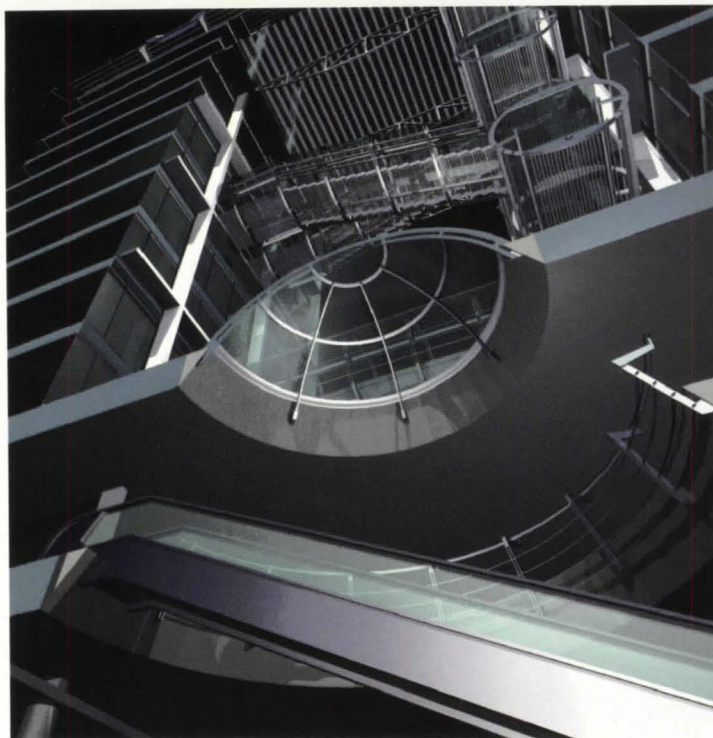
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## ArchiCAD Advances

*Smarter drafting tools and database links strengthen Graphisoft's flagship software.*



**ABOVE RIGHT:** Premium Palace in Budapest by Hungarian architects Csaba Virág and Judit Halmágyi is modeled in ArchiCAD and rendered in Graphisoft's Artlantis Render.

**F**ourteen years since it first entered the international market, Graphisoft now boasts a relatively small but steadfast client base. Architects are drawn to its ArchiCAD software for its advanced three-dimensional modeling and rendering features, supported by strong construction documentation capabilities. ArchiCAD can't model a turbine engine, but architect David Marlatt, president of Graphisoft U.S., sees that as an advantage. While other companies try to satisfy several disciplines with the same software, Marlatt notes, ArchiCAD is designed specifically for buildings.

Budapest-based Graphisoft R&D Software Development prides itself on its international reach; its 23,000 ArchiCAD licenses are divided among 80 countries and 19 languages. With only 4,000 licenses currently in America, Graphisoft's biggest obstacle to a greater U.S. market share is the perception that Autodesk's AutoCAD is now the industry standard—that a firm would be cut off from associates, consultants, and clients without it. But ArchiCAD advocates downplay the risk of incompatibility. "It's a non-issue," insists Randall Seitz, project architect at Core, an 18-person, Washington, D.C.-based firm. "We can import and export DWG drawings without a problem," Seitz asserts, referring to AutoCAD's drawing file format. "We can incorporate scaled drawings from a millworker or three-dimensional details from a manufacturer into a drawing file without even letting the third party know we don't have AutoCAD."

In fact, Graphisoft counts among its ranks many former AutoCAD disciples. One significant convert is Studios, a 130-person firm that committed this spring to using ArchiCAD in its U.S. and overseas offices. Designer and Systems Administrator Bradley Skaggs encouraged the switch to ArchiCAD after the firm tried out the software one year ago. "As soon as people saw ArchiCAD, it caught on and spread like wildfire," recalls Skaggs. "People are very productive on it."

Graphisoft raised the stakes for computer-aided design (CAD) last year when it brought virtual reality (VR) to the desktop. Realizing that architects were



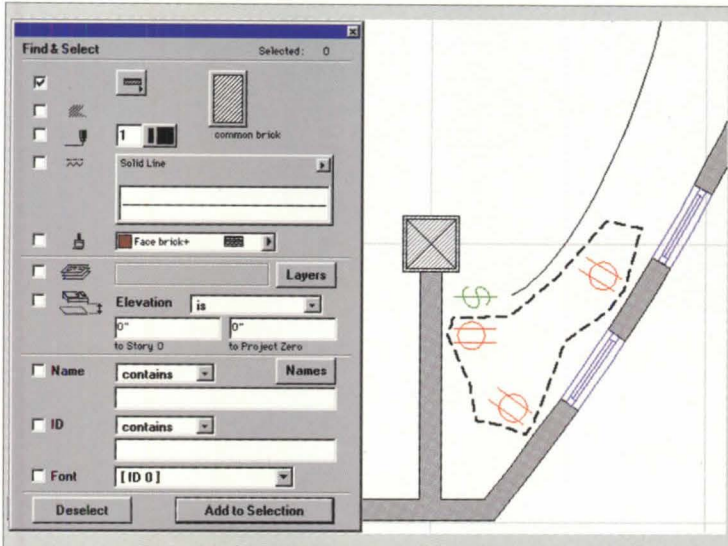
VIRTUAL TOUR: Core models Sprint Spectrum.



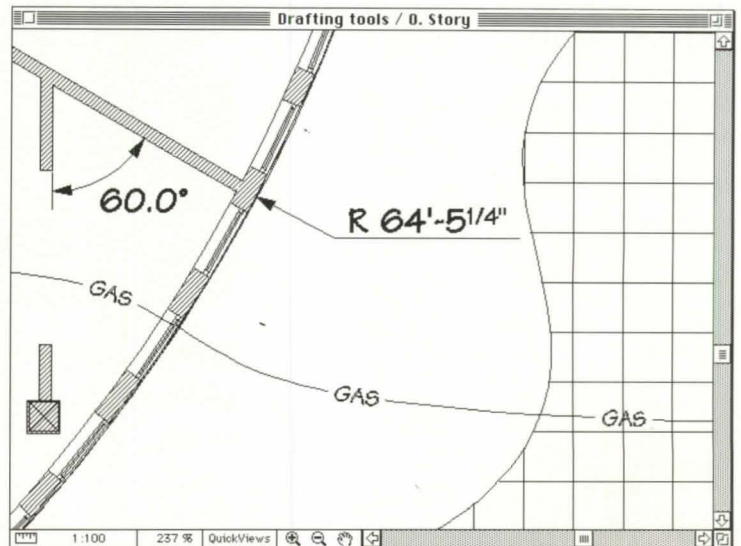
WALK-THROUGH: Room-to-room path is predetermined.



NAVIGATION: Prompts indicate next camera location.



FIND & SELECT: Fine-tuned parameters simplify search for building elements.



DRAFTING: Angles and radii are recalculated with revisions to drawings.

employing CAD more as a tool to simulate a building environment than for drafting, the company incorporated Apple Computer's QuickTime VR software into ArchiCAD. QuickTime VR enables architects and clients to navigate through three-dimensional building models, determining X, Y, and Z coordinates with a mouse, trackball, or keystrokes. Unlike preconfigured animation sequences, QuickTime allows the operator to control the course interactively. And compared to mainframe VR systems, Apple's compact VR technology is affordable, easy to operate, and built right into ArchiCAD's standard package.

Graphisoft's newest release, ArchiCAD 5.0, which ships this month, offers not only virtual reality software, but improved construction documentation and facility management functions as well. Smarter drafting tools and more sophisticated database links enable architects to edit in section or elevation while automatically revising floor plans and three-dimensional models. The updated ArchiCAD also lets architects reference multiple object libraries and define and calculate an object's parametric properties more precisely.

Moreover, ArchiCAD 5.0 is available for Macintosh OS, Windows 95, and Windows NT platforms. At a time when other software developers are abandoning Macintosh owners for the much larger Windows audience (Autodesk, for example, declined to distribute a Macintosh version of its AutoCAD Release 13), Graphisoft remains strongly committed to Macintosh. Indeed, ArchiCAD relies solely on the Macintosh platform for virtual reality, its most compelling feature. Macintosh operators can generate QuickTime walk-throughs directly from ArchiCAD project files; Windows users can view VR scenes but cannot create them.

ArchiCAD's improved interface helps simplify the barrier between design and production on a project level as well as firmwide. "With ArchiCAD, you don't need a traditional CAD manager, because there are no list files and scripts to write," explains Skaggs, who successfully juggles design and systems administration. "The overhead required to support the application, as well as the Macintosh platform itself, is very low. They work well together."

The new release builds upon ArchiCAD's "digital building" concept, which generates intelligent objects such as walls, doors, windows, and columns. All data required for drawings, models, spreadsheets, and material listings are digitally stored in these items. ArchiCAD 5.0 offers more flexibility in defining an object's attributes. Parametric properties as specific as the ratio between weight and price can be included in the object's definition and factored into quantity listings.

As in previous versions, when an architect revises a model or plan, the changes are reflected throughout the construction documents and any supporting text-based files, such as spreadsheets. With ArchiCAD 5.0, this function is broadened to include sections and elevations, which were previously static drawings generated from the model. Formerly, a user changing a window height, for example, had to return to a plan, open up a window settings dialog box, and reset the height numerically. Now, the user can click on a window in an elevation and drag the sill to the appropriate position. The floor plan, three-dimensional model, and bill of materi-





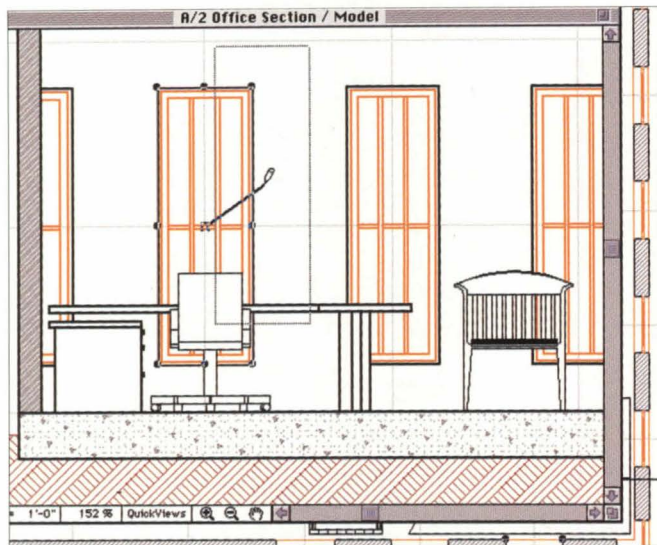
**PANORAMA:** Camera locations offer 360-degree view.



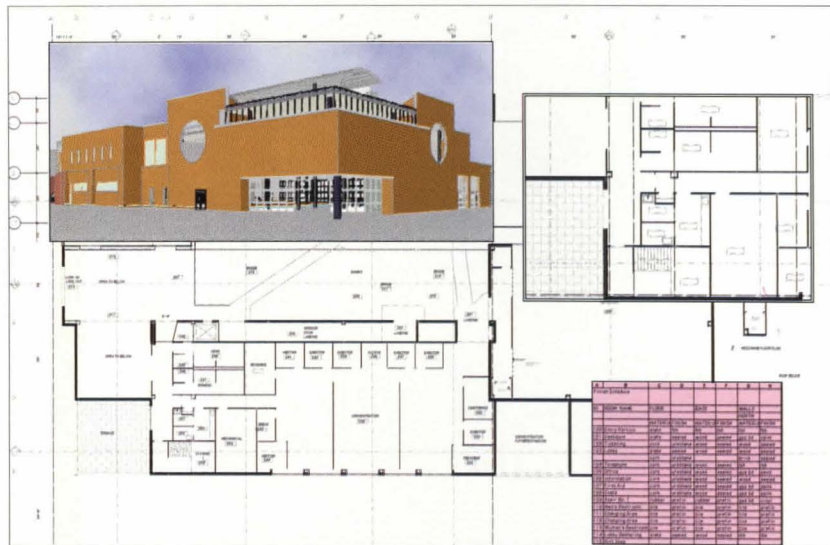
**ZOOM TOOL:** Keystrokes enable closeups.



**VIEW:** Mouse simulates turning of user's head.



**SECTION TOOL:** Interactive sections increase productivity.



**PLOTMAKER:** Digital program composes drawing sheets.

ESHERICK, HONSEY, DODGE AND DAVIS ARCHITECTS

als will be simultaneously updated and the relevant dimensioning will be revised.

Enhanced drafting tools in ArchiCAD 5.0 bolster productivity. When placing columns with the new column tool, the exterior surfaces of any intersecting walls will wrap around the column, if appropriate. True curved walls, slabs, and roofs are modeled as smooth, uninterrupted contours rather than pieced-together segments. The new release automatically generates complex roof forms, including domed and barrel-vaulted structures. More powerful two-dimensional faculties include an enhanced spline tool and associative angular and radial dimensioning.

A new intelligent cursor locates and identifies intersection points, perpendicular lines, and tangents for referencing and editing; an enhanced Find & Select command allows quick selection of building or drafting elements with user-defined criteria, such as color, line weight, or material. A flexible polygonal marquee tool gives greater control when selecting non-adjacent elements: The user can highlight only the computers in a room, for example, omitting partition walls

or furniture. With a new zone tool, rooms and elements within rooms can be categorized for facility management tabulations.

Multiple object libraries can be referenced simultaneously—locally, across a network, or over the Internet. And third-party databases such as Cumulus, a pictorial compilation by Canto Software, are also supported by 5.0.

To entice more firms to try ArchiCAD without investing a lot of money, Graphisoft initiated a flexible PayPerUse program in early 1995. Linked to a metering device, PayPerUse reduces the risk of purchasing new software. For \$795, a firm receives a complete ArchiCAD package with 50 hours of CAD time and a \$500 coupon toward one day of training. Additional hours may be purchased for \$3.83 per hour, and 40 percent of any PayPerUse fees accrued may be applied toward buying the software.

To compete with lower-priced CAD alternatives, Graphisoft introduced a modular price structure in February that allows architects to tailor ArchiCAD to their specific needs and budgets. Rather than purchase the bundled version, including technical sup-

port, for \$4,995, a firm can purchase the basic two- and three-dimensional drafting software package for \$3,795. Packaged separately are additional functions such as StairMaker; ArchiSite; and PlotMaker, a layout program that can import DXF and DWG drawings, spreadsheets, text, and photos.

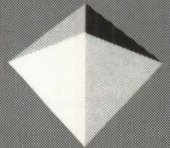
To bridge the CAD literacy gap, Graphisoft is working to educate principals of firms, who are often left out of the computer documentation loop. ArchiCAD's intuitive structure appeals to a new generation of principals, such as 40-year-old Peter Hapstak of Core. "We're just starting to see the effects of this revolution in technology," explains Hapstak, pointing to new virtual learning and conferencing centers as examples of the changing boundaries of architecture and design.

As communication with clients becomes increasingly high-tech, VR walk-throughs and photorealistic renderings will inevitably replace pencil sketches and watercolors, and design reviews will take place around a CD-ROM. ArchiCAD, Hapstak believes, is more than a production tool—it's a vehicle to the practice of the future.—Ann C. Sullivan

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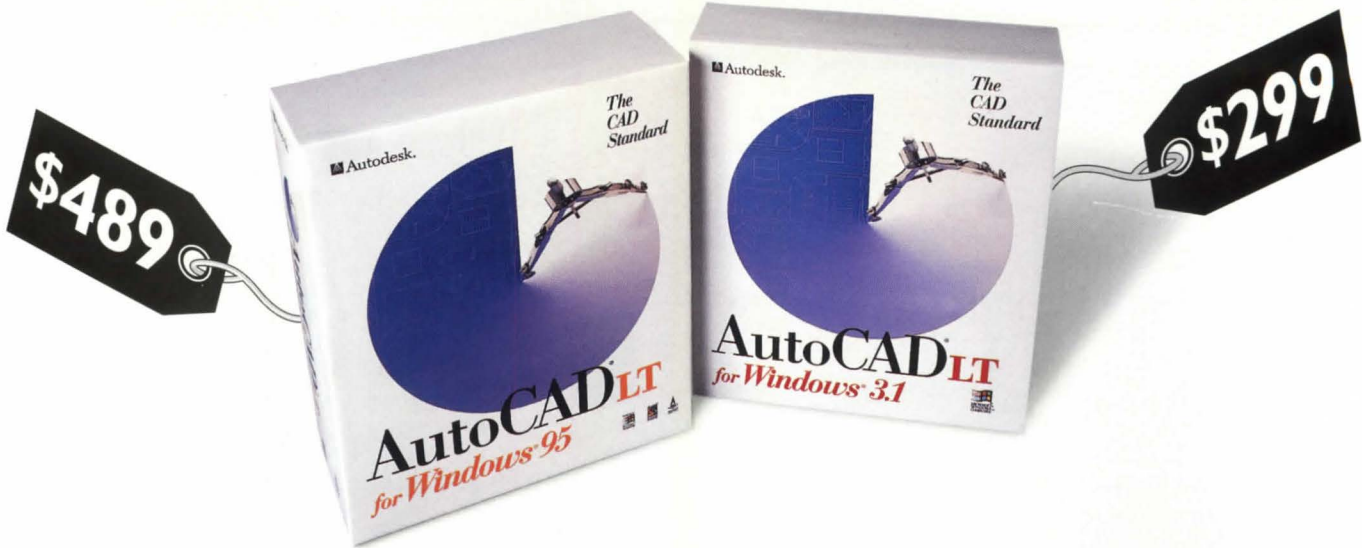
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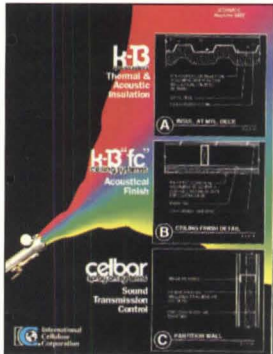
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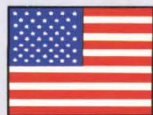


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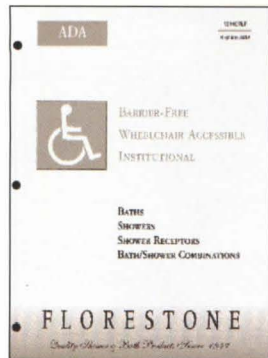
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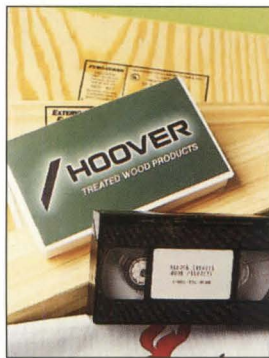
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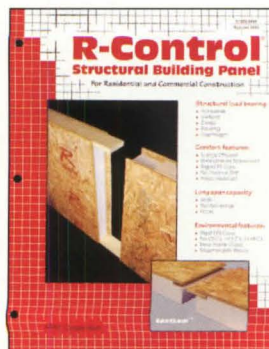
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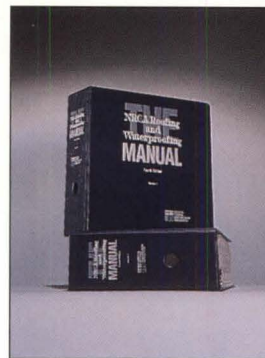
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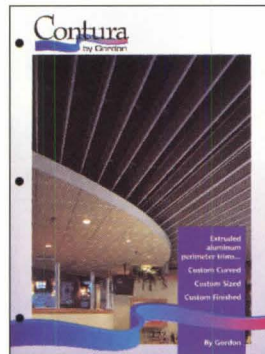
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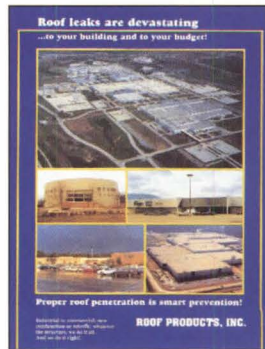
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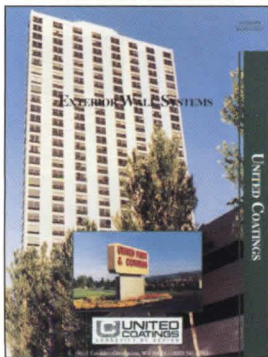
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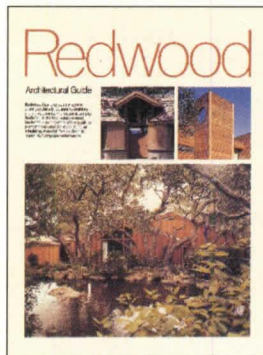
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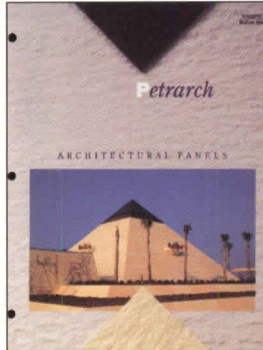
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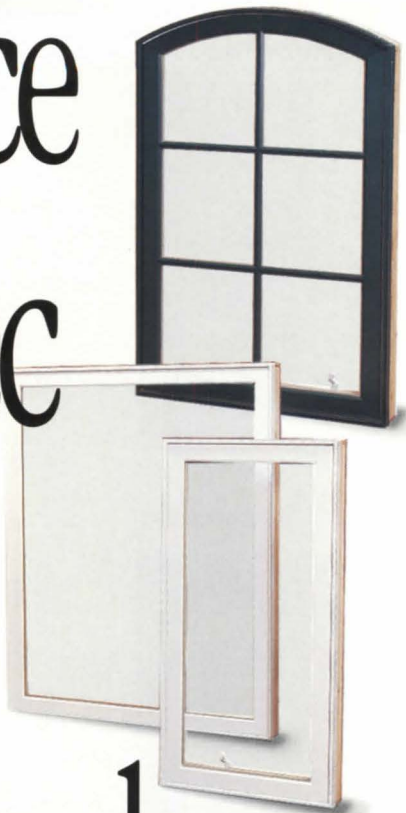
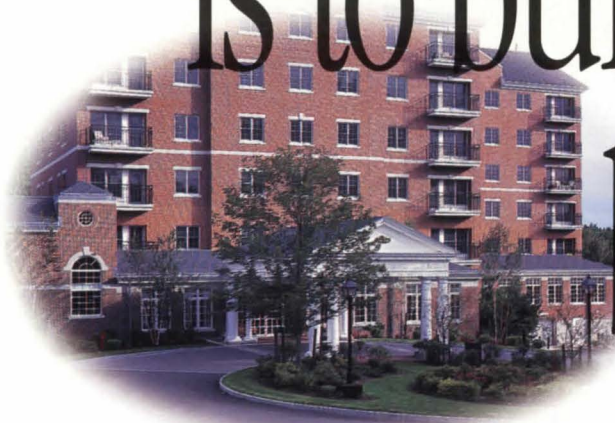


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With their modular design, EAGLE® windows give you the flexibility to create striking, coordinated window systems for any design concept. And EAGLE offers a comprehensive array of window styles and options – from Designer Colors™ to Modern Divided Lights® to Decorelle™ glass – to set every project you design apart from all the rest.

**EAGLE. The best choice.**



**1. Strength and energy efficiency** are ensured with solid wood construction, with interiors that come prefinished or ready to paint or stain.

**2. Low-maintenance beauty and structural integrity** are preserved with patented extruded aluminum exteriors that are several times stronger than thinner, roll-formed aluminum styles.

**3. Year-round energy savings and a clear, untinted view** are provided with Low-E Maximizer Plus™ glass. Optional custom glazing is also available.

**4. Air and water infiltration are virtually eliminated** with high-performance weatherstripping.

**Years of trouble-free performance and effortless operation** are ensured with high-quality hardware.

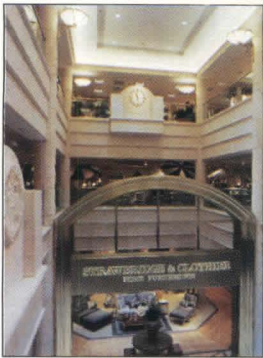


P.O. Box 1072 • 375 East 9th St. • Dubuque, IA 52004-1072

**1-800-453-3633**

Circle 228 on information card

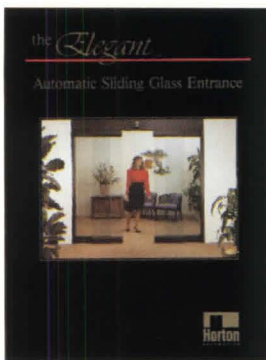
## Quinstone Industries, Inc.



**Quinstone Industries** molds several new materials into the look and feel of stone. With four textures, six colors and a fire/smoke rating of 0/0 this is one of the hottest new products. With the installation by carpenters, it allows a freedom of design, never before possible with real stone, plus adding a considerable cost saving. Quinstone Industries, Inc., 1112 West King St., P.O. Box 1026, Quincy, FL 32352, 1/800-621-0565.

Circle 58.

## Horton Automatics



**Automatic Door Architectural Elegance**—Horton Automatics Elegant™ automatic sliding glass entrance system meets the demands of modern architecture yet conforms to building codes and energy conservation requirements. Automated by the microprocessor driven Series 2001 operator, glass panels slide quietly on a concealed track. For emergency egress, a breakout feature allows glass door panels to swing out. Call 800-531-3111.

Circle 62.

## Fritz Industries, Inc.



**New Fritztile Display**—Now available, a beautiful display featuring our new Granite Supreme 5000, the Marble Mosaic 600, and the Classic Terrazzo 200 tile series. With an industry breakthrough in display design, Fritztile offers a beautiful three-sided modular exhibit promoting all three Fritztile lines. This 2 ft. wide display has a color poster with pictorial replicas of each tile in the three series. Its triangular base conveniently fits into a 2 sq. ft. area. Fritztile also offers a single, one-sided display for each individual tile line. For more information, call 1-800-955-1323.

Circle 66.

## Sumiglass® by North American Glass



Sumiglass® by North American Glass features distinctive designs in laminated glass. Printed films, decorative papers and even some fabrics can be laminated between glass to create a stunning balance of light emission and privacy. Send for our new 8 page brochure showcasing nearly 30 standard patterns and highlighting our custom capabilities.

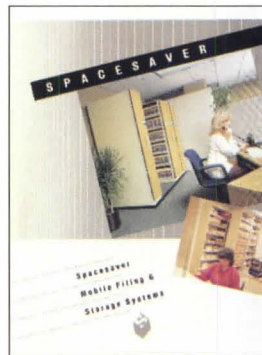
Circle 70.

## Rinnai America



**Rinnai Universal Gas Furnace**—Rinnai's EnergySaver direct-vent gas-fired universal furnace combines contemporary styling with exceptional energy efficiency. Features include cool-to-the-touch cabinetry, quiet twin fans, electronic ignition, no open flame, built-in thermostat and humidifier. EnergySaver models 431 (shown), 551 and 1001 heat areas up from 1100 to 1700 square feet. These Rinnai furnaces also carry the industry leading 5 year limited warranty. Rinnai America, 1662 Lukken Industrial Drive West, LaGrange GA 30240, (800) 621-9419. Circle 60.

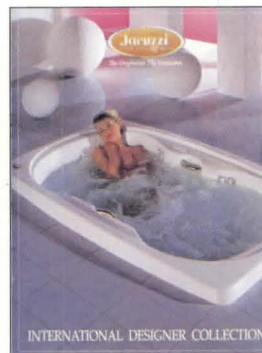
## Spacesaver Corporation



**Spacesaver Mobile Filing & Storage Systems**—With a Spacesaver High-Density Mobile Filing and Storage System, you can help your clients create an organized, professional image while actually being more organized as well. Face panels are available in a great variety of tasteful, coordinating colors, styles and finishes, including custom graphics. Contact a Spacesaver Area Contractor or call 800-492-3434 today!

Circle 64.

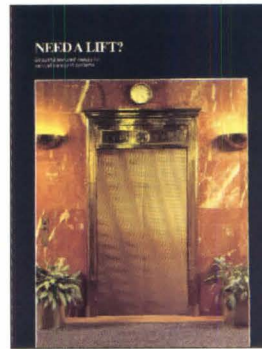
## Jacuzzi Whirlpool Bath



**JACUZZI WHIRLPOOL BATH**—presents The 1996 International Designer Collection of whirlpool baths, faucetry and The J-Dream™ Family of shower systems. This full-color catalog features beautifully styled products, integrating the most innovative luxury features. For more information please call 1-800-678-6889. *Catalog free of charge.*

Circle 68.

## Rigidized® Metals Corp.



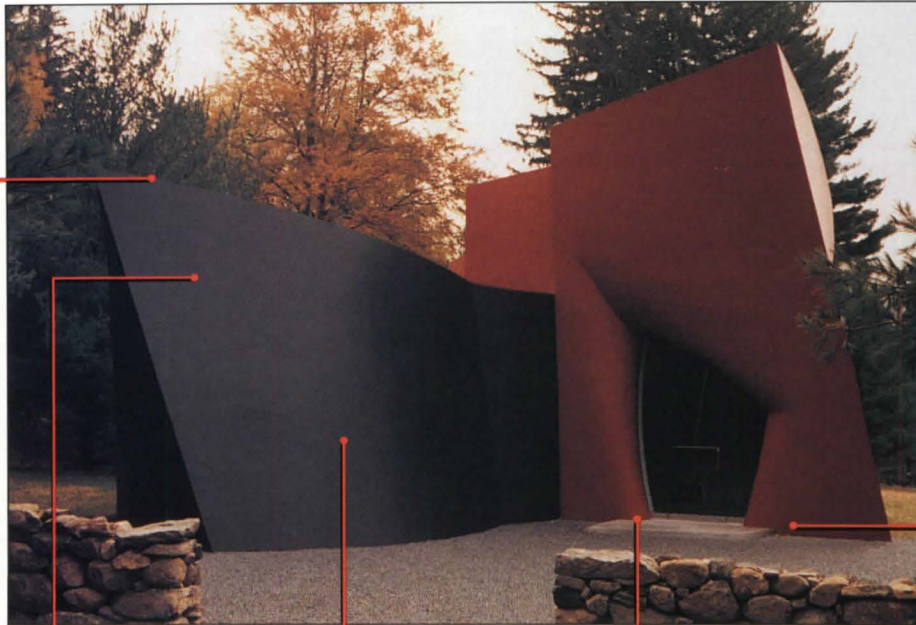
**TEXTURED METAL DOORS BY RIGID-TEX®**—Rigid-Tex® metals combine beauty and durability in Rigidized and etched metals. Dozens of patterns and custom designs for interior and exterior use, new or retrofit. For elevator doors and interiors, column covers, walls, ceilings, entrances, signage and trim. Available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

Circle 72.

# PHILIP JOHNSON'S "NEW BABY" IS TOTALLY MATHYS!

*Breathable  
Exterior  
Waterproof  
Skin*

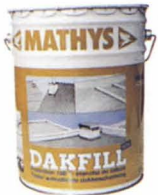
*Self-Flashing...  
Guaranteed to  
Bridge New  
Cracks*



Visitor Center at Johnson Estate in New Canaan, Conn.

*Interior  
Coating  
System  
Walls,  
Ceilings  
and  
Non-Skid  
Floor System*

**Roof Membrane**



**DAKFILL\***

- Liquid membrane for new and old roofs
- Withstands ponding water
- Seamless, non-dimensional
- Contains no solvents
- 350% elongation

**Flexible Stucco**



**MURFILL\***

- Flexible stucco
- Coats brick and block
- Smooth or textured
- Prevents carbonation of concrete
- 100% salt water resistant
- 80 standard colors

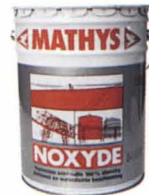
**Interior Wall**



**PARACEM\***

- Ultra-breathable
- Indoor and outdoor coating
- Brick, block, stucco
- Matte or glossy finish
- Resistant to alkalis
- Flexible
- Colorfast

**Floor Finish**



**NOXYDE\***

- Liquid applied non-skid system
- Odorless
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- High durometer
- Matte or glossy finish
- Wide color range

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**FLEXTON\***

- Patented liquid roof membrane
- For foundations, plazas, tank linings
- Self-flashing
- Withstands ponding water
- U.L. listed
- For new and old roofs

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## Garaventa (Canada) Ltd.



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**Circle 74.**

## Heat-N-Glo



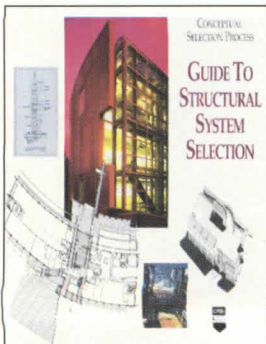
**Pier GDV**—Heat-N-Glo's Pier GDV is an impressive three-sided direct vent fireplace that provides a beautiful view and the convenience of multiple installation possibilities. Its direct vent system exits from the back of the unit allowing for non-conventional installations such as a room divider, bar, end of counter or a wide variety of other creative installation possibilities.  
**Circle 78.**

## Siedle



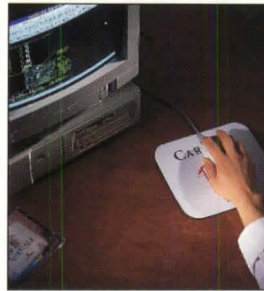
**Siedle Intelligent Communication Systems**—Featuring Siedle Vario Intercom Lobby Units—Video Security for apartments, residences and offices. . .Easkey, the Intelligent Key-Letterbox system—and the System telephone HT 611-01—the fastest way to the house door and around the house, complete with watchdog, doorman and nameplate. For full catalog, set up information and architecture specs, call toll free 800-874-3353 or 610-353-9595.  
**Circle 82.**

## CRSI



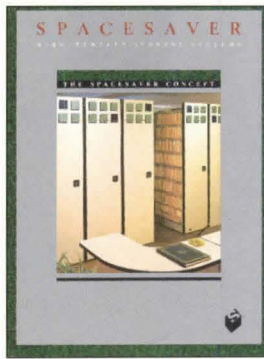
**CRSI—Guide to Structural System Selection**—To help in the initial conceptual design process, The Concrete Reinforcing Steel Institute has produced this new manual. Developed for the entire project team, architects, engineers, owner/developers, it covers the design process step-by-step with real examples. \$12.00 plus shipping. To order call 1-800-465-CRSI.  
**Circle 86.**

## CARADCO



**CarCAD 2.0 ON CD-ROM**—This new CAD package on CD-ROM allows you to configure any Caradco window and patio door, design combination units, generate head, jamb and sill CAD details, develop window schedules, and generate CSI specifications. A complete Symbols Library allows you to import elevation and sectional details into architectural drawings. Contains interactive tutor. Call 1-800-238-1866, ext. 218.  
**Circle 76.**

## Spacesaver Corporation



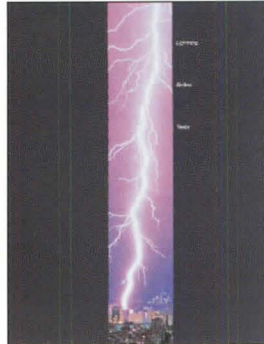
**Spacesaver High-Density Storage Systems**—With a Spacesaver High-Density Mobile Filing and Storage System, you can help your clients create an organized, professional image while actually being more organized as well. Face panels are available in a great variety of tasteful, coordinating colors, styles and finishes, including custom graphics. Contact a Spacesaver Area Contractor or call 800-492-3434 today!  
**Circle 80.**

## Invisible Structures, Inc.



**Pave With Grasspave.**<sup>2</sup> Grass<sup>2</sup> invisible porous pavers are made entirely from recycled plastics, saving truckload volumes of plastic articles from landfills, and creating sparkling green and real grass-covered spaces where asphalt once reigned—in firelanes, overflow and event parking lots, and residential drives and parking.  
**Circle 84.**

## Versico Incorporated



**Versiweld™ Premier single-ply roofing** is an advanced technology thermoplastic membrane made from inert polymers. The Versiweld® Premier sheet is heat-weldable and features a tough polyester scrim to increase puncture resistance. Roofing warrabtuues are available for commercial installations of Versiweld roofing. Versiweld brochure by Versico Incorporated.  
**Circle 88.**

**LOOK TO THE POLESTAR® SYSTEM OF OUTDOOR LIGHTING  
FOR THE BEST IN PERFORMANCE AND AESTHETICS.**



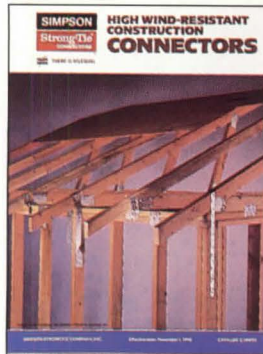
For more information about PoleStar, call your local Holophane sales representative or contact Al Warner, Holophane Corporation, 214 Oakwood Ave., Newark, OH 43055. (614) 345-9631.

Circle 232 on information card



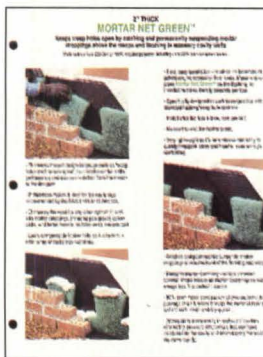
**HOLOPHANE**  
LEADER IN LIGHTING SOLUTIONS

## Simpson Strong-Tie® Company, Inc.



**Hurricane and High-Wind Connectors**—The most comprehensive reference on connectors for strengthening wood structures and increasing safety in hurricanes and other high-wind storms. Shows truss and rafter connections to wood headers, concrete or masonry; floor-to-floor, pile-to-girder, foundation, lateral load and shearwall holdown connections for one- and two-story houses. Corrosion-resistant connectors available for coastal areas. **Circle 90.**

## Mortar Net USA, Ltd.



**Introducing New 2" Thick Mortar Net Green™ Made From 100% Recycled Plastic**—Mortar Net USA, producers of Mortar Net, the original mortar droppings collection device for masonry cavity walls, introduces Mortar Net Green™. This new product is 2" thick to conform to cavity widths recommended by the Brick Institute of America and is made from 100% recycled plastic, including up to 50% post-consumer content. Sweet's 04150/MOR. [www.arch1.com](http://www.arch1.com) **Circle 94.**

## Columbia Cascade Company



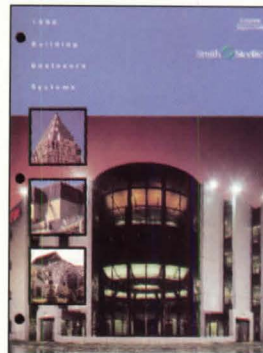
**TimeberForm® Willow™ Site Furniture**—This unique family of coordinated street and mall furnishings from Columbia Cascade Company includes benches, backless seats, settees, chairs, litter containers, plus an ash receptacle and planter. Features all-steel welded construction with Schedule 40 pipe frames and round rod willows. Powder coated in your choice of over 170 designer colors. Patents are pending. Twelve other design families from traditional through contemporary are also offered. For specifier catalogs call 1-800/547-1940 ext. 778 or fax us at 503/223-4530. **Circle 98.**

## Feeney Wire Rope & Rigging



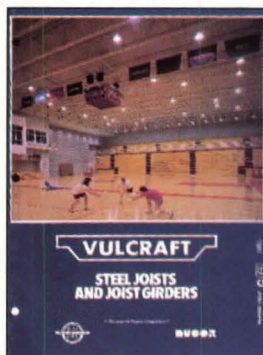
**CABLE-RAIL™ The Perfect Solution For Homes with a View!** Sleek, strong, stainless steel, prefabricated cable assemblies with special end fittings which can be concealed in your end posts. Installation is fast and easy on your wood or steel railing frames. An excellent choice for both exterior and interior applications. For free information on CABLE-RAIL and other architectural hardware call (800) 888-2418. **Circle 102.**

## Smith Steelite



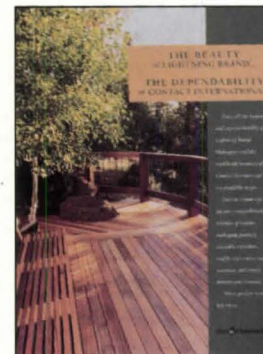
36-page catalog describes Smith Steelite's metal enclosure systems for non-residential insulated and non-insulated walls, roofs, composite walls, profiled panels, curved panels, structural standing seam roof, windows, vents and louvers. Also systems for explosion release, sound absorption, firewalls, asbestos panel replacement. Includes product features, applications photos, specifications, color selector guide, protective coatings specifications. Call 1-800-759-7474. **Circle 92.**

## Vulcraft



**STEEL JOISTS AND JOIST GIRDERS.** This 94-page design manual provides indepth information for the optimum use of steel joists and joist girders. As the largest producer in the United States, Vulcraft has the most experience and expertise in the application, design and manufacture of these products. The economies of steel joists and joist girders contribute to their increasing utilization. **Circle 96.**

## Contact International



**Contact International Lightning Brand Mahogany ideal for outdoor applications**—Contact International's Lightning Brand Mahogany products complement any decor with their natural beauty, legendary durability and exceptional staining quality. Lightning Brand products enhance the value and functionality of any home at a cost comparable to clear redwood or cedar. For more information about Lightning Brand products, call 1-800-547-6634. **Circle 100.**

## Plastic Components, Inc.



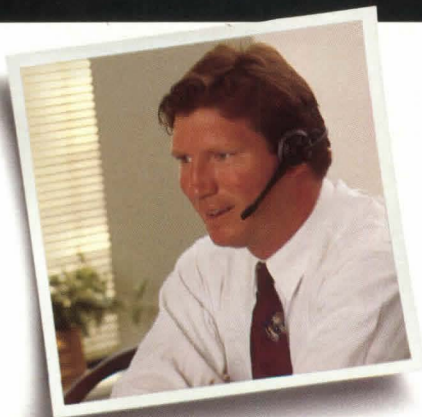
**Plastic Components' One-Piece Intersections and Inside/outside corners Reduce Labor Costs, Improve Job Quality!** ULTRA-TRAC™, the only ONE-PIECE, injection molded intersection (and inside/outside corners) are now available from Plastic Components. These field-engineered intersections eliminate layout and alignment problems, and offer a clean, clear, water-tight and non-rusting intersection. No special prep needed. . . for lower in place cost! Plastic Components, Inc., Miami, Florida 33178, 800/327-7077 • FAX 305/887-2452. **Circle 104.**

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Williams. Call the Paint DataBank at 1 800 321-8194  
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Thursday or 8:00am-5:00pm EST on Friday.



## Truebro



Another ADA undersink solution from TRUEBRO is the new Lav Shield™ under lavatory enclosure. Designed to meet the aesthetic and dimensional criteria for accessible lavatories where insulation cannot adequately cover electronic faucet connections, mixing valves, trap primers and instantaneous hot water heaters, the Lav Shield™ performs while providing knee and toe clearances for wheelchair users. Please respond for our new literature.

Circle 106.

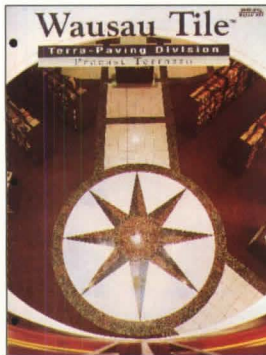
## Cornell Rolling Doors & Grilles



New SpectraShield powder finish in 204 colors. Factory applied SpectraShield is cost effective, competitive with field-applied solvent-based coatings. Door and grille components are individually prepped, coated and cured prior to assembly. Electrostatic application assures uniform, total coverage and a smooth finish that is tough and durable. Literature includes detailed specifications and a color chart. Contact Rich Goodwin, Technical Services, 800-233-8366, Fax 800-526-0841.

Circle 110.

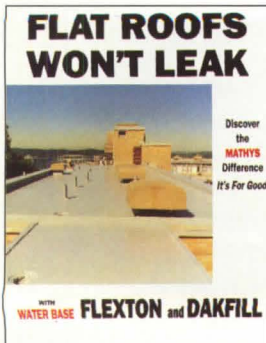
## Wausau Tile, Inc.



Wausau Tile, Inc. manufactures the only cement-based precast Terrazzo Tile in the U.S. Its 3 styles and unlimited color range come in either square or chamfered edge. The new Ground and Polished installation method allows the floor to be finished with a smooth monolithic appearance. Pre-cast accessories; stairs, treads, landings, etc. are also available.

Circle 114.

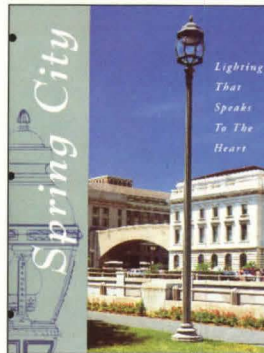
## Act Mathys



**Roof and Plaza Waterproofing**—Mathys FLEXTON is a patented, liquid applied coating system for flat roofs, plazas and other areas with water entry problems. Flexton being a liquid, is non-dimensional, self-flashing and eliminates the need for counter flashing and other dissimilar materials on the roofing or plaza system. Flexton contains no tar or solvents and is a water borne product, U.L. listed, with high water vapor transmission for use on old and new roofing products. Flexton has been used worldwide since 1972. Call 1-800-319-7885 for details.

Circle 118.

## Spring City Electrical Mfg. Co.



**OUTDOOR LIGHTING**—Cast iron is almost universally acknowledged to be the best material for outdoor lighting standards: beautiful, durable, and virtually maintenance-free. Spring City's full-color, 8-page catalog shows traditional cast iron lighting posts, bollards, traffic control, and more from the country's widest selection. Spring City Manufacturing Company, Spring City, PA

Circle 108.

## National Gypsum



**Flexible Wallboard**—New Gold-bond® 1/4" High Flex gypsum wallboard saves you time and money on the curves. For tight radius construction such as curved walls, stairways, arches and columns, High Flex eliminates the usual on-the-job scoring, wetting and plaster finishing of standard drywall. Now you can access our Internet home page at <http://www.national-gypsum.com>.

Circle 112.

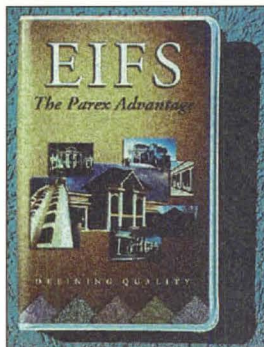
## Marley Floors



**High performance, low maintenance commercial floors**—Marley Floors' resilient sheet and tile combine durability for demanding commercial applications with imaginative, coordinated colors and designs. Self-coving, heat-weldable, watertight, hygienic, stain-resistant—ideal for hospitals, food service and retail uses. For catalog and the stocking distributor near you, call 1 (800) 8-MARLEY.

Circle 116.

## Parex



**Free Video!** The Parex Advantage. Beauty. Strength. Durability. Find out how far EIFS will go to realize a design. In only eight minutes, understand the basics of Exterior Insulation & Finish Systems and the difference that quality components make for buildings to perform correctly. Call now for the insight necessary to specify quality EIF systems. Put "The Parex Advantage" to work for you at 800-537-2739.

Circle 120.



## WATER-MANAGED EXTERIOR FINISH SYSTEMS: THE FUTURE OF STUCCO EXTERIORS.

The future of EIFS isn't about sealing out water. It's about letting it escape if it ever penetrates a system's exterior. Water-managed type EIF and DEF Systems are designed to do just that – making them more practical to install and more reliable in performance than regular “barrier” type EIFS.

Fact is, barrier EIF Systems were designed to seal water out. And they work. That is, until water seeps behind the system through and around windows, roof flashings and other penetration points. That's when the limitations of “barrier” EIFS become evident: they can also seal water in, causing permanent damage not visible from a home's exterior.

Without sacrificing the stucco-look appeal, or insulation benefits, Water-Managed Exterior Finish Systems perform like an EIF System with one crucial difference. They give water the means to escape if it should ever penetrate the system's exterior.

This “water in, water out” premise isn't new to the construction industry. It's the basic concept behind conventional exterior cladding such as aluminum and vinyl siding, and even the predecessor to barrier EIFS, portland cement stucco.

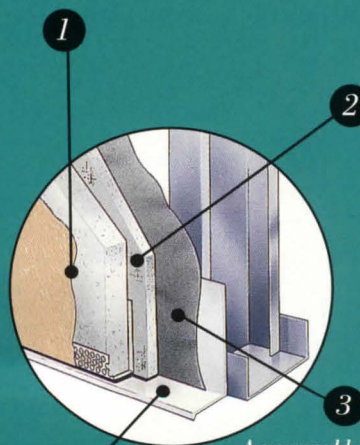
The fact is, windows are not waterproof. And independent tests reveal that even perfectly installed windows can eventually leak. Factor in ineffective sealants and poor detailing and it's only a matter of time before water gets in.

By incorporating water-durable substrates, vapor permeable components, flashing and drainage planes, Water-Managed EIF Systems make sure water gets out. Safely. Surely. And without damaging a home's water-sensitive framing and sheathing.

For complete details and specifications on Water-Managed Exterior Finish Systems, or a technical paper outlining the results of our exterior systems research, call 1-800-USG-4YOU, or visit <http://www.usgcorp.com>. It's the kind of information that can put your mind at ease.

Circle 236 on information card

*Stucco-look exterior finish, with or without insulation, provides pleasing aesthetics and design versatility in a system that's practical to install and reliable in performance.*



*DUROCK™ cement panels are the most durable substrate in an exterior finish system. They won't trap water or vapor, delaminate, soften or deteriorate should water penetrate the system's exterior.*

*A permeable water barrier serves as an additional drainage plane for water that has entered the wall cavity.*

*Flashing provides the final component in managing water effectively. This water-exit device, central to Water-Managed EIF Systems, prevents damage to a home's water-sensitive framing and exterior sheathing.*

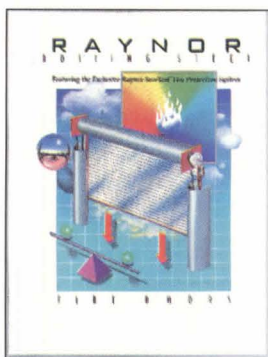
## Mitsubishi Chemical America, Inc.



**Aluminum Composite Materials**—ALPOLIC<sup>®</sup>, manufactured by Mitsubishi Chemical America, Inc., combines the superior flatness, rigidity and thermal stability of heavy-gauge solid sheet with the expressive design opportunities possible only with a composite material. ALPOLIC's light weight, formability, high strength-to-weight ratio and unlimited color range can fulfill your most challenging exterior or interior design objectives.

Circle 122.

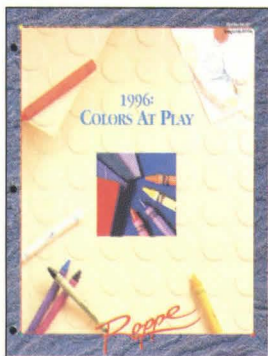
## Raynor Garage Doors



**New SureTest Fire Door**—"The most significant advance in rolling fire-door technology in decades" has just been introduced by Raynor Garage Doors. The simple design of the new SureTest Fire Protection System actually encourages frequent drop-testing. The door is tested in seconds and requires no special tools or costly service calls. For literature and a free video about the SureTest System, call 1-800-4-RAYNOR.

Circle 126.

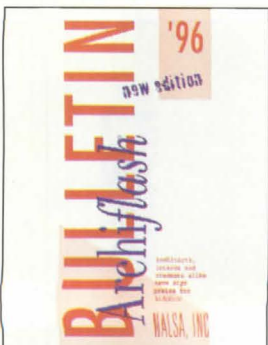
## Roppe Corporation



**Roppe Floors—Colors at Play.** Roppe's 1996 catalogue features their complete line of high quality, color coordinated rubber and vinyl flooring products including covebase, tile, treads, sheet vinyl, and accessories. For a free copy, call 1-800-537-9527. More information also available on: Sweets & SweetsSource, Architects First Source (hard copy & internet), Roppe Billboard: Dial 1-419-435-3119, Enter ID of "COVEBASE" then "ROPPE 1" (password), Free Disk: Call 1-800-537-9527, ext. 142.

Circle 130.

## NALSA, Inc.



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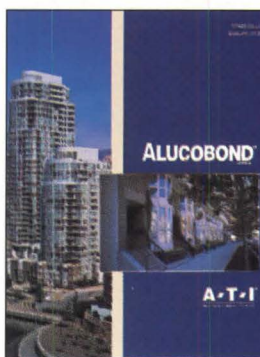
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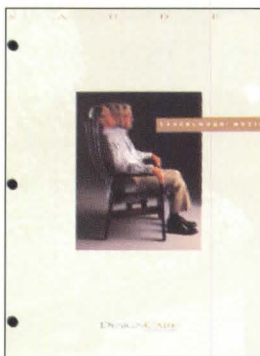
## Alucobond Technologies, Inc.



**NEW ALUCOBOND<sup>™</sup> MATERIAL CATALOG AVAILABLE**—This new 12-page, full-color catalog illustrates recent applications in a wide range of new and retrofit applications plus provides complete general and technical information for Alucobond<sup>®</sup> Material and Alucobond 21<sup>®</sup> Material. A current color chart is also included plus a description of attachment methods.

Circle 128.

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The *Laurelwood* Motion chair epitomizes the sincerity and practicality for which Sauder healthcare seating is known. Its smooth, broad plybent wood armrests offer ample support, while the rocker box provides relaxing and therapeutic motion. For more information on the DesignCare Series, contact Sauder Manufacturing Company, 930 W. Barre Road, Archbold, Ohio 43502-0230, 1-800-537-1530 or FAX 419-446-3697.

Circle 132.

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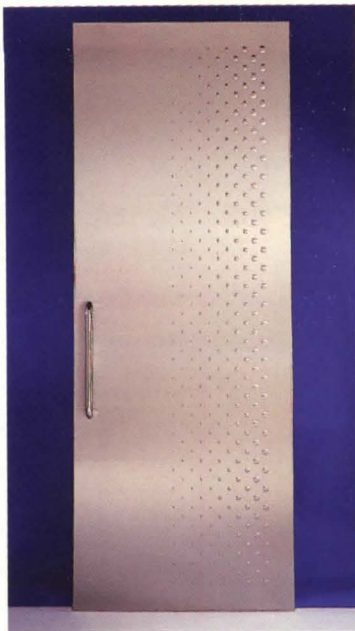


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Circle 136.

## Products

*Doors and windows are updated with new finishes, hardware, and glazing.*



**TOP:** Architectural Metal Doors by Forms + Surfaces are available in three types. Embossed Metal Doors (pictured) feature simple geometric designs imprinted on sheets of stainless steel, Muntz metal, and galvanized steel applied to a solid wood core. An unframed glass panel runs the full height of System 8 Doors; Metal Assemblage Doors employ geometric combinations of different metal finishes. The doors measure 3 feet wide and 7 or 8 feet tall.  
*Circle 401 on information card.*

**ABOVE:** Thermal barriers built into EFCO's ThermaStile aluminum doors prevent outside air from seeping into interiors. The 2-inch-thick doors can be specified in any size, in single- and double-door configurations, and with standard stile widths of 2<sup>1</sup>/<sub>4</sub>, 3<sup>1</sup>/<sub>2</sub>, or 5 inches.  
*Circle 402 on information card.*



**TOP:** Rehau has introduced a new vinyl casement window model, the S-773, which purportedly helps reduce material and labor costs during construction. The 2<sup>7</sup>/<sub>8</sub>-inch-thick frame includes a nailing fin and 1/2-inch drywall return.  
*Circle 403 on information card.*

**ABOVE CENTER:** New casement window hardware from Andersen Windows includes chrome or brass Coronet and stone or white Metro (pictured), with a lever recessed into an oval base. Andersen hardware has been redesigned with pivots closer to the window's center, purportedly making the units easier to open.  
*Circle 404 on information card.*

**ABOVE:** Liquid crystals sandwiched between layers of conductive film and glass turn Viracon Privacy Glass from transparent to opaque when

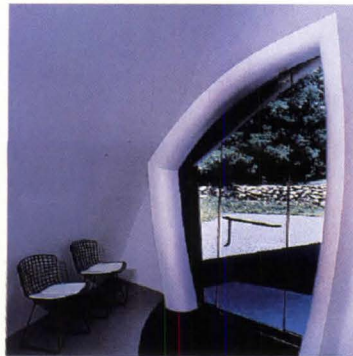


activated by an electric charge. Panes are available as large as 35<sup>1</sup>/<sub>2</sub> by 84 inches, and from 1/4 to 1 inch thick.  
*Circle 405 on information card.*

**TOP:** Operable block-filled windows are the latest offering from Hy-Lite. The vinyl-framed windows contain 6- and 8-inch blocks of acrylic molded with wavy and cross-ribbed patterns. Window sizes range from 10<sup>1</sup>/<sub>2</sub> by 9<sup>3</sup>/<sub>4</sub> inches to 7 feet 4<sup>1</sup>/<sub>2</sub> inches by 7 feet 3<sup>3</sup>/<sub>4</sub> inches.  
*Circle 406 on information card.*

**ABOVE CENTER:** Case Window and Door now offers wood-clad aluminum windows. Metal window exteriors can be specified with anodized, copper, bronze, and alloy finishes; a polyester or urethane coating; or standard and Kynar paints. Interior frames are clad in a wood finish.  
*Circle 407 on information card.*

## Products



*New hardware, glazing, and framing details customize windows and doors.*

### Johnson's glaziers

The Franklin Glass Company designs and fabricates custom details for commercial and residential glazing. Franklin's high-profile projects include installations for buildings by Frank Lloyd Wright and Ludwig Mies van der Rohe, as well as Philip Johnson's 1949 Glass House and more recently, the glass door in the new gatehouse on Johnson's New Canaan estate (above). Franklin Glass is now stepping up efforts to market heavy glass applications. *Circle 408 on information card.*



### Sliding doors

California-based Weiland manufactures custom doors and windows. Sliding pocket doors installed in a house in Rancho Santa Fe, California, designed by architect Don Edson (above), feature aluminum alloy tracks that lie flush with the floor. Available in wood or aluminum, each bottom-supported sliding door can be manufactured up to 11 feet wide; as many as six doors can enclose openings as wide as 66 feet.

Weiland also manufactures custom bifolding doors in bottom- and top-



supported models. Each bifolding door, fitted with regular panes or tilt-turn panels, can be specified as wide as 3 feet. Doors may be finished entirely in aluminum or wood, or with aluminum exteriors and wood interiors. Stainless steel, aluminum, mahogany, teak, and Douglas fir can be specified for the thresholds.

Other products available from Weiland include tilt-turn windows, inward- and outward-opening windows, swinging and pivot doors, and roll-down screens.

*Circle 409 on information card.*

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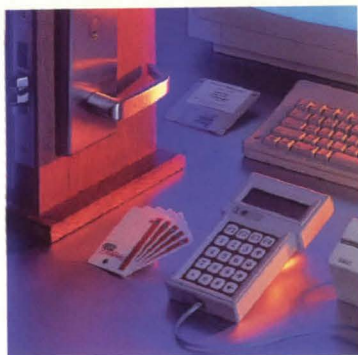
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#### Electronic locks

The VantagePoint S15 is an electronic access system designed by Best Lock for its 35HV and 93KV electronic lock sets. Magnetic stripe card readers allow visitors at select locations to unlock doors according to defined time schedules. A portable device (above) programs each lock and displays a record of past usage. Both the 35HV and 93KV lock sets, which operate on batteries, can be opened by conventional keys in the event of an emergency. *Circle 410 on information card.*



#### Curved frames

Marvin Windows & Doors' extruded aluminum cladding for windows can now be bent and shaped into circles and curves with a minimum 7-inch radius. It can join windows of different geometries, such as Marvin's semicircular fanlight, shown with the Sliding French Door (above). The top-hung sliding door is clad with wood on the interior and aluminum on the exterior. Stiles and top rails measure 4<sup>3</sup>/<sub>4</sub> inches; bottom rails measure 8<sup>1</sup>/<sub>8</sub> inches. *Circle 411 on information card.*



#### Arched windows

Hurd Millwork has introduced new primed wood casement and double-hung arched windows. Casements are available in widths of 15, 19, and 23 inches. Double-hung windows measure 24, 28, 32, and 36 inches wide; both sashes are operable. The arched windows can be fitted with Hurd's Heat Mirror, Sunbelter, and InSol glass. Hurd's aluminum-clad wood windows and patio doors can now be specified with green, white, tan, or bronze finishes. *Circle 412 on information card.*



#### Textured glass

Chicago-based Skyline Design manufactures carved, painted, and sandblasted glass. In addition to custom service for firms such as Perkins & Will and Studio Architecture, Skyline is now offering FossilGlas, a textured glass panel available in clear, frosted, and colored finishes. All glass products manufactured by Skyline Design are treated with Skyline Etch Sealer, a coating that prevents fingerprints and stains from penetrating etched glass. *Circle 413 on information card.*

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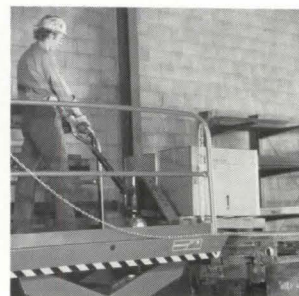
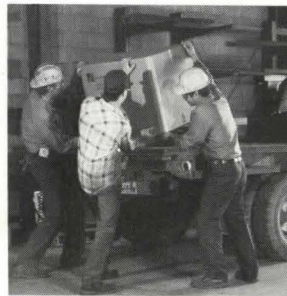
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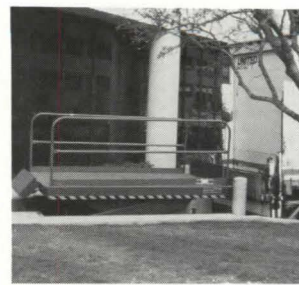
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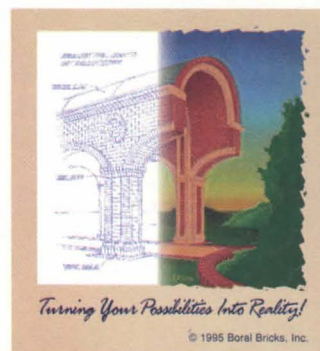
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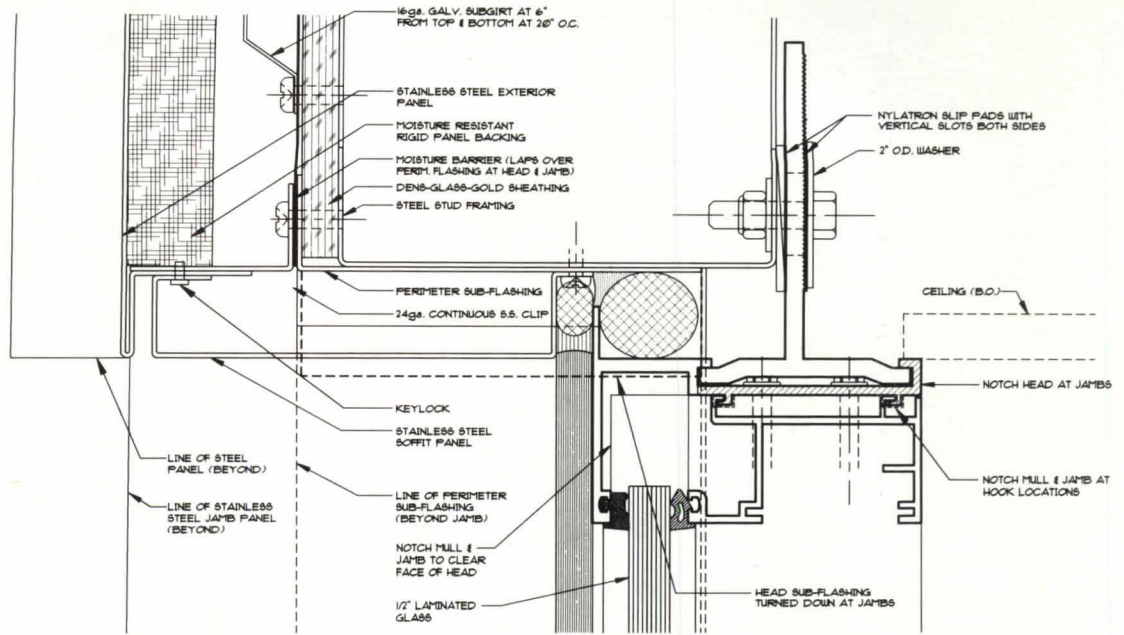
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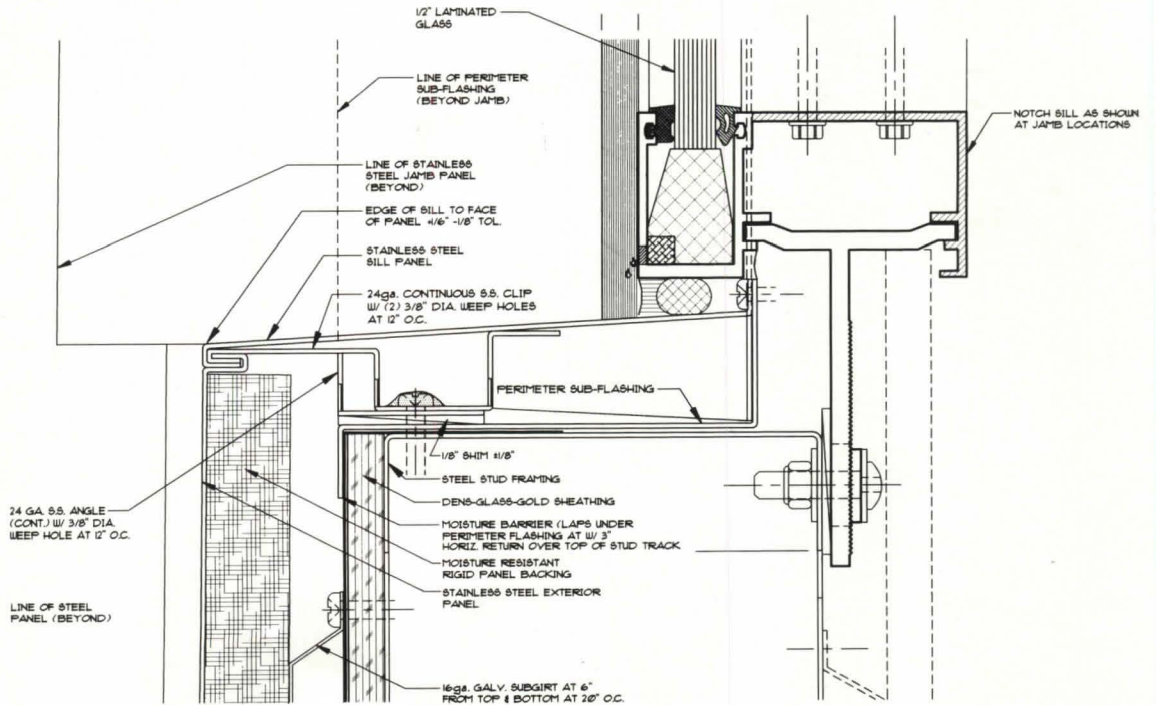
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*Aluminum-framed windows complement the stainless steel cladding of Gehry's office building for Disneyland.*



HEAD AT METAL PANEL



SILL AT METAL PANEL

1 1/2 cm

**Team Disneyland**  
**Administration Building**  
**Anaheim, California**  
**Frank O. Gehry & Associates**

Architect Frank Gehry collaborated with curtain wall engineer Walters & Wolf to create customized windows for the new administration building at Disneyland (pages 62-69, this issue). The building's curved, east-facing freeway facade is clad in a distinctive skin of 2 1/2-foot-wide quilted stainless steel panels, developed in conjunction with Zahner

Architectural Metal Consultants. The steel panels are bead-blasted for a rough texture, then treated with an oxide film for an iridescent finish. Rectangular, single-glazed windows measuring roughly 9-by-5-feet are divided into three panes by aluminum mullions on the exterior. Set back 6 to 7 inches from the exterior face of the steel cladding, the windows are composed of a 1/2-inch-thick layer of laminated glass mounted in a preassembled aluminum frame designed to accommodate interior blinds.—R.A.B.



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*Music Changed The Generation*

*The Generation Changed The World*



1963 Fender Stratocaster

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1971

Contract review course 1981

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Partnering incentive 1993

1974 Cost of Defense deductible option

TeamCover project insurance 1987

1989 Split limits option



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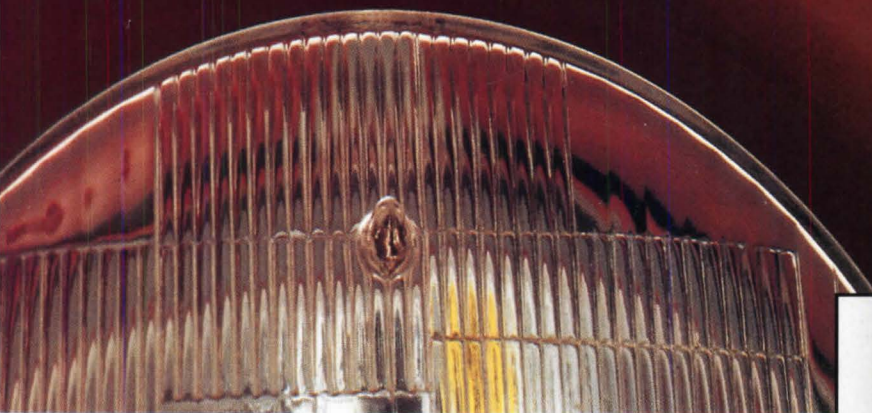
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