

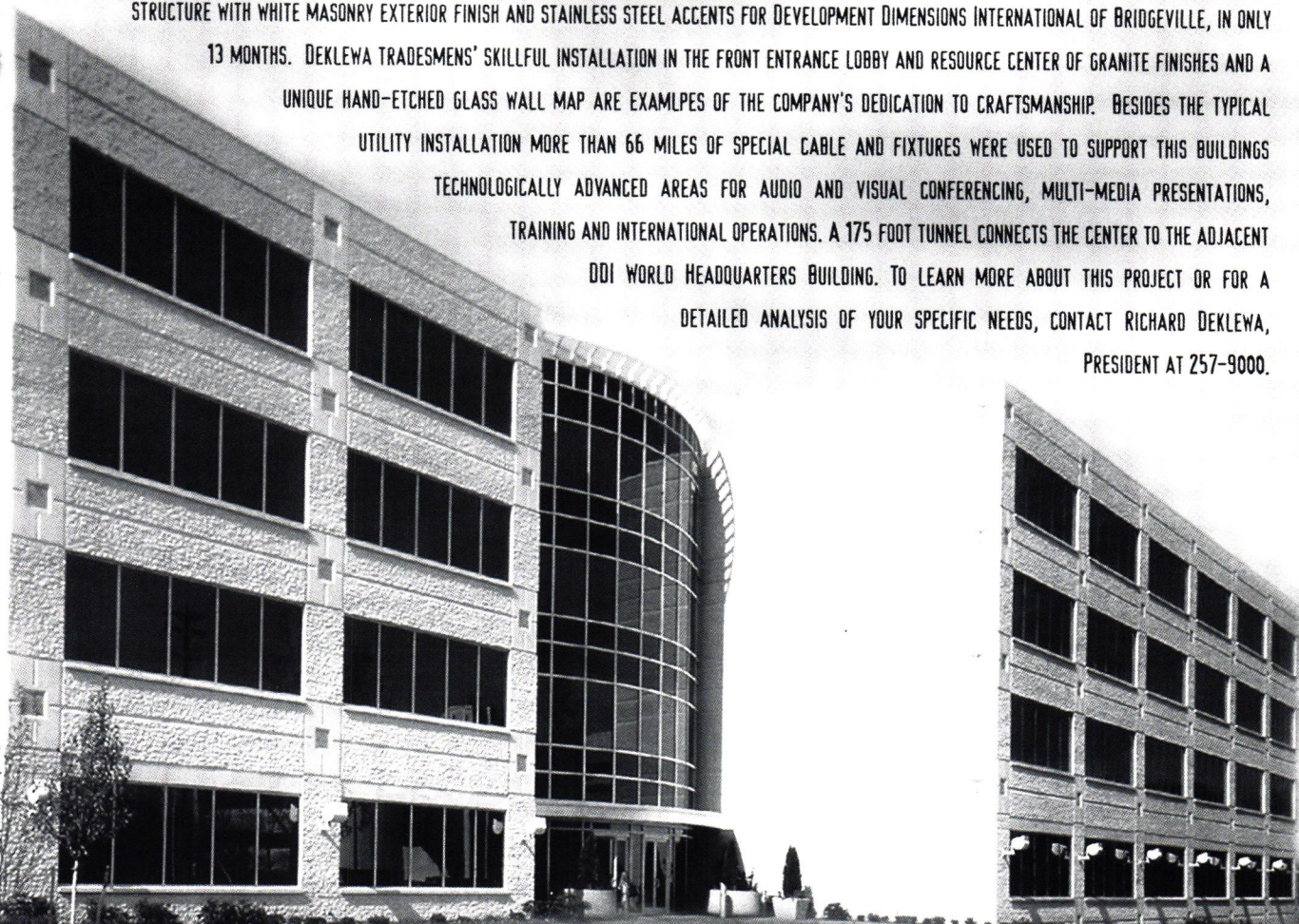
C O L U M N S





DEKLEWA DEVELOPS A NEW DIMENSION

THE RECENT COMPLETION BY JOHN DEKLEWA & SONS, INC. OF THE NEW CENTER FOR ADVANCED LEARNING AND ASSESSMENT TECHNOLOGY SIGNALS ANOTHER MILESTONE IN THE CONSTRUCTION FIRM'S LONG HISTORY OF PROJECTS FOR HIGH PROFILE CLIENTS. DEKLEWA CONTRACTORS ERECTED THIS "STATE OF THE ART" FOUR STORY STEEL FRAME STRUCTURE WITH WHITE MASONRY EXTERIOR FINISH AND STAINLESS STEEL ACCENTS FOR DEVELOPMENT DIMENSIONS INTERNATIONAL OF BRIDGEVILLE, IN ONLY 13 MONTHS. DEKLEWA TRADESMEN'S SKILLFUL INSTALLATION IN THE FRONT ENTRANCE LOBBY AND RESOURCE CENTER OF GRANITE FINISHES AND A UNIQUE HAND-ETCHED GLASS WALL MAP ARE EXAMPLES OF THE COMPANY'S DEDICATION TO CRAFTSMANSHIP. BESIDES THE TYPICAL UTILITY INSTALLATION MORE THAN 66 MILES OF SPECIAL CABLE AND FIXTURES WERE USED TO SUPPORT THIS BUILDING'S TECHNOLOGICALLY ADVANCED AREAS FOR AUDIO AND VISUAL CONFERENCING, MULTI-MEDIA PRESENTATIONS, TRAINING AND INTERNATIONAL OPERATIONS. A 175 FOOT TUNNEL CONNECTS THE CENTER TO THE ADJACENT DDI WORLD HEADQUARTERS BUILDING. TO LEARN MORE ABOUT THIS PROJECT OR FOR A DETAILED ANALYSIS OF YOUR SPECIFIC NEEDS, CONTACT RICHARD DEKLEWA, PRESIDENT AT 257-9000.



Project Architect: Johnson/Schmidt & Associates

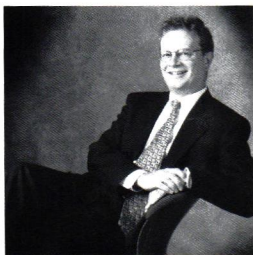
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GENERAL CONTRACTORS BUILDING SUCCESS

Looking Forward to Design Pittsburgh

by Paul Ostergaard, AIA



"AIA Pittsburgh efforts enable architects to make design accessible to a wide audience."

Over the past few years, AIA Pittsburgh

has established an annual tradition that raises the profile of architects in the region. No longer satisfied with anonymity and the perception of being an "old boys club", two years ago the AIA created Design Pittsburgh, a series of events held each October that celebrates what we do as designers.

AIA Pittsburgh's efforts enable architects to make design accessible to a wide audience. Design Pittsburgh offers something for everyone. High school kids and curious folks interested in how architects work will tour architects' offices on Architects' Saturday. The general public will enjoy the work of talented artists among our ranks who will exhibit their impressions of Pittsburgh in "Pittsburgh Looking Up", a show at the AIA Pittsburgh Gallery. Visitors to the Carnegie Museum of Art will see each entry in this year's AIA Pittsburgh Design Awards, and even be able to vote on their pick for the Columbia Gas of Pennsylvania's Peoples Choice Award.

At "The Gala", architects, interns, allied members and clients will enjoy a great party held at the Carnegie Museum of Art's Hall of Architecture. (This year, we are expecting more than 400 guests — it's a party you don't want to miss!)

And then there is the AIA Pittsburgh Design Awards Ceremony, the culminating event at which a nationally recognized juror determines outstanding achievements in design in the Pittsburgh region. Each year, more allied professionals including landscape architects, interior designers, graphic and product designers are taking notice of the AIA's focus on the merits of good design. Each year, the focus on design broadens to embrace these other disciplines. For example, this year the AIA Pittsburgh Design Awards will feature a new award category that honors an outstanding architectural detail. This category will consider furnishings and fixtures as well as architectural components, allowing AIA Pittsburgh to recognize the broad creativity of architects and reward collaborations with other designers.

Many people are involved in Design Pittsburgh, either as volunteers offering to help organize the events, as participants choosing to take advantage of the fellowship, awards program and great parties, or as supporters helping to defray the costs with generous contributions. We have only come part of the way. More support is needed.

Whether your firm is small or large, you can participate. Offer gala tickets to staff architects and intern architects in

order to encourage the younger members of the profession to join these efforts and form the basis for the next generation of AIA leaders. Participate in the AIA Pittsburgh Design Awards by entering your work. Finally, invite your clients and contractors to share with you in the celebration of their investments and hard work.

Pittsburgh is increasingly recognized throughout the country as a center of design and creativity. Long a leader in technology and industry, Pittsburgh's allure now attracts individuals who are creating new synergies between the arts and technology. Design Pittsburgh is our opportunity to show how architects — as both designers and generalists — can add to these synergies, create excellent design and contribute to the growth and success of our city.

This is an exciting opportunity — one in which we hope you will participate.

Schedule of Events

October 9 – November 3

Pittsburgh Looking Up, an AIA Gallery exhibit of local architects' sketches detailing their favorite spaces and places. (Free)



October 14

Architects' Saturday, a tour of six downtown architecture firms \$8/person; \$4/student; \$10/day of tour.

October 16 – 26

Carnegie Museum of Art Exhibit of all entries in AIA Pittsburgh Design Awards. Vote on your favorite entry for the Columbia Gas People's Choice Award!

October 19

Opening Night Gala, 6 to 9 pm, Carnegie Museum of Art, \$60/person.

October 23

AIA Pittsburgh Design Awards Ceremony and Remarks by Lead Juror (To be Announced), 6 to 9 pm, Carnegie Museum of Art, \$10/person.

For more information on any Design Pittsburgh event, contact AIA Pittsburgh 412-471-9548 or check out www.designpittsburgh.com.

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On the cover: Aquarium, Pittsburgh Zoo and Aquarium, Indovina Architects. Photo by Joan Kubancek.

AIA Pittsburgh serves 12 Western Pennsylvania counties as the local component of the American Institute of Architects and AIA Pennsylvania. The objective of AIA Pittsburgh is to improve, for society, the quality of the built environment by further raising the standards of architectural education, training and practice; fostering design excellence; and promoting the value of architectural services to the public. AIA membership is open to all registered architects, architectural interns, and a limited number of professionals in supporting fields.

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Waste Not, Want Not

by Anne J. Swager, Hon. AIA

It amazes me that we parents

can recite song and verse some story about at least one of our children and the difficulties of potty training. Ellen was finally accomplished the deed in our household thanks to an outrageously expensive water toy, that she had to earn by having no accidents for ten straight days. Amazingly,

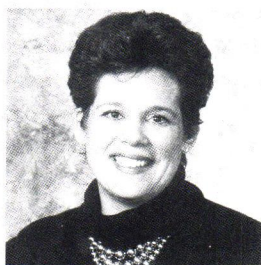
once the bribe was in place she went from two to three accidents a day to none...overnight. We still had several more weeks of admiring the product in the potty but we seem at this point to have moved beyond and she is once again focused on more savory developmental goals. When my other daughter, Betsy, was at the potty training stage, I was not employed outside the home. I soon realized that there seemed to be tremendous competition among the young parents on our street to claim the prize for the earliest trained child. Given the almost mythic proportions the feat took on, you would assume that the age a child was potty trained was directly correlated with their future earning potential. Funny, I've never seen such a study but perhaps Betsy, soon to enter her senior year at Bard College, would like to choose this as a thesis theme.

After potty training time, we are all soon taught that the discussion of human waste is not polite fodder for neighborhood get-togethers. We relegate the topic to off color jokes and largely ignore the whole subject. True to form, the group I chair for Jim Roddey's New Idea Factory has sprinkled their very serious discussions about the \$3 billion sewage problem in Allegheny County with an appropriate number of potty jokes. These help lighten the mood as we consider the very serious ramifications our aging sewer infrastructure presents. Cost aside, the EPA is hot on our tails to mitigate the amount of untreated sewage that runs into our rivers during wet weather days. Our drinking water comes from these same rivers, perhaps explaining the EPA's position.

In short, our aging system cannot accommodate all of the storm water and raw sewage that runs through the system on rainy days. Many municipalities are forcing homeowners to remove storm water from the sewage system, but this is not possible in all cases. The Alcosan plant is undergoing a major expansion to increase its capacity. However, aging laterals between buildings and the main pipes and the deterioration of the entire pipe system presents the biggest problem.

Fortunately, a number of people much smarter than I am are exploring a variety of solutions. New technologies such as hot wax that seal the fissures in the old pipe offer some hope that the resolution to the problem will be more affordable and do-able. Other solutions are much less attractive. Eve Picker regaled our group with stories of grinding toilets in France. The thought of sitting on something akin to a kitchen disposal convinced me that disposable diapers must enjoy a huge market there. Controlling the flow to Alcosan by storing the sewage for processing on drier days is an option. However, lining the rivers with large holding tanks quickly negates efforts to reclaim the riverfronts as wonderful spaces for living and recreation. While raw sewage in the rivers will have the same effect, I hope we are not forced into this type of hasty solution.

As stewards of the built environment, we need to be a voice for clean water and clean water solutions. Leaving it to others will put EPA firmly in the driver's seat. Politicians cannot hold the voters' interest with potty talk, but they certainly need to be educated as to what the real issues and the best solutions are. As members of planning boards, zoning boards and other municipal entities, you have a voice. By creating a clear vision of what the region's future can be with clean watersheds, you can help turn aside much of the current apathy.



"As stewards of the built environment, we need to be a voice for clean water and clean water solutions."



Columns is printed on recycled paper.

Call for Entries: The 2000 Reglious Art & Architecture Awards

The Call for Entries brochure is now available from the AIA, 1735 New York, Ave., NW, Washington, DC 20006, attention: Ann Thompson. Entries are due in July, judging will occur in August, and notification of winners will occur in September. Jurors are James Neal, FAIA, Douglas Hoffman, AIA, Ellen Mandelbaum, Rabbi Daniel Frelander, and Terry Eason.

Cultural District Elevator Loan Program Gives Developers a Lift

Cost-prohibitive elevators are an impediment to the residential and commercial re-use of many buildings in the Penn-Liberty Historic District. The Pittsburgh Cultural Trust created the Cultural District Elevator Loan Fund to promote the District's desirability as a location for the private development of residential and commercial uses, and to provide a catalyst for economic development. For more information, contact The Trust at 412/471-6070.

Historic Landmarks Awarded

The Historic Landmarks Plaque Committee of Pittsburgh History & Landmarks Foundation awarded Landmarks plaques to the following:

Addy-Spencer House; Andy Warhol Museum (Joseph Franklin Kuntz/W.G. Wilkins Co.); Arrott Building (Frederick J. Osterling); Atom Smasher, Forest Hills; Baywood (King Estate); Bost Building, Homestead; Carlow College Worship and Community Center; Carnegie Technical Schools (Palmer & Hornbostel, Henry Hornbostel); C.C. Mellor Library and Edgewood Club (Edward B. Lee); City of Pittsburgh Dept. of Water (Ruttan & Russell, Thomas H. Scott); City Theatre; Clayton (Frederick J. Osterling); Eberhardt & Ober Brew-

(continued on page 17)



CureTour2000 participant Brendan Kelly practices for the 4,000 mile ride "inside" a design by Architekten Behnisch & Partner.

CureTour2000: From Sea to Shining Sea

Between June 12 and August 8, a Pittsburgh native and three other architects will ride from Cape Flattery, WA to Virginia Beach, VA to raise awareness of and donations for the Lance Armstrong Foundation. Brendan Kelly (the Pittsburgher), Marc Kilkeny, and Alex Rheinshaus met while working for Architekten Behnisch & Partner in Stuttgart, Germany; Brendan and John Wagner were undergraduate roommates. All are twenty-somethings headed for graduate school this fall. Brendan notes that they are proud of the fact that, in spite of being in a profession that doesn't exactly promote enough time to get ready for an epic adventure such as this with the hours the profession demands, they are still doing it. The riders are expected in Pittsburgh on August 4 and encourage others to join them for a weekend ride to Washington, D.C. Contact Erin@curetour.org for more information. A fundraising party will also be held at Dowe's on July 28; anyone interested in attending or helping to sponsor the party or the ride should contact Sarah@curetour.org.

Donation checks should be made payable to The Lance Armstrong Foundation, PO Box 27483, Austin, TX 78755 (please note CureTour2000 in the memo). Donations can also be made through the CureTour2000 website: www.curetour.org. Anyone wishing information about the party at Dowe's, or sponsorships should contact Sarah@curetour.org.

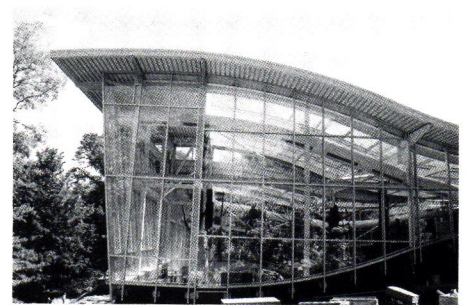
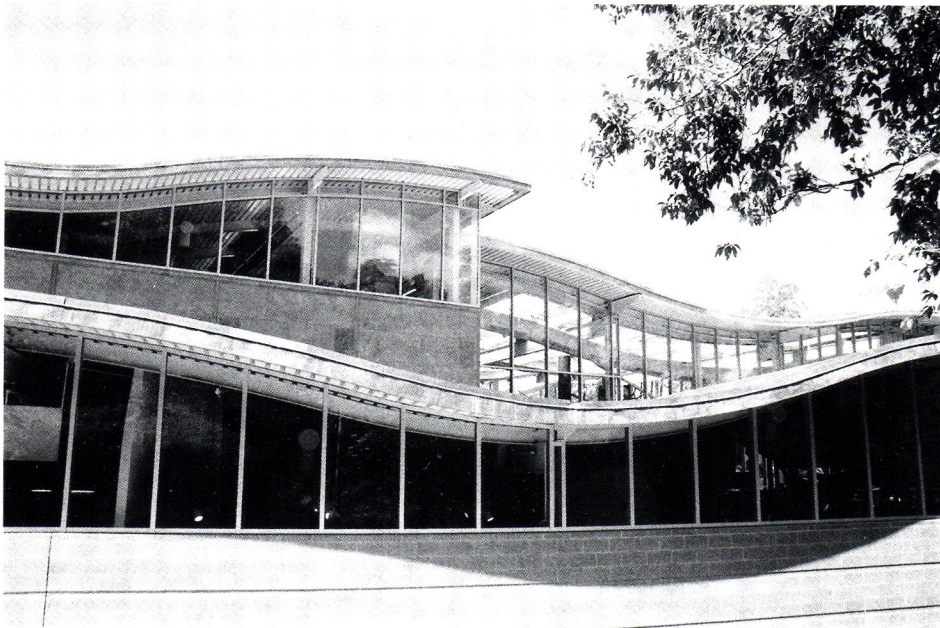


PHOTO BY CAROL BATES/BATES PHOTOGRAPHY

David Hoglund, FAIA, Anne Swager, Hon. AIA and Alan Weiskopf, AIA attended the AIA PA party at Convention this year honoring David and Anne. Alan is the current president of AIA PA, and the banner behind him (right) says it all! A record 19,000 architects and industry professionals attended this year's 2000 National Convention and Exposition. A record 750 exhibitors also attended.

WATER

A portfolio of projects inspired by and incorporating water.



PROJECT: **Aquarium/Pittsburgh Zoo & Aquarium**

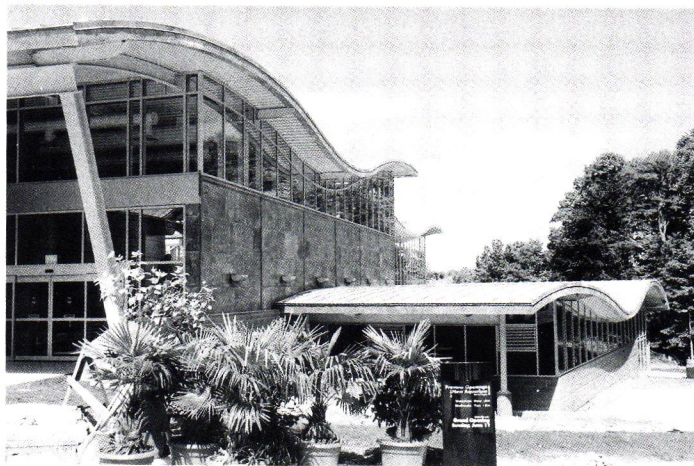
FIRM: **Indovina Associates Architects**

DESIGN TEAM: Robert A. Indovina, AIA, principal in charge, and Brian P. Roth, AIA, project architect

GENERAL CONTRACTOR: Dick Corporation

This 48,000 SF, \$16.9 million building is a significant organizational and architectural addition to the Pittsburgh Zoo. So significant is the project that the Zoo has changed its name to reflect this important part of its mission. The structure's curvature is evocative of water's motion and is enhanced by the use of turncoated copper on the roof and as a facing material — the copper will weather to a sea grey color. The challenge lay in not only designing the building itself but also in integrating habitat areas to support the living collections of the Aquarium. These habitats include the Amazon River Basin, the South American Rain Forest, the Asia and North American freshwater. There is also an exterior Pennsylvania Introduction (trout) Stream modeled on Lynn Run.

The creation of these varied habitats demanded, in the architect's words, "a humongous 400,000+ lb. mechanical system to support them." In one instance a tropical rain forest room (75% humidity; 85°) is adjacent to a "cool" room (40 - 50 % humidity; 72°). Both steam humidification and an atomizing system are incorporated at various locations in the building to achieve the desired effects.



PROJECT: **Aquarium Gift Shop**/Pittsburgh Zoo & Aquarium

FIRM: **LDA**/Commercial Interiors Dept.

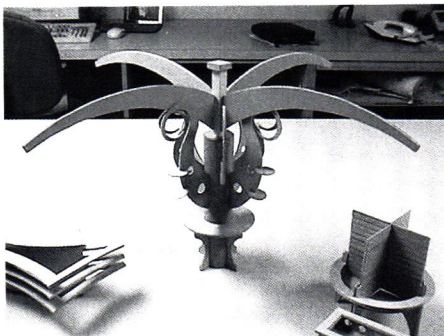
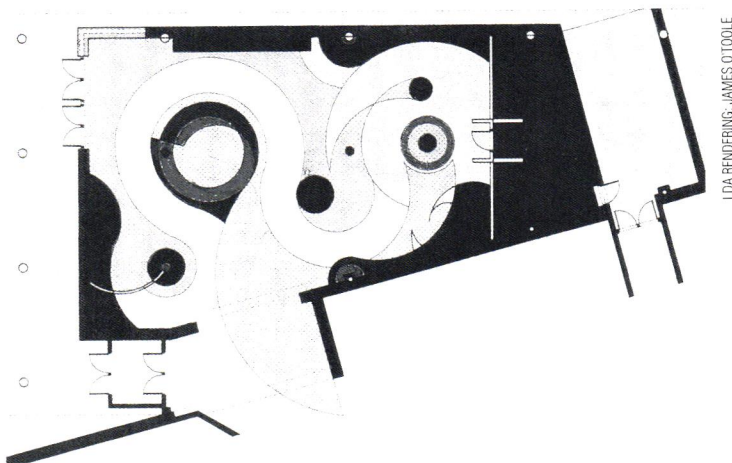
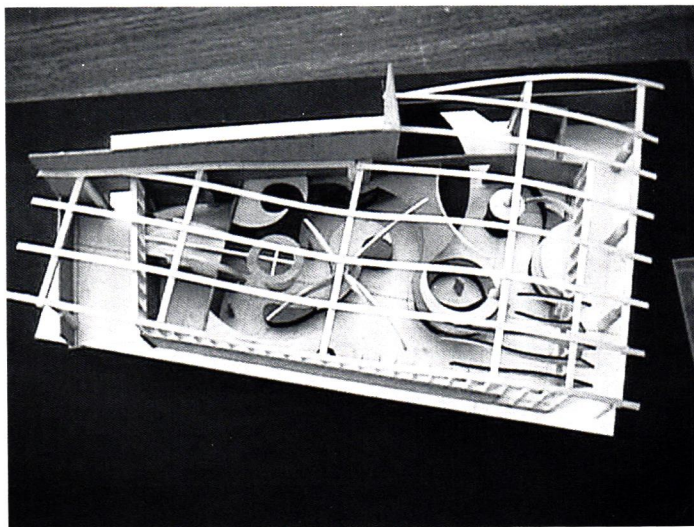
DESIGN TEAM: Sandy Konsugar, principal in charge; Jim O'Toole, architectural design; Jacky Kaiser, interior design; Christine Shelley, CADD design

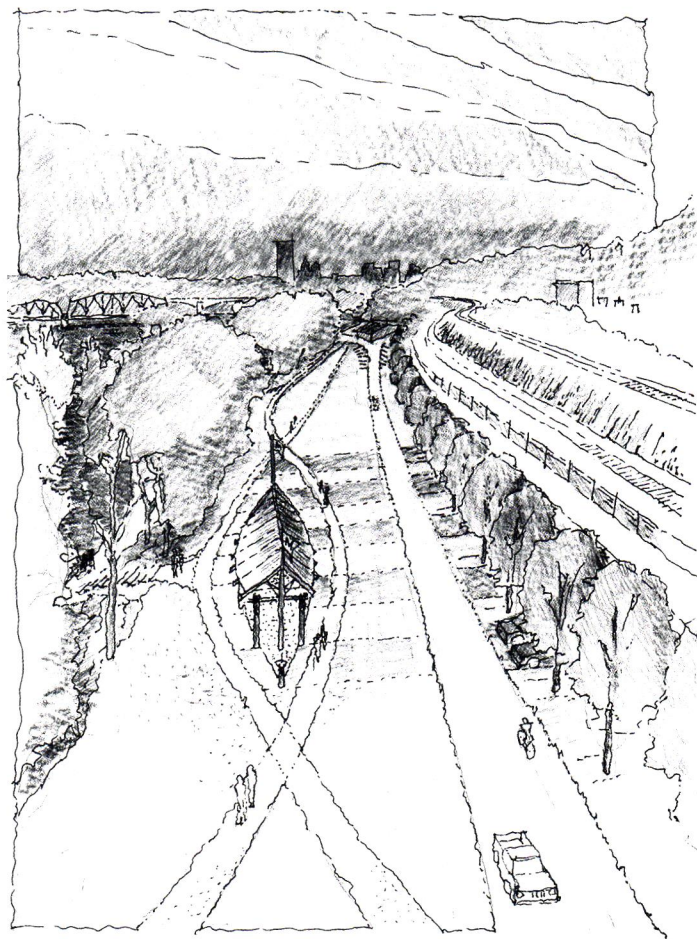
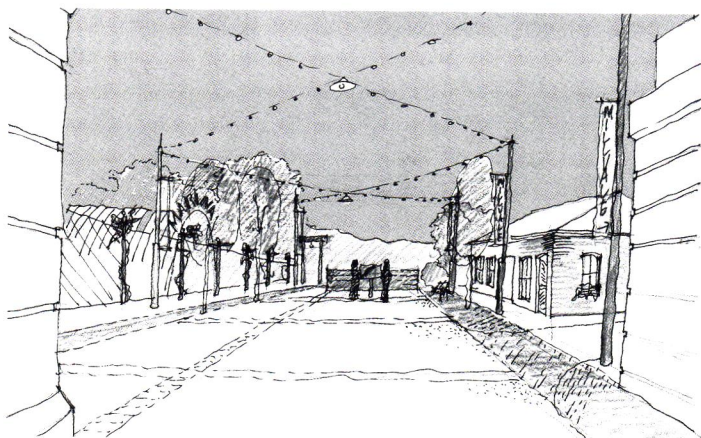
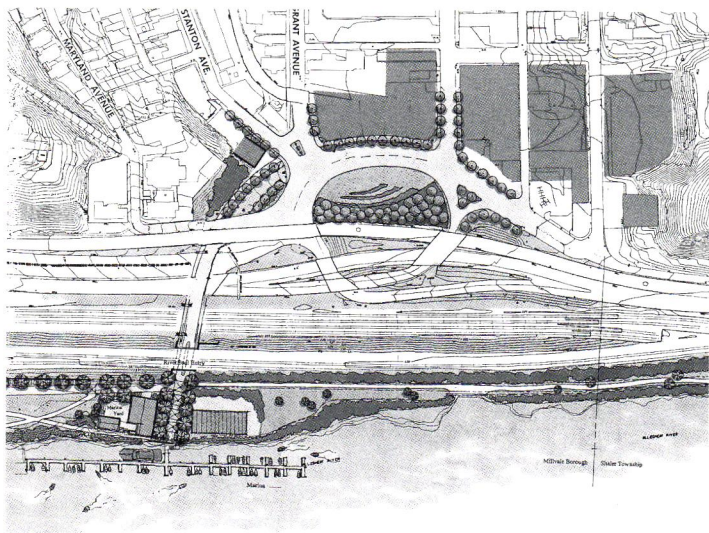
GENERAL CONTRACTOR: Dick Corporation

Because the shop is located in the new Aquarium at the Zoo, the 2,300 SF space takes its cue from its surroundings with an aquatic theme. According to Sandy Konsugar, "The design is very fluid with a lot of curves, a concrete floor pattern and drywall bulkheads that draw you into the space." Given the aquatic theme and the fact that the structure (designed by Indovina Associates Architects) has a curved roof, O'Toole based the design on the flow and movement of water. To emulate this, the floor pattern was curved and colored in water shades. Bulkheads were also curved and contoured in an effort to facilitate the circulation of people through the store.

Display fixtures include an "underwater tree" with octopus-like tentacles, and a submarine table designed for children. Casework, which will display the shop's aquatic line of gift items, is made out of clear finished MDF and brushed aluminum. The slat wall is also clear finished MDF.

The entrance to the shop is marked with five stylized hanging fish sculptures, ranging in size from eight to 17 feet long.

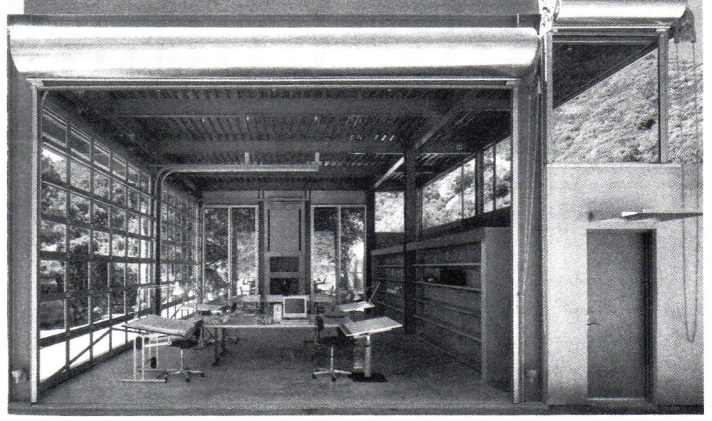
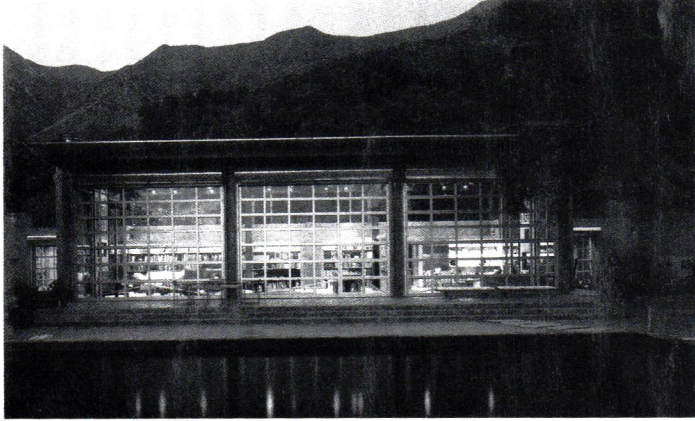




PROJECT: Millvale Master Plan

FIRM: Pfaffmann & Associates

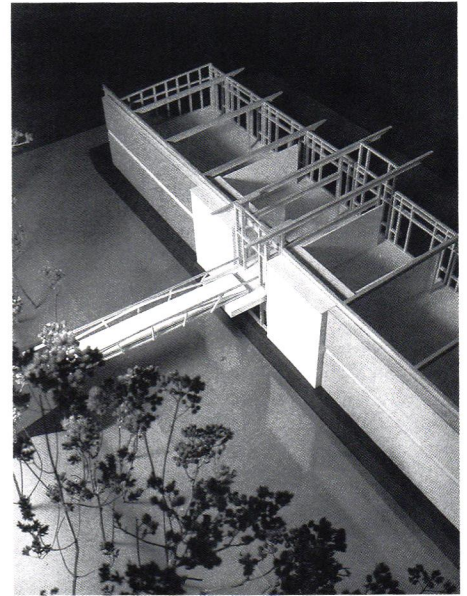
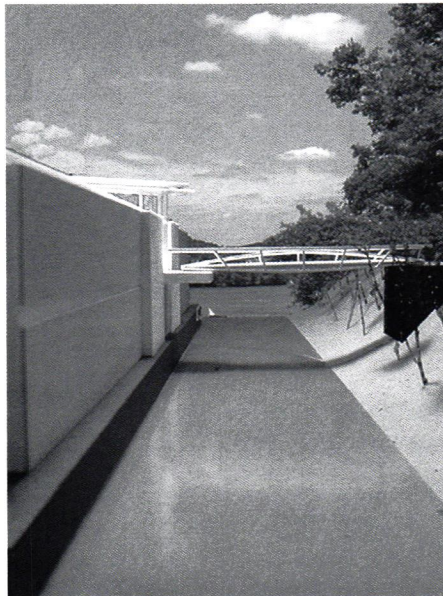
The firm developed a set of recommendations for Millvale that strengthens and enhances the municipality's relationship to the Allegheny River waterfront, development of The Riverfront Park and improvements to the so-called "Millvale Curve" area. The latter is the curved edge of the proposed commercial zone forming the gateway to Millvale. The Plan promotes and encourages new land use patterns in the area and suggests that all new development proposals should attempt to leverage activities on the riverfront, Washington's Landing, and downtown Millvale.



PROJECT: **Riverlofts** (proposed)
FIRM: **Pfaffmann & Associates**

The Riverloft is an adaptation of a traditional working waterfront icon: the steel barge. It is inspired in part by the live/work lofts situated in several downtown "sliver" buildings, plus the vibrancy of houseboat communities in Seattle, WA and Portland, Maine. None of the existing re-adapted barges in this area are architecturally interesting: they are often prefabricated structures that are built at minimal cost with little regard for the beauty of the river as a whole.

The Riverloft design calls for lease space of approximately 4500 SF on each level with a small outdoor garden/deck at the ends of the structure. The landside and the riverside edges of the loft reflect river orientation as well as climatic orientation. The site chosen on the Allegheny River in the Strip has southern solar orientation on the landside, setting up opportunities for the northern lighting qualities of a traditional loft studio so valued by artists and craftsmen.





PROJECT: **Nemacolin Woodlands Resort and Spa**
 ARCHITECT: **Burt Hill Kosar Rittelmann**

Associates

ARCHITECTURAL TEAM: John E. Kosar, AIA, principal in charge; Haydar K. Hassan, AIA, project manager; Charles F. Fox, AIA, project architect; Brian R. Opitz, electrical engineer; Carl O. Shilling, mechanical engineer.

INTERIOR DESIGN FIRM: Clodagh Design International
 CONSULTING ARCHITECT: Robert Pierpont

GENERAL CONTRACTOR: Martik Brothers

SPA CONSULTANT: Spa Technologies

LAND DEVELOPMENT SPECIALIST: McMillen Engineering

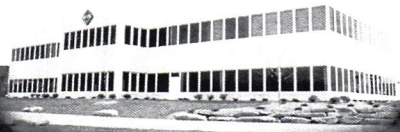
FENG SHUI MASTER: Sarah Rossbach

This addition to the Spa at Nemacolin Woodlands Resort is a tranquil facility built around earth, air, fire and water. The water theme recurs throughout the project which includes 27 therapy rooms, a restaurant, a nail and hair salon called The Saloon, and workout facilities. Visitors enter over a cedar bridge spanning an 80-foot reflecting pool with local boulders and an Irish moss garden, and reach a lobby with a rushing 20-foot fountain in a stone basin. The therapy areas include two hydrotherapy tubs for underwater massage, four wet rooms, and a mineral pool, as well as a knee-high walking pool of river stones with alternating currents of hot and cold water to improve circulation. The restaurant is reached via a corridor that includes a trough of river stones and monitors playing videos of *Fallingwater*; it overlooks the gardens and a variety of water features.



PROJECT: **Golden Glass Cathedral** (proposed)
 FIRM: **Frederick M. Winkler, AIA**

The architect envisions a cathedral of Libbey Owens Ford Glass Co.'s Gold Eclipse reflective glass on the North Shore and linked to downtown by matching glass boats. Proposed as an interdenominational space, it would be similar in scale to the Crystal Cathedral in California, seating 3,000. The axis of the cathedral would be oriented to the fountain at the Point and beyond to St. Mary of the Mount on Mt. Washington. The design emphasizes layers of symbolism, not only through its orientation and siting, but through ties to the water — a strong religious symbol — and the notion of religious meaning on high as well as in the valley.



VEKA Inc., Zelienople, PA
Architect: John D. Goiley, R.A.

(l-r) Richard Kacin,
president, Jeff Ferris,
vice president, and
Bruce Corra, vice
president.



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Electronic Exposures

by John Sieminski, Professional Affiliate

The new e-world brings different kinds of e-problems.

The day began innocuously. As you read an article about the phenomenal growth of business-to-business commerce conducted on the Internet, you give yourself a pat on the back for being in the vanguard. You had pushed your firm to invest in technology, and that investment seems to have paid off. Your staff is wired: They all have Internet access and individual e-mail addresses. Your firm is wired: The firm web site has been up for about a year now, and you have actually received bona fide inquiries from potential clients as a result. The efficiencies that you touted a year ago have been realized: Your staff routinely sends design information to clients and contract documents and specifications to contractors electronically. Your firm utilizes project-specific web sites to share information with owners and contractors. One site even has a "web cam" that allows your project architect to remotely monitor the progress of construction. You thought that capability was so nifty that you even use some of the shots on your own web page to promote your firm's capabilities.

So you sit and ponder this new electronic era and muse about the fact that all of these methods of doing business did not even exist twenty-five years ago. You are again impressed with the efficiency of it all, and the fact that you are on the leading edge. Then the first phone call comes in: a product supplier has delivered five hundred doors to the construction site of a new hotel. The project specifications call for the doors to have an oak veneer, and the doors delivered to the project have a birch veneer. You learn that the supplier has taken the position that, because the general contractor's acceptance of the supplier's proposal was sent by e-mail, a binding contract was never formed, since the proposal was never signed in the traditional sense. The supplier would like to simply take the doors back and abandon the project. This would wreak havoc with the schedule and the proposed completion date.

Next is your receptionist, who calls to indicate that a sheriff's deputy is here to serve a complaint. Upon reading the complaint, you learn that, on the project site with the web cam, a laborer was seriously injured. The complaint theorizes that the injury was caused by a dangerous condition that your firm had the ability to correct. You recall that your contract did not call for site inspection duties on the project and breathe a sigh of relief, but then see that the plaintiff is theorizing that you had constructive knowledge of the condition that injured him because of the virtual presence you had through the web cam images that he says you viewed, or should have viewed. The plaintiff's attorney has obtained copies of the images, and a number of them clearly show the dangerous condition about which the laborer has complained.

Next your assistant indicates that while you were reading the complaint, he was talking on the telephone with the owner's representative on the hotel project. Seems that someone at the contractor has come up with a computer file which suggests that your firm indicated that the door veneer was to be birch. They send you a copy of the file and sure enough, there it is on your screen in the door specifications: "Guest room doors are to be supplied with birch veneer". Your investigation reveals that the architect involved has a distinct memory that oak veneer was specified, but your information technology person tells you that the e-mail which forwarded the file with the door specifications was overwritten a month ago, and no one seems to have saved the original file or hard copy. You suspect that someone at the supplier's office changed the file, but you are now hard-pressed to prove it, and the owner's representative wants to know what to do with the birch-veneer doors that do not match the interior decor.

Reeling from the day's events, you head to lunch for some much-needed relief. On your way out of the door though,

you receive, and decide to take, a call from the state License Board. They have received a complaint from an architectural firm in Ohio. Someone at that firm has viewed your firm web site and taken the position that your web site constitutes solicitation of work in Ohio. They have a big problem with that, since no one on your staff is licensed in Ohio.

Just as you hang up, another call comes in. It is your attorney. She informs you that a member of your staff has been using your company-provided e-mail to send threatening messages to a person in Philadelphia. A subpoena has been issued for that staff member's e-mail, and your attorney wants to talk with you about the procedure for complying. As you are attempting to hang up, she informs you that there is another issue: Your webmaster had apparently posted material on your web site that was protected by federal copyright. The owner of the copyright wants to know how soon you can get the material off your web site and what arrangements you would like to make for payment of statutory damages.

Then, another call that you must take comes in. It is the project architect for the project with the web cam. A fire

destroyed the server which hosted the project web site. There is a backup, but it will be two days before the data can be restored and there will be at least a day's worth of data loss. The owner's representative has put you on notice that he will look to you to pay any economic damage occasioned by the data loss, since his counsel reviewed the hosting entity's disclaimer and it purports to be responsible for just about nothing.

Projections vary, but all observers appear to be in general agreement that the dollar value of business-to-business transactions conducted over the Internet will grow exponentially in the next few years. Architects are certainly not being left behind, as a recent survey by the AIA found that half of the largest firms surveyed create project-specific web sites to facilitate the design and on-site construction process. Almost half of small firms use e-mail to transmit architectural drawings, and a majority of firms have separate e-mail addresses for their staff. It is a fact of life: More business is being conducted in electronic fashion, often involving the use of technology that did not even exist twenty-five years ago. As the hypothetical scenarios outlined above are intended to indicate, however, the new tech-

A Brave E-World: What Others Are Saying

According to the American Institute of Architects, "Findings from a new survey of U.S. architecture firms confirms that 90 percent of firms with ten or more employees are fully connected to the Internet. The survey, conducted by the AIA, found that firms use information technology as a strategic tool to conduct business. For example, the survey reported that half of the largest firms create project-specific web sites to facilitate the design and on-site construction process; almost half of small firms use e-mail to transmit architectural drawings; and 65 percent of large firms have separate e-mail addresses for their staff."

Kent Allen, senior e-commerce analyst with the Aberdeen Group estimates that "Internet-based technologies can shave up to 30% off of the costs associated with any given project."

Zweig White & Associates, Inc. reports in the *2000 Information Technology Survey of A/E/P & Environmental Consulting Firms* that "only 46% of design firms have ever used a project web site in the past. Even firms that have used a project web site report they used them on an average of just two projects last year. But when firms were asked how many projects they plan to use a web site on in 2000, the median response was nine."

Grant Scott, AIA of KSBA Architects reports using Bricsnet.com to manage a project in India. "This technology initially wasn't in our vocabulary, so we weren't geared to go check it regularly and didn't fully understand how to use it. Like any technology, you have to use it to become adept, so that's a challenge." As for liability issues, Scott observes that "this isn't a new concept. Any time you introduce new technology, you do the best you can and hope that you don't encounter problems so dire that you can't recover from them."

nology comes with new liability risks: There may be some liability potholes for the unwary along the information superhighway. This article discusses some potential risks and ways that the risk might be effectively managed or minimized.

First, what about all this information in digital form being transmitted over the Internet? Can a writing that is never committed to the traditional paper format and not signed with ink constitute a legally enforceable contract? What about our door supplier who would like to back out of his proposal because it was accepted by virtue of electronic mail? In late 1999, Governor Ridge signed a modified version of the Uniform Electronic Transactions Act. The heart of Pennsylvania's Electronic Transactions Act, or "UETA", is Section 303, which generally provides for the legal recognition of electronic records, electronic signatures and electronic contracts. The UETA establishes that a record or

signature may not be denied legal effect or enforceability solely because it is in electronic form. A contract may not be denied legal effect or enforceability solely because an electronic record was used in its formation. If a law requires a record to be in writing, the UETA establishes that an electronic record satisfies that law, and if a law requires a signature, an electronic signature satisfies the law.

The UETA does not require the use of technology beyond that which exists on

most desktops today: An "electronic record" is defined as a "record created, generated, sent, communicated, received or stored by electronic means." An "electronic signature" is any "electronic sound, symbol or process attached to or logically associated with a record and executed or adopted by a person with the intent to sign the record." The UETA

requires the consent of the parties to conduct business electronically, and there are certain exceptions for consumer transactions. The issue of consent may also be resolved by an examination of the conduct of the parties. Therefore, the door supplier in our hypothetical may not be in very good shape with its position that a contract was not formed by virtue of the general contractor's e-mailed acceptance of its proposal, since the supplier obviously relied upon that acceptance by moving ahead with the fabrication and delivery of the doors.

What about the project with the web cam? Web-based project management is certainly being touted as an efficient collaborative method for the sharing of project information. It has even been suggested that use of a web-based project management system can save up to 30 percent on the project cost. But on the other side of the cost-effectiveness coin are a number of liability issues that the new technology often harbors. The things that an architect observes when he or she visits the site of a construction project have been fertile ground for litigation for years. Owners often suggest that defective work should have been noticed and rejected, and injured laborers often suggest that dangerous conditions should have been observed and corrected.

Marketing literature for project web cams, cameras which can be focused on various aspects of a project on a twenty-four hour real-time basis, suggest that a web cam can provide an architect with a "virtual presence" at a construction site, with pictures taken at intervals as often as one minute. Although there may be wonderful benefits that accrue from having this type of project presence, the potential liability issues represent a fascinating intellectual game of "What if?" If your web cam is taking pictures at the rate of one per minute, do you have a duty as a project architect to review each of those photographs? Will you be charged with knowing the information you would have gleaned from a review even if you did not have the time to actually review all those photographs?

This can even be taken to a second level: If there is a failure on the project which could have been discovered by a

What Are Architects Doing On-Line?

- Purchasing
- Proposals and bidding
- Managing projects through on-line communication and collaboration through secure servers (e.g. document management; viewing and annotating drawings; collaborating and communicating with team members; scheduling and tracking; site views using webcams)
- Linking electronically to repographic services
- Researching (e.g. product specs)

review of web cam photographs, will an architect's selection of the web cam positioning be criticized? Standard AIA contract language has for years indicated that an architect will visit the site at appropriate intervals in order to become generally familiar with the progress and quality of the work. There has traditionally been no requirement for exhaustive or continuous on-site inspections, unless that service was bargained for as an additional service. It would be prudent, in light of these traditional responsibilities, to have a specific contractual understanding as to whether a web cam presence is intended to alter the traditional role of an architect relative to responsibilities attendant to a site visit.

As project information and management migrates to a web-based environment, questions about lines of responsibility also arise with regard to liability if any aspect of that environment fails. It may be a wonderfully efficient means of doing business to maintain a wealth of project information located on a central server, but traditional agreements probably are not intended to deal with the consequences of a failure or interruption of the web-based platform. One might expect that a provider of such services would assume the liability if its platform suffers a total loss or significant interruption in terms of access to the centrally-located project data. Terms of use and disclaimers should be reviewed and understood, however, because these companies often provide their services subject to a user's consent to robust exculpatory language in favor of the provider.

In addition to project-specific risks, as the introductory hypothetical scenarios are intended to indicate, there are a number of non-professional risks associated with the fact that more business is being conducted electronically. One of the major issues associated with the creation, modification and transmission of data in digital form is the fact that a source of a change in a document often cannot be identified by examination of the data itself. For those programs which automatically track when a file is created, opened, and modified, there is always the risk that a technically-savvy user with malicious intent can circumvent the tracking function.

Where to Find On-line Services

A number of vendors such as Bricnet.com, Buzzsaw.com and Bidcom.com have been offering services since the late '90's and attracting large amounts of venture capital. In addition, individual firms such as R. E. Crawford are setting up job sites, as are project managers such as Pitt-Center Partners, construction managers for the University of Pittsburgh Convocation Center.

In the long run, the most interesting offering may well turn out to be AECdirect, a joint venture of industry partners including the AIA, Bentley Systems, CMD Group, and McGraw-Hill. The site was introduced at the A/E/C Systems Conference in June. AECdirect's chief operating officer Brian Meincke states that, "We're unique in a couple of aspects. Our focus is on education and guidance in addition to technical solutions. The company is also all capitalized from within the construction industry, so it's clear we have the interests of the industry in mind." Meincke also notes that AECdirect.com is the exclusive website for purchase of AIA documents on a per use basis (AIA will continue to license document use).

In addition, it may often be unclear as to which entity bears the risk of loss if the data is unintentionally modified or damaged in the process of transmission from one site to another. With an ever-increasing amount of design and project data being transferred electronically, it is important to have detailed backup and tracking procedures. In the example involving transmission of the door schedule, our hypothetical firm would be in a much better evidentiary position if it had maintained a log of how and when the data was sent, along with an exact copy of the file that was transmitted to the supplier. It is important to understand, from a technical perspective, whether data that one presumes is automatically backed up is automatically overwritten or permanently archived.

Although architectural firms are not conducting electronic commerce on the Web in quite the same fashion as providers of commodity goods, there are still a number of considerations to keep in mind with regard to firm Web sites. Since the practice of architecture is a regulated profession, there may be unauthorized practice issues stemming from the fact that your Web site and its promotional

material can be accessed in jurisdictions in which your firm may not be authorized to practice. It is also advisable, especially if your Web site is not created in-house, to not allow the language contained in the site to imply that your firm possesses expertise or can provide a result that you in fact do not possess or are incapable of providing. These risks can generally be managed with the use of appropriate disclaimers and careful attention to the content of your site.

Although not attempting to be a comprehensive overview of Internet-related liability issues, it is hoped that this article will stimulate the reader's imagination as to potential issues. The novelty of many of the technologies discussed, and the pace of change, make it impossible to predict with certainty the resolution of many of the electronic liability issues that exist today and those that may arise tomorrow. However, much of the risk can be managed by:

1. Recognition of the risk.
2. Avoidance of the risk by refusal to engage in activities where the risk is unmanageable or uninsurable.
3. Management of the risk legally by use of appropriate protective contract language, disclaimers for your outside transactions and Internet use policies internally.
4. Management of the risk technically by use of appropriate documentation, use, and backup policies.
5. The purchase of insurance for insurable risks.

John Sieminski, Esq. (jsieminski@waymanlaw.com) is a partner of the Pittsburgh law firm Wayman, Irvin & McAuley, LLC. He represents design professionals in dispute resolution and transactional settings. He also advises clients on issues related to electronic commerce and the Internet.

(Editor's note: At the time of publication, a federal Digital Signatures Act had been passed by Congress and was expected to be signed by President Clinton. The Act provides for nationwide recognition of digital signatures and allows for electronic storage of records of certain transactions and contracts.)

Resources

Mark Thomas, Vice President of Frontier Systems, Inc., recommended the following resources at a recent presentation to the Society of Design Administrators:

BOOKS

- *e-Business Roadmap for Success*, Kalakota/Robinson
- *Customers.com: How to Create a Profitable Business Strategy for the Internet and Beyond*, Seybold.
- *Digital Darwinism: 7 Breakthrough Business Strategies for Surviving in the Cutthroat Web Economy*, Schwartz.
- *Understanding Electronic Commerce*, Kosiur.
- *Net Gain: Expanding Markets through Virtual Communities*, Hagel/Armstrong.
- *Cyber Rules: Strategies for Excelling at E-Business*, Seibel.

LINKS

- www.enigma.com
- www.emarketer.com
- www.ecommercetimes.com
- www.businessweek.com/ebiz
- www.hp.com/ebusiness
- www.cnet.com
- www.linkexchange.com
- www.mercurycenter.com/svtech
- www.thestandard.net

ON-LINE TUTORIALS/PRIMERS

- www2.famvid.com/i101/internet101
- www.albany.edu/library/internet
- www.microsoft.com/insider/internet/default
- www.ibusinesspromotions.com/IBP/e-commerce-Tutorials
- www.learnthenet.com
- www.support.geis.com/edi/edipindx

*HISTORIC LANDMARKS AWARDED continued
from Page 5.*

ery (Stock House, Joseph Stillburg); Episcopal Church of the Nativity, Crafton; Greenstone United Methodist Church; Gwinner/Harter (Frederick John Osterling); Heathside Cottage; Hyeholde (William Kryskill); John F. Singer House (Joseph W. Kerr); Miller House (Frederick G. Scheibler, Jr.); Old Sewickley Post Office (James Knox Taylor); Panther Hollow Bridge (Henry B. Rust, engineer); Pittsburgh Engineers Building (D.H. Burnham & Co.); Roslyn Place; St. Agnes' Roman Catholic Church (John T. Comes); St. Anselm's Roman Catholic Church (Albert F. Link); St. Basil's Roman Catholic Church (Herman J. Lang); St. Mary's Ukrainian Orthodox Church (Carlton Strong); and U.S. Bureau of Mines (Palmer & Hornbostel).

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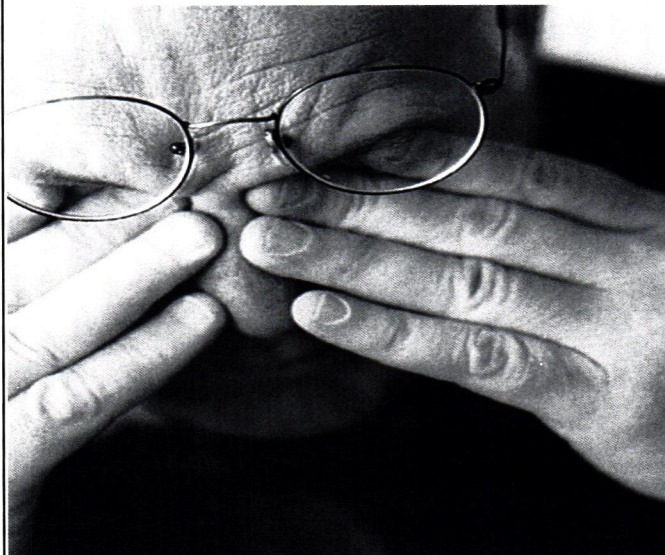
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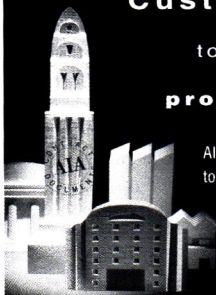
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From the Firms

► **Celli-Flynn and Associates** has been commissioned by the University of Charleston for the design/build construction of a 55,000 SF residence hall. The firm is also designing a three million-volume library archive for the University of Pittsburgh, and is engaged in two major historic renovation projects: Thompson/Clark Hall at Westminster College and the Administration Building at Seton Hill College.

Ross Schonder Sterzinger Cupcheck P.C. was selected to design a \$3.5 million resident treatment facility for Glade Run Lutheran Services in Zelenople. The firm is also designing the expansion of the Three Rivers Rowing Association complex in Millvale.

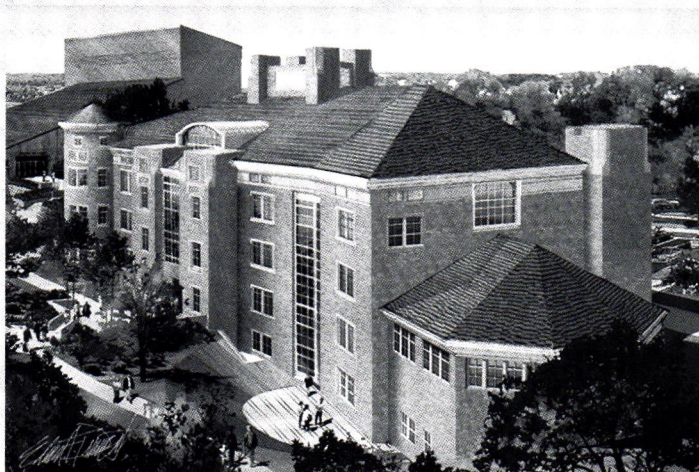
JDBA Architects are designing and Repal Construction Co. is the general contractor for a 10,792 SF hemo dialysis facility owned by Dialysis Clinic, Inc.

Fanning/Howey Associates, Inc. is designing an independent and assisted living facility in Bethel Park for the Congregation of the Holy Ghost and of the Immaculate Heart of Mary. Landau Building Co. was awarded the construction contract.

LLI Technology Design Group is the architect for the 55,000 SF Asten Johnson facility expansion in Warrendale. Landau Building Co. was awarded the construction contract.

Lorenzi Dodds and Gunnill, Inc. are designing a 10,000 FS office warehouse facility for Ditch Witch International in Cranberry Township. Landau Building Co. was awarded the construction contract.

Perkins Eastman Architects PC are designing two phases of construction for Washington Presbyterian SeniorCare. Landau Building Co. was awarded the construction contract.



MacIachlan, Cornelius and Filoni designed the 64,000SF Howard J. Burnett Center classroom building at Washington & Jefferson College. Landau Building Co. was awarded the construction contract.

Alan B. Mitchell and Associates designed the just opened Countryside Convalescent Home located in Wexford. Landau Building Co. was awarded the construction contract.



RSH Architects designed the just opened DSM Machinery facility in Thorn Hill Industrial Park. Landau Building Co. was awarded the construction contract.

Business Briefs

► **Celli-Flynn and Associates** hired **John Valley, Jr., AIA** as a project manager, Larry Gessner as a project architect and Gilbert Ho as a junior architect. Roslyn Bundy and Karen Olear were hired as drafting technicians and Robert Wanker as a senior draftsman. Michelle Campbell is the new receptionist.

Edward P. Elinski has been named director of construction management services for **Baker and Associates**.

LDA – L.D. Astorino Companies announced the promotion of Mary Kay Barrett, Barry Momyer and Earl Wong to principal. Kalna L. Miller joined the firm as project designer in the Residential Interiors Department; Jerome Marinzell, Jr. and Sean E. Sheffler joined as intern architects.

Renaissance 3 Architects, PC announced that Gregory N. Newman joined the firm as interior designer while Kelly S. Docter and Michael S. Nowak joined a project architects and Michael A. Fontaine as intern architect.

Gregory R. Asbee is an intern architect in the **Astorino Pellis Architects** Greensburg office.

Professional affiliate Louis A. Guzzi, president of Dynamic Design Engineering, Inc., was one of 14 international speakers featured at the Ninth Annual Global Engineering Conference in Beverly Hills.

Brian C. Mathie joined TEDCO as an estimator.

Michael J. Koenig and Scott T. Eckstein joined Dodson Engineering, Inc. as CADD operators.

Robert Vukich, ASLA joined Marshall•Tyler•Rausch as an associate.

Kudos

→ Congratulations to **Perkins Eastman Architects PC** whose South Side Housing (Fox Way Commons and New Birmingham) took home the 2000 Grand Award in *residential architecture's* multi-family housing category. The New Birmingham piece of this project also won the Builder's Choice 1999 Grand Award in the attached/townhouse community category sponsored by *Builder* magazine.

Douglas R. Hoffman, AIA was a juror for the 2000 Religious Art 7 Architecture Awards. He is managing editor of *Faith & Form* and wrote an article in a recent edition entitled *The 2000 Religious Art and Architecture Awards*. **Celli-Flynn and Associates** was honored for their work on the restoration of St. Joseph's Cathedral in Wheeling, WV (contractor: Dick Enterprises, Inc.). **William E. Brocious, AIA** was also honored for his design of the tower roof and cross for the First Lutheran Church in Pittsburgh (contractor: NIKO Contracting Co.).

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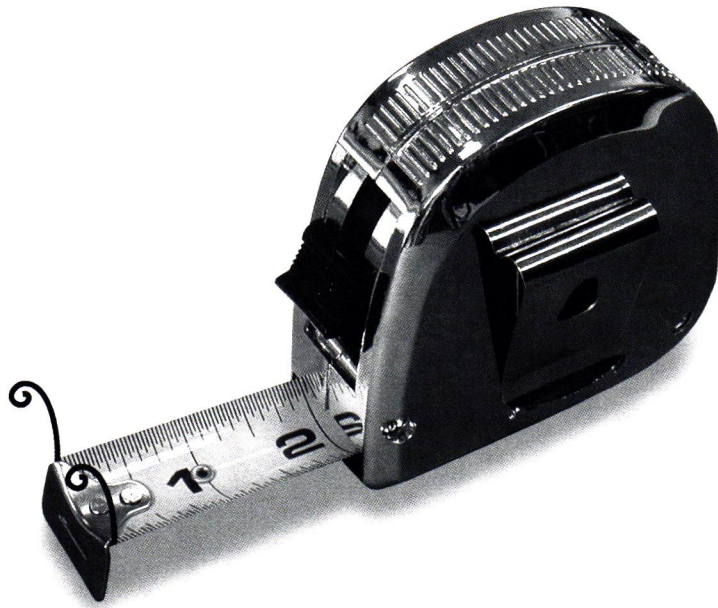
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AIA Pittsburgh is using e-mail to keep our members informed of the chapter's activities. If you would like to be included and are a member, please send your address to aiaapph@sgi.net.

Design Awards 2000

SCHEDULE OF EVENTS

JUNE 1

Submission kits available

SEPTEMBER 4

Binders due by 5:00 p.m.

OCTOBER 9

Boards due by 5:00 p.m.

OCTOBER 16 THROUGH OCTOBER 26

Entries will be displayed at Carnegie Museum of Art Hall of Architecture.

OCTOBER 19

Opening Night Gala at the Carnegie Museum of Art

OCTOBER 23

Jury critique and presentation of awards at Carnegie Museum of Art

AIA ACTIVITIES

July 11, Tuesday

Professional Development Committee Meeting noon at the Chapter office, 471-9548.

July 14 & August 11, Friday

Committee on the Environment, noon at the Chapter office, Gary Moshier, AIA, 252-1500.

July 18, Tuesday

AIA Pittsburgh Board Meeting 5 p.m. at the Chapter office. All members are welcome, 471-9548.

July 20, Thursday

Legislative Committee Meeting, noon at the Chapter office, Chuck Coltharp, AIA, 252-1500.

July 26, Wednesday

AIA Pittsburgh's Foundation for Architecture Meeting, 5 p.m. at the Chapter office, David Vater, AIA, 431-4245.

August 4, Friday

Communications Committee Meeting, noon at the Chapter office, 471-9548.

AROUND TOWN

Through July 31

YOUNG ARCHITECTURE 2000. An exhibit of design work of young architects and interns outside of the normal restrictions of work assignments. AIA Gallery. Free

July 12, Wednesday

Society of Design Administrators. Monthly meeting at the Engineer's Club. Roundtable Discussion. 11:30 am – 1:30 pm. Lunch \$17 members \$19.50 non-members. Reservations call Cheryl Marlatt at 412-281-1337

July 13, Thursday

Pennsylvania's Sustainability Agenda: the 21st Century Environment Commission and Beyond. Caren Glotfelty, formally the Goddard Chair in Forestry & Environmental Resource Conservation at Penn State, now Program Officer with Environmental Programs, Heinz Endowment. The Forum begins at 4:30 p.m. at the Bayer Learning Center, Duquesne University and is followed by a reception. No fee to attend.

2 C O A L O E N D A R

AROUND TOWN

August 9, Wednesday

Society of Design Administrators. John Martine, AIA will lead a walking tour of the Cultural District. Meet at Heinz Hall Plaza for a box lunch. 11:30 a.m. – 1:30 p.m. Lunch \$17 members, \$19.50 non-members. Reservations call Cheryl Marlatt at 412-281-1337

Through August 26, Saturdays

South Side Strolls. Stroll East Carson Street on the South Side. Meet at 12th & East Carson Street in front of the Birmingham mural. 10:30 a.m. – 11:45 a.m. Free.

September 19, Tuesday

Building Showcase 2000. This tradeshow is being produced by the Construction Specifications Institute (CSI) Building Owners and Managers Association (BOMA) and the American Society of Interior Designers (ASID). The showcase will provide a medium to introduce new products, explain the benefits of exhausting products and provide networking with a broad spectrum of professionals. The deadline for exhibitor applications is July 10. For packets and information call 412-363-3112.

Through Sept. 27, Wednesdays

History & Landmarks Downtown Walking Tours. June & September, Penn-Liberty Walk, Meet at Katz Plaza. July, Wood Street Walk, Meet at PNC Plaza. August, Grant Street Walk, Meet at USX Plaza 12 noon – 12:50 p.m. Members Free. \$3.00 non-members

Through Sept. 28, Thursdays

Fifth/Forbes Walking Tours. Come see for yourself and hear about the development plans for the Fifth/Forbes area, downtown. Meet at the clock in Market Square. 12 noon - 12:50 p.m. Free.

For advertising information and rates,
contact the AIA office at 412-471-9548.

CONTRACTORS' DIRECTORY

A LISTING OF AREA CONTRACTORS AND THEIR PROFESSIONAL SERVICES. To include your firm in this directory, call AIA Pittsburgh at 412-471-9548.

■ BAKER MELLON STUART CONSTRUCTION, INC.*

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*Commercial / Construction management
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Institutional*

■ BRIDGES

1300 Brighton Road, Pittsburgh, PA 15233
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■ BURCHICK CONSTRUCTION CO., INC.*

500 Lowries Run Road, Pittsburgh, PA 15237
PHONE: 369-9700 FAX: 369-9991
CONTACT: Joseph E. Burchick
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General / Industrial / Interior / Renovations*

■ BURNS & SCALO ROOFING CO., INC.

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■ R.E. CRAWFORD CONSTRUCTION

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CONTACT: Samuel E. DiCicco
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General / Industrial / Interior Renovations*

■ DICK CORPORATION*

P.O. Box 10896, Pittsburgh, PA 15236
PHONE: 412-384-1320 FAX: 412-384-1215
CONTACT: John R. Bonassi
*Commercial / Construction management
Exterior / General / Highway / Industrial
Interior / Renovations / Design Build*

■ P.J. DICK INCORPORATED*

P.O. Box 98100, Pittsburgh, PA 15227-0500
PHONE: 462-9300 FAX: 462-2588
CONTACT: Charles S. Pryor
*Commercial / Construction management
Exterior / General / Industrial / Interior
Renovations / Institutional*

■ FLYNN CONSTRUCTION, INC.

610 Ross Avenue, Wilksburg, PA 15221
PHONE: 243-2483 FAX: 243-7925
CONTACT: Dawn Pratillo
*Commercial / Construction Management
Exterior / General / Interior / Renovations*

■ GENERAL INDUSTRIES

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PHONE: (724) 483-1600 FAX: (724) 483-0990
CONTACT: Donald Ivill
*Commercial / Exterior / General / Industrial
Interior / Renovations*

■ HARCHUCK CONSTRUCTION CO., INC.

705 Route 66, Building II, Suite 222,
Apollo PA 15613
PHONE: (724) 727-3700 FAX: (724) 727-2800
CONTACT: David A. Harchuck
*Commercial / Construction management
Exterior / General / Industrial / Interior
Renovations*

■ JENDOCO CONSTRUCTION CORPORATION*

2000 Lincoln Road, Pittsburgh, PA 15235
PHONE: 412-361-4500 FAX: 412-361-4790
CONTACT: John W. Zang III
*Commercial / Construction management
Exterior / General / Industrial / Interior
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■ A. RICHARD KACIN, INC.

795-22 Pine Valley Drive, Pittsburgh, PA 15239
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Township, PA 16066
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CONTACT: Bob Leone
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PHONE: (412) 351-1234 FAX: (412) 351-1278
CONTACT: Anthony W. Mele
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Alexandre-Gustave Eiffel

as discerned by Robert A. Bailey, AIA



PHOTO BY JODI NAVTA

Full Name: Alexandre-Gustave Eiffel.

Nickname: "Magician of Iron".

Position: Structural engineer and constructor.

Years in Practice: 33, beginning in 1856 as a new graduate until 1889, the year *La Tour* was completed. As my own firm 1866-89.

Education: Ecole Centrale des Arts et Manufactures. Chemical Engineering.

First Job/Early Career: With Nepveu & Compagnie, a one-year engagement in a relatively obscure position. Then, in 1857, I became an engineer for the French western railway company, then chief of the construction office at Pauvels & Compagnie.

Project you're most proud of: *La Tour*, of course. The design was unanimously chosen from among 700 proposals received in the competition. As you may know, its shape is a direct result of mathematical calculation. You see, at any height on *la tour*, the moment of the weight of the higher part of *la tour*, up to the top, is equal to the moment of the strongest wind on this same part. Therefore, the function $x\mathcal{E}f(x)$, which gives the width of *la tour* as a function of the distance from the top, is a solution of the following equation:

$$a \cdot f(x) \cdot \int_0^x f(t)^2 \cdot dt = x \cdot \int_0^x f(t) \cdot dt - \int_0^x f(t) \cdot t \cdot dt$$

Honors: Awarded the French *Legion d'Honneur* for my work on *La Tour*.

I want to be remembered for: I will always be remembered for *La Tour*, but I hope that you will also remember that 8 years prior to that I designed the supporting structure for *La Statue de Liberté*.

Structures you admire: My first love was designing and constructing railroad bridges such as the Garabit viaduct over the Truyère River in southern France. I will tell you that for many years this was the highest bridge in the world, 120 m (400 feet) over the water.

What's the most annoying thing other engineers do?: Needlessly mismanage projects. On the Panama Canal project, Ferdinand De Lesseps and his son so badly managed this immense undertaking that it became the biggest financial scandal of the century! On *La Tour*, however, I had organized my workers' schedules precisely. Furthermore, my extremely careful design and construction of *la tour* needed no corrections. In fact, *Scientific American* on June 15, 1889, said that *la tour* was, "without error, without accident, and without delay."

Most embarrassing circumstance: My indictment for fraud and misuse of funds in the 1889 failure of De Lesseps' *Compagnie du Canal* that was to build the Panama Canal. I was in fact blameless and my conviction was annulled by the highest court of appeals.

Notable Quotation: From my interview in *Le Temps*, February 14, 1887, "Are we to believe that because one is an engineer, one is not preoccupied by beauty in one's construction, or that one does not seek to create elegance as well as solidity and durability?"

Notable book: At age 80, I authored *The Resistance of the Air* (1913).

Best gift to give a structural engineer: Honor and acclaim for a structure built to last only 20 years (but showing no signs of going anywhere after more than 100 years) so that it becomes a symbol of one's country.

People would be surprised to know #1: Although I designed, engineered, and constructed *La Tour*, the architect of record is Stephen Sauvestre.

People would be surprised to know #2: My company made "portable" bridges which were sold around the world in "kits".

Postscript: In the aftermath of the Panama Canal scandal, Eiffel withdrew from his formidable engineering practice and devoted the remaining 30 years of his life to scientific experimental research in meteorology, radiotelegraphy, and aerodynamics. Near Paris he built the first aerodynamic laboratory, and on Rue Boileau he built a wind tunnel that is still in service. Eiffel died in 1923 at the age of 91 in his mansion on Rue Rabelais in Paris. In 1999, *Engineering News Record* named Eiffel one of its top 125 people.



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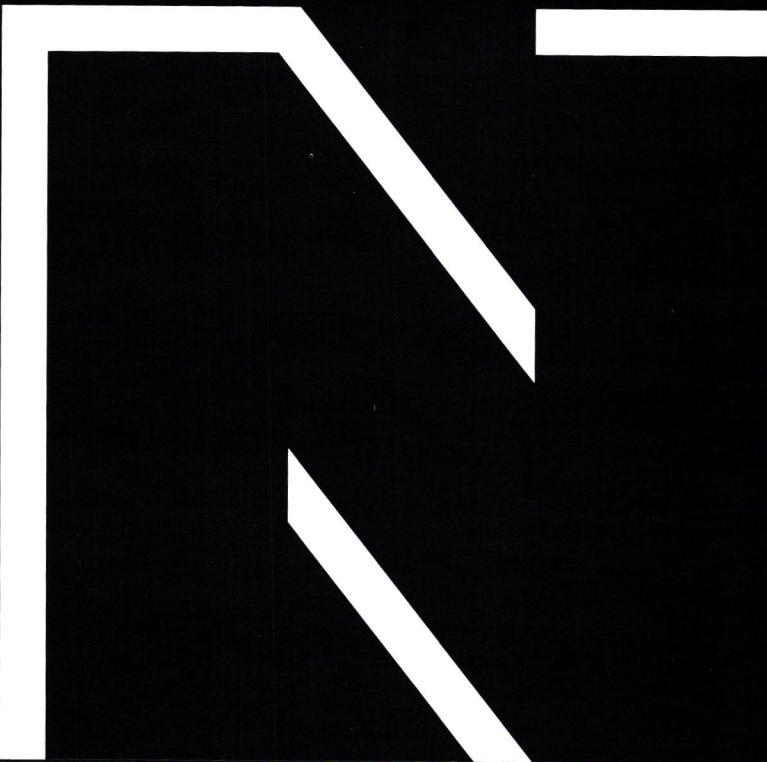
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UPCOMING ISSUES

Throughout the year 2000, *Columns* is exploring innovative uses of various materials. All members are encouraged to submit designs in the categories below. Watch for important information about Design Pittsburgh throughout the summer and fall!

September 2000

- Other materials not covered such as earth sheltered or straw bale buildings, use of composite materials, etc. (Deadline for submission is July 15)

October 2000

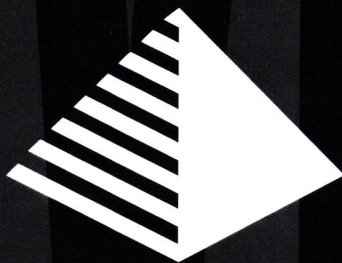
- Aluminum (Deadline for submission is August 15)

November 2000

- Finishing Systems (Deadline for submission is September 15)

To contribute to an issue or to submit a story idea, please contact the editor at 412/362-1844 or by email: CRTowers@stargate.net

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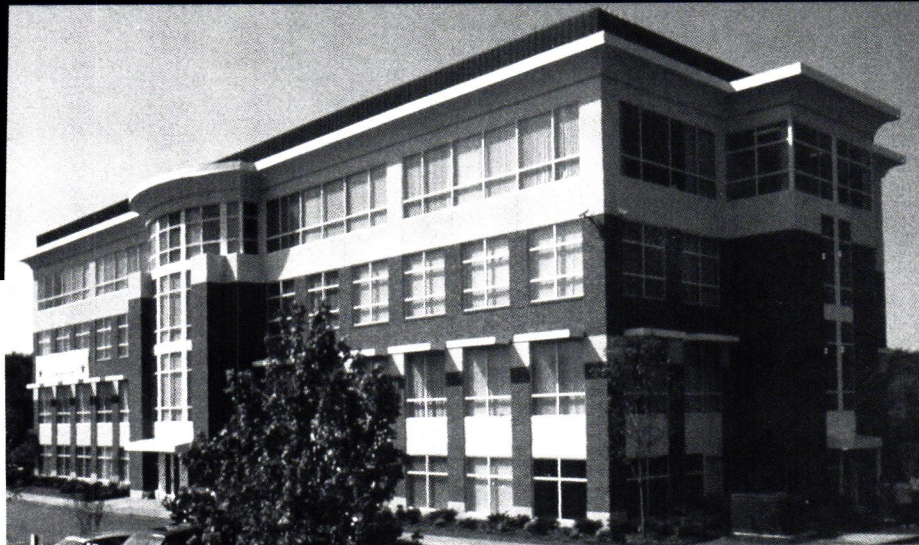
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