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Texas Architect

JANUARY/FEBRUARY 2004

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p. 22

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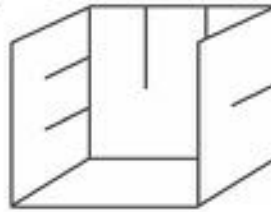


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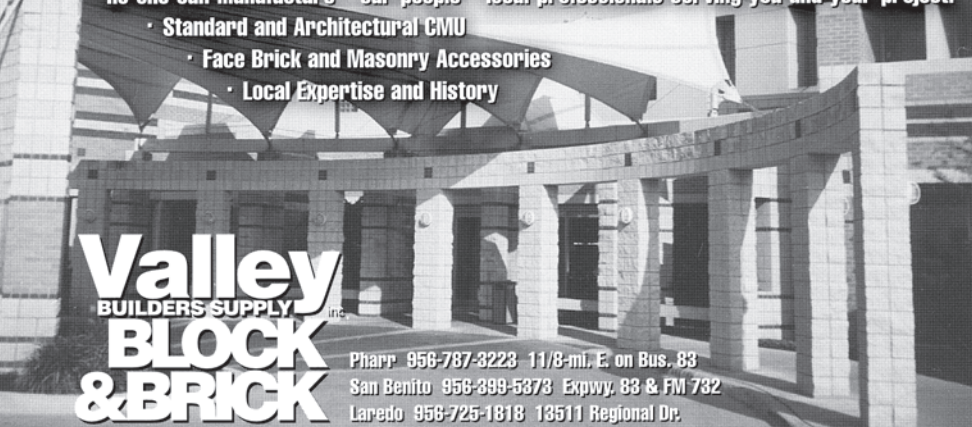
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School Work Tests Professionals' Mettle

Design architects and program managers share responsibility, but who's accountable?

WITH well over \$3 billion currently in the pipeline for design and construction of public schools in Texas, many architects around the state are counting their blessings. The profession is experiencing a welcome upswing with jobs opening for design architects and program administrators. Their duties may differ, but all share the same goal of delivering to the client well-designed, energy-efficient schools built within budget.



Reilly Annex Elementary, designed by Brown Reynolds Watford Architects of Dallas, is among the first of DISD's construction projects.

Topping the list of bond programs is Dallas' \$1.37 billion school improvements package approved by voters in 2002. To oversee the 65 architectural firms selected for all the projects, DISD hired three primary program administrators (the job title is interchangeable with program manager).

Also in 2002, voters gave Houston ISD the greenlight to spend \$808.6 million on improvements. That bond package actually was the second phase of a three-phase enterprise. Combined with the \$678 million endorsed by voters in 1998, HISD has earmarked a total of \$1.48 billion and is only two-thirds done. According to the district, effective management of the earlier program allowed the work to be accomplished on schedule and millions of dollars under budget. HISD — the largest school district in Texas and the seventh largest in the U.S. — has hired five program administrators to manage 59 architecture firms to undertake the second phase of capital improvements.

After its successful 1998 referendum, HISD hired program administrators, among them a joint venture between Jacobs and 3D/International. One of J3's program administrators was Charles Dunham, AIA, whose assignment was typical for the venture: he and his colleagues managed five projects through design and construction. With each school designed by a different architect, they organized schedules and oversaw budgets, as well as facilitated all meetings between the design team and HISD. "My purpose is to ask the questions that aren't being asked," he says, then adds, "The project administrator is not there to do the architect's job for him. We're facilitators, but we cannot take on the responsibilities of the architect."

And that's where things get dicey because it's the architect, not the program manager, who must answer for any subsequent errors. Yet it's the program managers who, in their capacity as owner's representative, essentially call the shots with respect to time, money, and most important, quality; which can make for a difficult relationship due to the fact that the architect's seal is affixed to the construction documents. The perception among some design architects in regards to this working arrangement is that the program manager wields a disproportionate amount of authority while bearing less than an equal amount of responsibility. (To be fair, the program manager's recommendations sometimes help the design architect avoid future claims and/or rework.) Of course, TBAE rules delegate both the authority to create documents and the responsibility for them to licensed architects, while being silent on the role of program managers who nonetheless often issue directives in many forms and have a direct hand in what is and isn't built.

Some architects, whether employed as a designer or a program manager, occasionally may blame their counterparts for mishandling aspects of a project, no professional dare point a finger at the owner. But that doesn't mean the owner isn't

sometimes responsible for mistakes, even to the degree that the cumulative effect wreaks havoc on a large improvements program. Such was the case with Austin ISD and its 1996 construction program funded by \$369 million in bonds approved by voters to build 11 new schools. AISD's program sustained a double whammy due to severely low cost estimates for technology improvements prepared by its staff and the adverse consequences of the late-1990s high-tech bubble when costs for real estate and materials unexpectedly soared just as construction was to begin. The result was a program sold to the voters at \$369 million but ballooned to about \$450 million, and in which construction was expected to be complete in 2002 but dragged on until last October.

Initially, the public's ire for the cost overruns was directed at BLGY/Sverdrup, an ad hoc team assembled specifically for the AISD program. However, an independent audit in 2000 chided AISD for changing educational specifications and space program requirements after the bond referendum. But prior to the audit, the unexpected shortfall created problems that had to be solved. Benny Hawkins, AIA, chairman of BLGY, says the responsibility fell to BLGY/Sverdrup personnel to inform the architects that "bang for the buck was the order of the day" and that project budgets definitely would have to be stretched. The reaction among the architects, as Hawkins states diplomatically, was not uniform: "We had some architects that put their shoulder to the wheel and some architects that were less enthusiastic about it." But like it or not, the work had to be accomplished. And it was, albeit two years late and about 20 percent more costly than originally anticipated.

So, in the end, who is accountable when plans go awry? Rarely is it the owner, although that's where the AISD auditor laid most of the blame. As for the program managers, they may or may not take some heat, but their names won't be inked on the documents. While all parties in school improvement programs share responsibility for providing safe environments for children across Texas, it's the architect whose indelible imprint remains after the buildings are completed and the school day begins.

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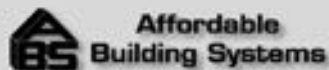
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In the last edition, the feature on IBM/Tivoli's new headquarters in Austin ("Sustainability, Inc." on page 32) contained two mistakes. *TA* misidentified an IBM staff person who worked on the project as Craig Ashburn. His name is Craig Anderson. Also, the article erroneously stated that the project's interior designer was Gensler's Houston office when Gensler's Dallas office actually performed the work.

Also in the last edition, there were two mistakes in the feature on the Historic American Building Survey ("HABS in Texas" on page 24). Texas Tech professor John White should not have been identified as a Fellow of the AIA. Instead, he is a HABS Fellow. The caption was wrong for a photo showing students from the University of Houston on a preservation project in Mexico. The building shown was the Catedral de la Asunción de Maria in Cuernavaca, Morelos, not the Catedral Nacional in Mexico City.

Because of the poor quality of reproduction of photography on page 46 of the July/August 2003 edition, *TA* is reprinting one of the images here. The photography, by John Davis, of the Daimler Chrysler Financial Services building in Westlake ran in the Portfolio section.



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Lake/Flato Named AIA Firm of the Year

SAN ANTONIO They met while working as apprentices for O’Neil Ford, drawing houses and learning from the master himself about how buildings should respond to climate and how to involve clients so they are just as excited about the project as the architect. That was just prior to Ford’s death, and just before 1984 when David Lake and Ted Flato got “kind of a crazy notion” to venture out on their own as Lake/Flato Architects. Twenty years later, their crazy notion has led to a firm that is respected and honored, most recently with the 2004 AIA Architecture Firm Award.

Lake/Flato Architects is only the second Texas firm – the first was Caudill Rowlett Scott, in

Lake/Flato’s most recent projects include the SBC Center, shown at top, in San Antonio (in association with Ellerbe Becket and Kell Muñoz Architects) and the Trammell Crow Visitor Education Pavilion at the Dallas Arboretum (in association with Oglesby-Greene).

1972 – to receive the AIA’s highest honor, given annually to recognize a practice that has consistently produced distinguished architecture for at least 10 years. The award will be presented March 3 at the American Architectural Foundation Accent on Architecture Gala at the National Building Museum in Washington, D.C.

The first to be licensed, Lake also was the first to leave “Ford Powell and Carson University,” as he calls it, to take on a couple of remodel jobs. Meanwhile, Flato bided his time at FPC until he was closer to licensure. Then, after Flato and Lake teamed, their former employer gave them a boost. “Ford Powell and Carson was nice enough to allow us to work on a couple of projects that we had originally worked on there, and that helped us immensely,” Flato says. Ford’s old firm’s generosity allowed Lake/Flato to share

credit with FPC for two projects that received TSA Design Awards in 1986: a ranch house in Hebbronville for Molly and Garland Lasater, and a residence in Austin for Flato’s sister, Malou Flato, and John Taliaferro. Those were the first awards for the new firm. “We could not imagine ever, ever, ever accomplishing anything beyond that,” Flato says. “We were on cloud nine.

We just thought, ‘Good Lord, how could you do anything more than that?’”

Both Lake and Flato are native Texans, Lake was born in Austin in 1951 and Flato was born in Corpus Christi in 1955. Lake’s father was Texas Secretary of State which led to the 11-year-old David Lake working as a page at the State Capitol, weaving through the grand hallways and delivering messages in the great stately rooms. “That building had an enormous impact on me,” he now recalls. Flato’s father was a developer in Corpus Christi whose enthusiasm for the region’s potential was infectious. While in high school, Ted Flato worked for Richard Colley, one of Ford’s former business partners, during the summers.

Lake graduated in 1976 from the University of Texas at Austin’s School of Architecture. That was during the Pliny Fisk era, and self-sufficient environmentalism was the ultimate objective. Flato attended Stanford and received his degree in 1977. Bill Turnbull was one of his key professors. “I got that early taste that landscape and architecture were both very interesting things to look into,” Flato says. They both eventually ended up in San Antonio and under the sway of the elder statesman of Texas regionalists.

What do they see for the next 20 years? “Well, we have high, high hopes,” Flato says. “That’s the beauty of our profession is you get better every year and you have more fun every year. We’re hoping that this award will allow us to have more fun and do bigger and better things.”

STEPHEN SHARPE



PHOTO BY PAUL HESTER



PHOTO BY TIMOTHY HURSLEY

Architects Rally to Develop a Vision for an Improved Corpus Christi Bayfront

CORPUS CHRISTI Despite the local architectural community's unprecedented collaboration on a master plan for the downtown bayfront, City of Corpus Christi officials unexpectedly announced they they had contracted with planners to develop a design that will become the city's new "front door."

Conceptualizing an improved bayfront, which has remained essentially unchanged since its creation in the 1940s, comes about as that area of downtown undergoes a transformation. The Art Center of Corpus Christi has completed a renovation, a multipurpose arena is under construction, a baseball stadium is underway, and what to do about Memorial Coliseum — always a topic of impassioned discussion — is once again on the table. Yet, while piecemeal improvements and additions have been made over the years, no comprehensive vision has taken hold despite at least 37 different plans and studies that city officials have considered over the last 50 years.

The latest debate began in September when Mayor Loyd Neal made a passing comment during a city council meeting that the time was right for the council to consider creating a greenbelt on the bayfront by closing some lanes of Shoreline Boulevard.

Although the community held a variety of opinions, the lack of a current plan meant there was no real starting point for a meaningful discussion. The Corpus Christi *Caller-Times*, seizing the opportunity to spark public discussion and generate fresh ideas, invited the local architectural community to help develop a new plan. Johnny Cotten, AIA, president of AIA Corpus Christi, and Elizabeth Chu Richter, AIA, the chapter's immediate past president, agreed to engage chapter members in a one-day charrette. Meanwhile, the *Caller-Times* established the parameters of its involvement—how the newspaper would approach the reportage of a public policy that it sponsored, as well as the extent it would play an advocacy role within the community. While pledging to remain objective, the newspaper provided the needed materials and helped organize the charrette.

Twenty-one AIA chapter members met on Oct. 22 in a donated space in the One Shoreline Plaza tower overlooking the bayfront. Also present were Trey McCampbell, a local banker who served as the charrette facilitator, and a *Caller-Times* reporter. The group studied archived

As suggested by the architects, a new park with a serpentine walkway would enhance the pedestrian experience of the downtown bayfront; rendering by Herb G. Morrison III, AIA.



newspaper clippings and other material assembled by the *Caller-Times* staff, including photographs, reports, op-ed columns, and letters to the editor. In addition, Brooke Sween-McGloin, AIA, and Patrick McGloin, AIA, brought plans dating back to 1910. Over the course of 13 hours, the architects drew on their combined 592 years of Corpus Christi residency and knowledge of community concerns to develop solutions that would realize the potential of the two-mile stretch of downtown bayfront.

Richter, who is also a member of the city's planning commission, says the architects

focused on identifying important principles and establishing broad goals to guide development of a future master plan. Keeping in mind that the citizens are the "client," she said, the group set seven major guidelines: the design should improve the pedestrian experience; be geared primarily toward civic and public use; incorporate appropriate commercial activity; use Memorial Coliseum, the beach, and the water to their full potential; maintain views of the bay; create a festival park; and make better

"Bayfront" continued on page 14



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Denton Independent School District Natatorium

Seven Projects Take F.W. Design Awards

F O R T W O R T H Seven projects received awards in AIA Fort Worth's 2003 Design Awards competition, which for the first time included the Collaborative Projects category for local firms that worked as the architect or record.

The event was held Oct. 15 in conjunction with Fort Worth's Architecture Month and coincided with a lecture series held at the Modern Art Museum of Fort Worth. Invited to speak as part of the series, one juror – Berkeley architect Laura Hartman of Fernau & Hartman – presented an outstanding talk about her work and its relationship to the environment. The other two jurors were Juan Miró, AIA, of Miró Rivera Architects in Austin and incoming UTA School of Architecture Dean Donald Gatzke.

The jury, selected with diversity in mind, viewed projects divided among three categories: 34 in General Design, one in the Unbuilt group, and two entered as Collaborative Projects. This is the first year AIA Fort Worth accepted collaborative projects, which allows member firms who provide "architect of record" services to submit entries based on their contribution to the built project. This year's entries included a varied collection of project types. The most populated category, with 10 entries, was schools, many of which included a natatorium and a football stadium. The second highest number, with seven entries, was single family houses,

followed closely by corporate projects with five, and churches with four entries. Surprisingly for Fort Worth, two museums and two theatres also were submitted.

There was no real dissent among the jurors, and three of the ultimate winners were agreed upon quickly. The better part of the afternoon session was taken up sorting through the rest of the field. Plans were dissected, concepts and master plans were analyzed, and the merits of award-winning architecture were discussed. By the end of the day, the jury settled on six winners in General Design and one in the Collaborative Projects group.

In the General Design category, Merit Awards were given to the University of North Texas Health Science Center Garage and Quadrangle by Gideon Toal; Dr. Pepper/7-Up Ballpark by David M. Schwarz/Architectural Services, Inc.; Casa Mañana Theatre Renovation and Expansion by Gideon Toal; and the Holub Residence by Norman D. Ward Architect. Citations were awarded to the Nancy Lee and Perry R.



Amon Carter Museum Expansion

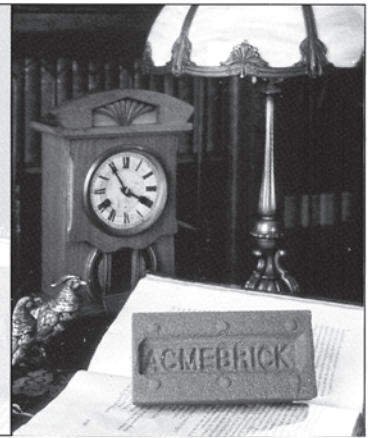
Bass Performance Hall by David M. Schwarz/Architectural Services, Inc. and the Denton Independent School District Natatorium at C.H. Collins Athletic Complex by VLK Architects.

In the Collaborative Project category, a Merit Award was given to the Amon Carter Museum Expansion with Carter & Burgess as the architect of record and Philip Johnson/Alan Ritchie Architects, Inc. as the design architect.

LES EDMONDS, AIA

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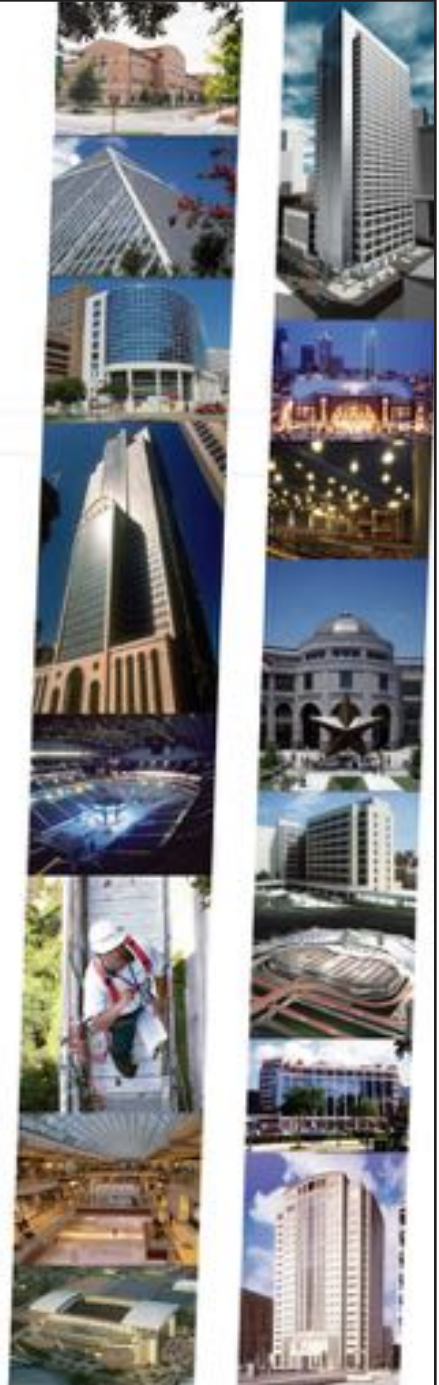
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"Bayfront" continued from page 10

use of green spaces. By the end of the charrette, the architects reached consensus on a single plan.

The *Caller-Times* published its news coverage of the charrette on the front page of its October 24 edition as part of a special four-page pullout section documenting the effort and displaying the final plan. The coverage – the third part of "Changing Bayfront," a five-part in-depth series – included brief profiles of participants, an explanation of the charrette process, and a detailed description of the plan and its guidelines.

Judging from local talk radio and the newspaper's online message board, the public overwhelmingly supported the charrette and the architects' pro bono work. "The fact that so many professionals in their role as citizens and experts came together for the community good has had a very positive effect," says Nick Jimenez, editorial page editor of the *Caller-Times*. Richter agrees: "The charrette really brought awareness to the public of the local resources, knowledge, and expertise that are available to help solve major local issues."

However, during the same week in which the charrette took place, city officials unexpectedly entered into an agreement with four local governmental entities to fund its own "Shoreline Master Plan" project. Each of the entities (the

Regional Transportation Authority, the Downtown Management District, the Port of Corpus Christi, and the Metropolitan Planning Organization, along with the City of Corpus Christi) pledged \$20,000 toward the \$100,000 cost of the planning project abruptly commissioned without the benefit of a qualifications-based selection process. The Shoreline planning project was folded into an existing city arena project already underway. (The city-owned multipurpose arena, scheduled for completion in the autumn of 2004, is a team effort by Architectonica of Miami, Thompson Ventulett Stainback of Atlanta, Sasaki Associates of Boston, and Gignac and Associates of Corpus Christi.) Although this rapid action came without advance publicity, city officials insist they were already considering the planning project and had commissioned an initial proposal from the arena team several months before the charrette was organized. City Manager Skip Noe has since said that the charrette effort and its proposal will be taken into account by the design team. In early December, Noe ordered his staff to schedule public meetings as early as February or March in which citizens may share ideas for a new bayfront with the design team. Noe told the *Caller-Times* that he expects to have a bayfront plan completed by the summer, along with a cost proposal that could become part of a November 2004 bond referendum.

Richter says the dialogue about the bayfront charrette continues among the architects, the residents, and city officials. Charrette participants have prepared a presentation of the charrette and development of the plan, which they have been invited to present to local civic groups. The architects also plan to meet with city council members to demonstrate the charrette process and help officials understand the development of the charrette plan. Richter adds, "Our role is to continue to advocate good design and urban planning on the bayfront, and hopefully, see that the seven principles that guided the charrette are respected in the final city plan. This charrette and its warm reception by the community demonstrated the power of architects coming together for the common good."

CANAN YETMEN

Of Note: Brazos Chapter Charrette

BRYAN An all-day charrette on Nov. 15 brought together nine architect members of AIA Brazos to consider designs for the proposed Rotary Centennial Plaza, which will become part of the City of Bryan's new master plan for the downtown. The new plaza, to be funded by three Rotary International clubs in the Bryan/College Station area, will be located between the Children's Museum and the Bryan Public Library. Charrette co-chairs Eva Read-Warden, AIA, and Kay Henryson, AIA, along with Dr. Elton Abbott, AIA, organized the event, with local AIA members and faculty of Texas A&M University's College of Architecture leading the six design teams. In all, 65 members of the community, including Texas A&M students participated in the charrette. AIA Brazos raised \$5,000 by facilitating the charrette, with proceeds set to endow a scholarship through the Texas Architectural Foundation.

'Chicago Architecture Now' in Houston

The Rice Design Alliance presents a lecture series that will explore the contemporary state of architecture in Chicago and the upper Midwest. Speakers include Blair Kamin, architecture critic for *The Chicago Tribune*; Doug Garofalo of Garofalo Architects; Brad Lynch of Brininstool + Lynch Architects; Ralph Johnson of Perkins & Will; and Jeanne Gang of Studio Gang/O'Donnell. The lectures will take place at the Museum of Fine Arts, Houston. Call (713) 348-4876 for more information. JAN. 21 – FEB. 18.

Landscapers Speak at UT Austin

As part of the "Landscape Futures" series co-sponsored by the Landscape Architecture Foundation, the "Connectivity and Landscape Change" symposium will take place at the UT Austin's School of Architecture. Speakers include William J. Mitchell, dean of M.I.T.'s School of Architecture and Planning; Michael Crow, president of Arizona State University; and Grant Jones, founder of Jones & Jones Architects and Landscape Architects in Seattle. Contact Anne Beamish at abeamish@mail.utexas.edu or Barbara Parmenter at parmentr@uts.cc.utexas.edu for more information. JAN. 30 – 31.

My Architect at DAF

The Dallas Architecture Forum will feature Nathaniel Kahn, son of Louis I. Kahn. The younger Kahn is a filmmaker who's latest project is 'My Architect: A Son's Journey,' a five-year exploration of his father's work and family. More information is available at www.dallasarchitectureforum.org. The viewing will take place at the Dallas Museum of Art. FEB. 5.

Rowlett Lecture Series Features RTKL

The College of Architecture at Texas A&M University will present a series of lectures that will provide a unique glimpse into the history of RTKL, one of the nation's leading design firms. The twenty-fourth annual lecture series will feature panel discussions and presentations at the Presidential Conference Center at Texas A&M. For further information, visit <http://rowlett.tamu.edu>. FEB. 6

Preservation Seminars Focus on Properties

The Building Industry Council of Preservation Texas will hold a series of seminars for architects, building professionals, and property owners who work with historic properties in Texas. Five three-hour seminars are scheduled at the Texas State Capitol Extension. Information available at www.preservationtexas.org. FEB. 19.



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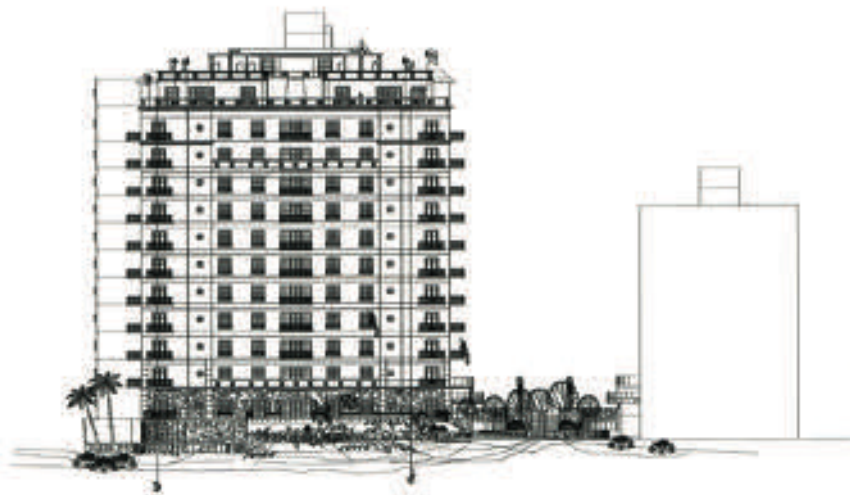
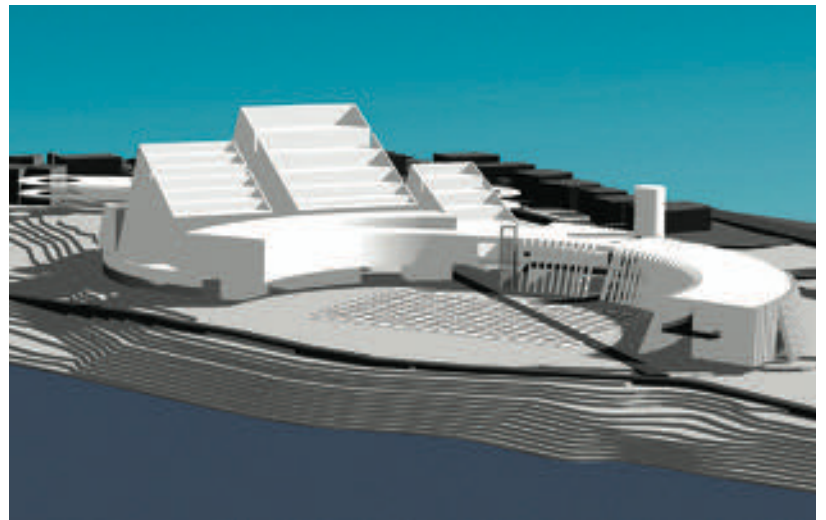


Dallas Arts District Master Plan

In September, the Dallas Center for the Performing Arts Foundation unveiled its master plan for placing the Center's future venues within the Dallas Arts District. The plan is a collaborative effort between two world-renowned architectural firms, Foster and Partners of London and the Office for Metropolitan Architecture (OMA) of Rotterdam and New York. Facing a new Grand Plaza at the Arts District's eastern terminus will be the Center's two new performance venues – the Margot and Bill Winspear Opera House and a multiform theater – and the Annette Strauss Artist Square. In addition, the existing Morton H. Meyerson Symphony Center and the future Booker T. Washington High School for the Performing and Visual Arts will also be adjacent to the Grand Plaza. The project is estimated to cost \$250 million, with landscaping by the Paris-based firm Michel Desvigne Paysagiste DPLG and Hillier of Dallas serving as program manager.

Mexican-American Cultural Center

Planned in three phases, the MACC in Austin will be sited on a six-acre tract along the north shore of Town Lake just east of Congress Avenue. The facility, funded by the City of Austin, is foreseen as a place where everyone can share in the traditions of Mexico. The \$45 million project is the work of a joint venture between CasaBella Architects of Austin and San Francisco-based Del Campo & Maru, with Teodoro González de León of Mexico City serving as design consultant. Construction on the first phase is expected to begin late this year. The initial phase will include the middle section of the crescent-shaped structure, the smallest of the multi-story volumes, and the two-acre courtyard, or *zócalo*, shown in the foreground. The exterior will be pre-cast concrete panels finished in white with a rough texture. The MACC eventually will contain two performing arts venues and other public facilities.



La Cascada

Designed with 46 luxury condominiums, La Cascada is now under construction along the Paseo del Río on the south side of downtown San Antonio. The project is the first multi-story condominium project to be built on the Riverwalk in 20 years. At the top of the 12-story building will be a roof-top pool, a gymnasium, and a meeting room facility. Construction of a second tower is planned, bringing the number of residential units to 62, with a commercial and retail center at ground level. Completion of the first phase, shown here, is expected in August, with phase two planned to follow soon afterward. The superstructure will be poured-in-place concrete, with metal stud walls and an EIFS and stone facade. The location is only a five- to ten-minute walk to La Villita, Market Square, and the King William historic district.

Murcutt Explains Himself

'Architecture is really hard, you know,' affirms the Pritzker Prize winner.

by VAL GLITSCH, FAIA

ON October 6, Australian architect Glenn Murcutt, laureate of the 2002 Pritzker Architecture Prize and the seventh recipient of the Alvar Aalto Award, spoke to a group of 250 [mostly architects] at the Children's Museum in Houston. The illustrated lecture accompanied the first solo exhibition of his work outside of Australia and was arranged by Brazos Projects, facilitated and designed by Carlos Jimenez, and underwritten by a grant from Hines Interests.

The evening began with Murcutt reading from Thoreau's *Walden*, and then from his own writing, originally published in the 1985 monograph of his work, *Leaves of Iron*, by Philip Drew.

Landscape in Australia is remarkable. I have learned much from scrutinizing the land and its flora. There is an over-riding horizontality. The flora is tough. It is in addition, durable, hardy, and yet supremely delicate. It

'Glenn Murcutt: The Simpson-Lee House' at Brazos Projects was designed by Carlos Jimenez. Murcutt spoke about his work during a visit to Houston that coincided with the exhibit.



is so light at its edges that its connection with the deep sky vault is unsurpassed anywhere. The sunlight is so intense...that it separates and isolates objects...The native trees read not so much as members of a series of interconnected elements but as groupings of isolated elements. The high oil content of so many of the trees combined with the strong sunlight results in the foliage shimmering silver to weathered greys...The foliage is not dense generally and the shadows are therefore a dappled light. This distinguishes our landscape from that of most other countries where the soft light serves to connect the elements of the landscape, rather than separate them....My architecture has attempted to convey something of the discrete character of elements in the Australian landscape, to offer my interpretation in built form.

Murcutt's work reveals his intentional mindfulness of both the real and lyrical implications of the buildings he creates, the materials employed, and the energy required to provide and sustain them. His designs respond not only to the physical requirements of a cooling ventilation and bug-free shade in summer or the warmth of gathered sunlight in the winter, but also to elements the psyche wishes for as well: a sense of privacy, security, serenity, and of belonging to, while fully experiencing, a place. In other words, his buildings create their own ideal climate while making peace with the prevailing climate. Murcutt has said that "a building should be able to open up and say, 'I am alive and looking after my people,' or instead, 'I'm closed now, and I'm looking after

my people as well.' To me this is the real issue; buildings should respond."

Nothing in Murcutt's architecture is fortuitous or unnecessary. Influenced early by a university professor who emphasized principles rather than specific solutions, Murcutt assimilated into his own work the notion of composite structures, in which structural demands are resolved by the integration of building elements working together, as he has described, "the muscles and bones of the human body work together." Consequently, his built projects exhibit not only the strength of his convictions but the strength of material and, the strength of economy, lightness, and, ironically, the delicacy he observes in the landscape.

Illustrating his talk with photographs and sketches of five projects – including images of the Simpson-Lee House, the subject of the exhibition – Murcutt revealed his design process as an inching along toward his ultimately elegant solutions. After describing some of the early schematic drawings as "really dumb and deadly dull," he quipped, "Architecture is really hard, you know. But the real ability is knowing something is really dumb and not building it....Architecture requires time to evolve if it is to be of any consequence."

Working without interns, computers, or cell phones, he has practiced mostly alone for the last 33 years, with a waiting list of patient clients. Drawn to the smaller scale of domestic work, because it provides him with a greater opportunity to experiment, Murcutt prefers the freedom of solitude "just to think, and doodle, and work without a whole lot of confusion." While he doesn't seem to require others' affirmation that what he is doing is right, he is fearless in taking to task bureaucratic standards that he *knows* are not right. His 12-for-13

"Murcutt" continued on page 21



PHOTOS COURTESY VAL GLITSCH, FAIA

The Perils of PowerPoint

The Cognitive Style of PowerPoint

Edward R. Tufte

Graphics Press, 2003

24 pages with illustrations

by ROBERT MECKFESSEL, AIA

RECENTLY, our firm was notified that we had made the short list for a community college project and would be required to make a PowerPoint presentation to the selection committee. Although we've always considered ourselves early technology adapters and had owned Microsoft PowerPoint for years, no one in our firm had ever used it, preferring our beloved

and I knew too well the pitfalls of the program – appalling graphics and tiny low-resolution images animated by a dizzying array of fades, scans, wipes, dissolves, and arrows. Determined to do better, we conducted some research on PP's strengths and weaknesses and came across *The Cognitive Style of PowerPoint*, a booklet written by Edward R. Tufte and published last year. As a

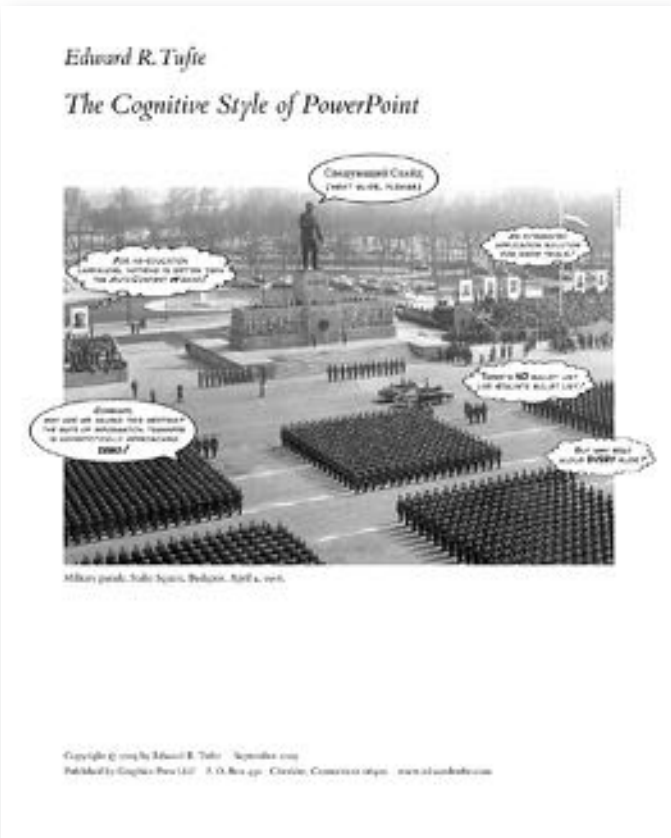
an excessively linear presentation structure, conspicuous decoration, a preoccupation with format over content, and an over-reliance on a single model (that is, PP's default template) for organizing all content.

Examples are used to devastating effect, including slides from a Boeing Corp. PP presentation about tile damage sustained during the shuttle Columbia's final takeoff last January. In Tufte's opinion, Boeing engineers' reliance on standard PP templates produced an oversimplification of the facts which led to an unwarranted complacency and, ultimately, tragic results. Tufte, with brilliant clarity, describes how the essential data was obscured and why Columbia need not have disintegrated over Texas in the early morning of Feb. 1, 2003.

Other examples include a simultaneously hilarious and sobering PowerPoint version of the Gettysburg Address, prepared by Peter Norvig with PP's "AutoContent Wizard" feature. The deadening effect of PP is well illustrated as Lincoln's eternally resonant words are reduced to bullet points and utter banality. By extension, it is difficult to imagine great oration ever coming out of a PP presentation; closer to home, imagine Wright, Corbusier, or Kahn making PowerPoint presentations. (Well, actually, I can't.)

Tufte continues on to demonstrate how PP is creeping into other media, such as Web sites, paper reports, and even grade-school projects. Due to the inherently low density of information in an individual PP slide (merely 20 percent that of typical Internet news sites, he states), such documents are becoming "physically thick and intellectually thin." Tufte closes with sound and simple-to-follow recommendations for improving PP presentations, including avoidance of the standard PP templates, lengthy bullet lists, and reading aloud from PP slides.

"PowerPoint" continued on page 58



long-time fan of Tufte's elegant books on visual presentation – his exquisitely illustrated and clearly written *Envisioning Information* is a personal favorite – I looked forward to his comments on the subject.

The Cognitive Style of PowerPoint, succinctly compiled within 24 pages, is a thorough, witty, and savage analysis of PowerPoint. More to the point, Tufte argues that PP is wreaking havoc on our educational, corporate, and professional institutions by propagating a facile solution to conveying often irrelevant information through gratuitous bullet lists and superfluous graphics. Unambiguously critical, he describes the attractions and distractions of PP quite concisely: "(PowerPoint) helps speakers to outline their talks, to retrieve and show diverse visual materials, and to communicate slides in talks, printed reports, and internet. And also to replace serious analysis with

chartjunk, over-produced layouts, cheerleader logotypes and branding, and corny clip art. That is, PowerPoint Phluff." Tufte focuses on the "cognitive style characteristic of the standard default PP presentation" to explain how and why this happens. Among the attributes of this cognitive style, he states, is an overemphasis on

35mm slides backed up by an occasional board or two. Nevertheless, we chose to view this as an opportunity to explore a new medium and plunged in with only mild trepidation.

Having sat through a number of dreadfully dull PP presentations over the years (including, alas, a few at TSA conventions), my colleagues

continued from page 19

record of courtroom victories against government planners and lawmakers — noted by him as purveyors of “mediocrity and conservatism” — supports his belief that it is the responsibility of the architect to seize such opportunities as they present themselves. “Winning a court case against a planner is as good as winning a Pritzker Prize,” he muttered.

Much has been written about the childhood experiences that helped create the architect, and Murcutt has consistently credited his father as strongly influencing his career. With his father (a naturalist, a skilled builder, and an early admirer of Mies van der Rohe’s Farnsworth House), the young Murcutt studied the ways nature adapts itself according to the “stresses imposed by the individual location and the action of sun, wind, and rain.” His practice continually reflects this sensibility, as *the house* has become for him a source of endless variations on a theme.

Frequently a visiting professor at universities, Murcutt stated that “teaching has proved a wonderful way to learn.” In his own instructional voice during the lecture, Murcutt related experiences in terms of his father’s advice to him when he first opened his practice: “Son, now that you are in your own practice, you must remember: You must start out the way you would like to finish. For every compromise you knowingly make in your work, the resultant building will represent the quality of your next client. You must stand ground.”

The final project Murcutt showed was his Boyd Education Centre ‘Riversdale,’ which illustrated an instance when he had to say ‘no’ to a potential (and eventually enlightened) client. Initially excited by the project’s description and the extraordinary Shoalhaven River Valley site, Murcutt declined the invitation when he discovered he was one of two architects competing for the project for a \$2,000 (Aus) fee. To the audience, he proclaimed, “You know, generosity is a very important part of the relationship between an architect and a client; but when the client makes a move to cut you down at the beginning, you know there’s trouble ahead...To say ‘no’ shocks a client. But it’s not reasonable to give away our services when other people get paid for their work. You’ve got to set your boundaries there and then, and if you don’t, you’re in trouble for the rest of your career.”

Val Glitsch, FAIA, practices in Houston.



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A CONTEMPORARY RESPONSE TO THE CONDITIONS OF PLACE: EL COLEGIO CERVANTES DE TORREÓN, COAHUILA

by EDWARD R. BURIAN

THE border state of Coahuila in Northern Mexico, has long had a close relationship with Texas. In fact, when Mexico achieved independence from Spain in 1821, Texas and Coahuila formed a single state until 1836. In the context of this historically close relationship, a new private K-12 school for 2500 students designed by architect Antonio Méndez-Vigatá, in the bustling desert city of Torreón, offers many lessons for architects, educators, and builders, in terms of its innovative response to local conditions, pedagogy, and user experience.

Torreón, located in the Chihuahua Desert on the Nazas River and surrounded by mountains, has a landscape and climate reminiscent of the West Texas city of El Paso. Founded only 150 years ago around several haciendas, Torreón was named for the defensive tower (*torre*) which was a prominent feature of the hacienda which still remains at the center of the city. At the end of the 19th century, Torreón rapidly grew in importance as a transportation, commercial, agricultural, ranching, and distribution center in Northern Mexico at the convergence of three important rail lines, and was the scene of several important battles (several led by Pancho Villa) for control of the city as a railroad hub during the Mexican Revolution. In the 1930s it had eclipsed now dominant Monterrey, Nuevo Leon as a commercial center and had developed a rich, though undervalued, tradition of masonry architecture, a masonry tradition similar in some respects to that of West Texas cities such as El Paso. Torreón grew rapidly after WWII to become the largest city in the state of Coahuila, with a current population of two million. Unfortunately, recent architecture from the 1970s onwards has largely ignored this rich tradition, and has speculatively reproduced automobile commercial strip architecture in the United States.

What is most remarkable about the Colegio Cervantes is that it reinterprets this rich body of brick and adobe architecture built in Torreón in the nineteenth century and the first part of the twentieth century that is largely undervalued on both sides of the border, and critically engages the elusive issue of “place.” In this regard, the school thoughtfully responds to local conditions including its urban context, site, desert climate, regional cultural preferences, and local materials and contemporary regional construction practices.

The school is located in a recently developed commercial and residential neighborhood on the eastern edge of the city and is sited to form a “wall”

at the street with a series of interior courtyards, plazas, and irrigated gardens, not unlike a small city. According to Méndez-Vigatá the siting of the school “makes a place and landmark with an institutional presence in the city.” The oval shaped garden at the center of the school features indigenous desert trees and flowers, so that students can understand and appreciate the regional landscape surrounding Torreón. (Currently this “outdoor room” indicated on the site plan drawing is developed as a grass soccer field, which is a valuable asset for the school in this desert city with few grass soccer fields. The garden of indigenous landscape will be built when the school expands across the street where a separate high school will be built where the grass soccer field will be located). The school is organized around the regional typology of courtyards, which are deeply rooted cultural preferences and are used as outdoor rooms as well as circulation space for each of the four grade levels, K-2, 3-6, 7-8, and 9-12. Each courtyard is carefully differentiated, scaled, shaped, and articulated according to the grade level of the students. Building each of the four grade levels as a cluster has also allowed the school to be built in phases over time, as funds became available.

Méndez-Vigatá, a native of Torreón who was the former Director of the Department of Architecture at the Instituto Tecnológico Estudios Superiores de Monterrey (ITESM), also studied as an undergraduate at the ITESM and completed his graduate studies at the Architectural Association in London where he also worked for James Stirling. In discussing the school, he quotes the philosopher Ludwig Wittgenstein who stated that, “the meaning (in architecture) is its use.”

The youngest K-2 students and administration are housed in a circular courtyard building, which according to the architect, “is the most focused inward and protected, and suggest two sheltering arms, and create a sense



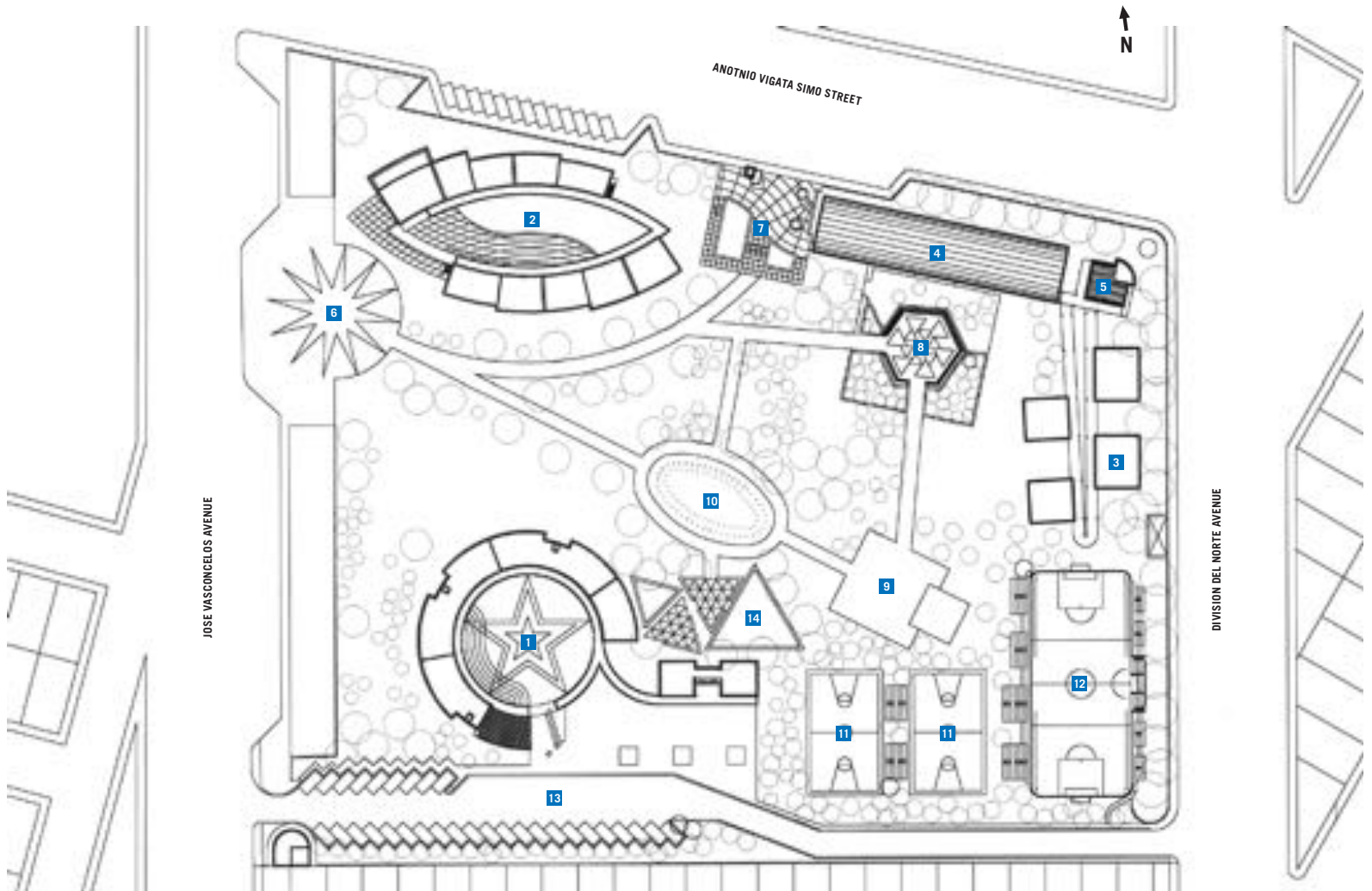
(opposite page) Architect Antonio Méndez-Vigatá stands in front of Colegio Cervantes. The high school block features a double roof for passive cooling, while the clock tower at the corner makes a landmark in the city. (left) The kindergarten's circular courtyard serves as an outdoor room for the youngest students, with the shaded ramp offering shelter for social interaction; all photos by Edward Burian.

of security.” The circular courtyard also has built-in outdoor seating, and is used for as an outdoor room for musical performances, dances, and teaching. As the students advance grades, they literally ascend the circular, shaded, covered ramped arcade to each succeeding grade, terminating in a shaded outdoor “mirador” (place to view outwards) which frames views to the mountains on the south side of the city. The scale of this courtyard and the classrooms are carefully considered in terms of window openings, toilet areas, and furniture. The shaded circulation space serves a social place for the students, while parents, grandparents, and extended family members wait in the shaded court near the main entrance to walk the youngest children home after school. Because students go to school from 8 a.m. until 2 p.m., when they return to their families for the

“Place” continued on page 59

SITE PLAN

- | | |
|---------------------------|----------------------------------------------|
| 1 KINDERGARTEN (K-2) | 8 HIGH SCHOOL PLAZA |
| 2 ELEMENTARY SCHOOL (3-6) | 9 CEREMONIAL PLAZA |
| 3 MIDDLE SCHOOL (7-8) | 10 NATIVE SPECIES DESERT GARDEN |
| 4 HIGH SCHOOL (9-12) | 11 BASKETBALL COURT AND SHADED SEATING AREA |
| 5 CLOCK TOWER | 12 SPEED SOCCER AND SHADED SEATING AREA |
| 6 MAIN ENTRY PLAZA | 13 BUS DROP OFF, K-2 DROP OFF, STAFF PARKING |
| 7 SECONDARY ENTRY PLAZA | 14 PLAY AREA (K-2) |



Cast-in-place concrete conveys a timeless quality while directly referring to the adjacent, 100-year-old Main Building. (opposite page) Nicholas Clayton's Main Building, shown at left, and his Holy Cross Hall, in center, preside over the campus and comprise a formidable context for new campus structures. Trustee Hall is on the right.





BALANCING ACT

by ELIZABETH DANZE, AIA

ST. EDWARD'S University in Austin last year marked the centennial anniversaries of two campus landmarks, both designed by Nicholas Clayton, the prolific architect best known in Texas for the Bishop's Palace in Galveston. Even after 100 years, those two grand structures – Main Building and Holy Cross Hall – still dominate the St. Edward's campus, a Catholic school with about 4,500 students. Other campus buildings, most constructed in the 1950s and 1960s, are less than distinguished when compared to Clayton's edifices.

Trustee Hall is the first building completed at St. Edward's since the 2001 implementation of a new campus master plan. Designed by Andersson-Wise of Austin, Trustee Hall is all the more

significant because it initiates a building campaign expected to accommodate an eventual doubling of the school's current enrollment. Future improvements include other academic facilities, dormitories, a chapel, a theater, and athletic fields. Therefore, the architectural character of the campus is at a critical crossroads, with each new building and outdoor space becoming a crucial element in helping to create a comprehensive campus experience as unique and captivating as found at any American university.

According to the master plan, Trustee Hall eventually will become part of a quadrangle bounded on the east by Clayton's Holy Cross Hall and neighboring his Main Building. That prox-

PROJECT Trustee Hall at St. Edward's University, Austin

CLIENTS St. Edward's University

ARCHITECT Andersson-Wise Architects

CONTRACTOR VRW Construction Company

CONSULTANTS Architectural Engineers Collaborative (structural); Baker-Aicklen & Associates (civil); Aguirre Corporation (MEP); Richardson Verdoorn (landscape); Rider Hunt Levett & Bailey (specifications); JEAcoustics (acoustics)

PHOTOGRAPHER Timothy Hursley

RESOURCES CONCRETE MATERIALS: Capitol Aggregates; CONCRETE FORMWORK: Peri Formwork System; MASONRY UNITS: Ladrilleras El Fuerte; LAMINATES: Wilsonart; SHINGLES: Berridge; MEMBRANE ROOFING: Siplast; METAL DOORS AND FRAMES: Steelcraft; ENTRANCES AND STOREFRONTS: Kawneer; WOOD AND PLASTIC DOORS AND FRAMES: Mohawk Door; GYPSUM FABRICATIONS: USG; PAINTS: Sherwin-Williams; HIGH-PERFORMANCE COATINGS: Sherwin-Williams



(above) The architects created numerous intimate settings both inside and outside the building. (opposite page) Seen from the north, the entry portal to a future quadrangle is flanked with elements punctuated by varied fenestration.

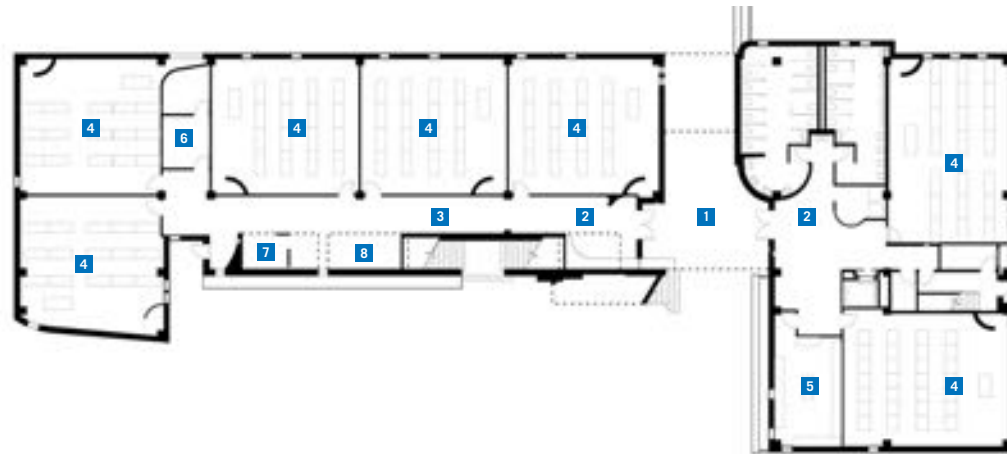
imity posed a challenge for Andersson-Wise: how to sensitively translate Clayton's idiom while simultaneously expressing a modern sense of construction? The Clayton buildings each have a definitive integrity and stand alone like eminently iconic monuments, which further challenged the architects with designing a new building that would not compete with the existing landmarks yet would project an authenticity all its own.

Ideally, Trustee Hall would function both as foreground and background, seemingly contradictory demands intended to effect a dynamic yet quiet and stately building. As foreground it needed to express qualities exceptional for our time while as background knitting itself into the small but powerful existing campus fabric. In this context, the resultant design for Trustee Hall straddles a fine line. While being perhaps a

bit overly referential and eclectic, the skillfulness of the design ultimately wins out.

The material palette is carefully balanced between brick, which ties gracefully into the vernacular of the two Clayton buildings; red metal roof tiles, which satisfies the master plan requirement for red roofs; and concrete, which boldly introduces a new material. The cast-in-place concrete is massed and manipulated to assert its essential ancient, permanent properties. The arch, however, split in a way that mimics Clayton's structures, reduces the material to a decorative motif, both mannerist and referential. But the idea of this monolithic exterior wall of circulation and gathering spaces of balconies, stairs, and deep porch is beautiful in the way it opens the building to public view. This eclectic approach allows for multiple opportunities to create small-scale moments, such as a

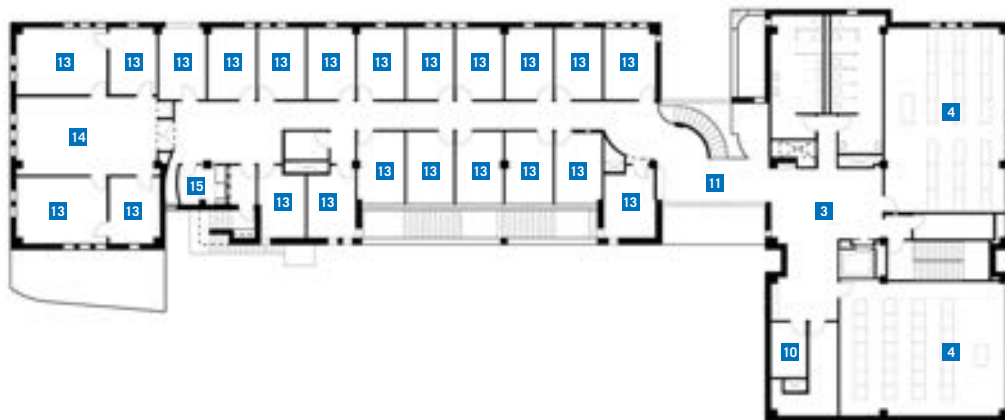




FIRST FLOOR



SECOND FLOOR



THIRD FLOOR



FLOOR PLAN

- 1 LOGGIA
- 2 ENTRY
- 3 CORRIDOR
- 4 CLASSROOM
- 5 COMPUTER LAB
- 6 STORAGE
- 7 COPIER ALCOVE
- 8 SEATING ALCOVE
- 9 WORK ROOM
- 10 DATA CLOSET
- 11 LOBBY
- 12 RECEPTION
- 13 OFFICE
- 14 SECRETARIES
- 15 KITCHENETTE

cast-concrete bench for solitary reflection or an impromptu chat among classmates.

The building's entry is underplayed, and almost unclear. There is no lobby to speak of; instead the two parts of the building frame a passage. As future buildings are erected, this strategy will make more sense as the passage itself will delineate entry into a quadrangle, rather than into the particular building. Currently, the ambiguity of what is inside and out — and how those spaces might be occupied — works as one of the building's strengths.

Arthur Andersson's late partner Charles Moore freed a generation of architects from rigid adherence to modernist design principles—freeing them to the point where one might criticize their work for lacking a similar kind of rigor. Vestiges of this post-modern sensibility are apparent in Trustee Hall's massing, fenestration, and interior circulation. Roofs are concave and convex, hipped and truncated

pyramidal, metal tile and copper. Openings are rectilinear, slits, deeply beveled recesses, and pointed arches. Stairs and some elements of circulation are curved in curious, and perhaps too willful, ways. These elements sometimes seem at odds with the overall integrity of the design. However, in the best tradition of Moore's work, the building is successful in the ways it creates compelling spaces at a variety of scales, from the intimate to the most public, which all have character and quality so frequently lacking in many institutional buildings. The outdoor places created by Trustee Hall are significant not only in ways particular to its own circulation and spatial logic but also in the way the building will participate as part of a larger campus fabric. The landscaped open space works in concert with the building to organize, extend, and connect the campus.

With the completion of Trustee Hall, St. Edward's has a new building that successfully

contributes to an overall environment conducive to academic life in the fullest terms. What remains to be seen is how the next building slated for construction will participate in this rapidly growing campus. That building, a natural science facility, is now being designed by another of Charles Moore's former partnerships, Moore Ruble Yudell of Santa Monica, California. **T**

Elizabeth Danze, AIA, is a principal of Danze Blood Architects in Austin.

In place of a traditional lobby, Trustee Hall accommodates circulation and entrance with a theatrical flourish.





(left) The new housing complex adheres to the master plan for UT El Paso as modeled after ancient Buddhist monastery/fortresses (below) in Bhutan. (bottom) Benedict Hall is a prototypical campus building. (opposite page) The gateway to "Miner Village."



EXOTIC VILLAGE

by ED SOLTERO, AIA



SUMMIT HALL

Summit
Hall



The buildings serve as enclosing elements to provide residents a sense of serenity and security. (opposite page) Shown in the background is Summit Hall, the fellowship hall/study center, which provides indoor and outdoor areas for students to congregate.



PROJECT University of Texas at El Paso Student Housing, El Paso

CLIENT University of Texas at El Paso

ARCHITECT BOKA Powell

CONTRACTOR CF Jordan

CONSULTANTS Walter P. Moore (structural); CSA Consulting Engineers (civil); Purdy McGuire (MEP); Matthew Borowski & Associates (landscape); Balis & Company (cost estimating)

PHOTOGRAPHER Charles Smith, AIA

RESOURCES SITE, STREET, AND MALL FURNISHINGS: Spaulding Light Poles and Fixtures; CEMENTIOUS DECKS: Gypcrete Flooring; UNIT MASONRY WALL ASSEMBLIES: EZ Wall Panel System, EZ Wall Thin Brick; MASONRY VENEER ASSEMBLIES: Summit Brick & Trim; PRE-FABRICATED WOOD JOINTS AND TRUSSES: El Paso Truss; LAMINATES: Wilsonart; BUILDING INSULATION: Owens Corning; EXTERIOR INSULATION AND FINISH SYSTEMS: STD-One Cost Stucco; SHINGLES: Atlas T-Lok; ROOF ACCESSORIES: Airvent; PREASSEMBLED METAL DOOR AND FRAME UNITS: Acore Doors; WOOD AND PLASTIC DOORS AND FRAMES: Prem Door; METAL WINDOWS: Alenco; GYPSUM BOARD FRAMING AND ACCESSORIES: Gypsum Products; TILE: Master Tile, Ceramic Tile; LAMINATE FLOORING: Armstrong VCT; PAINTS: Dunn Edwards; CARPETS: Cambridge Commercial

THE strong architectural heritage at the University of Texas at El Paso draws its influence from the eastern Himalayan Kingdom of Bhutan, a country surrounded by Bangladesh, India, and Tibet. UTEP's adherence to the Bhutanese influence can be directly traced to Kathleen Worrell, wife of the Dean, Stephen Howard Worrell, of what was then known as the Texas State School of Mines and Metallurgy, back in 1914. Their penchant for travel was often the subject of her paintings and writings. In fact, as fate would have it, Kathleen Worrell first saw the breathtaking photographs of the hidden kingdom's architecture while leafing through one of her favorite magazines, *National Geographic*, which coincidentally took place two years before a devastating fire gutted the main campus building. Close scrutiny of the photographs revealed an uncanny similarity between the terrain of Bhutan and El Paso. Armed with visual data,

she easily convinced her husband that this architectural "style" would integrate perfectly into the foothills of the Franklin Mountains and should therefore be adopted.

UTEP's "Miner Village" Student Housing by BOKA Powell of Dallas derives its inspiration from the same ancient design model. Specifically, the 13 structures which make up the housing complex are patterned after the great Bhutanese fortress/monasteries known as "dzongs." However, the architect not only complied with the mandatory architectural character criteria expected of all architects working on the UT El Paso campus, but also went beyond the call of duty and exercised great care in the siting of the individual structures. Dzongs, first built in Bhutan around the twelfth century, typically rose in strategic places, such as the entrance to a valley, the confluence of rivers, or the summit of a hill. Careful orienta-



tion of the modern replication likewise yields thoughtful and strategically scaled courtyards and spaces imbued with a sense of serenity and security which contribute to the residents' unique living experience. With the buildings sited along the perimeter of the complex, they serve as enclosing elements and minimize the need for ornamental screening and/or fencing while emphasizing the hilly topography.

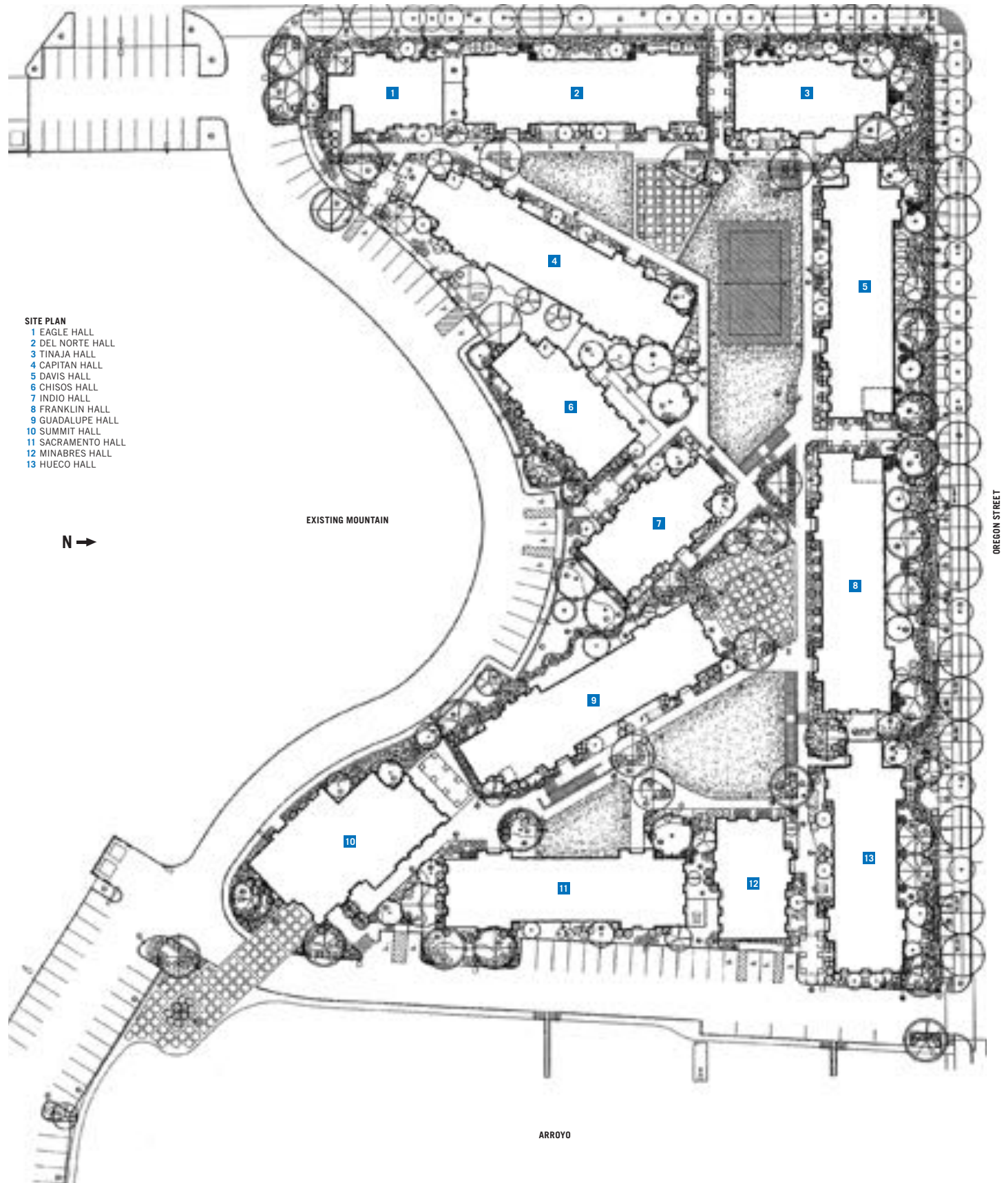
A student fellowship hall/study center, complete with a two-story interior space suggestive of a quiet monumentality, dutifully discharges its task as the formal entrance into the housing complex. Concrete sidewalks stamped with flagstone forms surrounding this structure evoke memories of ancient stone-laid paths. (Unfortunately, similar sidewalks were not included throughout the complex.) Although locally quarried stone was a good choice for use in retaining walls and trellises, the column

shapes and decorative Southwestern motif for the trellises appear to belong elsewhere. More consistent with the Bhutanese theme is the drought-resistant xeriscaping, complemented by pockets of green lawn, which echoes the diverse landscape of the Himalayan kingdom. The backdrop of the Franklin Mountains further intensifies the feeling of a small, remote mountain village.

Interior spatial planning comprised of living units in various sizes (and some outfitted to be handicap-accessible) are comfortably set within the historic twelfth-century model's traditional square or oblong plan, albeit with such optional modern amenities as kitchenettes and laundry rooms. The simple yet elegant three-story housing blocks are entered via a narrow interior courtyard which also encloses a staircase.

Although budgetary restrictions dictated wood-frame construction, further exacerbat-

ROBINSON AVENUE



SITE PLAN

- 1 EAGLE HALL
- 2 DEL NORTE HALL
- 3 TINAJA HALL
- 4 CAPITAN HALL
- 5 DAVIS HALL
- 6 CHISOS HALL
- 7 INDIO HALL
- 8 FRANKLIN HALL
- 9 GUADALUPE HALL
- 10 SUMMIT HALL
- 11 SACRAMENTO HALL
- 12 MINABRES HALL
- 13 HUECO HALL

N →

EXISTING MOUNTAIN

ARROYO

OREGON STREET



ing the challenge of creating an architecture consistent with the existing campus fabric, the architects nevertheless creatively achieved the battered walls, towering elements, and gently sloping roofs that pay homage to traditional Bhutanese fortresses. Off-the-shelf, single-hung aluminum residential windows bring natural light into the straightforward interiors but would have enhanced the massive quality inherent in the ancient structures had they been recessed deeper into the exterior walls. Exterior materials consist of crème colored stucco, asphalt shingle roofs, deep red colored brick clad entrances, and a decorative band of the same material with tile insets. These are *mandalas*, graphic, geometric representations

of the cosmos symbolizing the order and harmony which can be achieved by an enlightened mind. Followers of tantric Buddhism use them to support meditation and the more proficient adherents seek to absorb their power. Red, white, blue, yellow, and green — all widely recognized as auspicious colors — respectively represent fire, clouds, the sky, the earth, and water. Immediately below the roof overhang is the aforementioned wide red brick band — a *chimera* — which recalls the double nature of the ancient structures as not only fortresses but as religious refuges as well.

Strong ties between the Kingdom of Bhutan and the University of Texas at El Paso continue to be forged as a result of the exported architect-

The Bhutanese theme coalesces seamlessly inside the housing complex, as seen looking northward to the Franklin Mountains.

ture. A recent personal trip by Diana Natalicio, acting UTEP president, to the remote kingdom, has even resulted in Bhutanese student enrollment at the university. Whether the foreign students actually live in the complex or not, dispelling any fears of homesickness, most anyone would welcome the opportunity of living in this modern and efficient microcosmic recreation of a distant and exotic part of our planet. **T**

Ed Soltero, AIA, is a contributing editor of *Texas Architect*.

PLANNED COMMUNITY FOR PRAIRIE SCHOLARS

by MARK LAM, AIA

The master plan for Cy-Fair College restores the coastal Katy Prairie and organizes the campus around a series of water features that provide flood control. (opposite page) Carefully planned outdoor amenities make the most of the manmade waterway.



PROJECT Cy-Fair College, Cypress

CLIENTS Cy-Fair College and North Harris Montgomery Community College District

ARCHITECT Gensler

ASSOCIATE ARCHITECT Cobourn Linseisen & Ratcliff, Inc.

CONTRACTOR Gilbane

CONSULTANTS Carter-Burgess (MEP, structural); SWA Group (landscape); Wrightson, Johnson, Haddon & Williams (lighting and rigging); Shen Milsom & Wilke (technology and audio visual); HMA Consulting (security) Cobourn Linseisen & Ratcliff (civil engineer) Wrightson, Johnson, Haddon & Williams (acoustics)

PHOTOGRAPHER Aker/Zvonkovic Photography

RESOURCES **CONCRETE MATERIALS:** Baker Concrete; **CONCRETE STAIN:** QC Construction Products; **UNIT MASONRY WALL ASSEMBLIES:** Southwest Concrete Products; **ARCHITECTURAL WOODWORK:** Quality Woodwork; **LAMINATES:** Pionite, Wilsonart, Formica; **MODIFIED BUTUMINOUS ROOFING:** Johns Manville; **TRANSLUCENT WALKWAY CANOPY PANELS:** CPI; **DOOR HARDWARE:** Schlage Hardware, Von Duprin; **GLAZED ALUMINUM CURTAINWALL:** YKK-AP America; **ACOUSTICAL TILE CEILINGS:** Armstrong; **ACOUSTICAL PANEL CEILINGS:** Decoustics; **RESILIENT MATERIALS:** Mannington Commercial, Armstrong; **CARPET:** Interface, Milliken; **WALL COVERINGS:** Carnegie Xorel; **TENSION FABRIC STRUCTURE:** Duvall Design; **ACOUSTICAL TREATMENTS:** Decoustics; **PAINTS:** PPG; **HIGH-PERFORMANCE COATINGS:** Scuffmaster



MOST American towns don't spring simply from historical settings, and evolve slowly but steadily around a courthouse square or historic core. Instead, many have grown to become sprawling suburbs seemingly overnight. A prime example is the suburb of Cypress-Fairbanks which is organized around State Highway 290 just northwest of Houston.

When Gensler began the design of the Cypress-Fairbanks College, the architects were asked to create more than an easily accessible place for the community to learn. They were asked to design a pedestrian-oriented gathering place that would serve as a focal point for the surrounding community.

A modern-day interpretation of a traditional campus plan, Cy-Fair College includes 444,346 square feet on a 207-acre parcel of the Katy Prairie. Organized around a linear, manmade river and an 18-acre pond, the five initial buildings are sited around the pond like a frontier settlement on the open range. These buildings stand between the parking and waterway to provide a sheltered and very pleasant pedestrian environment. Carefully planned outdoor amenities (walkways, bridges, seating areas, and an amphitheater) and interior gathering spaces capitalize on the waterway and site organization. The new campus is an environmentally responsible development within the quickly

vanishing Katy Prairie, a sensitive ecosystem characterized by vast meadows of coastal prairie grasses sporadically punctuated by groves of trees usually growing beside ponds, streams, and bayous.

Through research aided by the Katy Prairie Conservancy, SWA Group Landscape Architects and Gensler's design team developed a carefully orchestrated plan that restores the Katy Prairie and beautifully integrates the landscape with the campus structures. Some 3,200 trees – all species indigenous to the prairie – were planted on the campus, including bald cypress, loblolly pine, Mexican sycamore, live oak, and mesquite. And because prairie grasses are defining elements of this natural landscape, SWA's mass plantings of grasses such as Indiangrass, Little Bluestem, Lovegrass, Gulf Coast Muhly and Switchgrass and have become the environmental signature of the campus. Horsetail reed and crushed blackstar granite beds finish the design with a modern elegance. Coreopsis and liatris wildflowers also will be introduced to enhance the seasonal and aesthetic quality of the landscape.

Sustainability was one of the primary design goals—natural prairie grasses were used throughout the site and in the parking islands, simultaneously reducing the heat load, water consumption, and maintenance cost. Simi-



larly, the central waterway not only serves as the organizing element and focal point for the entire project but it satisfies the requirements for storm-water detention. In addition, the waterway sustains the wildlife of the Katy Prairie and provides additional habitat for migratory bird populations. Cascading weirs and waterfalls incorporate shelves just below water level to “scrub” runoff water and improve overall water quality. The pond also serves as a source of low-cost, environment-friendly irrigation. This all-inclusive, collaborative approach exemplifies the project’s careful planning and thoughtful use of materials.

In addition, collaboration between Cy-Fair College and local volunteer firefighters yielded a mutually beneficial three-bay neighborhood fire station (designed by Carl Joiner, AIA, of Joiner Partnership in Kingwood) built on the campus with an adjacent training center for EMS, paramedics, and firefighting technology.

Similarly, cooperation between the college and the Harris County Public Library system yielded a campus/public library outfitted with 150,000 volumes, a children’s library, 270 computers, and an Internet café offering free Internet access to the public. Also available for public use are tennis courts, outdoor covered basketball courts, sand volleyball courts, softball fields, and a jogging trail.

Architecturally, the buildings are a simple and elegant combination of concrete block, brick, glass, and metal panels. Conscientious use of expensive materials and liberal use of common materials with simple but creative detailing helped Gensler to not only establish a very striking architecture but to also succeed in meeting the aggressive \$73 million budget.

One of the design goals was to create a variety of environments that support multiple teaching methods and learning styles. In response Gensler created a variety of learning spaces:



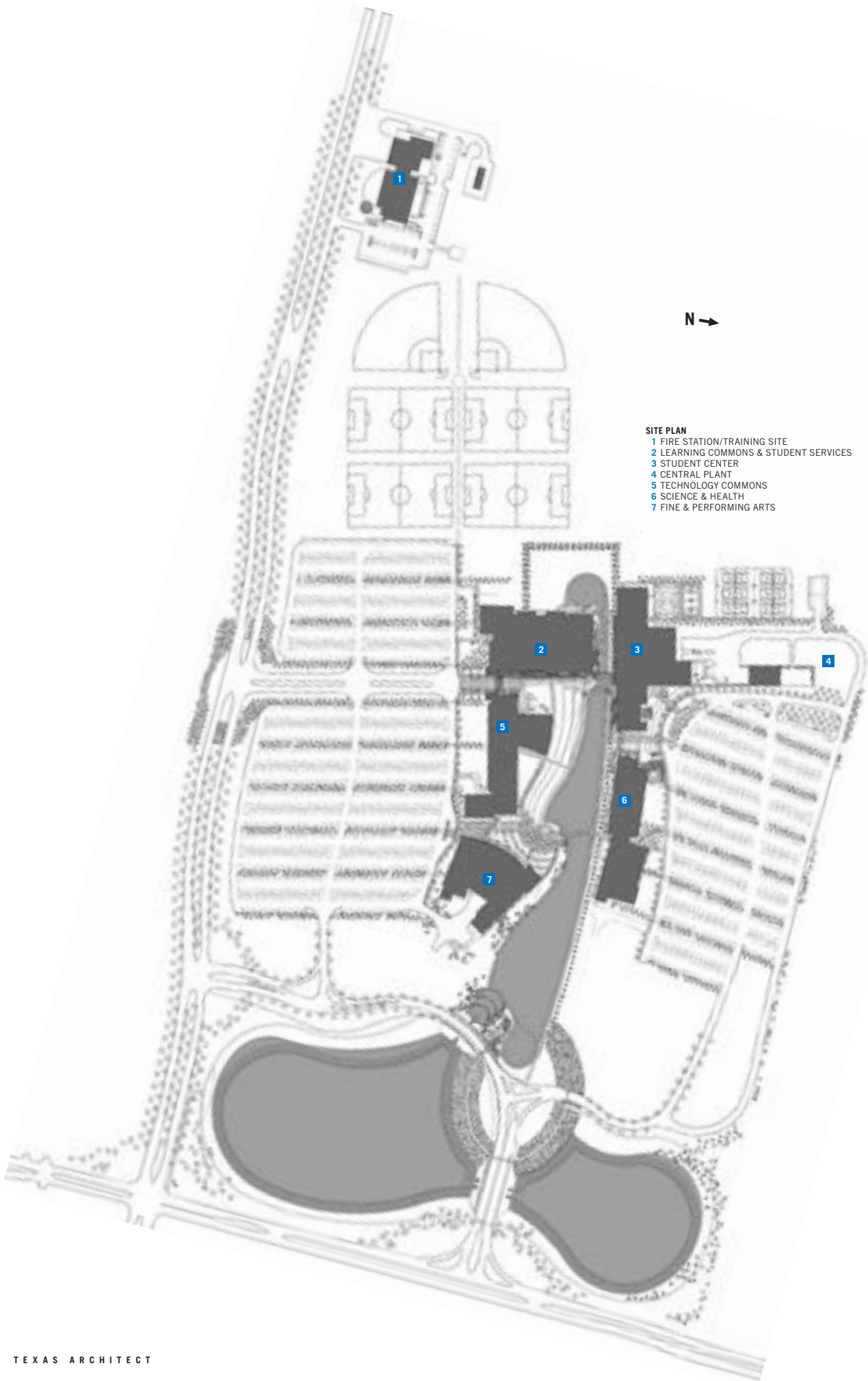
(opposite page) Students enjoy a variety of study areas throughout the campus. (this page, top and below) Rolling partitions on stained concrete floors allow the dining area to be reconfigured into a large lecture hall. Buildings are simple and elegant combinations of concrete block, brick, glass, and metal panels.



N →

SITE PLAN

- 1 FIRE STATION/TRAINING SITE
- 2 LEARNING COMMONS & STUDENT SERVICES
- 3 STUDENT CENTER
- 4 CENTRAL PLANT
- 5 TECHNOLOGY COMMONS
- 6 SCIENCE & HEALTH
- 7 FINE & PERFORMING ARTS





Gensler wanted to create a place where “students are encouraged to learn to continue to learn for the rest of their life,” says C.K. Pang, the project’s lead designer.

large/small, public/private, indoor/outdoor, formal/casual; with as many flexible elements as possible and as few fixed elements as necessary. Similarly, a variety of casual study areas are woven through the fabric of the campus to provide comfortable places to rest or visit with friends.

While flexibility in design is an often talked about concept, this campus exemplifies what can be achieved. Flexible elements such as the moveable walls, rolling partitions, or “spare” classrooms encourage staff and students to rearrange and customize each space to suit their needs. Furnishings reflect the same goal of designing flexible, adaptive spaces whether it is the rolling partition/benches which are easily moved about to re-arrange the dining room, the trapezoidal tables found in the classrooms which support a variety of group or lecture formats, or the comfortably upholstered chairs in one of the second floor study lounges outfitted with large

highly visible casters. Not only are spaces and fixtures designed to be flexible, but users are encouraged to configure and re-configure all elements as they desire. This obvious outreach and invitation for personalization has a very welcoming effect. First-timers walk into the campus as visitors but quickly feel at home. The relaxed campus atmosphere immediately creates a comfortable sense of ownership and belonging.

The response from the community has been extremely favorable. Opening day had an enrollment of 70 percent of total capacity, and two months later the conference center was booked virtually every day. “No matter what time of day you visit, you will see the community here and using the facilities, sitting by the lake and reading, walking their dogs, or using the library,” Dr. Diane Troyer, president of Cy-Fair College, said recently. “When people come on campus they just love being here. The 18- to 25-year-old

students are just bubbling over with affection for [the campus] which I think is pretty unusual; to find college age students saying ‘I just love being here.’ That was one of the things we worked hard on in the beginning—to create an atmosphere where students don’t just come to class and then leave campus as soon as they can, but one that would draw them, keep them, have them be active and involved and actually want to be here. I think that has all been accomplished.”

A walk through the campus proves Dr. Troyer’s point. Strolling along, one can’t help but want to be a student and take advantage of the many settings available, whether a quiet nook for reading a book, a balcony for daydreaming, a seat under the sails of the Internet café for a cup of coffee, or lounging in the sunshine and watching people pass by. ■

Mark Lam, AIA, is a vice president of SHW Group Architects in Houston.

Celebrating School Design

JUDGING and critiquing architectural projects always presents a special challenge. How does one properly evaluate an architectural setting without actually walking through it; experiencing it as a place or a space in person? Do photographs, slides, and PowerPoint presentations convey the essence of the project, the ideas, and the sense of well-being while in it? Unfortunately short of visiting all the entries and experiencing them personally, the best evaluation we currently have is photographs, drawings, and words, to convey a two-dimensional sense and a 30-second look to discover the charm, ideas, and power of the place. The places here are public schools in Texas.

Eighty entries submitted by 13 Texas firms were evaluated this summer for the annual Texas Association of School Administrators/Texas Association of School Boards (TASA/TASB) Conference held in Dallas on September 19-21, 2003. The intent of the competition was to select those schools which exemplified the best

of Texas school design. Specifically, the goal was to select the Caudill Award winner and criteria winners in five categories. They are: Value, Process of Planning, Design, Educational Appropriateness, and Innovation. The criteria for the Value category includes energy-efficiency and environmental solutions; life cycle cost efficiency; cost per square foot; flexibility, adaptability, and/or expandability; creative use of materials; community multipurpose use of space; and site development. Process of Planning includes teacher, student, parent, and community collaboration; and structure of the collaboration process. The Design category consists of architectural solutions and aesthetics; safety and security impact; flexibility, adaptability, and/or expandability; creative use of materials; community multipurpose use of space; space relationships (student and staff); and site development. Educational Appropriateness includes instructional program delivery; space relationships (student and staff); tech-

nology integration; safety and security impact; community multipurpose use of space; and activity appropriateness. Innovation criteria are teacher, student, parent, and community collaboration; energy efficiency and environmental solutions; life-cycle cost efficiency; technology integration; community multipurpose use of space; safety and security impact; flexibility, adaptability, and/or expandability; and architectural solutions and aesthetics. Featured in the following pages are five of the 80 awarded projects: the Caudill Award winner and four schools selected for publication from the winners in the Design category.

Projects could be the winner in some or all categories. Both new and renovation projects were evaluated as well as special building types such as School District Administration Board facilities or stadium/athletic complexes. PowerPoint presentations were the order of the day for

Portfolio continued on page 50

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Sabine Pass K-12 School

PROJECT Sabine Pass K-12 School, Sabine Pass
CLIENT Sabine Pass Independent School District
ARCHITECT Bay Architects
CONTRACTOR ICI Construction
CONSULTANTS Fittz & Shipman (structural); M&E Consulting (MEP); Frank Clements & Associates (food service); Brooks & Sparks (civil)
PHOTOGRAPHER Jud Haggard

Caudill Award

Located at the mouth of the Sabine River, Sabine Pass School serves students in kindergarten through twelfth grade. Because of the previous coastal floods that have swept through the town, the school district wanted a solid and durable school to fulfill the needs of both the students and the town's other residents. Complete access to the library during off hours, parent computer training classes, and a hurricane shelter in the cafeteria are just a few strategies that the design encompasses. Because there is only one way out of the town, there was a strong need for an emergency shelter. "Extra structure and reinforced perimeter walls surround the shelter which helps to maintain a focal point and enables the community to survive during disaster," said lead architect Brad Hughes, AIA. In fact, this educational facility is designed for 125 m.p.h. winds. Wanting to express the town's Texas Gulf Coast heritage, the architect

chose a lighthouse motif. Not only does this function as an observation vantagepoint, but it also houses space for science and art classes, multi-purpose meetings, and staff gatherings. "The design is centered around the lighthouse and serves as a drawing magnet to the school," said Hughes. "The lighthouse proved to be a success because it can be seen by the entire community." Working around the site's low sea level created a variety of challenges for the design team. Elevating the school on concrete piers enabled a covered parking area on the ground floor for teachers and administrators. "Because of the low sea level, we were able to surround the school with elevators and stairs and design a four-story school," recalled Hughes. This educational facility was completed in May 2002 and adds an innovative and interesting profile to the town of Sabine Pass.

JENNIFER MCCUTCHEN

RESOURCES MASONRY UNITS: Pacific-Clay Brick, Eagle-Cordell Concrete Products; CAST STONE: Precast Concrete Services; GLAZED MASONRY UNITS: Pittsburgh Corning; FIBERGLASS STAIRS: IKG Industries; BUILDING INSULATION: UC Industries; SPECIALTY DOORS: Overhead Door of Beaumont, Overly Door Company; UNIT SKYLIGHTS: CPI International; GYPSUM BOARD FRAMING AND ACCESSORIES: USG; TILE: Daltile; ACOUSTICAL CEILINGS: Celotex Corporation; ATHLETIC SURFACING: Tuflex Rubber Flooring; PAINTS: Sherwin-Williams; VCT: Armstrong Commercial; ACOUSTICAL WALL PANELS: Wall Technology; CARPET: Collins & Aikman; PORCELAIN TILE PAVERS: Crossville Ceramics; PROTECTIVE COVERS: Petersen Aluminum

- FLOOR PLAN**
- 1 CLASSROOMS
 - 2 LIBRARY
 - 3 ADMINISTRATION
 - 4 CAFETERIA
 - 5 KITCHEN
 - 6 ASSEMBLY
 - 7 MEDIA CENTER
 - 8 ART ROOM
 - 9 TEACHER WORKROOM



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Horizontally applied Berridge S-Deck Panels with Satin Finish Galvalume contrast with brick and stone on the walls of this elementary school. Undulating Concave and Convex Curved panels add particular flair to highlight a major entry.

Photography: Mark Trew



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Bluebonnet Elementary

PROJECT Bluebonnet Elementary School, Keller
CLIENT Keller Independent School District
ARCHITECT Hahnfeld Hoffer Stanford
CONTRACTOR Charter Builders
CONSULTANTS Baird Hampton & Brown (MEP); Metro Structural Consultants (structural); Teague Nall & Perkins (civil); Landscape Alliance (landscape); H.G. Rice & Company (food service)
PHOTOGRAPHER Michael Lyon

Completed in the summer of 2002, Bluebonnet Elementary School in Keller serves children in kindergarten through fourth grade. The appearance of this 90,000-square-foot facility responds to the district's desire for a traditionally styled school. The two-story building is strategically designed to accommodate the steep slope that traverses the site. "Because of the large slope, there was no way to put prototype detail in the design and still achieve a traditional feel for architecture," said lead project designer David Stanford, AIA. The facility is composed of four distinct units. Two classroom blocks flank a center administration element while the fourth unit houses the cafeteria and gymnasium. The administrative unit serves

as the primary control entry to the facility, with a central stairway providing access to the upper-level library. "The two-story common space provides a focal point for each side of the building and simultaneously adds a nice large scale to the neighborhood," said Stanford. Interior hallways and covered exterior walkways link all four units. "Because the slope was a major element to work around, rather than having canopies, we wanted to incorporate covered walk areas into the building for picking up and dropping off students," said Stanford.

JENNIFER MCCUTCHEN

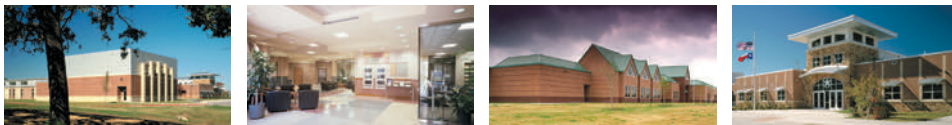
RESOURCES CONCRETE PAVEMENT: Lofland Company; MASONRY UNITS: Acme Brick; CAST STONE: Advanced Cast Stone; WATERPROOFING AND DAMPPROOFING: Sonneborn; BUILDING INSULATION: Celotex; ROOF AND WALL PANELS: Berridge; FLASHING AND SHEET METAL: Berridge; WOOD AND PLASTIC DOORS AND FRAMES: Buell Door; ENTRANCES AND STOREFRONTS: Kawneer; GYPSUM BOARD AND FRAMING ACCESSORIES: Dietrich, Georgia-Pacific; ACOUSTICAL CEILINGS: Armstrong; WOOD FLOORING: Robbins Sports Surfaces; WALL COVERINGS: Koroseal; PAINTS: Sherwin-Williams; CARPET: Collins & Aikman; PORCELAIN TILE PAVERS: Crossville Ceramics; PROTECTIVE COVERS: Petersen Aluminum



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Bransom Elementary School

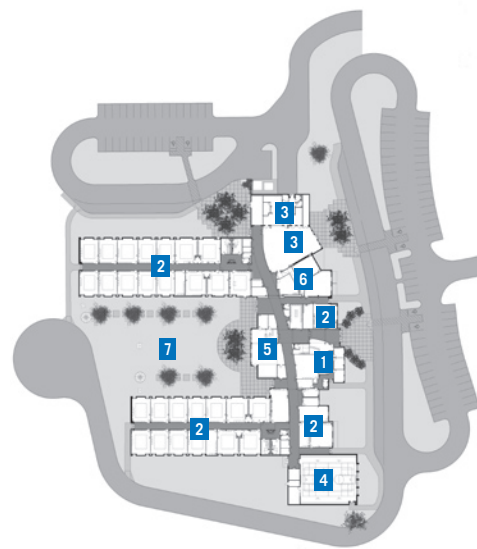
PROJECT Richard Bransom Elementary School, Burlison
CLIENT Burlison Independent School District
ARCHITECT SHW Group
CONTRACTOR Coronado Builders
CONSULTANTS Estes, McClure & Associates (MEP); Cheatham & Associates (civil); SHW Group (structural) Grubbs Ramsey (landscape); JMK Design & Associates-H.G. Rice (food service)
PHOTOGRAPHER Mark Trew

Burlison ISD had a vision for its newest school. They wanted to provide Bransom Elementary School students a nature and environment-oriented curriculum, as well as a facility that would introduce conservation habits. The result is a school filled with sunlight, built with energy-efficient systems, and organized with outdoor classrooms where students experience the natural world. These classrooms include two rainwater harvesting systems and storage cisterns to save rainwater for the students' gardening projects. Scott Milder of SHW Group said the objective was to create a setting which would increase students' excitement about attending school. "Our role as architects is to provide an environment where the kids feel more free to learn," Milder said. During the day, the school uses recessed windows, natural light monitors positioned on the roof and a false ceiling composed of vertical baffles to diffuse the sunlight beaming into each

classroom. "You can have a controlled shelter environment, and at the same time you are bringing the outdoors inside," Milder said. The school employs artificial light only during bad weather and evenings, greatly reducing electricity costs. Bransom's interior features natural materials, which supplement academics, including exposed cork display walls for student assignments and fossilized limestone at the library circulation desk. The fossilized limestone provides imprints, which students can make rubbings of on their own paper. "[The desk] was used as a focal point," Milder said. "It's an actual teaching tool that is centrally located for easy access to everyone." Completed in August 2002, this \$7.8 million school not only can house 550 students, but also exemplifies the educators' commitment to conservation throughout the entire learning process.

S A N D R A T A Y L O R

RESOURCES RETAINING WALLS: Anchor Wall System; CAST STONE: Advanced Cast Stone; UNIT MASONRY WALL ASSEMBLIES: Acme Building Brands, Hohmann & Barnard; WATERPROOFING AND DAMPPROOFING: W.R. Meadows Sealtight; BUILDING INSULATION: Owens Corning; MEMBRANE ROOFING: GAF; ENTRANCES AND STOREFRONTS: US Aluminum; GLASS: AFGD Glass; GYPSUM BOARD FRAMING AND ACCESSORIES: Unimast; GYPSUM FABRICATIONS: USG; TILE: Daltile; ACOUSTICAL CEILINGS: USG; PAINTS: ICI Dulux



- FLOOR PLAN**
- 1 ADMINISTRATION
 - 2 CLASSROOMS
 - 3 DINING/KITCHEN
 - 4 GYMNASIUM
 - 5 MEDIA CENTER
 - 6 STAGE/ MUSIC
 - 7 OUTDOOR LEARNING AREA





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—Elizabeth Chu Richter, AIA, Richter Architects



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General Contractor: Plains Builders, Inc., Amarillo
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Photographers: Craig Blackmon, AIA, BlackInk, David Richter, FAIA (snow)

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Franco Middle School



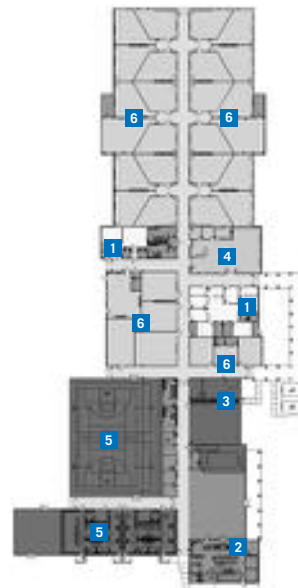
PROJECT Franco Middle School, Presidio
CLIENT Presidio Independent School District
ARCHITECT Pfluger Associates Architects
CONTRACTOR The ABD Group
CONSULTANTS Barron Engineering (MEP); Persyn Engineering (structural); Kent Chatagnier (roofing); GSW & Associates (civil)
PHOTOGRAPHERS Kent Niemann, AIA; Robert Fiertek

Built upon a barren mesa overlooking Presidio, Franco Middle School represents the essence of this West Texas border town. Citizens and administrators of Presidio ISD came together to produce the vision for a school which would preserve the town's Southwest style while utilizing local resources. "There was a lot of conversation about what an educational center needs to be," Brad Pfluger, AIA, president of Pfluger Associates Architects in Austin, said. The residents wanted to use the building for community events during nights and weekends, and for adults' continued education in technology and literacy. "The school is planned for future expansion as the community continues to grow," Pfluger added. Currently, the 68,200-square-foot structure spans across a six-acre site and serves 800 students. Segments of eight classroom pods, which are distinctly separate from communal areas, allow for classroom additions onto the

end of the building. Presidio, established in 1683, has a long history of using stucco and adobe construction. To uphold this tradition, the citizens requested that the school's appearance blend in with the desert landscape. "The overall feel of the community is very, very important to them," Pfluger said. "They wanted [the school] to look more natural in its surroundings." Collaboration between architects, contractors, and the community produced a plan that not only captured Presidio's spirit but was cost-efficient. Tilt-up concrete walls (top), which look similar to adobe architecture, decreased the expense of the building envelope. Access to structural steel and concrete reinforcing steel from Chihuahua, Mexico, along with a local labor force accustomed to working with the materials also enhanced productivity. Total construction cost about \$5 million and was complete in October 2001.

SANDRA TAYLOR

RESOURCES METAL DOORS AND FRAMES: TexSteel; WOOD AND PLASTIC DOORS AND FRAMES: TexSteel; PAINTS: Hanley; ACOUSTIC DOORS: Wenger; CABINETS: R&R Millwork; ROOF AND DECK INSULATION: Atlas Energy Products; MEMBRANE ROOFING: Tamko; METAL WINDOWS: Columbia Commercial; MANUFACTURED CASEWORK: Wenger



FLOOR PLAN
 1 ADMINISTRATION
 2 FOOD SERVICE
 3 FINE ARTS
 4 MEDIA
 5 ATHLETICS
 6 GENERAL LEARNING AREA

Continued from page 42

the six-member jury of two school board members, two administrators, and two representatives from the Texas Society of Architects. The rules state, "All members will not be affiliated with any of the entries." A data book, packaged along with the PowerPoint CD, was sent to the jury members a couple of weeks in advance so preliminary review and familiarization with the projects could be accomplished.

Many fine and exemplary projects were reviewed. Some illustrated their concepts directly and clearly, others were lost in the magic of the PowerPoint presentation itself. Fades, dissolves, "fly-in" text, and other belabored graphic touches in some cases hid what might otherwise be good, solid architectural thinking and planning. In this show, simpler is better. Direct response to the planning, addressing pedagogical issues, and sensible scale and rhythm, "place-making," and creative, logical architectural solutions were the valued responses. Limited discussions among the six-jury members were held.

Future competitions should encourage much more discussion and cross-pollination of ideas as to why a project is "educationally appropriate," for example. What a great way to learn from our clients and users, when we express openly and honestly the values that "innovation" or the "process of planning" can mean for an administrator or board member.

Furthermore, the categories should be realigned. To evaluate a 3,000-student high school with a 50,000-square-foot elementary school for 600 students is a mismatch. Selections in the future should consider the two or three best in each category, (i.e., the exemplary high schools, middle schools, or elementary schools) and judge them against each other in that category. With schools, scope does matter and it should be reflected in the judging.

The TASA/TASB convention is a fine vehicle to celebrate with Texas architects the best in an ever-growing field of architectural endeavor. The amount of work in Texas is monumental. It is a place for rich and exciting exploration of ideas and the first introduction to public architecture which the five million school children of Texas experience. The challenge has never been greater to encourage and foster in our youth the sense of well-being, firmness, commodity, and delight which memorable architecture can ignite.

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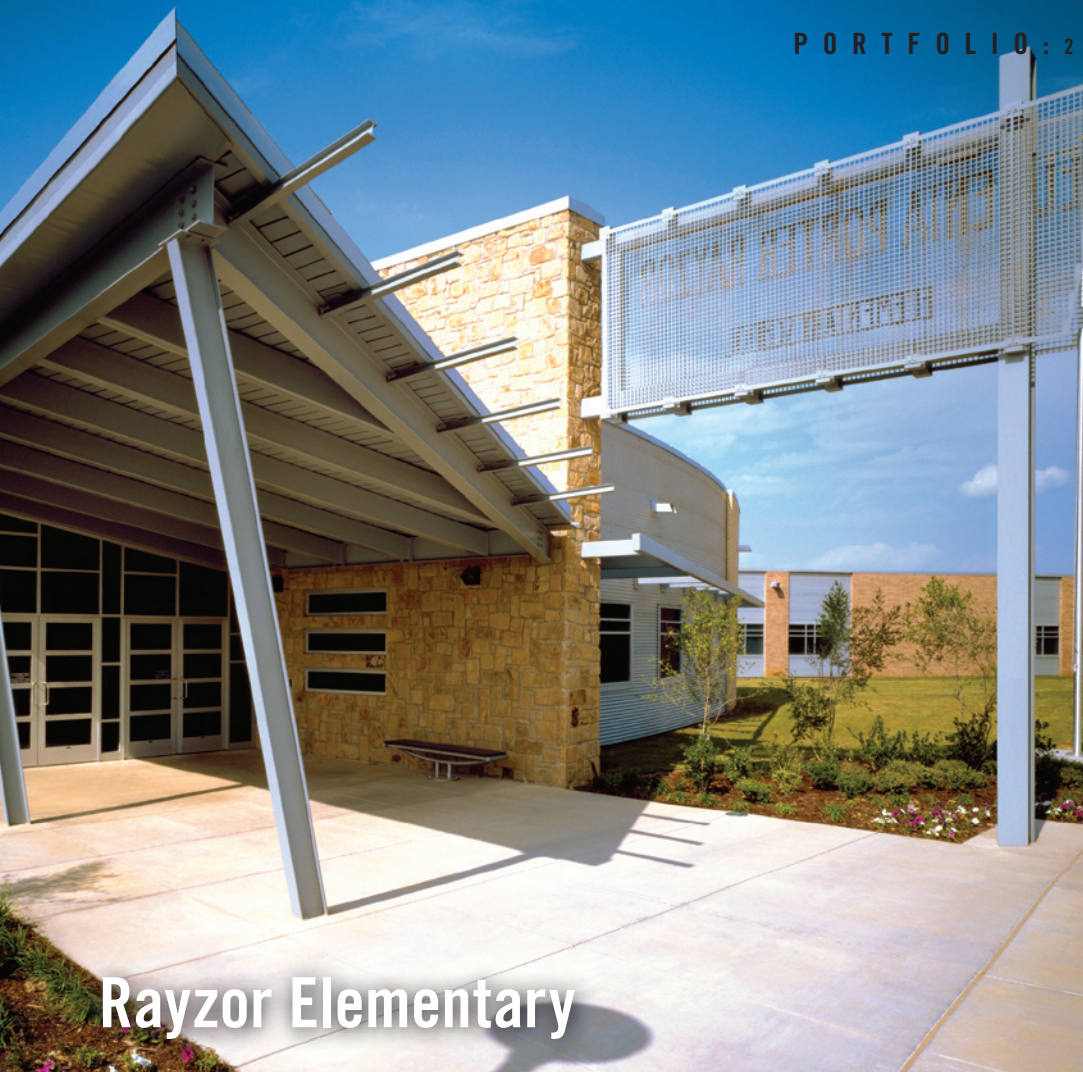
CURTAIN WALLS

SLOPED GLAZING

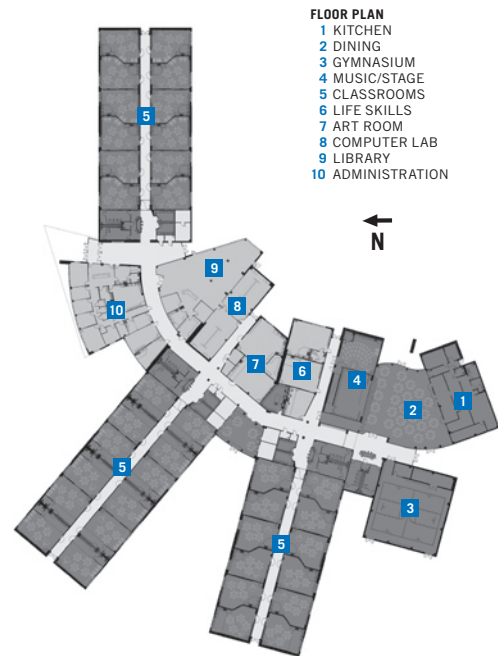
WINDOWS



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Rayzor Elementary



PROJECT E.P. Rayzor Elementary School, Denton
CLIENT Denton Independent School District
ARCHITECT SHW Group
CONTRACTOR Charter Builders
CONSULTANTS Estes, McClure & Associates (MEP); Surveyors & Engineers of North Texas (civil); Grubbs Ramsey (landscape); H.G. Rice & Company (food service)
PHOTOGRAPHER Mark Trew

Located on a two-acre planned development site, Eugenia Porter Rayzor Elementary School in Denton is an innovative mixture of materials carefully chosen to harmonize the architectural style of the community. Completed in June 2002, the building's exterior features galvanized, corrugated metal paneling and stone with exposed wide-flange steel columns. Exterior brick walls of various colors break up the facade and define the core spaces of the school. "Blending the district's goal for an academic and kid-friendly atmosphere with the developer's vision for the school to aesthetically fit in with the development and community proved to be difficult," said lead designer Konrad Judd, AIA. "We had to consider the volume and materials to make the environment inspiring for children while tying it

into the context of the landscape and community." A ribbon window on the front facade and library windows makes the suspended roof appear to float. A crescent-shaped corridor creates an engaging setting for the classrooms which are divided into three separate wings characterized by different color schemes. This curved corridor also provides easy access to the core interior spaces such as the library and media center, cafeteria, and gymnasium.

JENNIFER MCCUTCHEN

RESOURCES CONCRETE PAVEMENT: TXI; EXTERIOR BENCHES: Landscape Forms; CONCRETE PAVEMENT: TXI; MASONRY UNITS: Acme Brick, Texas Building Products; UNIT MASONRY WALL ASSEMBLIES: Dur-O-Wall; MASONRY VENEER ASSEMBLIES: Heckman Building Products; GLAZED MASONRY UNITS: Pittsburgh Corning; METAL DECKING: Berridge; ARCHITECTURAL WOODWORK: Casework Services; WATERPROOFING AND DAMPPROOFING: Sonneborn; BUILDING INSULATION: Owens Corning; ROOF AND DECK INSULATION: Johns Manville; EXTERIOR INSULATION AND FINISH SYSTEMS: Johns Manville; VAPOR RETARDERS: Griffolyn; ROOF AND WALL PANELS: Berridge, Centria; MEMBRANE ROOFING: Hyload; METAL ROOFING: Berridge; METAL DOORS AND FRAMES: P-W Metal Product; WOOD AND PLASTIC DOORS AND FRAMES: OshKosh Architectural Door; SPECIALTY DOORS: Overhead Door Company; GLASS: Mustang Glass



Designing for Better Sound in Schools

Understanding and implementing the new classroom acoustics standard

SPOKEN language communication is essential to most classroom learning, where as much as 60 percent of the activities involve students listening to and participating in spoken communications with a teacher and other students. The school classroom facilitates and enables students to learn essential academic, social, and cultural skills. As a communication channel for learning, the classroom should be free of acoustical barriers. These statements are included in the *Rationale for Acoustical Performance Criteria* in the *American National Standard for Acoustical Performance, Criteria, Design Requirements and Guidelines for Schools*, ANSI S12.60-2002.

The standard is best summarized in its Abstract. "This Standard provides acoustical performance criteria, design requirements, and design guidelines for new school classrooms and other learning spaces. The standard may be applied when practicable to the major renovation of existing classrooms. These criteria, requirements, and guidelines are keyed to the acoustical qualities needed to achieve a high degree of speech intelligibility in learning spaces. Design guidelines in informative annexes are intended to aid in conforming to the performance and design requirements, but do not guarantee conformance. Test procedures are provided in an annex when conformance to this standard is to be verified."

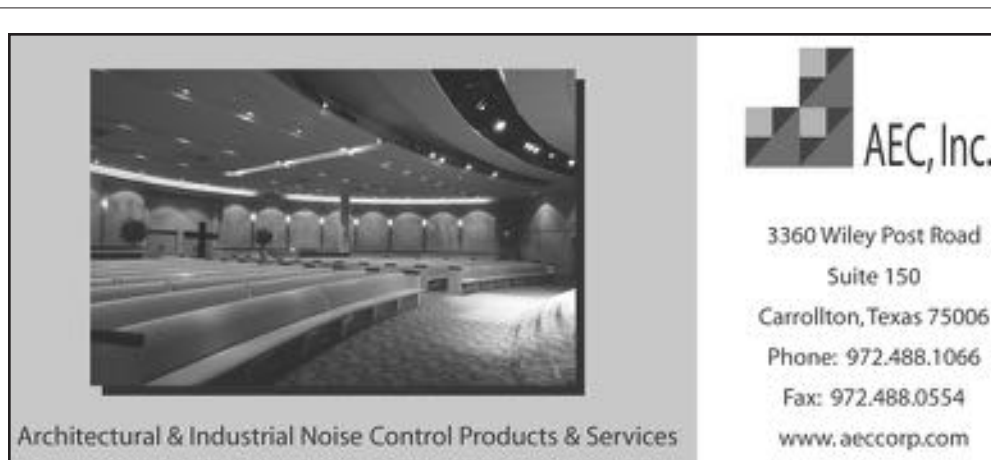
Why was a new standard needed? After all, architects have been designing schools for generations. What has changed that requires an acoustical standard on top of all of the other codes and regulations that govern school facility design and construction? Lightweight drywall construction has displaced traditional masonry for many interior partitions. Air conditioning is almost universal, whereas it was formerly a rarity. Urban noise, including vehicular traffic has continuously increased. Audio/visual systems with amplified audio tracks are in many classrooms. Acoustically deficient trends such as "open classrooms," lacking sound isolation between classrooms were adopted. Most importantly, however, much has been learned through research on students' physiology, hearing, learning, speech perception, and

communications. Design based on precedent, it turns out, is not so much using what works, as it is just doing things because that's how they have always been done.

The use of American National Standards is voluntary. With the exception of a few institutional owners and school districts that currently impose S12.60-2002 in their facility standards, owners and designers are not yet required by law, regulation or ordinance to use or even consider the criteria, requirements, and guidelines of the standard. Architects should consider, however, that this standard was initiated by a federal government agency and many representatives of the technical, trade, and public-interest communities. Over time, it is inevitable that

institutional owners and political jurisdictions will adopt some or all of the standard.

Architects, who design facilities for learning and are responsible for creating successful learning environments, should become familiar with the school acoustics standard, inform their clients about it, and implement it into design. Criteria and other specifications contained in the ANSI/ASA standard are consistent with long-standing recommendations for good practice in acoustical design. Failure to consider or incorporate the standard could make architects liable for poor acoustical performance of facilities, and poor academic performance of students. The new standard is more than a potential regulation; it is a long-anticipated



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and valuable tool for design professionals, owners, and builders to create better learning facilities.

History of S12.60-2002

The Access Board, a federal government entity that enforces accessibility under the Architectural Barriers Act of 1968 (ABA) and the Americans with Disabilities Act of 1990 (ADA), was created under Section 502 of the Rehabilitation Act of 1973. Officially named the United States Architectural and Transportation Barriers Compliance Board (ATBCB), the Access Board is responsible for developing accessibility guidelines and providing technical assistance to individuals and organizations. Recognizing that poor spoken communications due to inaudible or unintelligible speech for students and teachers may create selective acoustical barriers to learning, the Board published a request for information on acoustics in schools in 1998. The Acoustical Society of America (ASA) formed a working group in 1997 with representatives of eleven national groups on "eliminating acoustical barriers to learning in classrooms." The

Access Board partnered with the ASA, in association with the American National Standards Institute (ANSI), to develop a new standard. Between 1999 and 2002, this group met regularly, ultimately developing a final draft in late 2001. After review and public comment, the process was completed. The ANSI S12 Committee on Noise, which included "wide representation from the technical community (manufacturers, consumers, trade associations, general interest, and government representatives," (S12.60, Forward) approved the new standard 26 June 2002. Challenges were made by the American Refrigeration Institute (ARI), Modular Building Institute (MBI), and the School Facilities Manufacturers' Association (SFMA), but all were rejected by the Board of Standards Review (BSR), which upheld the standard and the development and approval process that was followed by the S12 committee in adopting it. The Access Board submitted extracted provisions of ANSI S12.60 to the International Code Council (ICC) for inclusion in the 2003 International Building Code (IBC), including maximum background noise levels of 35 dBA and reverberation time

of 0.6-0.7 seconds. Although the proposal was not adopted at the ICC hearing in September, "there was a strong consensus among interested parties to work with the ASA and ANSI S12 Committee on Noise" on resolving the issues related to compliance and associated costs.

Basis for Acoustical Criteria

While it is apparent that all classroom environments are not the same, it may be less well known how much the students vary in terms of their hearing ability, language proficiency, and cognitive skills. Under ideal conditions, communication effectiveness may be limited by students' physical development, maturity, hearing, and language skills. The effects of non-ideal listening conditions can significantly degrade learning potential. Acoustical performance of classrooms is, therefore, a critical determinant of learning facility success.

The most basic requirements for good listening and speech intelligibility are (a) quiet background noise, both continuous and transient sources, and (b) short reverberation decay

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time, how long sound persists in a space after the source stops.

Acoustical performance criteria in ANSI S12.60 are presented for background noise levels, sound isolation, and reverberation time. The criteria are based on relevant child and adult physical speech and hearing characteristics, coupled with facility conditions that affect speech intelligibility. One such facility condition is the signal-to-noise ratio (SNR); how much louder a source is than the background noise. While adults with good hearing and speech proficiency may have fair understanding of speech when it is barely louder than the background, children may require speech to be as much as 15 dB above the background to achieve good understanding. This is because children's slow neurological maturation process, greater incidence of hearing impairment due to ear infection and common language disorders, make them more susceptible than adults to room acoustical effects on spoken language communication. Speech recognition research has shown that adults can fill in syllables and words from their own vocabulary, but children

and non-native language listeners, due to limited language proficiency, cannot "fill in the blanks" when poor speech communication occurs. Speech interference results from background noise covering up or obscuring words, intermittent or transient sound events distracting communication, and reverberation "blurring" clarity of sound.


A tutorial lecture, "Children's Need for Favorable Acoustics in Schools," was presented by Dr. Peggy Nelson, Department of Communication Disorders, University of Minnesota, at the Acoustical Society of America's (ASA) national meeting held November 2003 in Austin, Texas. In a review of the history and discussion of the contents of the S12.60 standard, Dr. Nelson presented the empirical evidence that children do not typically achieve adult performance levels of speech understanding until their late teenage years. As a result, school facilities that are adequate for adults may not be adequate or appropriate for young learners. She listed special conditions that affect children, including:

- Inefficient broadband listening strategy
- Inability to put missing pieces together

- Immature weighting of acoustic information
- Increased susceptibility to distracters
- Decreased ability to segregate signals from noise



Nelson also discussed the four most common classroom noise sources:


- Building services and utilities, such as HVAC, plumbing and electrical systems
- Exterior noise transmitted through the building envelope, such as vehicular traffic, playground noises, and aircraft
- Interior school noise transmitted into the classroom through partitions, interior doors, floors, ceilings and the ventilation system, such as voices, laughing, footsteps, and furniture movement from adjacent classrooms and hallways
- Noise generated within the classroom, such as occupants' voices and activity, audiovisual equipment, computers, and furniture movement



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Strain and exhaustion in teachers is also a concern. Although not studied as thoroughly, the difficulty of speaking in noisy and reverberant environments, especially over time, can cause strain on teachers' vocal chords, resulting in potential weakness, incapacitation or exhaustion. These maladies can be avoided in good acoustical environments.

Contents of ANSI S12.60

"Conformance to this standard will improve the quality of education by eliminating acoustical barriers for all students and teachers," according to the standard's introduction.

The Standard is written in simple, lay language for the purpose of making the standard not just accessible by owners, administrators and designers, but so that it can be used as a planning and design resource. A review of the table of contents, below, shows the range of information provided.

Contents		Page
Foreword		iii
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Following the Introduction, discussions of the Scope, Purpose and Applications, References and Definitions are provided; not just technical terms, but general terms for learning spaces and acoustical privacy. The definitions are in simplified, understandable language, although a reference to ANSI S1.1 provides more technical definitions.

The core of this standard is Part 4, Acoustical performance criteria, noise isolation design requirements and guidelines. Table 1 presents maximum average A-weighted steady background noise level and reverberation times for three enclosed volumes of furnished, but unoccupied learning spaces. Noise Isolation requirements are presented in Table 2 for Core Learning Spaces and in Table 3 for Ancillary Spaces. Sound Isolation requirements, in

terms of Sound Transmission Class (STC) vary, because room adjacencies sound sources and occupancies vary. Minimum STC ratings are recommended not just for partitions, but also for floor-ceiling, roof-ceiling and composite wall assemblies, because sound can enter or leave an enclosed space through all of the enclosing elements. The Impact Insulation Class (IIC) ratings are specified, but could easily be missed by a casual reader, because they are not presented

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in a table, as the other recommended ratings are. The Acoustical Criteria are concluded with recommendations for conformance demonstration, either by measurement test or analysis calculations, coupled with acceptable tolerances.

The Acoustical Criteria and Guidelines specify what the building design and construction should achieve in terms of background noise, sound isolation and reverberation.

The Appendix of seven annexes, however, may prove most useful for the architectural and engineering designers. This is the part of the standard that discusses in easily understood lay language how to achieve the desired performance with design guidelines, "good practices," procedures, potential conflicts with indoor air quality, and cautionary remarks regarding substitution of design criteria for conformance measures. Each annex contains a bibliography of the information sources, which can also be utilized as an additional reading resource for designers interested in learning more about particular issues, procedures or technologies.

Annex A provides a lengthy discussion of physical, physiological, and learning development issues that affect student and teacher performance and how the actual recommended rating levels were determined.

Annex B provides guidelines for building systems and instructional equipment selections, layouts, operating parameters and architect coordination of the many parties involved in designing, constructing, supplying, and operating the learning facility.

Annex C incorporates a procedure for estimating reverberation, followed by guidelines for location and mountings of surface finishes, effects of furnishings and occupants and acoustics in large classrooms and lecture rooms (much larger and more complex in shape than typical rectangular classrooms).

Annex D discusses site selection, outdoor-to-indoor noise, open-plan classrooms, and noise isolation between interior spaces. Composite STC is discussed, for wall or roof assembly with multiple elements, i.e. wall, door, window, etc. Impacts and vibrating machinery on floors above learning spaces are discussed.

Annex E briefly describes what to do and what to look for during design, construction post-construction and after commissioning. Verifying background noise levels prescribes measurement instrumentation and procedures, including locations, for steady (continuous) and unsteady (intermittent or

transient) noise sources. Methodologies are prescribed for verifying reverberation by calculation and by measurement procedures. Noise isolation measurements are described, both for airborne and structure borne (impact) noise. A standard noise report is specified for measurement results, and recommendations for modifications.

Annex F discusses issues and sources of information that might affect either the choice

to use particular materials or the selections of those materials.

Annex G compares octave band spectrum based criteria, NC, NCB and RC systems with overall A- and C-weighted level measurements.

Study and use of the guidelines in the Standard can help the designer to incorporate good acoustics and noise control into their designs, or as a tool to assist in obtaining professional

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consultant help with appropriate scopes of work. Implementation is neither novel nor difficult, since the criteria and guidelines incorporate the aggregate experience of many research, design, manufacturing and construction professionals. Based on precedence, performance results from the standard's guidelines should be reliable and predictable.

Many approaches to noise control are possible. Absorption within enclosed spaces reduces reverberation and the build-up of noise. Other concepts can be developed. Consider this example. The allowable background noise criteria are based on the average or typical voice sound level. If the desired signal-to-noise (SNR) is +15, for example, and the voice level is 50 dBA at a given distance from the speaker, the background noise level at that location can not be greater than 35 dBA ($50-15=35$). Room absorption, exterior sound isolation and building systems noise control may be employed to keep noise below 35 dBA.

Alternately, if the voice level is not loud enough relative to a given existing background noise level, it may be possible to boost the source

(voice). Microphones and loudspeakers are used to do this in large rooms and auditoria, but that concept is not necessarily practical for classrooms. Introduction of beneficial sound reflection and diffusion can provide strengthening of sounds within enclosed spaces. Dr. Peter D'Antonio states that "Research has shown that early reflections which arrive within roughly 20 ms are fused together with the direct sound by our auditory system and generate a louder and fuller sound. It is this concept of constructively utilizing reflections in a classroom, which would normally be lost in a typical acoustical ceiling tile (ACT), to improve the speech level and intelligibility to the students."


Different approaches to solve the acoustical issues that degrade our educational facilities may not even be considered, however, unless there are design parameters that require solutions. That is why the standard should be considered and implemented.

Implementation

As planner and designer, the architect is key to implementation. While often deferential to

the institutional client on functional requirements, architects should consider their clients' expectation of expert advice from the professionals. Even if the clients are satisfied with existing facilities and wish to functionally replicate them in new designs, it is up to the architect to point out that the new standard is based on evolving knowledge of learners' needs. To determine existing learning spaces' conformance with acoustical criteria in the standard, the architect can have representative spaces tested for reverberation, background noise and sound isolation. With those results, the nature and magnitude of acoustical corrections can be determined. Those changes can be applied as renovations to existing spaces or in design of new facilities.


It has been noted by acoustical consultant, Warren Blazier, that all of the background data for the standard is based on children. Criteria based on young students' hearing and vocabularies are probably too conservative for high school and college level facilities. His concern is that "children" is not in the title of the standard, but design professionals and their consultants



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could apply discretion in application of the specific criteria for background noise, but remain in conformance with the general intent.

Institutional facility managers should write the acoustical criteria into general facility design standards and existing facility needs assessments, preferably before selecting architects for individual projects. Architects should incorporate the acoustical criteria into programming and schematic planning documents, both for client approval and to provide design parameters for the other engineers and design consultants on the architect-engineer team. With the concurrence of the client to establish the criteria, the architect can require the A/E team designers to consider the criteria in planning, layout, material and equipment selections, and system designs. To assure design conformance, the architect can direct engineers and other consultants to show how the criteria are to be achieved, not just by vague rules of thumb, but with detailed analyses.

Additional information is available to supplement the guidelines found in the standard.

The ASA Technical Committee on Architectural Acoustics publishes the bulletin, "Classroom Acoustics – a resource for creating learning environments with desirable learning conditions," (revised May 2003) available at asa.aip.org/classroom.html. Other journals, magazines, and textbooks on classroom acoustics and children with disabilities are at www.access-board.gov/publications/acoustic-factsheet.htm. Owners and architects can find acoustical consulting assistance through the National Council of Acoustical Consultants (NCAC) at www.ncac.com.

The new standard is a valuable tool. Architects can and should use the standard to counteract designers' and builders' tendency to construct classrooms based on precedent. For we can see now, specifically, that the way it has always been done has not always worked for our schools' occupants.

JACK B. EVANS, P. E.

Jack B. Evans, PE, is a consultant in architectural acoustics and building noise control in Austin. This article includes segments that have been reprinted from ANSI S12.60-2002 *American National Standard Performance Criteria, Design Requirements, and Guidelines for Schools*. Copyright 2002 with the permission of the Acoustical Society of America. The standard is available for \$35 from the ASA at asa.aip.org/ or from ANSI at webstore.ansi.org/ansidocstore. ASA and ANSI members are eligible for discounts.

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POWERPOINT

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In short, anyone involved in preparation of PP presentations should read Tufte's booklet.

As we prepared our own PP presentation while trying to heed Tufte's admonitions, we noted with interest other efforts that challenged the application's norms. Musician and artist David Byrne, formerly of the Talking Heads, is exploring PP as a new art form, using its inherent techniques and limitations as a generator of images. While the results to date are not convincing, they are nevertheless a departure from what one expects from PowerPoint. As Byrne says, "PowerPoint makes hilariously bad-looking visuals. But that's a small price to pay for ease and utility. We live in a world where convenience beats quality every time."

So, like it or not, PowerPoint is here to stay and my colleagues and I are going to have to

push ahead to "master" it (whatever that means). However, we did realize there are a few basic principles to follow, none of them new or radical: content, not format; still rules; personal style and conviction count; avoid templates; eliminate bullet points, or at least keep them few and simple; and don't read the slides aloud.

So, what about our presentation? Inspired and informed, we put together a slick PowerPoint presentation, avoiding bullets and distracting transitions, and made our presentation with conviction and passion. We didn't get the job.

More information on Tufte and his books is available at www.edwardtufte.com.

Robert Meckfessel, AIA, is a principal of dsqn associates.

continued from page 23

“comida,” (main meal), the two snack breaks are an extremely important part of the school day, and are carefully considered architectural experiences. For example, the snack area kitchen for the youngest children is at a lower level so that adults are at the same level as the small 4 to 7 year old children they serve.

The intermediate 3rd through 6th grade students are housed in curved two-story blocks which face each other oriented north and south, form a narrow, shaded garden courtyard, and has a focused view west to city beyond. The deep brick walls provide shading and while the brick cornice details recall traditional brick buildings in Torreón. The middle school 7th and 8th grade students are housed in three-story towers that are staggered to create solids and void in a more open manner and are joined by a connecting ramp. The forms create another narrow shaded court. High school students from grades 9-12 are housed in a long three-story block that contains classrooms, lab space, and computer rooms. Oriented to the south, this block opens to the city and mountains beyond and is the most open and transparent. The curved double roof over the block suggests an increasingly more technical curriculum for the high school students, relates to Torreón’s traditions as an industrial city, and forms covered outdoor *miradors* at the top floor which encourage socializing among the high school students. A clock tower at the end of the block presents a curved face at its urban corner, and is differentiated from the rectangular side which faces the school. Outdoor sports areas for the school feature a sunken, “speed soccer court” (which has proven to be very popular) and seating areas with innovative moveable shade canvass shading devices which can respond to varying solar orientation during the day and during the school year.

The pedagogy of the school emphasizes students learning to concentrate, the ability to think both clearly and analytically, and a well rounded education in the arts, sciences, and the humanities. In keeping with this idea, the school is tectonically differentiated. Classrooms and support functions are brick wall dominant buildings with punched openings while the circulation is expressed as a more transparent concrete frame. The thick walls of the classrooms create deeply shaded windows and also accommodate book shelves and storage cabinets. Windows at student desk level open directly into common circulation areas.

The high school block opens south with views to the city and mountains beyond. Students and faculty frequently occupy the covered open-air “miradors” at the top floor.



Colegio Cervantes reinterprets the rich, neoclassical tradition of late nineteenth- and early twentieth-century brick and masonry architecture of Torreón. These structures typically feature, among other qualities, elaborate cornice details which created modulated shadows in the bright light and desert heat. This tradition evolved during the 1930s to include eclectic, Art Deco-inspired work such as the Hotel Galicia (shown here) on Torreón’s downtown plaza.

Locally fabricated brick is utilized that reinterprets traditional brick construction in Torreón, while utilizing contemporary methods of construction modify and control the intense light in Torreón. Local brick was also selected because of the ease of the maintenance in this heavily used school and its ability to wear, and according to Méndez-Vigatá, “chip off and still maintain its integrity over time.” This is an extremely important consideration in Mexico, (and the United States for that matter), where school budgets for maintenance are extremely limited.

Unlike the United States, architects in Mexico are typically directly involved with the contracting of trades for the construction of their designs. The Colegio Cervantes is carefully crafted with hand labor and minimal heavy equipment, which besides being more cost effective in Mexico, employs many local construction craftsmen, and improves the local economy. With the cost-effective design and construction of the school, this private school is able offer moderate tuition, which in turn makes it affordable to a wide range of students, and consequently, creates a diverse educational experience.

The buildings themselves are designed for passive cooling and cross ventilation, while the high school student’s classrooms have a curved double roof which encourages air movement. There is a back up evaporative cooling system that conserves energy, humidifies the dry desert air for the children, and according to the faculty, promotes better attention among the students. No heating is provided at the school for the temperate winters in Torreón, and the school features well insulated walls and roofs, keep the students comfortable during the school year.

If the students at Colegio Cervantes are any judge of the architectural experience of the school, they are among the happiest students I have personally encountered in a K-12 school setting, on either side of the border. Their school is designed to be used, and they use it with evident skill, enthusiasm, and pride. ■

An architect practicing in Tucson, Edward R. Burian wrote and edited *Modernity and the Architecture of Mexico* published in 1997 by the University of Texas Press.



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JUST last month, Robert Browning Elementary in Houston's Heights neighborhood was decked out with white balloons and green ribbons.

Bright-eyed pre-schoolers sang in English and Spanish. Principal Olga Moya worked the crowd, beaming at board members from the Houston Independent School District, who beamed right back at her. Everyone had gathered to celebrate, of all things, the school's new temporary building.

Addressing the crowd, Michael Morton, AIA, made no secret that the unloved building type posed serious challenges. However, Morton said, he and Douglas Oliver set out to "transcend the temporary building."

Their budget was hardly transcendent.

Morton, a principal of m ARCHITECTS in Houston, and Oliver, principal of The Oliver Studio in Houston, had been hired by Avance (pronounced "a von' say"), a not-for-profit that aims to educate low-income Latino pre-schoolers and their parents. Local operations officer Feliciano Callegos wanted Avance's Head Start building at Browning to be far better than the usual corrugated-metal shack, and he knew

from previous experience with Oliver that a professional designer could stretch his construction budget. Significant stretching would be required: Avance had \$435,000 to erect a 6,300-square-foot building on an aggressive schedule.

The new school facility demonstrates how thoughtful design can enhance a low-budget project. For the tricky triangular site, Oliver designed a boomerang-shaped building that curves around a courtyard where three tall pine trees have stood for decades. Two wood-frame, pre-fabricated modules house the parent-services wing. Another four modules comprise the classrooms. The two wings are linked by an administration space, built on site with large windows looking out to the courtyard and to the playground beyond. The building is, surprisingly, a temporary structure with an uplifting view.

At the ribbon-cutting, people admired the building's unusual exterior with large rectangles of cement-siding panels in dark red and hunter green that form bold Mondrianesque geometric constructions. The visual effect is a de-boxing of the exterior and an overall surpassing of the "trailer" qualities typically associated with modular construction. As the saying goes, "There's nothing more permanent than a temporary building," but the teachers, staff, and kids at Browning Elementary are excited about the pre-fab addition to their campus.

LISA GRAY

Lisa Gray is managing editor of *Cite: The Architecture and Design Review of Houston*.



Cladding was installed after the modular units were delivered to the site, then a general contractor built ramps, decks, and the lobby. Photos courtesy m Architects.

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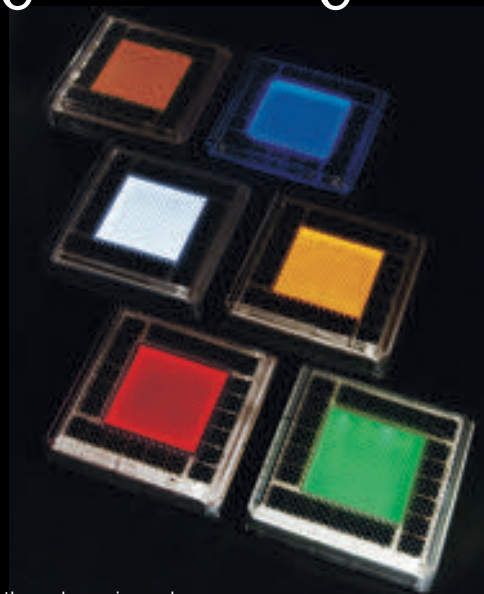
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