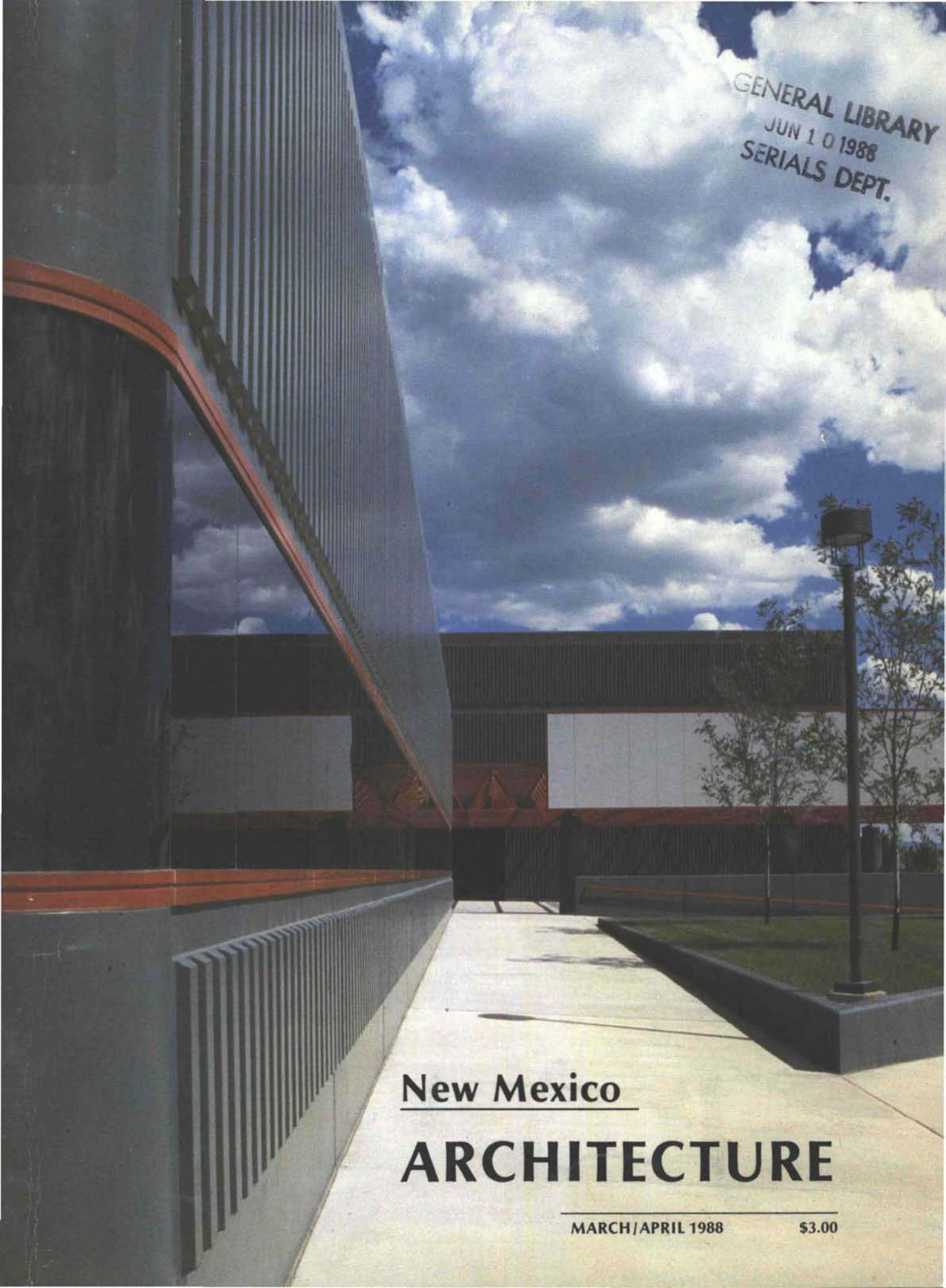

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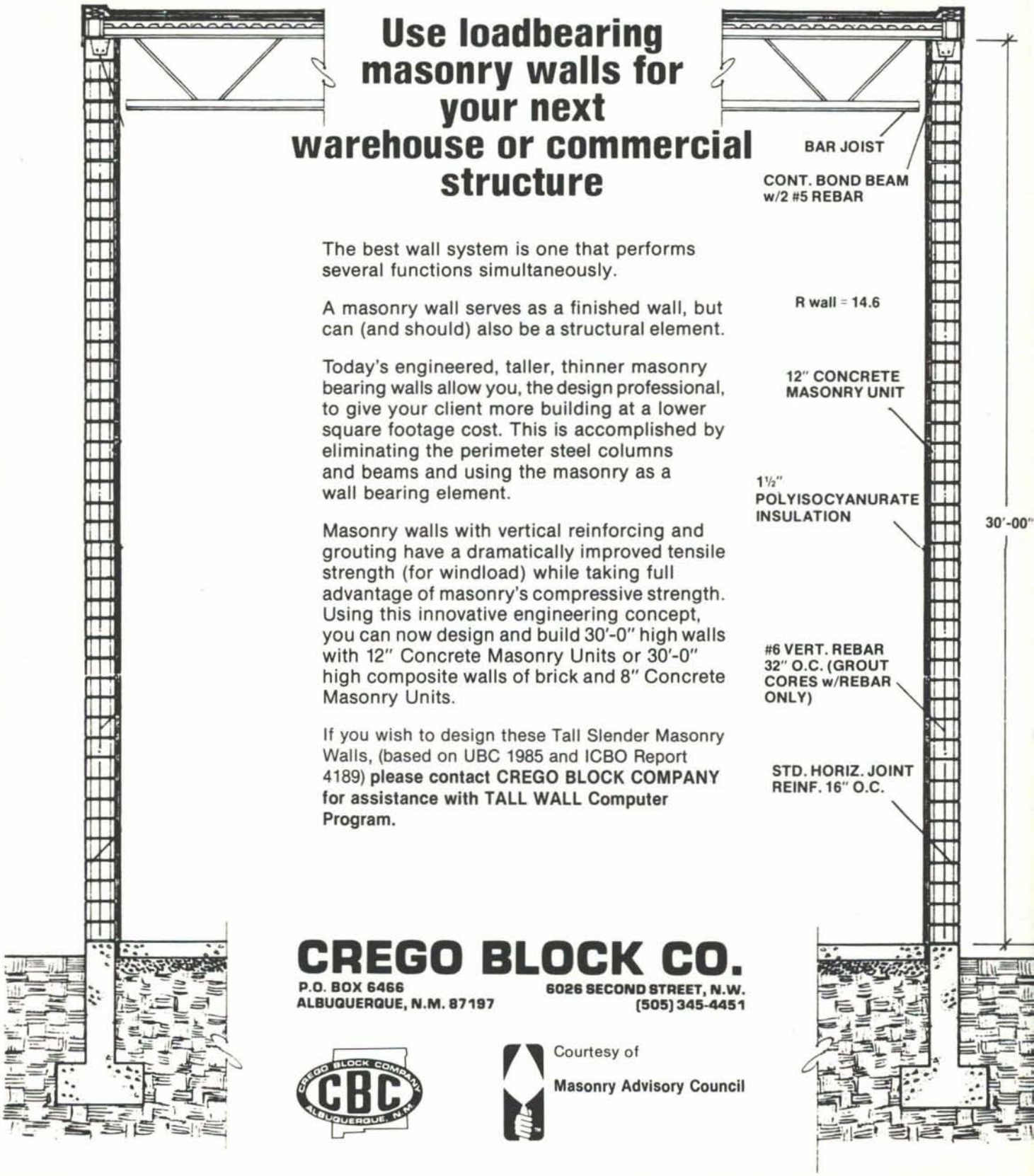

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In this issue,

are reports on three Albuquerque projects, one of which received a 1987 New Mexico Society of Architects Design Award: the La Cueva High School (see, also, the January/February issue of **NMA**). While the new high school is another educational block in the growth of our largest city, the other two projects are major building complexes in the development of Albuquerque's economic future: the expansion of the Albuquerque International Airport and the addition of facilities at the Albuquerque Convention Center. Both projects expect to bring more visitors into New Mexico thereby augmenting the flow of tourist dollars into the state.

□ □ □

The headline writers at the Santa Fe **New Mexican** seem unable to read the news story first. Reporting on a tragedy in India, the heading reads: "At least 14 dead in hotel collapse". A building did, indeed, collapse but it was a "new wing of a children's hospital" that collapsed not a hotel. This is not to make light of a serious and grievous accident that occurred thousands of miles re-moved from New Mexico, but our newspapers are supposed to report the news with some degree of accuracy.

□ □ □

A caption for the cover photograph on this issue of **NMA** reads as follows: Windows are tinted, and the long strips are made continuous by inserting spandrel glass units at interior walls. The curved corners in the concrete panel system, and the ribs, were designed in consultation with the concrete panel precaster. The corner design eliminates the joint at corners typical of precast construction. Steel forms were used to create the very crisp and precise ribbing.

The cover on this issue is made possible by the generous contribution of BPLW, Architects & Engineers, Inc. *JPC*

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(Cover—La Cueva High School—BPLW Architects & Engineers—© Kirk Gittings/Syntax, Photographer)

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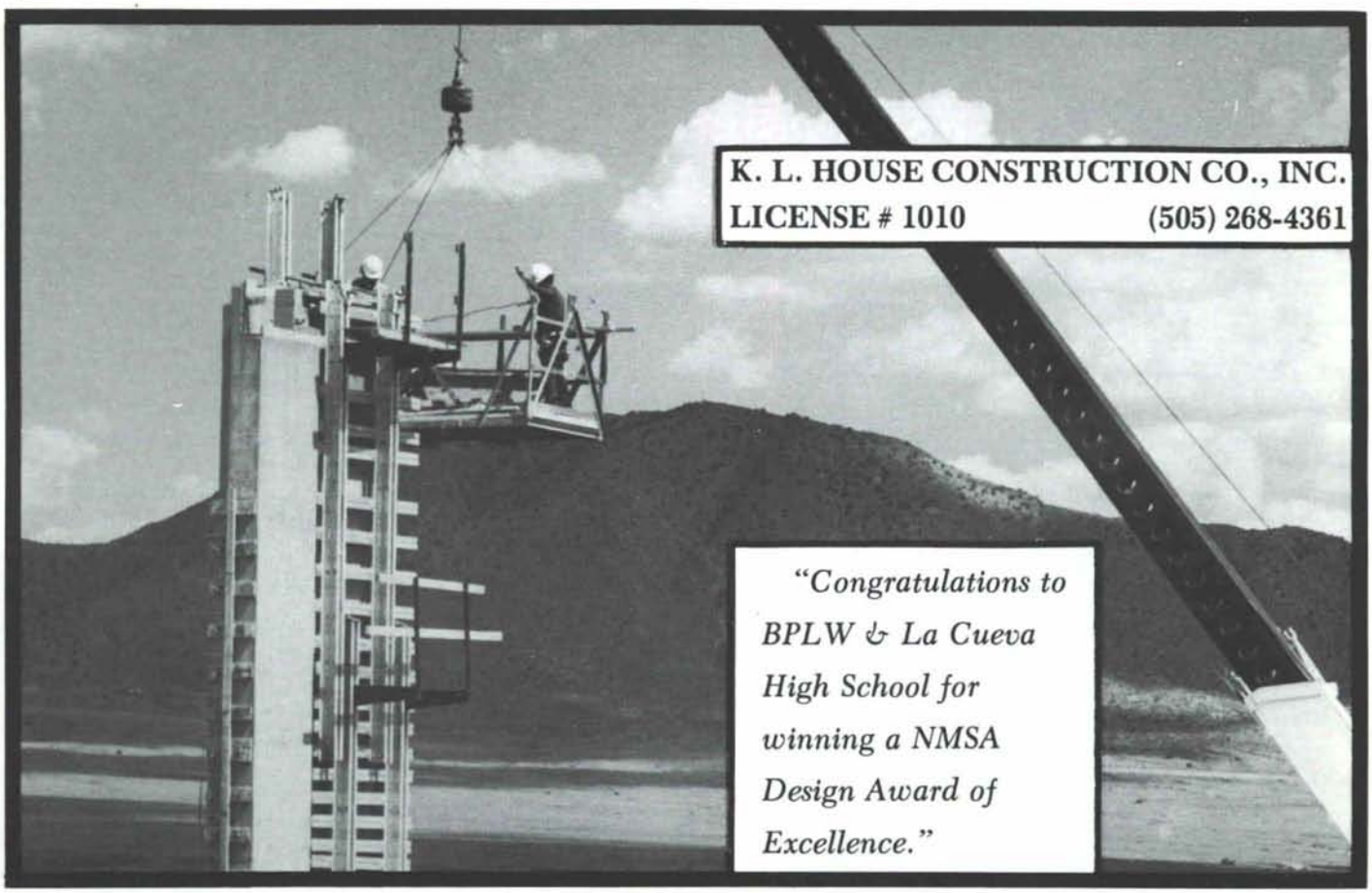

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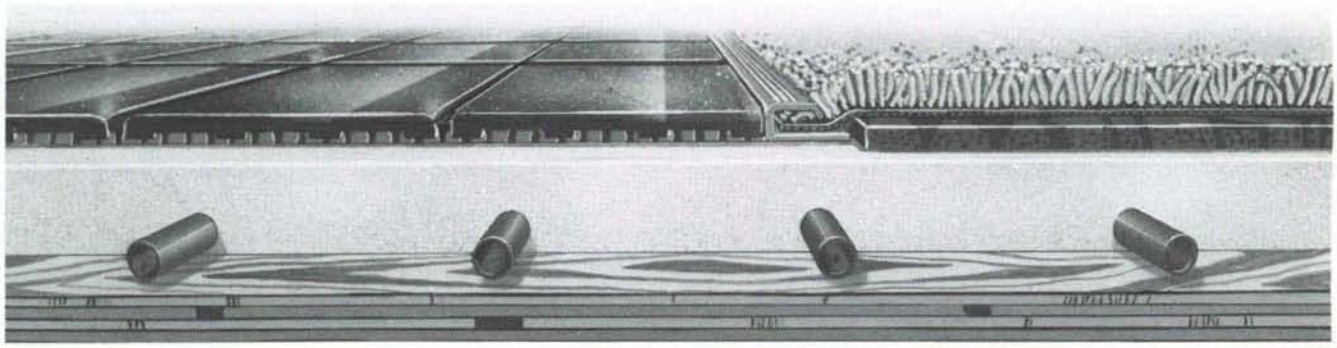

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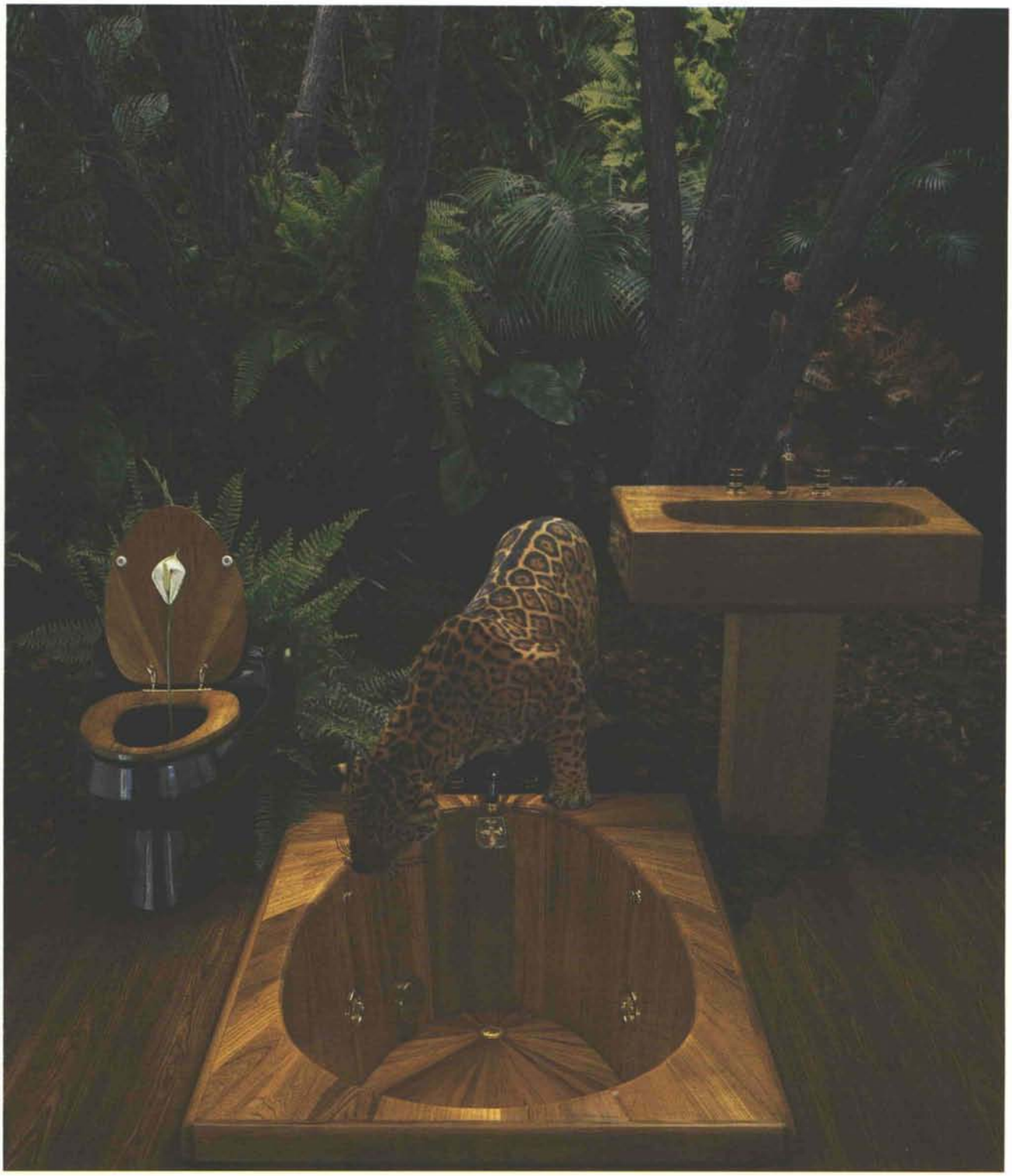

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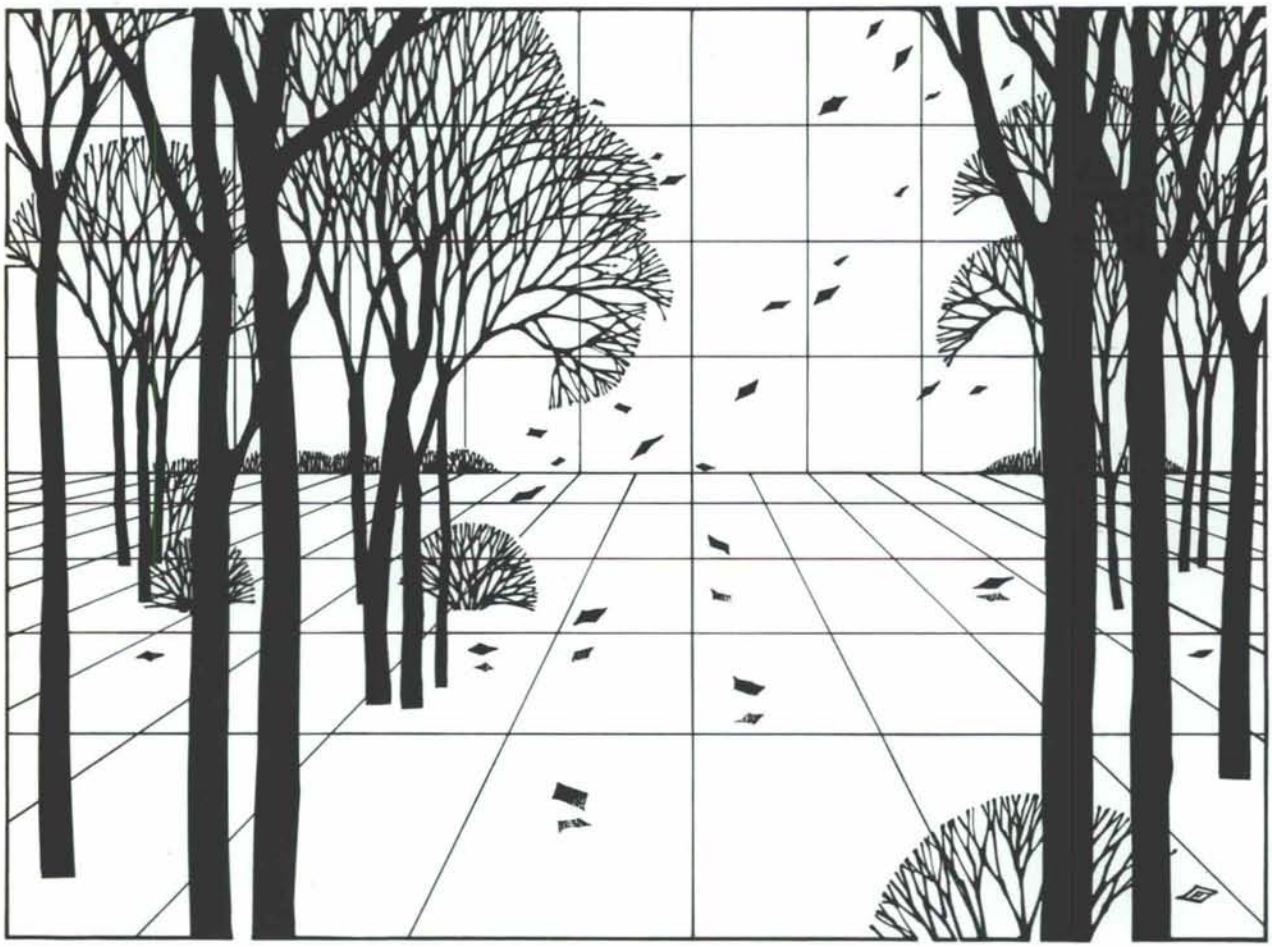

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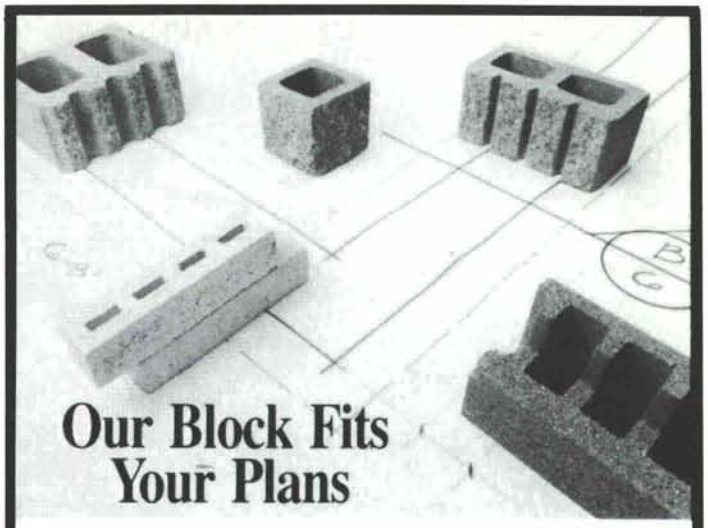

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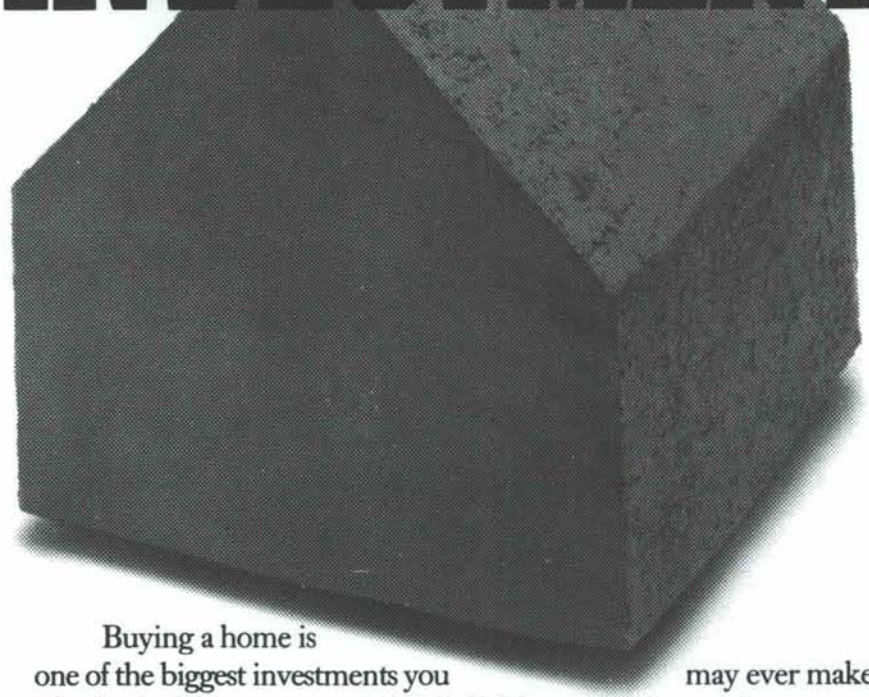

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Neighborhood construction will surround Albuquerque's newest high school in coming years. Now it looms in splendid isolation on the valley slopes above Paseo del Norte and Wyoming Boulevard.

ALBUQUERQUE'S NEWEST HIGH SCHOOL CREATES ITS OWN NEIGHBORHOOD

by Edna E. Heatherington

Predicting the future growth of Albuquerque, La Cueva, the city's newest high school, stands almost isolated on the upper slopes of the Rio Grande Valley, far to the north and east of urban development. Like all the Albuquerque high schools, La Cueva is large, built to accommodate 2,500 students, and it dominates the scene on its 45-acre site. Within, it is like a small, self-contained town with several neighborhoods.

THE DESIGN PROCESS

The architects, Long and Waters and the Burns/Peters Group, united in a joint venture to design the school, and before it was completed merged in the firm of BPLW Architects and Engineers, Inc. The project director and designers, Bill J. Waters and Ron Peters, and the project architects, Carol Meincke and Tyler Mason, worked from the beginning with a large committee made up of Albuquerque Public Schools administrators, teachers, and students. Some of the committee members moved into the new school, including the principal, Allen Crumm. A strong sense of participation and success has remained from the committee's work.

Albuquerque Public Schools, an owner with many years of experience, began the design process with standard APS criteria. Ron Peters attributes the individuality of the school to the fact that the architects were not required to adopt a complete, given floor plan, but instead worked with modules such as the typical classroom types, gymnasium, cafeteria, and so on, and arranged them to suit the site and the requirements of the school as a whole.

SITE AND GENERAL LAYOUT

A strong element affecting design was the spectacular view: the Sandia Mountains nearby and the great vistas of valley, mesas, and distant mountain ranges spread out in every direction. The school is placed diagonally on the site to line up windows with the view of Sandia Crest. This worked out well with functional site planning, giving a south-facing entrance and rational access for buses to the pickup and dropoff area, good traffic flow for students bet-

ween buses and building, and separate access to other parking lots.

The slope is severe enough to create challenges and opportunities, with a 38-foot drop across the site and 14 to 18 feet across the building footprint. The approach to the main entrance is a drive from below to a level midway in the site, where a spacious pedestrian ramp leads from the parking lot, under a bright red space frame, to the doors opening into the "Commons" or central mall. From this level, grand staircases lead up to the second-level classroom wings extending to the east, and the entrances to the gymnasium on the west open on the gym's mezzanine, with the playing floor below.

From the gym to the west, the playing fields become a part of the open and sweeping views toward and beyond the river. Student parking lots are behind the building, on the east, but below the windows' outlook upward to the Crest.

The architects paid particular attention to integrating the design of site structures with the palette of the building: retaining walls repeat the ribbing and are the same grey color as the concrete building panels, and the large-diameter red tubing provides visual accents as well as seating in the school's outdoor areas.

THE BUILDING'S ASPECT

"High-tech" and "freestyle" are the words the designers use to describe the general concept of the building. The primary palette of materials is ribbed precast concrete panels painted charcoal gray, smooth white metal panels, and bright, Chinese red metal elements separating and accenting them. Dark tinted fixed windows and spandrel glass add more polish to the facades. Within and without, the red-painted space frame is a dominating decorative element.

Inside, gleaming metallic ceilings accent the administrative areas and the entrance to the performing arts center at the front of the commons, and glazed "storefronts" create special entries to the media center (library) and another activity center. The design committee wanted real windows and more of a storefront aspect, but on this side of the commons, an area separation required by the building code made compromise necessary.

In the two-story commons area, with the red space frame and red-framed clerestory windows above, a series of ornamental red, yellow, and orange banners were added during construction when it became clear that the funds allotted to contingencies would not be exhausted by change orders. A combination of off-the-shelf and specially designed lighting fixtures light the commons, and red linear tube lights which shine up and are reflected by the white ceilings accent pathways and patterned ceiling designs in corridors and inner

The entrance, projecting strongly forward to the approach driveway, is clearly marked by the red painted space frame which extends from the structural element also exposed and painted red inside the school's central mall. The frame and a forest of dark gray painted concrete columns also continue on the east to create a courtyard. The playing fields are below to the left in the photo.

Stair and courtyard: Courts illuminated by clerestories create inner neighborhoods surrounded by wings of classrooms. Second story hallways have views; the corner at the top of the stair is a pleasant spot to pause, look out, and survey the courtyard below. Second story classrooms have windows into interior courts.

The Commons: The red-painted, large diameter tubing which decorates and protects the planter area is also placed at a level to make it comfortable as seating. Specially designed red light fixtures crown dark gray concrete columns. The snack bar "storefront" is visible in the middle distance, and the clerestory windows beyond the main staircase.

courtyards. The cafeteria is lit with the same red tube lighting, placed on diagonals.

FUNCTIONAL LAYOUT

The campus of a high school such as La Cueva includes a large number of specialized areas. Besides the administrative offices, the media center, the cafeteria, and the gymnasium, there are such specialized groups of classrooms as those for arts and for sciences, language labs, large lecture halls, and the performing arts center. At La Cueva, wings or hallways of classrooms are grouped according to these special subjects.

It has become a notorious characteristic of American schools that they are windowless, and the user group on the committee put a very high priority and degree of insistence on the need for natural light and access to views. The administrators and managers did not quibble over windows, but permitted them. In response to this, all classrooms on the exterior have windows, and groups are arranged around interior courtyards so that natural light is brought into as many classrooms and circulation areas as possible. The inner courtyards around stairs are designed to capture mountain views. One member of the committee who is now on the school faculty remarked that the designers did a superb job of making windows which do not look like windows: the implied goal was that windows which do not look like windows do not attract the idea of breaking them.

The concept for the commons emerged from the designers quizzing the student members of the committee about their favorite places for gathering and recreation. Shopping malls emerged as the important model, and the variety of school functions - media center, snack bar, gymnasium, cafeteria, performing arts center, student activities office, administrative offices - which form a core activity center of the school, offered themselves conveniently as a series of "shops" which could open from the central enclosed mall.

Contributing to the social comfort and usefulness of this central gathering place, the architects included benches and also designed the large-diameter, red-painted ornamental railings so that guardrails around planters and other incidental uses of this element become seating areas. Between the entrances to the gymnasium and the cafeteria, a "conversation pit" makes a small theater or meeting area with a glass block wall as a backdrop. The dramatically placed and staged stairs offer other points for pausing, visiting, and surveying the general scene.

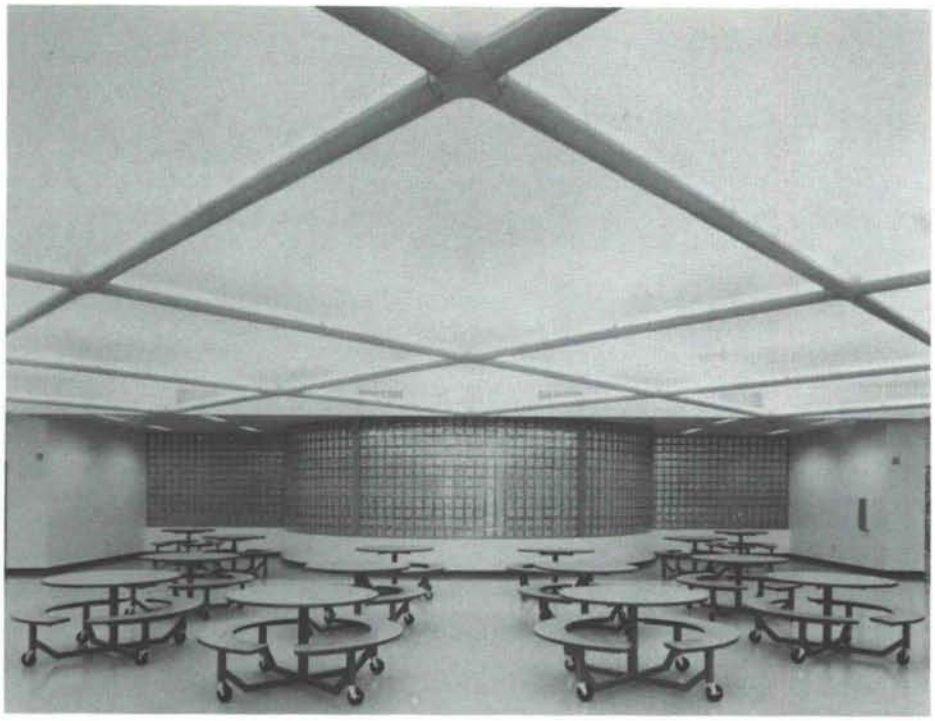
Without adding to building cost, by simply paying attention to the need for openness and for pausing and gathering points, the public spaces of this school have been designed not just as corridors and exit routes but as true public communal spaces. Such design creates luxury and pleasantness, and yet uses no expensive finish materials, accomplishing the goal with concrete, plain benches, steel framing and hollow metal, and the glamor of paint. The feeling of comfort is evident despite the limited and high-contrast palette of matte charcoal gray, smooth white, and bright shiny red accents.

Another luxurious element, derived directly from the model of the shopping mall, is the open administrative office area at the main entrance. Carpeted waiting areas open immediately off the main doorway, with reception desks, warm lighting, and a polished metallic ceiling. This space did not require a fire-resistive separation wall, but does need to be securely closed off when the school is being used for other activities such as athletic events or an event in the performing arts center. Security grilles disappear during daily use and roll out to secure the administrative area at other times.

Another interesting detail of the design committee's contribution was the insistence of the students that the cafeteria tables should be round. In the final analysis, only some of the tables are round, but they are an important aspect of the cafeteria's ambience. The glass block wall between the cafeteria and the commons

From the commons, one enters the gymnasium's mezzanine level. On the opposite side, doors open to the playing fields on the lower side of the site, to the west.

Administrative areas open directly to the commons just inside the main entrance, during school hours. Carpeting and special seating, metal ceiling, and the specially designed reception counters give this area its own definition. Security grilles close the area off when other activities are going on after hours.



The glass block wall separates the cafeteria from the commons. The curve into the cafeteria accomodates a "conversation pit" seating and staging area in the commons. Red tube lighting diagonal to the plan of the room lights by reflection from the white ceiling. Round tables were one of the most important elements requested by the students on the design committee.

adds to the luxurious finish and pleasant light effects in both spaces.

The primary element of the media center is the main library, where the tone is set by the oak library furniture and the ceiling of diagonally placed deep coffers with square panel lights. A broad array of windows at the back gives a single librarian visual control of the entire room from the large production room within. Storage and other specialized media rooms are located behind these main spaces, with a back entrance to a lecture hall and another wing.

The performing arts center is located at the main entrance, across from the administrative offices, with its entrance marked by a continuation of the polished metallic ceiling.

THE SCHOOL'S NEIGHBORHOODS

The effect of a self-contained town of several neighborhoods is created within the complex of central stair wells, enclosed light courts, and squares of corridors. From the central commons, one progresses down a typical classroom hallway and emerges into another open plaza with a monumental stair, clerestory windows with a view of the Crest, and a lounging or pausing area at the top of the stairs as well as the large open space on the lower level. The classroom wings, segregated according to special study areas, create a neighborhood quality in their vicinity. The plaza adjacent to the art wing, for example, is equipped with wall systems for the display of two-dimensional art work. Display cases create facades on interior streetscapes.

The natural light in the inner courts, the mountain views, and their two-story height, make them like outdoor plazas. The transition from a hallway into the courtyard creates a sensation of emerging from one place into another, almost like going from indoors to outdoors.

Outside, on the playing fields, in the walkways and patios, on the parking lots and roads, the big landscape around the school is a part of the experience of being there. At the end of the school day, some students hike away over the meadows, while others gather and get on the buses, and many more drive out in their trucks and cars. It will be interesting to see how the city's neighborhoods fill in around the large campus in coming years, and what its effect will be on its eventually urban or suburban surroundings.

E.E.H.

THE DESIGN AND CONSTRUCTION TEAM LA CUEVA HIGH SCHOOL

OWNER: Board of Education, Albuquerque Public Schools, Lilian Barna, Superintendent.

ARCHITECT, Phase I: Long and Waters, PA, in joint venture with the Burns/Peters Group, PA

CONSULTING ENGINEERS, Phase I:

Structural:
Bacchus Consulting Engineering

Mechanical:
Allison Engineering

Electrical:
Dean Powell/Coupland/Powell/Moran

ARCHITECT AND ENGINEERS, Phase II: BPLW Architects and Engineers, Inc.

CONTRACTORS: Phase I, Page and Wirtz; Phase II, K. L. House.

The building's structure is steel frame, with space frames, and specially designed trusses for the gymnasium. Heating, cooling and lighting are controlled by a computerized energy management system.

Final construction cost for both Phase I and Phase II was about $70 per square foot.

PHOTOGRAPHS: Kirk Gittings/Syntax

Edna E. Heatherington, CSI, CCS, has her own consulting firm, Heatherington and Schaller Information Management. She offers writing, specifying, and technical information management services to architects, engineers, and other construction industry clients.

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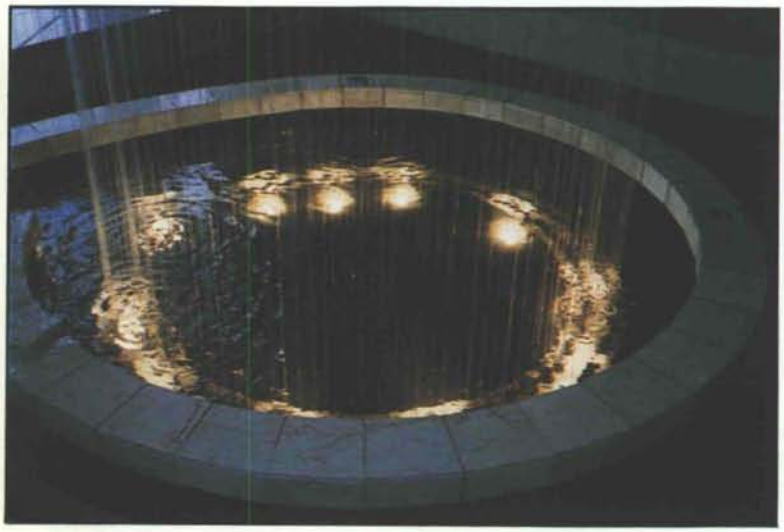

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ALBUQUERQUE CONVENTION CENTER EXPANSION

by Barbara L. Daniels

INTRODUCTION

Albuquerque, the largest city in New Mexico, has a population approaching 500,000. The city is nestled between the Sandia Mountains on the east and the mesas and volcanoes on the west. The Rio Grande wanders through the agricultural, residential, and commercial areas of the city on its way from Colorado to the Gulf of Mexico. Sunshine is enjoyed for 78% of the year. Into this scenic area thousands of visitors come each year — some to take a holiday, others to attend a conference.

The number of visitors (those requiring overnight accommodations) arriving in Albuquerque to participate in exhibitions, seminars, workships, trade shows, etc., has shown a steady 10% increase over the last several years. In order to maintain this growth and provide opportunities for as many groups as may wish to enjoy the city and its environs, one of the principal locations for these activities will be expanded and renovated. The existing Convention Center will be remodeled and an extensive expansion will be built on the site in downtown Albuquerque.

The Albuquerque Convention Center expansion has been a subject of discussion for about 6 years. Many designs have been presented for the chosen site as well as schemes for other sites throughout the city. The 1985 Master Plan serves as the point of departure for the final site selection, building design and space use program.

The goals of the Center are to encourage and promote the growth and enhancement of the entire community and the area surrounding the Center; to provide a positive national identity for Albuquerque as a nucleus of conventions, trade shows, conferences, and the visitor industry; to give the citizens a locale for exhibitions, consumer events, etc.; to provide revenue for the city and assistance to the economy of the entire metropolitan area and thereby to the state; and to focus the city's leadership in entertainment, recreational, and consumer activities within the context of the city's relationship to the community and the state.

The expansion and remodeling of the Albuquerque Convention Center is budgeted at $37,500,000.00 (estimated construction cost at midpoint in the construction process). An additional $1,500,000.00 has been budgeted for furnishings and special equipment. The breakdown (estimated) is as follows:

Parking Structure	6,900,000.00
Eastside extension	26,300,000.00
Remodeling existing	1,800,000.00
Westside extension	2,500,000.00

Remodeling plans for the existing convention center, included as a later phase, cover everything from the lighting, sound, and HVAC systems to the improvement/construction of more performance, office, and storage space. The existing kitchen will remain and be remodeled to facilitate selected services to the extant Center; however, the main kitchen will be in the expansion.

ALBUQUERQUE CONVENTION CENTER RENOVATION AND EXPANSION

Main Lobby

THE TEAM

The Convention Center project team is composed of Stevens, Mallory, Pearl & Campbell, P.A. Architects (project management, architecture, design and production); Holmes, Sabatini, Eeds Architects (project management, architecture, and design); Uhl & Lopez Engineering (electrical); Boyle Engineering Corp. (civil/structural); Bridgers & Paxton Engineering (mechanical); Johnnie Gillespie, ASID (interior design); Parking Dynamics (parking); Campbell, Okuma, Perkins & Associates (landscape); Professional Construction Consultants (cost estimating); and Lashober & Sovitch (kitchen planning).

Those responsible for the design are the following: Principal-in-Charge — C. Robert Campbell, AIA, SMP&C; Project Manager — Glenn H. Fellows, AIA, SMP&C; Assistant Project Manager — Jess T. Holmes, AIA, HSE; Design Consultants — William Q. Sabatini, AIA, HSE, and George C. Pearl, FAIA, SMP&C; Project Architects — J.E. Van Weaver, AIA, SMP&C; Stephanie A. Degen, AIA, SMP&C; Patricia Hancock, AIA, SMP&C; and Technical Architect — Zoltan John Nagy, AIA, CSI, SMP&C.

The architectural firms of SMP&C and HSE have extensive major project experience. SMP&C has been a continuing influence in the southwest for over 44 years. Sunwest Bank, Southwest Community Health Services, Mountain Bell, Albuquerque Public Schools, the City of Albuquerque, and the University of New Mexico are among the many clients whose projects have benefitted from SMP&C's expertise.

C. Robert Campbell, AIA, has more than 20 years experience in the management and coordination of large-scale complex projects, specifically in the areas of cost control, value engineering, scheduling, and coordination of work forces, as well as all phases of architectural design.

George C. Pearl, FAIA, well known and respected for his appropriate designs rendered in a Southwestern context, is responsible for programming and design within the firm.

The Albuquerque firm of Holmes, Sabatini, Eeds was formed in 1984. Prior to establishing HSE, Jess T. Holmes worked with JMA, Architects and Engineers, in Las Vegas, NV, as Principal and Director of JMA's Convention Center Planning Division. Holmes' design experience includes various convention centers and hotels, airports, and other public facilities. William Q. Sabatini, AIA, was employed by JMA, where he was responsible for programming and design, and at HNTB as Senior Design Architect, where he programmed and designed projects nationwide.

THE PROJECT

The Convention Center expansion scheduled for completion in 1990, will almost triple the existing exhibit space; the addition of the new conference rooms and corridors brings the total area to more than 195,000 square feet (SF) of combined exhibit space.

The design of the expansion emphasizes the separation of the delegate and service functions. The new main entrance delineates the southwest edge while the service entrance faces north with truck access/egress on the north and east. This new entrance will be fronted by a public plaza, which leads to the east into a drop-off point for public transit, thus alleviating current traffic congestion. Direct pedestrian access will also be provided at a new entry on the west side of the existing Second Street. A new public entrance, to be created on the west within the present Civic Plaza space in a later phase, will be in a two-level addition that will bridge Third Street and meet Civic Plaza at grade. Pedestrian and vehicle access will be maintained on Third Street, passing underneath the entry addition. The entrances on the east and west facades of the existing Center will be maintained. Convention association support space (4,200 SF) is provided overlooking the exhibit floor. More than 11,000 SF of storage and support area plus concessions and public facilities are included on the mezzanine level. Also incorporated on this level are 13 conference rooms (22,700 SF) and a major conference room complex subdivisible into 5 rooms (14,000 SF total).

With this new facility, Albuquerque will become more competitive with Phoenix, Tucson, Denver, San Antonio and Dallas within the southwest region.

The Albuquerque Convention and Visitors Bureau will gain an additional 8,700 SF of office space, convenient to both existing and new facilities and accessible to the public during "off hours" without opening major portions of the Center.

Design issues of specific concern in the expansion project include the following: flexibility; entrances; toilets; concessions; graphics; services; floors/ceilings; utilities; and staging/storage.

The 109,000 SF exhibit hall will be column-free to allow unobstructed interior vehicular circulation, the display of large equipment, and unlimited flexibility of booth layout. The booth spaces are designed on a 10′ x 10′ planning grid to accommodate convention industry standards. As many as 700 10′ x 10′ booths can be installed at one time. The exhibit hall can be divided into two units through the use of movable panels. Circulation pathways are designed to follow the perimeter of the exhibit halls, with entrances and exits at the corners and additional exits in the center of each side.

Graphics will be freely used throughout the complex. Signage in the present center will be redesigned to match that used in the new spaces. Entrances, exits, toilets, and concession areas will be identified; event-specific signage will direct delegates to aisles, rows, and products as appropriate.

Service vehicles will utilize aircraft hangar doors at the east and north loading dock areas. Full vehicular access to the exhibit floor is provided directly from street level. Various public streets allow traffic to move easily into the loading areas, guided by appropriate signage.

Flexibility is essential in ceiling height design for exhibit areas. The minimum height is 30′; an additional roof structure depth of 15′ will allow display of items and equipment, e.g., boats and airplanes, cranes, etc., requiring a height of 45′. Neither lights nor fixed equipment will hang lower than the bottom of the structural support system. Unlimited floor loading characterizes the exhibit floor, which will be constructed of a thick slab of heavily reinforced concrete on grade. No utilities or other systems that might restrict use will be placed on, within, or underneath the floor.

Food service to all areas will be provided by a new kitchen located on the same level as the exhibit hall and conference complex. Additional storage areas near the conference and exhibit spaces eliminate the unnecessary transportation of food. Snack bars located on the perimeter of the facility will provide service during breaks and other times as necessary.

New audio-visual, sound, and communications systems will be installed; closed circuit television systems and video security systems will be placed throughout the new facility. A central control room to monitor and control AV, sound, communications, and security is included in the design.

Acoustics will be designed as appropriate for meeting and exhibit spaces that may be subdivided by acoustic partitions. The main public lobbies will be acoustically enhanced as well since events will be hosted in these spaces. The operable partition walls used to divide the main exhibit hall and conference room complex will be carefully chosen to provide the highest degree of sound isolation.

The design of heating, ventilation, and air conditioning systems will require a complete and thorough analysis of the existing systems. The new HVAC systems

will be operated from a computerized central area and provide independent control of all areas. The new HVAC will be designed to facilitate the use of a portion or all of the equipment as needed, as well as to allow for proper balance and compatibility with the existing. Additionally, the engineers are designing an underground chilled water thermal storage tank system for use during peak load conditions. The resulting energy savings are expected to be $110,000 per year.

New power and lighting are required throughout the existing facility to ensure greater control, flexibility, and monitoring. A two-source system (set-up/takedown and show lighting designed for the new exhibit hall) is planned for the meeting rooms and the existing facilities as well. Emergency back-up systems for all power, lighting, and HVAC will be installed.

Telephone, intercom, sound, and natural gas, and 110V and 220V power — will be supplied from exterior walls, overhead catwalks, and utility drops. Water, 480V power, and sewer will be accessible from lockable boxes within the protective surrounds of the exhibit hall columns. A fluorescent lighting system provides adequate light for set-up/take-down, while High Intensity Discharge lighting will illuminate the hall during shows. Block switching allows discretionary lighting, a source of considerable savings in electricity.

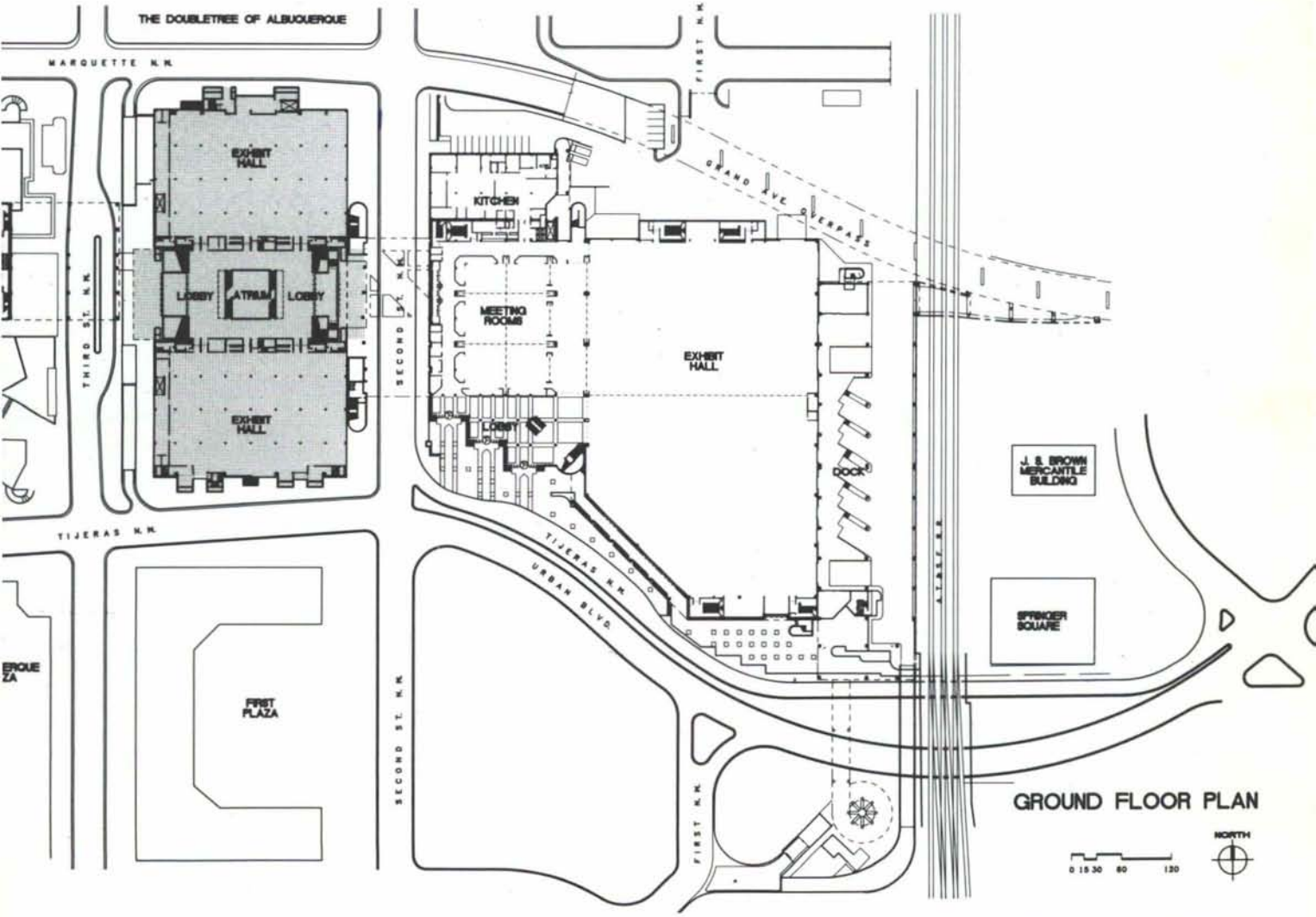
The entire project will meet ANSI-117.1 standards for handicapped access.

A critical feature of a successful convention center facility is the provision of adequate staging and storage space. Exhibitors operate on a time-sensitive schedule, imposed by the facility management and their own employers. Often set-up and take-down are each to be accomplished in 36 hours or less; consequently, an adequate staging area is essential to allow off-loading prior to set-up. The staging area near the loading dock also provides on-site storage for shipping crates and vehicles. Immediate access to these items facilitates efficient removal of the exhibit and reduces the down-time for the facility.

The new 16,000 SF ground level conference room lies to the west of the exhibit hall across a concourse which becomes usable exhibit space when the area is opened up to the exhibit hall. The conference area is divisible into six independent meeting rooms of equal size; more than 1600 delegates can enjoy a catered dinner in this area or 200 in each small room. The area, also designed on a 10′ x 10′ grid, will have a 14′ ceiling and reinforced floors with some utilities in place. The concourse plus the conference area adds 22,000 SF of exhibit space. Ample storage for fixtures, furniture, and equipment will be provided adjacent to the meeting rooms.

The new entrance to the southwest of the expansion will be accentuated by stepped elements composed of green-tinted glass within a similarly tinted framing system. The glass will form an apex above the center of each entry, rise above the roof level, and continue on to join the skylight that highlights the public spaces and connects the existing Center and the expansion. The entry block is further delineated by recessed decorative elements at the roof line extending on either side of each glass apex. Interior lobbies and circulation splines will be daylighted through this system of continuous skylighting.

The expansion will complement the existing building, respecting the height, color, and massing of the latter. Exterior sur-



Albuquerque Convention Center

Rendering by Sneary Christensen 1988 (aerial perspective from the southeast)

Project Architects:
Stevens, Mallory, Pearl & Campbell, P.A.
Holmes, Sabatini and Eeds

face materials will be smoother and softer than those of the existing Center to provide a friendly pedestrian streetscape. A base of finished precast concrete will extend upwards 8′ and be topped by preformed, metal honeycombed, smooth sandwich panels, which will cover the facade of the entire expansion, exclusive of the parking structure. A horizontal band of metal panels with a recessed vertical design adorns the midportion. The panels will be factory painted to match the concrete base and coordinate with the existing structure.

The interior finishes of the exhibit areas will be of exposed sealed concrete (floor) and painted drywall. The lobby will feature granite floors, while the meeting rooms will be carpeted. An acoustical wall treatment will be incorporated in the exhibit halls and meeting rooms. Wall and accent colors will be neutral and harmonious to avoid clashing with the association and convention colors and those of individual exhibitors.

The south elevator housing, projecting above the roof line of the parking structure, will mirror the stepped design elements of the major entrances to the exhibit hall, while serving as a focal point for the east portion of the site.

ACCESS/EGRESS

The 746-car, four-level parking structure located to the east of and adjacent to the new exhibit hall will be designed with level, linear bays to provide a favorable image when approached by oncoming traffic. Color, texture, and articulation of the concrete spandrels are intended to complement the entire facility and yield a unified design. Planters will be installed at the third and fourth levels to offer visual relief and maintain a sense of scale. The automobile entrance will be from the Marquette leg of the Grand Avenue overpass; exiting will be onto First Street and the new Urban Boulevard via a helix located at the southeast corner of the parking structure.

Trucks will enter the Center from First Street on the north. The loading dock and truck ramp, located below the parking levels, will be protected from the elements by the structure itself. A truck bridge will convey vehicles over Urban Boulevard to the exit streets.

The provision of access to the new exhibit halls and parking structure required the relocation of the Tijeras Avenue overpass farther to the south, the change of Tijeras into a direct access street for the main entrance on the southwest, and the creation of Urban Boulevard between Second Street and Broadway, south of and adjacent to Tijeras. Southbound First Street, discontinuous within the Convention Center, picks up again from Urban Boulevard and ends at Copper. Second Street and Grand Avenue (westbound) are unchanged. A second-level closed pedestrian link connects the old and new portions of the Center as it passes over Second Street. The link, illuminated by the skylight that joins the new exhibit hall and the existing Center, will house administrative offices and support facilities. The lobby/public space opens from this area, continues through the present Center, and terminates in the entrance to be built over Third Street.

Meeting rooms will be located on either side of the second-level lobby within the Third Street entry. Exceptional views of Civic Plaza and downtown will be featured in this entrance area, which permits direct access between the entire Convention Center complex and Civic Plaza.

CONCLUSION

Albuquerque has long debated the need for a Convention Center expansion and new exhibit halls. Some say that the existing one is not fully booked and the present hotels are able to handle current use. Others counter that an expanded Center and new flexible exhibit areas will attract larger conferences and exhibitions thereby creating the need for more hotel rooms and services. The proposed Albuquerque Plaza mixed-use development will assist in meeting the need for additional overnight accommodation. The project includes a hotel with meeting spaces designed to complement the Convention Center. Albuquerque Plaza will be built on the current site of the Mt. Bell State Headquarters Building, which is scheduled for demolition in March 1988.

The northeast corner of Albuquerque Plaza will lie diagonally across Third Street from the current Convention Center. An arcade will convey pedestrians from this entry point either to the hotel entrance or to the retail areas of the plaza. Arcades, street trees, and landscaping are featured along the Tijeras Avenue, Copper Avenue, and Fourth Street facades as well. The new hotel in Albuquerque Plaza will have 450 sleeping rooms and 20-25 meeting rooms. The two highest towers to be built on a single site in New Mexico are planned: office tower (20 floors, 336′ total height); hotel tower (21 floors, 280′ total height).

With the expanded capability previously described, Albuquerque can attract national and international conventions and exhibitions expecting more than 8-10,000 delegates as opposed to 2500 now. (The former figure refers to the number of persons that could be seated in a plenary session.)

Albuquerque will thus become more competitive with Phoenix, Tucson, Denver, San Antonio, and Dallas within the Southwest region.

The space requirements of the majority of the national exhibition/trade shows fall within the 150,000 SF range. Among the types of organizations whose regional and national conventions could not have been easily hosted in Albuquerque prior to the expansion are the following:

- Solid Waste Management conference/exhibitions — requiring space and height and unlimited floor loading for large equipment, vehicles, and demonstrations.
- Aircraft and pleasure boat shows — requiring extra height in display area and wide door access.
- Religious conventions — requiring extensive floor seating.
- Kitchen and bath exhibitions — requiring floor space for displays.
- Medical meetings and computer shows — each requiring space for equipment.
- Armed Services reunions — requiring meeting rooms and floor seating.

Larger and more diverse as well as a greater number of smaller groups can be accommodated in the new exhibit halls due to the size, ceiling height, location of services, floor loading capabilities, and direct off-street access/egress to the halls. The following are among the organizations that have committed to use the facility after completion in spring 1990.

Year	Organization	Attendance
1990	Automotive Parts Rebuilders Association	2,400
1990	Western Shrine Association	14,000
1990	SW Consortium of Indian Headstart Program	750
1991	American Society of Plant Physiologists	1,500
1991	American Farriers' Association	1,000
1992	International Electric and Electrical Engineers (IEEE)	10,000
1992	American Camping Association	1,200

In addition to satisfying those groups requiring large spaces, organizations needing hundreds of exhibit units or a number of smaller exhibit halls and conference areas can be accommodated as well.

The following data are derived from a 1984 feasibility study prepared by Gladstone and Associates. The expansion and remodeling of the Convention Center as planned and the addition of first-class sleeping rooms could increase the potential total number of potential sponsors of single events, who might consider Albuquerque as a site, from 508 to 820. The number of bookings in this range (4,000 — 5,000 delegates) could reasonably increase by 61% with the new facilities. The number of delegates Albuquerque can currently

host is about 22,500 (local and visitors), which could increase to 36,900. According to national surveys of convention facilities, delegates spend about $140/day over an average of 3.8 days, contributing more than $500 to the community. Albuquerque, now in the 22,500 range, should receive $11.5 M (million) annum. When the number of delegates increases to 36,900, the revenue earned is $18.8 M. Exhibitors spend $150-155/day over a period of 4.5-5 days. Based on a maximum of 700 exhibit booths and 2 people per booth (1400) the total generated from exhibitors alone is more than $1 M/event. The average amount spent/day by delegates and exhibitors including service contractors is $787/4-day stay. (Note: These calculations are based on all delegates spending the same amount of money per day. In reality, the cost of sleeping rooms should not be included in the daily expenses for local delegates.)

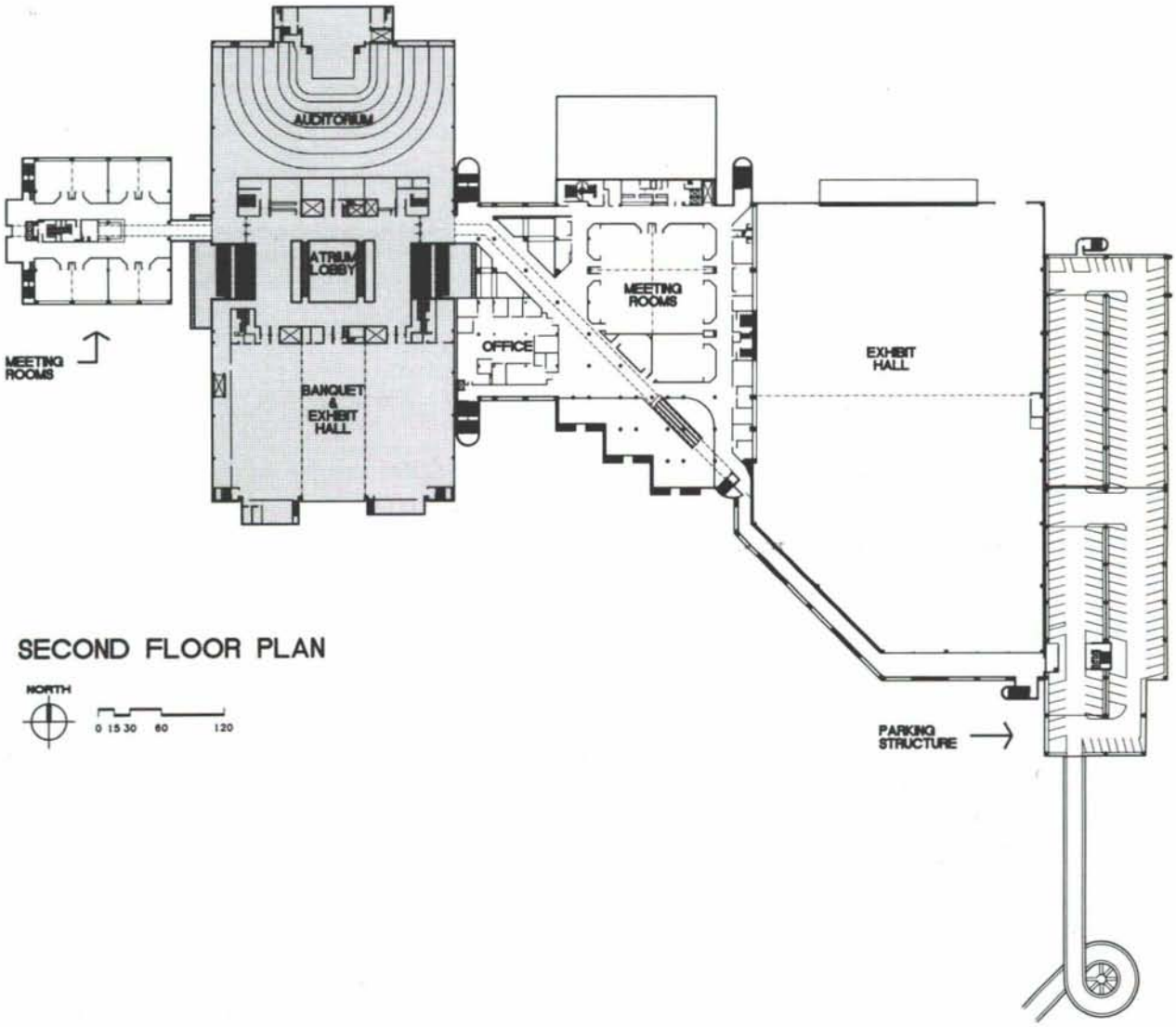
A further rule of thumb among facilities managers is that every $20 M the community generates results in $60 M in revenue (or 3:1). The City and the businesses which will benefit from the activity generated by the expanded Center look forward to its completion in spring 1990.

THE FUTURE

The site immediately north of the new exhibit halls is the projected location for future expansion. The addition of a new 73,600 SF exhibit hall would provide continuous exhibit space of 206,000 SF, which could also be used independently of the hall currently being designed and constructed. HVAC, electrical, and utility systems installed in the new exhibit areas and conference/meeting rooms currently in progress will be designed to allow future expansion. *B.L.D.*

The author would like to thank the following individuals for their assistance in writing, preparing this article: Jerry Bedford, (Director, Sales and Marketing, Albuquerque Convention and Visitors Bureau); Jess T. Holmes, AIA (Holmes, Sabatini, Eeds); and C. Robert Campbell, AIA, and Glenn H. Fellows, AIA (Stevens, Mallory, Pearl & Campbell).

Barbara L. Daniels is in Business Development at Stevens, Mallory, Pearl & Campbell, Architects. A long time preservationist and editor in New Mexico, she maintains an active interest in the revitalization of downtown Albuquerque. Daniels was the creator of the quarterly ***Preservation New Mexico*** *and served as Editor for two years. She edited the* ***APT Communique*** *for over 10 years and continues to consult on the preparation of periodicals. Currently a member of AIA committees at both the local and national levels, she is involved in the promotion of architecture and preservation.*



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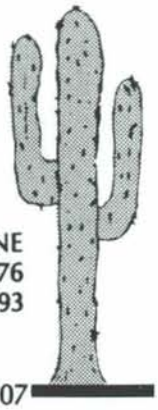

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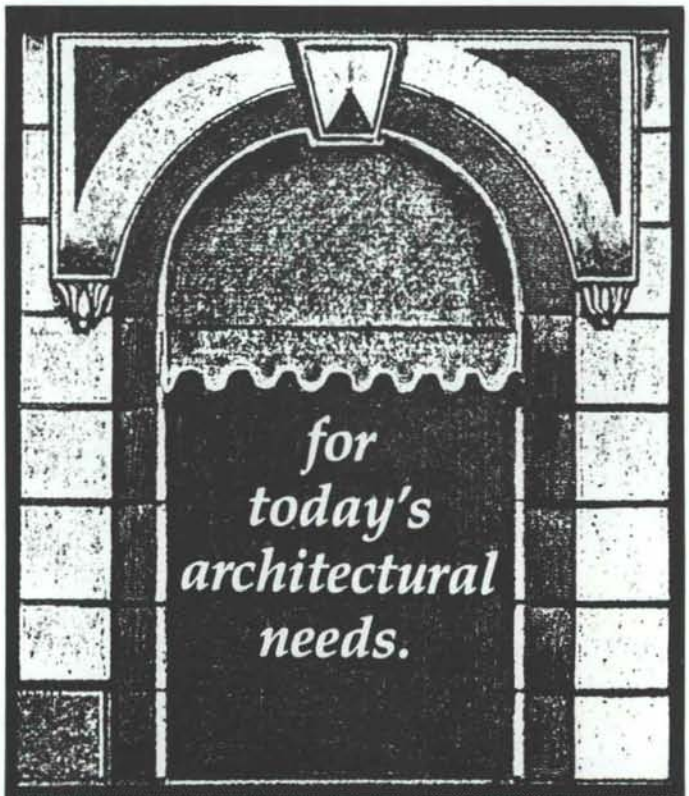

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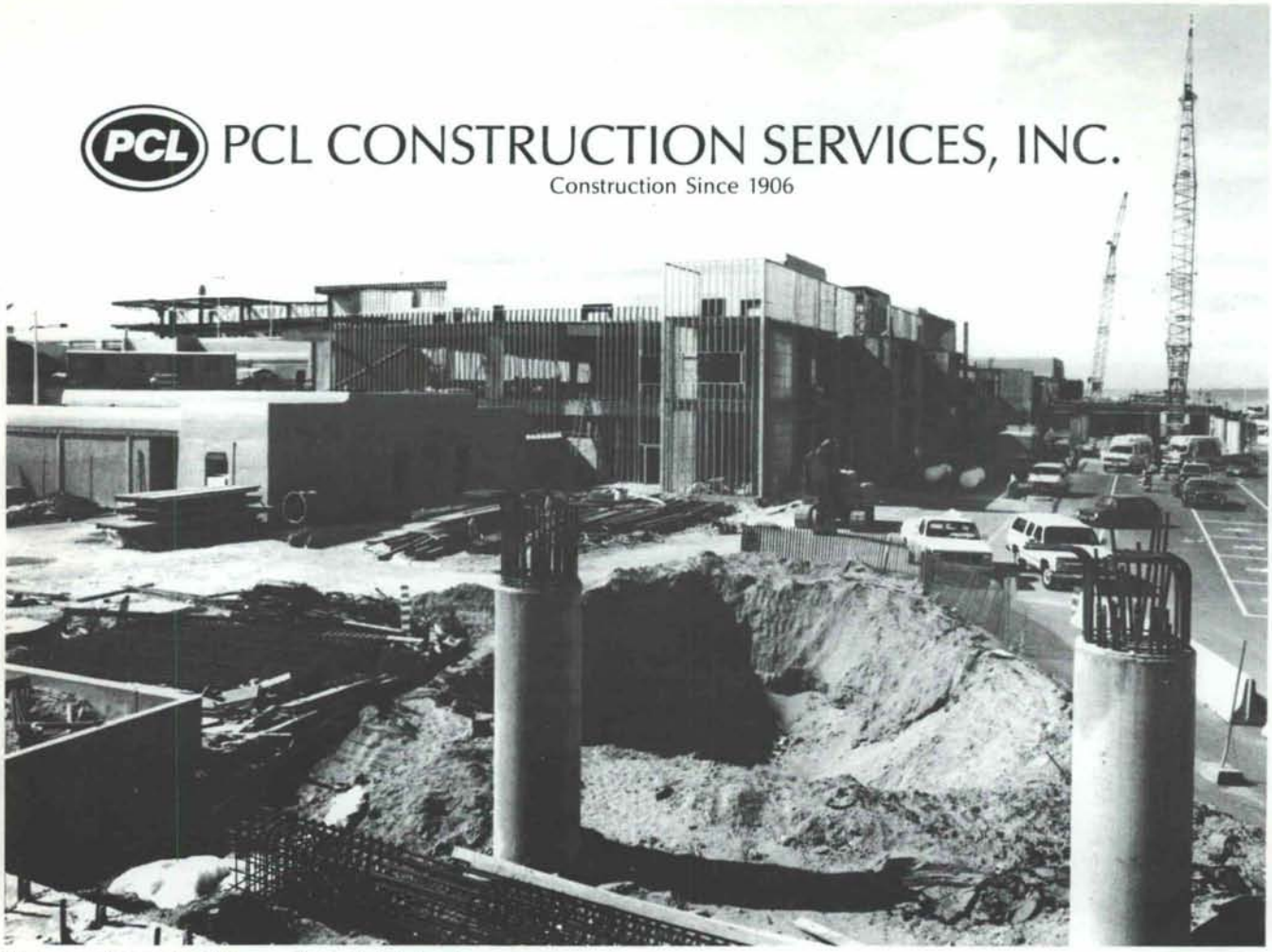

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ALBUQUERQUE'S UNIQUE AIRPORT WILL RETAIN ITS REGIONAL STYLE AFTER THE EXPANSION

by Edna E. Heatherington

"Spirited Design" is the headline on a story about the Albuquerque Airport published last summer in the Albuquerque **Journal**'s "Impact" weekly feature magazine. "Here at the Albuquerque International Airport, where the jet age comes to ground in adobe style, the spirit of the past has always waited to enchant newcomers," says the author, Frank Zoretich.

The expansion and renovation of the Airport, officially titled Master Plan Improvements, is the largest construction project in New Mexico, and its construction, in this time when so many people travel by air, directly affects a great many people, including most newcomers to the city and region. Since the major portion of the work on the terminal began in the spring of 1987, it has been the topic of many news stories, most of them explanations or warnings of change and confusion, as operations and construction continue simultaneously.

A primary concern of people in the street has been whether the drastically remodelled and much larger new airport will retain the "adobe style" and special quality which they are familiar with in the 1965 terminal building. When the designer of that building, William E. Burk, Jr., died this winter, he had lived long enough to see the younger generation of architects go through the post-World War II period of Modernism (the International Style) and evolve both a functional method of regional design and an appreciation of the history, meaning, and architectonic potential of regional styles.

The Burns/Peters Group (now BPLW Architects and Engineers), architects for the current expansion, approached the project fully appreciating the success of the 1965 building, and ready to design spaces, facades, spatial transitions, details, and ornament in sympathy with the "spirit of the past" which has indeed enchanted the airport's users for two decades.

ALBUQUERQUE'S AIRPORT HAS ALWAYS BEEN REGIONAL

In 1939, one of several Works Progress Administration projects in Albuquerque was the adobe airport terminal designed by Ernest H. Blumenthal, which still stands at the end of Yale Boulevard and is the location of the project office of Burns/Peters. Resembling Blumenthal's Fire Station No. 3 of 1936 (now the Monte Vista Fire Station Restaurant), the airport is not only in the puebloan style by is in fact genuine adobe and timber construction. Its forms follow its functions, and include a tall chimney and the observation tower, but its mass and framing are inevitable results of its being built in the local manner. However, in an early photograph, a picturesque pueblo-style ladder adorns a parapet above the shaded entrance, suggesting that the style was consciously selected and enhanced with details.

When the office of William Burk was selected in 1965 to design an airport master plan and new terminal, Burk worked directly with then Aviation Director Clyde Sharrer. According to Burns/Peters Partner-in-Charge Ron Peters, who talked with Sharrer before his death a few years ago, neither the Director nor the architect thought that Albuquerque would ever outgrow the terminal as it was designed, with its eight gates and master plan for adding two more satellites. For one thing, they supposed that another important commercial airport would be built in Santa Fe.

By 1965, twenty years after the end of World War II, many practicing architects, as well as teachers and students of architecture, embraced the modern principle that to design "in a style" was dishonest. To acknowledge both the modern materials and methods of construction, and the forces of the time, another architect would have designed the Albuquerque airport to be up-to-date, scientific, of the "space age." To Burk, the opposite was true, for New Mexico. He said to Zoretich, "Modern architecture fits New Mexico like a sock on a rooster."

Burk, who left architectural studies at Cornell to complete his degree in architectual sculpture at the University of Southern California, regarded Modernism's absence of ornament as the result of economic necessity and the loss of crafts skills. He regarded it as a style among other styles, and occasionally, when he found it suitable, turned his hand to it.

He said of the airport, "It would give the public, especially air travelers, an experience of the architectural beauty of the Southwest....The work was a dedicated effort to produce a monumental structure that says: This is New Mexico." In a different interview, he described how he considered the Spanish-puebloan and the Territorial styles, and chose the first because its weighty massing and heavy timbers were most appropriate to the large scale of the building.

Talking with Zoretich, Burk acknowledged the problem of maintaining the essential style in a structure of such physical size. Especially the lobby, which is the key space which has so pleased and satisfied the public: "It was a challenge to build a space that large - and maintain the theme," he said.

REGIONALISM COME OF AGE IN THE 80'S

Zoretich also interviewed Peters, the lead designer for the present expansion. "We want people to say: I've never been in an airport like this!' That's the city's main objective," says Peters in that interview.

Not only has the puebloan-style airport been a success with the general public, but architects and critics all over the United States have come to recognize the continuing merit of the Southwestern regional styles. In its March 1984 issue on "The Desert Southwest," **Architecture**, the journal of the American Institute of Architects, includes an article on Albuquerque by David Dillon which opens: "Albuquerque airport makes one of America's great first impressions....You know immediately that you're not in Dallas or Atlanta."

"It's amazing that architects were judged by how well they repeated the past. Now we'll be judged on how well we respected the past, how we respect those details"..

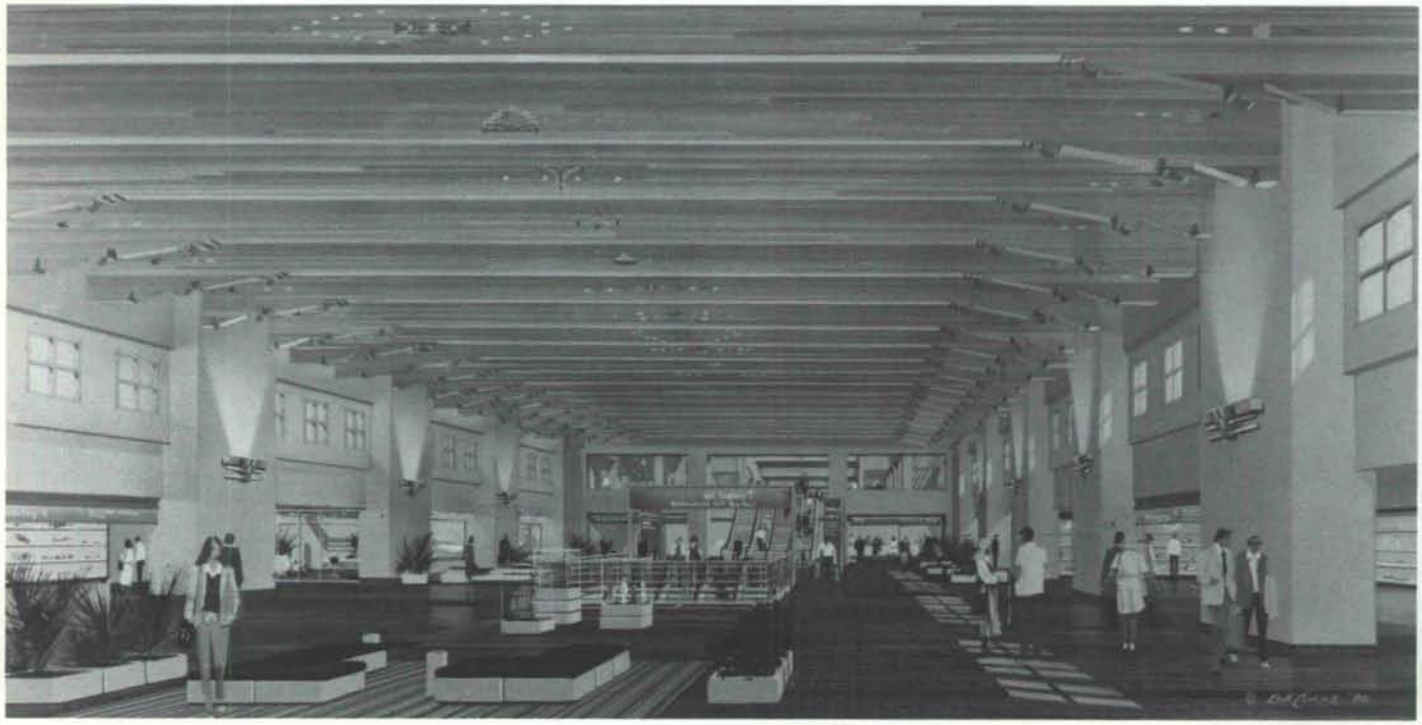
Ron Peters

[Exterior]

The north-facing facade and transportation links, called "Landside" in airport parlance. The new parking garage is shown on the left, set into the hillside site so as not to obstruct views from the terminal building. Passengers arriving at Albuquerque emerge from the terminal at the lowest level. On the upper roadway, departing passengers may be dropped off under the portales, and proceed to the new ticket counters on the same level.

[Interior]

The existing lobby will be renovated and slightly remodelled. The new windows will be similar in shape and proportion to those of seventeenth-century New Mexico mission churches. The new main concourse will be on a new third level, from which access to all aircraft will be by loading bridge. In the drawing, the new escalators to this level are seen at the rear of the renovated Great Hall.



EXPANDING WITH THE FUTURE IN MIND

Although the lobby of 1965 was so big as to stretch the use of the puebloan style apparently to its limit, the current expansion of the terminal increases the scale several times again, bringing capacity to 19 gates, with 32 in planned expansion, each able to accommodate the largest type of airplane. However, not every space must be gigantic; the design process focuses on planning movement: traffic flow of airplanes, support vehicles, passengers on foot and in wheelchairs and strollers, cars, buses, taxis.

The planning effort began with a study of airport statistics and history, and of the 1983 master plan prepared by Greiner Engineering Sciences, Inc. In 1987, more than four million passengers passed through the airport, with nearly 8 million expected annually by 1995. One and a half times as many people visit the airport to meet or part from those who take a plane, or for other activities, so the population of visitors other than passengers will grow from an added six million to 12 million during the same time.

Since 1965, when it appeared that Santa Fe also would build an airport, western airports in Denver, Phoenix, and Dallas have developed as "hubs" where particular airlines center and connect their flights. The present expectation of the Aviation Department and the architects is that Albuquerque will remain a destination airport rather than a transfer point. However, the terminal as designed could be further expanded to accommodate a carrier's hub in an independent eight-position terminal.

Another key to planning is that funding of the new construction is entirely through revenue bonds, with no dependence on funds coming directly from airlines. This means that airlines don't own their own gates (with the exception of TWA's gates 14 and 15 which are leased until 2025), and all gates may be used by arriving airplanes in sequence, and assigned by ground control. Peters estimates that this doubles the capacity of the airport at peak hours.

An aspect of the new terminal of which users have been most aware during the first year of construction is the total redesign of ground transportation and parking. Arrival and departure will be separated on two levels, and a four-level, 3,500-car parking garage will replace the old upper parking lot. The new larger building will have baggage claim at the lowest level, with exits directly to ground level and vehicular pickup area. On the second level, departing passengers may be dropped off and proceed directly to the new ticket counters. This is also the level of the aircraft aprons, and the gates for smaller commuter airplanes, which are boarded without loading bridges, will open here. The third level will be the main concourse, leading to gate lobbies all equipped with loading bridges. The gate lobbies have been designed to take advantage of the magnificent views of valley and mountains.

THE STYLE OF THE NEW DESIGN

In keeping with both the enormous scale of this phase of expansion, and with the increased specialization of architects in the face of the expanding body of technical knowledge, the Burns/Peters Group engaged consulting architects TRA of Seattle. Among many others, TRA has designed the new McCarran Airport at Las Vegas, Nevada. To begin the joint task of creating a modern, expandable airport while maintaining its unique regional style, the local architects took TRA staff on a tour of Albuquerque and Santa Fe, including local pueblos and in particular the buildings of John Gaw Meem. Zimmerman Library, with its great study halls and exquisite detail, is Peters' favorite example. For "the scale and the feel of regional architecture," he says, he wanted the architects from Seattle to experience not recent buildings built in the rational regional style developed from Modernism, but Meem's graceful translations of puebloan architecture into "permanent materials."

Besides the new concourses leading to the added gates, the expansion will create a second Upper Hall above and south of the renovated lobby. The lobby is now called the Great Hall - a term Burk thought pretentious, but which reflects the magnitude and unique quality of its effect. Renovations in the Great Hall will

The 1939 airport with its WPA sign still in place, just after completion. The mast at the left carries some of the weather instruments. The control tower is the square element above the shadowy portal of the main entrance.

Photo courtesy of Albuquerque Museum, No. 72.255/1

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include the change of floors to brick (a change taking place throughout the terminal), and the replacement of the large high windows with smaller divided windows. The new windows will be more reminiscent of the proportions of the high windows of seventeenth-century New Mexico mission churches, and will revise the appearance that the beams rest on glass.

The new Upper Hall will also have a thirty-foot ceiling, but is designed to be harmonious in style but different in appearance from the Great Hall. The concourses will have comparatively low ceiling, with the pedestrian paths marked by a ceiling finish of wood rails suggesting the traditional **latia** ceiling of the pueblo. Where corridors intersect, plaster ceilings are higher, with a stepped form and special colors.

The new exterior facade, with the upper and lower roadways, will be broken up into several masses, both by changes of level in the parapets of the main facade and by projecting **portales** at the entrances. Metal roof shades suggestive of exposed timber construction extend between these projecting entrances to shelter the upper level and add patterns of light and shadow to the upper facade. The parking garage is set down into the site so that the view from the terminal building to the mountains is unobscured.

Within the terminal, the furnishings are a key element which will be refurbished and added to rather than changed. The Department of Aviation gets many letters praising the size, comfort, and unique western style of the square leather seats and the heavy carved tables. The existing ones will be refinished and will receive new leather upholstery, and more seats will be added. Leather was again selected for the seats, despite its cost, because the existing chairs and couches have lasted in good condition for more than 20 years, while the expected life for other materials would be half that.

In this aerial view taken in mid-March 1988, from just west of the airport, traffic is visible on the temporary road while the new two-level roadway is under construction along the terminal's north facade. On the left, steel for the new parking structure is stacked in the excavation where it will be erected, and another section of elevated roadway can be seen to the east. Out of the picture on the right (south) is the new concourse, already in use while the lobbies and connecting structures are under construction. (Photo courtesy of Eagle's Eye Photo Specialists.)

RENEWING AND PRESERVING

Reflecting on the challenge and the accomplishment of this major revision of a popular and important public building, Ron Peters remarked that although when he was a student he didn't like to study architectural history, he finds that now that he is a practicing architect he has come to enjoy reading about his predecessors. "It's amazing that architects were judged by how well they repeated the past," he said. "Now we'll be judged on how well we respect the past, how we respect those details."

E.E.H.

MASTER PLAN IMPROVEMENTS ALBUQUERQUE INTERNATIONAL AIRPORT

Construction started spring 1987; Terminal Building to be completed during 1989.

OWNER: City of Albuquerque

MANAGING AGENCY: Department of Aviation
R. Lowell Pratte, AAE, Director
Robert E. Gurule, Project Coordinator

ARCHITECTS: The Burns/Peters Group PA/BPLW Architects and Engineers, Inc.

CONSULTING ARCHITECT: TRA Airport Consulting, Seattle, Washington

ENGINEERS:
Greiner Engineering Sciences - Civil
Boyle Engineering - Structural
Bridgers and Paxton - Mechanical
Uhl & Lopez - Electrical
BPLW Architects & Engineers - Structural/Mechanical/Electrical

LANDSCAPE ARCHITECT: Campbell/Okuma/Perkins

INTERIORS: TRA Interiors

GRAPHICS: TRA Graphics

CONTRACTORS:
Terminal Building: PCL Construction, Denver
Landside Civil, Phase A: Sundance Mechanical
Landside Civil, Phases B, C: PCL Construction
Apron: Mountain States Construction
Parking Structure: Jaynes Corp.
Maintenance Building: Britton & Rich
FAA Environmental Building: Talon Corporation, Tijeras
Terminal Bldg. Casework: J. R. Lavis Construction
Loading Bridges: Jetway Corp., Ogden, Utah

The total project consists of 13 construction projects. Total project cost is $120 million; construction cost is approximately $95 million.

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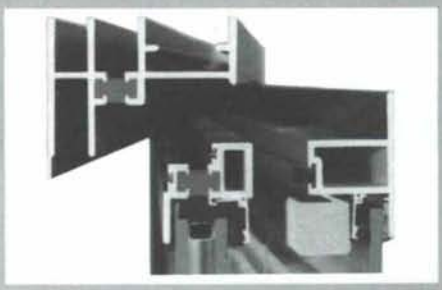

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