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In this issue is the work of two architectural firms, whose recent work has added increased excitement at the Rio Grande Zoological Park in Albuquerque. New Mexico is fortunate to have such a zoo complex in its midst for the enjoyment and education of us all.

The editors and the Magazine Committee want to express their appreciation to those firms who have demonstrated a faith in the magazine through their advertisements. With their continued support, and with increasing support from additional firms, we expect to grow in pages and accordingly in editorial content. We realize that the current issues look slim, however we are afloat, healthy and getting even stronger. We shall see growth at that magic printing press number of four pages a jump. It is contemplated that the first jump in size will be with the September-October issue. Our advertisers are our life blood and we thank them most sincerely.

The color cover for this issue is sponsored by architect Dale Crawford, who designed the Zoo Entrance Pavilion, and three of its building materials suppliers. Kinney Brick Company supplied the brick pavers for the Zoo Entrance, Gift Shop and Snack Bar as well as the brick for the entrance Plaza planters. Crego Block Company furnished the concrete masonry units for the entrance, gift shop and snack bar, and the masonry pavers for use in the entrance. Aluminum Sales Corporation furnished and installed the metal roof for the Entrance Pavilion. We are most grateful to them all.

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July-August 1985
ENTRANCE PAVILLION, PLAZA AND SHOPS

Rio Grande Zoological Park, Albuquerque, NM

The RIO GRANDE ZOO has started an ambitious program of upgrading and modernizing its facilities, both for animals and for people. Included in the major program to improve public facilities was a plan to reorganize and expand many of the administrative facilities and organization.

The existing public control and service functions were awkward and inefficient. The existing main Zoo entrance was located at the far end of the main existing parking lot, but a considerable distance from the administrative offices. This made the cashier, security and administrative functions extremely hard to manage. Having the main entrance located where it was resulted in poor planning for the public too. Inadequate parking was available, group tour permits were inconvenient, and the entrance was non-descript. It was difficult for a visitor to locate the entrance - and exit.

Once inside the Zoo confines, the flow was disorganized and a 'free-for-all' traffic pattern resulted. Trying to find the exit to leave was laborious. A definite organization of traffic flow and exhibit pattern was badly needed.

A major Zoo function was also missing from the existing operations; there was no gift shop near the main entrance or exit and a very potential revenue source was being missed. This omission was also a loss for Zoo visitors who could not acquire souvenirs, mementos, etc. of the Rio Grande Zoo. To culminate all the foregoing problems, the Zoo also did not have an organized nor attractive graphic signage system which led to the confusion, mixed traffic patterns and wandering visitors.

The architectural/planning firm of DALE CRAWFORD & ASSOCIATES, P.C. was selected by the City of Albuquerque to develop plans for a main new entrance, an entrance plaza with gardens & walks, gift shop and snack-bar, a new parking lot,

mementos, etc. of the Rio Grande Zoo. To culminate all the foregoing problems, the Zoo also did not have an organized nor attractive graphic signage system which led to the confusion, mixed traffic patterns and wandering visitors.

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and a new graphics system. The firm, with Dale Crawford as Principal Architect and Ray Darnell as Job Captain proceeded to design the new facilities around an established budget and criteria by the Zoo staff headed by John Moore, Director and John Roth, Assistant Director.

In order to resolve the administrative problems of cashiers, security and control as well as to meet the basic requirement of a newly established Zoo traffic route, entrance and exiting, a new main entrance pavilion was created adjacent to the existing Administrative Building. This, however, created a problem of de-emphasising the Admin. Bldg. and emphasising the entrance. The solution was to enclose the new entrance pavilion with high walls softened by planters and to recolor the Admin. Bldg. to match the existing facilities, both of which helped diminish the appearance of the Admin. Bldg. These high walls also provided a private entranceway for Zoo employees to enter the Admin. Bldg. from the new parking lot. The new entrance pavilion thereby had to project not only an architectural 'symbol' for the Rio Grande Zoo, but distinguish itself as the 'entrance' and 'exit' from without and within the Zoo grounds.

In adapting a southwestern architectural character for the new entrance pavilion, the architects utilized the concept of metal roofs buttressed by adobe piers and walls typical of many northern New Mexico buildings. A pyramid shape evolved to establish a form that would be recognizable from any angle and direction, approaching the entrance from without or searching for the exit from within. Exposed wooden trusses and framing, stucco walls and piers, brick floors all add to the 'natural' New Mexico architectural expression.

Security and cashier control were established within the pavilion and cashier operations were connected to the existing business office for better operation and security. Public toilets were planned for the public awaiting entrance into the Zoo as well as facilities inside the Zoo entrance. Rolling grills, turnstiles and ticket booths provide crowd control and security for the Zoo entrance. The entrance pavilion was connected to the main Admin. Bldg. to provide access for the business public. A private patio was established for employees recreation and break area off this passageway.

Once inside, an entrance plaza was planned to control and direct Zoo traffic into the planned routes. Planters and paving were organized around existing old cottonwood trees with ponds and streams and waterfalls flowing all around to enhance the sounds and picture of a Zoo. A 'water sculpture' was commissioned by the City Arts in Public Places and located just inside the new entrance dividing traffic entering and exiting. A Flamingo pond set into the center of the entrance plaza was created to provide a natural setting to exhibit the flamingos of the Zoo. A Flamingo House was created back into a hillside and hidden behind some of the artificial rockwork for which the Zoo is so famous.

A new gift shop, incorporated together with a new snack bar, complete with outdoor dining patio, was located near the new Primate Exhibit and on the route out of the Zoo where visitors must pass to exit. Design-
ed in an Albuquerque-old town architectural style, sculptured stucco walls, wood framed bay show windows, carved wood doors, brick floors, and a canopy of open ‘latias’ all portray a friendly New Mexico experience. Service to this facility is provided at the rear from an interior Zoo service drive located between the Primate Exhibit and the Shops and hidden from the public view.

Upon entering underneath the massive framework of the entrance pavillion, a new world opens up before you, and you leave the urban scene behind and enter a land of giant cottonwood trees, beautiful flowers and plants, green hillsides with cascading waterfalls and streams, realistic cliffs of rockwork all around, quiet ponds with color-full flamingos appearing like porcelain statuettes, and warm inviting stucco and wood structures greeting you. Colorful and unique graphics greet you outside the entrance, lead you inside, and inform you for directions, food, and conveniences. It all blends together to state “THIS IS THE RIO GRANDE ZOO”!
Located on the Bird of Prey Exhibit site were numerous deciduous cottonwood trees which the Owner did not want removed from the unique Bosque setting. Working on-site, the Architect developed a curved form for the Exhibit including the trees as an integral part of the design. The deciduous trees became a crucial source of shade for the birds during the hot southwestern summers, in winter the trees drop their leaves and the sun then provides the needed amount of heat for the comfort of the birds.

Extensive research into the physical needs of the birds indicated that each species of bird had a particular need for the proper space for flying, perch heights and perch materials, water, shade, sun, feeding areas, and nesting sites and materials. The needs and space requirements of each species of bird were met by designing five individual enclosures within the total Bird of Prey Exhibit.

To enhance the viewing experience for the public, the Exhibit was thought of as a stage with a backdrop of artificial rock
formations with the rock form and rock color patterned after nearby New Mexico cliffs. Native plant life was used for landscaping. This allows the viewer to see the birds in their natural New Mexico environment. To facilitate the feeling of viewing the birds in their natural habitat, a 0.039 stainless steel wire wall ("piano wire") became a nearly invisible barrier between the birds and the viewer. The Exhibit has a clearly delineated entrance way to set the mood for a viewing experience. Benches and grassy seating areas are available and an educational graphics display is incorporated into the Exhibit.

Major emphasis was placed on the needs of a pair of Bald Eagles that had been displayed at the Zoo for ten years. The eagles needed to be on view at all times, yet it was hoped that privacy could be provided for breeding purposes without making the birds inaccessible to the public, as research seemed to indicate was necessary. The openness provided by the steel beams and stainless steel wire combined with the nooks on the cliff face have successfully met these requirements. After being displayed together for ten years, the Eagles laid their first egg in April 1981, after six months in the new enclosure.
The site for the Primate Exhibit of Gorillas and Orangutans was an open tract of land with few trees, on the north side of the Zoo Main Entrance and Plaza. As determined by the Zoo Master Plan, the Primate Exhibit is the last exhibit visited before departure. For this reason it was important to shield the view of the gorillas and orangutans from the Main Entrance or curious visitors would wander over and circulate in a reverse circulation pattern.

Accordingly, it was important to have the Primate Exhibit exit make a positive impact on the Zoo Plaza. This was accomplished by carrying the artificial rock from the exhibit interior to the exhibit exterior, facing the Entry Plaza. A stream flows out of the rocks and forms a pool, tying the Exhibit to the Entry Plaza. The poured-in-place concrete was juxtaposed against the artificial rock. The concept was to design the geometric concrete forms to look as if they were chiseled out of the artificial rock formation.

Ramps make the nine-foot above-grade Primate Exhibit accessible for the handicapped, baby carriages, and for maintenance vehicles.

The artificial rock formations were designed as a stage set to simulate the natural type of environment in which the animals could
be found in the wild. A mixture of native African grasses was planted in the enclosures to enhance the natural setting. The cliff faces on the interior of the exhibit were designed with overhangs as a security measure to prevent the animals from climbing out, as well as to provide shade for the animals. The large timber play structures also provide shade. The natural looking rock formations have many facets and crevices. Local mountain climbers were called in to scale the rock faces and check for possible toe and hand holes before the animals were moved in.

Also for security there is an unobtrusive, yet very effective, physical barrier between the animals and the viewers—a dry moat. The water table is five feet below grade, so to achieve the 14 foot depth necessary for the dry moat, the site was built up nine feet. The dry moat is 15 feet across and a lip extends out from the viewer side. The dimensions for the moat were the result of detailed research into the capabilities of gorillas and orangutans. Play structural materials and connections are also designed for security.
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To obtain maximum solar gain, the exhibit orientation is to the south, allowing the primates to be warm enough to remain outdoors year round. The animals are always moved inside for the night.

Excellent close-up views of the animals are possible since the convex design of the public circulation pattern allows the public to be surrounded by the exhibit. As the visitors progress through the exhibit area, they are equi-distant to the enclosure at all times. During construction the design of the transition area between the gorilla and orangutan enclosures was modified to incorporate a cave where the public could enter and view the animals at close range through large windows of 1\(\frac{1}{4}\) inch thick bullet-resistant glass. These windows have become a major attraction for both the public and the primates. The gorillas and orangutans come right up to the glass and interact with the public. In this way the viewer can closely observe the size, physical features, and behavior of the primates. Views from the cave window or at the main viewing area are not impeded by the centrally-located play structures or by the overhangs. The animals are in clear view at all times.

A multi-purpose, two-tier viewing terrace is incorporated into the exhibit. These elevated grassy areas can be used for viewing assistance for children, for long-term viewing, or for resting. The viewer using these terraces is looking north so the sun is not in the eyes. Planters at the top of the terraced seating area were planted with large cottonwood trees for shading. The viewing terraces were planted with bluegrass for high use durability and low evergreen junipers were planted along the railing as a low scale barrier as well as for aesthetic reasons.

To utilize the old primate building for sleeping quarters for the gorillas and orangutans, a 2060-square-foot building was constructed to house complex circulating passageways for movement of the primates from inside to outside. The new building was designed with overhead keeper circulation and special reinforced steel doors for separating the primates from the keeper and from the outdoor exhibit area. Heating for the addition is provided by passive solar heat stored in the massive concrete and concrete block walls and floors. The passive solar heat is brought in through skylights equipped with "Sun Bender" reflectors forcing the heat down into the floor. The entire roof is fitted with skylights. There is no backup heating. Natural daylighting is also brought in with the skylights and no artificial light is required during the day. Roof fans provide ventilation.
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New Mexico Society of Architects have opened a State Office and retained Dicki Ryals of Santa Fe as Executive Director as of May 1, 1985. The new headquarters is located at 621 Old Santa Fe Trail, Suite 7, Santa Fe.

Ms. Ryals will continue with NMSA's Legislative Lobbying as well as coordinate all issues concerning New Mexico Architects on a State level.

Consulting Services & Associates, which houses NMSA's office, is owned and operated by Ms. Ryals, and focuses on Public Relations, Legislative Lobbying and Governmental Affairs for other clients as well as NMSA.
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