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# St. Louis Zoo Bird House Renovation

by Stephen R. Wylie Curator of Birds Deputy General Curator

At the time of its opening in the fall of 1930, the St. Louis Zoo's Bird House introduced a number of ideas new to the keeping birds in captivity. These innovations included the first indoor open-flight exhibit, revolving exhibit window panes for easier cleaning, and wire panels that not only provided ventilation but allowed bird song to permeate the building. Spanish architecture dominated both the exterior and interior design of the structure. Heavy wooden beams, balconies, terra cotta tiles and hanging brass light fixtures contributed to the building's hacienda flavor. Miniature sculptures of various avian species were incorporated in the capitals and cornices of its columns and walls.

Over the years the general maintenance of the building had become increasingly difficult. By the mid-seventies it became apparent that a major renovation was necessary to avoid costly future problems. Discussions and planning for this project began as early as the spring of 1977. The challenge was to design a floor plan and exhibit system compatible with the original super-structure, and to achieve the transformation while retaining the architectural integrity of the old building. After numerous meetings with architects, Peckham-Guyton, Albers & Vietz, Inc., to refine the details, the building was entrusted to the general contractor, R.G. Ross Construction Co., on 21 November

1978. The renovation began with the complete removal of the existing interior, excluding the support structures and pertinent architectural features.

Both aesthetics and function were considered in the reconstruction. The total number of exhibits was reduced from 56 to 36. The open flight exhibit measures approximately 538 square feet; other exhibits vary in size from 102 to 429 square feet. Each of the reconstructed exhibits is a selfcontained unit consisting of poured concrete flooring and curbing, overlaid with a watertight liner to prevent leakage into public areas, the basement and other exhibits. A drainage system installed in the floor of each exhibit and a four-to-six inch layer of gravel allow for proper run-off. A layer of mechanical cloth known as Bidum separates the gravel from the basic exhibit materials (sand or soil). The Bidum prevents the basic material from leaching into the gravel, thereby inhibiting proper drainage. The gravel layer also serves as a base for the various pools and streams. Water sources in the form of hose bibs are strategically placed in each exhibit in such a way that the bibs are obscured from view. The theme of an exhibit, as well as its inhabitants, dictate the type of materials placed atop the Bidum. Exhibits depicting tropical settings receive soil and tan bark, while those simulating desert or sea shore or those housing parrots and other large



Overall view of the St. Louis Zoo Bird House. There are 36 exhibits varying in size from 102 to 429 square feet each.



One of the beautiful exhibits in the zoo's Bird House. Each unit is self-contained. Plants and materials used are chosen according to the theme of the exhibit and its inhabitants.

specimens contain either white or brown sand. Quantitites depend upon desired terrain and effect. The pools and streams were constructed by H. Richard Mattice according to the theme of each exhibit. Varieties of natural stone were used as much as possible, and their size, shape and color was dictated by the mood we sought to achieve. Tree stumps, limbs, rocks, grape vines and plants were also included to enhance the natural effect.

Each exhibit is bounded by cement plaster walls and vertical stainless steel wires. Each wire is drawn to a tension of 75 pounds and is attached to a spring that insures the maintenance of this tautness. The spacing of the wires in most of the exhibits is one inch on center; however, exhibits for the very small species are spaced one-half inch on center. Glass is used as viewing windows only on exhibits that are adjacent to entrances. Most of the exhibits are curvilinear in form. Between the vertical wire fronts of each exhibit and the public walk space lie continuous planting pockets, for a total planting area outside exhibits of approximately 1200 square feet. Timerregulated incandescent flood lamps provide supplemental light for the planting pockets. Ambient light for all areas in the building is supplied via a skylight system

(Kalwall) installed in the ceiling of each exhibit. These translucent fiberglass panels provide the proper amount of light for plant growth without drastically affecting temperature regulation.

Approximately 6500 tropical plants of nearly 110 varieties are growing in the exhibits and the public planting spaces. The selection of plants was based on their compatability with the birds displayed, and the exhibit's theme, as well as the light reguirements, hardiness and availability of the plants.

The basic color patterns of blues, grays and whites subdue the public spaces and highlight the exhibits and architecture. This total color scheme is accented by the blue carpeting and poured rubber flooring of the public walk space.

The renovation, of course, involved more than just the up-grading of public and exhibit areas. Completely new airhandling and plumbing systems were installed in conjunction with other improvements. Floor and ceiling braces in the form of I-beams were added to compensate for increased strain on the superstructure by the tension wires. Nine adequately sized and well-equipped keeper work areas were designed to improve maintenance and exhibit accessibility. In-

terpretive graphics, including a paper sculpture of a flamingo, illustrate various avian characteristics. Five designs were prepared by Design Concept through the generosity of Mrs. Mildred Goodwin

An appropriate finishing touch to the renovation of the Bird House was the refurbishing of a former novelty area into the Mae M. Whitaker Room. Undertaken through an initial grant from the Whitaker Charitable Foundation, this exhibit area houses a 26-piece porcelain bird collection that was donated by the Wisconsin Barge Line. The collection is displayed in eight glass cases and represents the works of Boehm, Granget and Cybis. These exquisite renditions, appraised at nearly \$150,000 are protected by a sophisticated alarm system. This collection is probably one of the largest groups of such porcelains on public exhibit in the Middle

On Saturday, 22 September 1979 after a construction period of 283 days, the renovated Bird House was opened to the public. The rehabilitation effort cost approximately \$1,500,000. The original goals of the project had been satisfied. The final product was not only functional and aesthetically pleasing, but a charming old structure received a new lease on life.



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