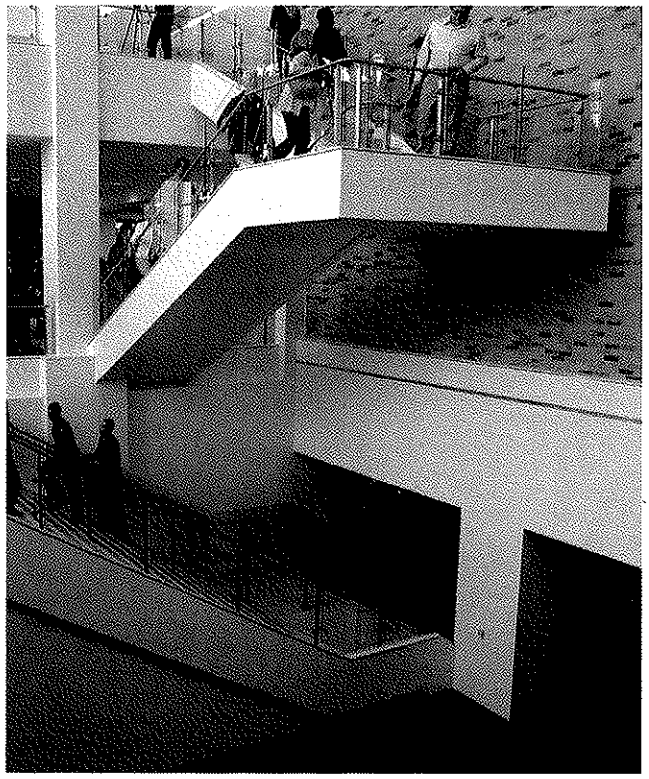
▲ The interior scissor stair under construction...



▲ ...and completed.

the curtain wall. This allowed for installation of the curtain wall and subsequent building enclosure prior to connecting each of the sunshades.

The curtain wall on the north and south elevations of the Hall is supported on cantilevered steel entrance canopies, with cantilevers measuring up to 12 ft. A 12-in. structural depth was achieved for these canopies, despite supporting the additional curtain wall weight, by specifying a reverse camber at the end of the cantilevered members.

Bridges and Stairs

A steel pedestrian bridge connects the second level of the MSC to adjacent Rudder Tower. This bridge consists of an exterior portion that spans approximately 36 ft from Rudder Tower and penetrates the curtain wall between the aforementioned 12th Man columns, as well as an interior span that bridges the floor of the hall nearly 40 ft to connect with the MSC. The interior portion consists of conventional steel floor construction comprised of concrete-filled steel deck and steel beams and perimeter girders. However, in keeping with the goal of lightening the structure, the exterior portion of the bridge consists of two approximately 14-ft-deep Vierendeel steel trusses. Using trusses minimized member depths to maximize overhead clearance for pedestrian traffic below—and implementing a Vierendeel-configured truss maximized surface glazing and therefore natural light. HSS18×6×½ members make up the truss chords, with the top chord of each truss serving as the roof girder and the bottom chord serving as the floor girder. Vertical web members consist of HSS6×6×½ in order to minimize the structure and maximize exterior glazing. Moment-resisting connections at the web-to-chord interface are achieved with complete-joint penetration welds.

Adjacent to the connector bridge and central to the Hall are two steel stairs. One stair is a simple straight-run stair that transitions from the Hall floor down to the basement level of the MSC. A separate scissor stair hangs dramatically over the lower stair, taking visitors from the Hall to the west end of the second-level bridge and allowing access to either the MSC or Rudder Tower. This hanging stair has an unsupported mid-landing and was analyzed with RISA-3D finite element software. The stair structure is comprised of a pair HSS12×6×⅜ bent steel stringers for both the upper and lower flights. Two composite steel beams were added at the second floor, each aligned with a stringer, to transfer the tension force into the second-floor diaphragm through a ⅜-in.-thick welded steel tie-plate. Each lower flight stringer is welded to an embedded plate cast into the concrete at the ground floor.

The name of this grand entrance to the MSC is coined from one of the longest-standing and dearest of Texas A&M traditions. Yet this structure breaks with tradition by using structural steel to transform a building that was seldom used by the student body in recent years to one that has become the University's "living room." ■

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Production Architect
Perkins+Will, Dallas

Structural Engineer
JQ, Dallas

General Contractor
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