OWNER: Southeast Missouri State University

PROJECT: Aquatics Center

CHALLENGE: Due to the warm/moist environment of the pool area, McClure needed to ensure the proper conditioning and ventilation for all areas of the aquatics center. Air handling solutions were required to meet code and best industry practice in order to protect the interior finishes used in the design.

CONSTRUCTION COST: $7 million for new construction

BUILDING SIZE: 26,000 sq ft

SCOPE: The University’s new indoor natatorium was designed as an attachment to its existing Show-Me Center and student recreation center addition. The plans for this state-of-the-art facility provided for: a leisure pool complete with a rock climbing wall built right in; a zip line; a whirlpool; a 6-lane, 25-yard lap pool; wet classrooms; and locker rooms. From the pool observation area, an 80-foot radius infinity-edge pool offers a waterfall effect, spilling over and down the rock wall into the leisure pool. The natatorium was designed to use the existing steam and chilled water utilities, as well as backup systems to help maintain the constant demand.

APPROACH: McClure leveraged the power of the campus utilities’ central steam and chilled water plant to heat and cool the new Aquatics Center. During utility outages at the central utility plant, backup cooling and heating systems maintain the Aquatic Center’s temperature and humidity with a water-cooled chiller. The chiller is piped to use “space reheating” demand for condenser water cooling. However, this energy recovery operation functions in parallel with a dry cooler (used to supplement condenser water cooling) when there is little or no reheating demand. Air is supplied to the natatorium at both the floor and overhead levels. The floor-level supply is ducted through underground fiberglass ductwork while supply air grilles in the top of the bench provide top-down ventilation. Pressure control between the Aquatics center and the remainder of the facility keep the Aquatics center slightly negative to the rest of the facility to maximize year-round comfort.

COMPLETION: 2008