

Bull Street Parking Garage Addition

Columbia, SC



Team

Owner:

University of South Carolina

Architect:

Watson Tate Savory Architects, Inc.
Columbia, SC

Engineer:

HNTB

General Contractor:

Manhattan Construction

Reinforcing Bar Fabricator:

CMC Rebar Carolinas, Columbia, SC

Total Project Cost:

\$11.2 million

Total Project Size:

307,000 sq ft (6-stories)

Award:

2008 CRSI Design Award Honorable Mention
– Transportation Facilities Category

VERSATILE AESTHETICS

The six-level parking garage deck structural framing consists of cast-in-place, post-tensioned 5,000 psi concrete. Only one expansion joint exists in the center of the structure with the two halves poured in one or two pours. The structure has an internal integral ramp system and external free-standing cast-in-place stair/elevator towers. The south face of the structure is partially covered in six-inch thick precast concrete panels. Precast panels were also used as part of the stair/elevator towers. The structure is built connected and adjacent to an existing 1200-vehicle university parking garage that was designed by the same architect and engineer ten years prior with only nine feet of separation.

The addition has two stories below the first floor of the existing structure. In order to accomplish this, approximately 975 feet of tied-back retaining wall with a height of 28 feet was utilized. This was constructed with a shot-creted initial structural wall as part of the tie-back system. For aesthetics, a second cast-in-place concrete facing was used.

Reinforced concrete was chosen for its versatility, aesthetics and ease of construction. The redundancy of the members allowed the multi-use forms. This also helped reduce the schedule and cost of construction. Post-tensioning was used to reduce the number of expansion joints therefore reducing maintenance issues. The monolithic structure is seismically sound for the region with a much more economical cost compared to steel structures.

Good use of shapes, relief, layout and colors contribute to the aesthetics of this structure. The designer used innovative approach and creativity to develop a parking facility that avoids being mundane and stands out as attractive.