



■ Commercial Buildings

Reference Details:

**Owner**

Eldorado&Casino and  
Circus Circus  
Enterprises +++

**General Contractor**

Perini Construction  
Company, Phoenix,  
Arizona +++ **Design**  
Urban Design Group,  
Denver, Colorado

**DSI Services** Supply of  
334tons unbonded  
DYWIDAG Monostrand  
Tendons.



### DYWIDAG monostrands for visionary architecture

**USA, Reno/Nevada: The Silver Legacy Hotel and Casino**

This 350 million dollar hotel and casino with its forty-one floors extending to a height of 390 feet (119 meters), is Reno's tallest tower as well as the tallest hotel / casino tower in the state of Nevada. The 85,000 square feet (7.900 m) of casino area combined with three-tiered silver tower hold 1,789 rooms and suites, numerous meeting rooms, six restaurants and over ten unique shops. In addition, there are 11 parking levels attached to the hotel.

The owners, a joint venture between Eldorado Hotel & Casino and Circus Circus Enterprises, originally planned a 1700's Spanish Galleon theme. Later it was felt this was an inappropriate theme

and was replaced with a theme incorporating an 1800's Silver Mining town. Beneath the dome, which is the largest of its type in the world, a 120 foot (36,5m) automated mining machine was erected as part of this theme. The floors for the hotel rooms were typically 7 inches (18cm) thick incorporating a one way flat slab design. The uniformly distributed unbonded monostrand tendons were placed only longitudinally in each tower spanning the typical 25'-8" (7,8m) bays. The attached parking levels consist of a beam and slab design. Both the beams and slabs were tensioned with unbonded mono strand tendons. The typical beam dimensions are 16" x 37.5" (40,6 cm x 95,2cm) with the tributary slab dimension of 6-1/2" (16,5cm). After the tendons were stressed and the tendon tails removed, grease caps were installed on the anchors that will be exposed to weather. This was done in conjunction with dry packing the pockets to add an extra level of corrosion protection. Excavation began on this structure in early January 1994. The doors officially opened almost a year and a half later on, in 1995. The complete structure includes approx. 7,000 t mild steel, 334 tonnes of monostrand tendons and more than 96,000 cubic yards (73.400 m<sup>3</sup>) of concrete.