

Precast Replaces Historic Bridge in Glacier National Park

by Linda Josephson, Oldcastle Precast Inc.



New bridge being installed. Photo: Sam Barchus, Northbank Civil & Marine.

At the outlet of Swiftcurrent Lake in Montana's Glacier National Park, the Swiftcurrent Bridge provides the only major access to the Many Glacier Hotel, a National Historic Landmark visited by thousands of park visitors every year. The five-span historic bridge and its piers, completed in 1930, were losing their structural integrity and were threatened by high water and spring ice break ups on the lake. The new clear span bridge, installed in November 2014, was designed to be consistent with the historic character of the area and preserve the visual elements of the

existing bridge, yet expand hydraulic capacity and comply with modern codes.

The precast concrete deck consists of six voided slabs that are 85 ft long and 30 in. deep with a 12-in.-deep overhanging sidewalk on one side and a 12-in.-deep overhanging bridle path on the other. These exterior slabs are colored black, so with the overhanging portions it gives the appearance of a slimmer slab than it is, mimicking the 12 in. depth of the old bridge. Five of the voids have 8-in.-diameter pipe within them for utility runs.

The precast concrete substructure consists

of two 30-ft 8-in.-long pile caps with curved wing walls. The pile caps are installed just outside the old abutment locations resulting in slightly expanded clearance. Interior piers were eliminated. Otherwise, the new bridge matches the width and location of the old.

The bridge replacement occurred between the close of the hotel in September and the onset of impending winter weather in the park at an elevation of 4800 ft. To minimize field time to erect, (in addition to precasting the overhangs) pile caps and slabs were trial-erected in the precast yard to ensure fit and identify any issues to be mitigated in the plant. Additionally, wing walls were welded to the pile caps before shipment. Even with some delays drilling for the pilings, relatively mild weather allowed the deck delivery to proceed. Driving rain and 55 mph winds at the site made difficult conditions when the trucks arrived. Mercifully, the weather calmed down in a few hours and all pieces were set. The end result is a handsome bridge in a spectacular setting. **A**



Trial fit in precast yard. Photo: Linda Josephson, Oldcastle Precast Inc.

Linda Josephson is a project manager with Oldcastle Precast Inc. in Spokane, Wash.