

Glenn Highway Chickaloon Bridge

Matanuska Susitna, Alaska

Alaska provides ample opportunities for the romance of the open road and Glenn Highway near Chickaloon is no exception. Located approximately 75 miles northeast of Anchorage, driving down the Glenn Highway, you can see the Talkeetna and Chugach Mountains while following a parallel path to the Matanuska River. The Matanuska River is a popular spot for whitewater rafting trips.

The Chickaloon Bridge, originally built in 1956, is part of the Glenn Highway corridor, which is one of the few major highways in the state of Alaska. After multiple years of extensive use, the bridge was found to be structurally deficient with non-crash-worthy railings and deteriorating concrete. The recently-completed bridge now benefits commuters in the immediate area, recreationalists, and commercial truck drivers.

The bridge, which crosses the Chickaloon River, is a three-span, 45 foot by 350-foot-long precast bulb-tee girder bridge with cast-in-place decking. The two center piers were placed on 10-foot diameter drilled shafts approximately 55 feet deep, and the two abutments included five-foot diameter drilled shafts installed to roughly the same depth. The new bridge was constructed adjacent to the existing bridge to minimize the interruption of accessibility to the Alaska residents. The removal of the old bridge took place upon the completion of construction.



To accomplish the daunting task of building a new bridge during the weather constraints found in Alaska, Western Federal Lands Highway Division (WFLHD) worked an extremely aggressive schedule, relying on exceptional planning skills and leadership to achieve the rapid completion date.

Initial construction required building a seven-span temporary work trestle over the Chickaloon River. Workers could move about freely with equipment and materials while constructing the new bridge and without interrupting the flow of traffic on the old bridge.



Girders for the new bridge were trucked in from Anchorage, after being barged up from Seattle, Washington. The size of the girders was such that two cranes were needed to set them in place, each crane picking up one end of the girder.



It took five separate deck pours to complete the bridge deck. The cast-in-place concrete deck serves to stabilize the structure.



A final placement of a 3-ft layer of NFS (non-frost-susceptible) material below the pavement layer will aid in maintaining the integrity of the pavement through the extreme weather conditions in Alaska.



Hydroseed was blown around the surrounding area to ensure ground stabilization throughout the extreme winter weather conditions while the project construction was shut down.



Upon completion of the new bridge, the crews made ready to demolish the existing bridge. A geogrid and geotextile fabric layer was placed under the existing bridge to contain the debris during removal. Then the deck, railing, and girders were cut and removed in sections.



The first phase of this project took four months to complete and the second took six months. The project was substantially complete and open to traffic in the fall of 2016.

