1992 – Pelican Creek Bridge

Description

Meta Fields
Specifications 0 Spec File : 2099
Abc Construction Equipment : Conventional
Miscellaneous Prefabricated : PT ducts/bonded, Socket connection (in precast substructure)-(caps)
Prefabricated Bridge Elements : Adjacent T beams (double tee), Precast pile caps, Precast abutment caps
Project Delivery : Design-bid-build
Longitude : -136.225
Latitude : 57.955
Nbi # : 1491
State Id # : 1491
Construction Equipment : Conventional
Total Bridge Length Ft : 178
Max Span Length Ft : 59.3
Beam Material : Concrete
Spans : Three-span
Location : Rural
Owner : State
State : AK
Year Abc Built : 1992
Contract Plans : 1
Funding Source : Federal and State
Costs : The engineer’s estimate for this project was $219,000. The low bid was $296,000 ($77,000 = 35% higher than engineer’s estimate). There were three bidders. The cost per square foot of bridge was $87.
Contacts : Owner: Leslie Daugherty, P.E., S.E. Chief Bridge Engineer Alaska Department of Transportation and Public Facilities leslie.daugherty@alaska.gov 907-465-8891
Construction Method : Construction requirements included staying out of the sensitive creek bed and completing work within a short time defined by the Department of Fish and Game. The Alaska DOT&PF chose a totally prefabricated bridge with all material, including rock for the approach fill, barged to the work site. The contractor floated in barges at high tide and anchored them in the creek. Crews drove the steel H piles from barges, drove a large-wheeled crane onto the barges, and then

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used the crane to install the caps. Cap pockets were filled with concrete. The crane was then used to erect the decked double-tee girders. The midspan diaphragms were then post-tensioned with 1-inch-diameter bars. No heavy equipment was lodged in the creek bed.
Replacement Or New Bridge : The new one-lane bridge consists of precast, pretensioned decked double-tee girders with precast pier and abutment caps on steel H piles. The superstructure cross-section consists of three adjacent 6.33-ft wide 2.67-ft deep girders with timber railing.
Existing Bridge Description : Built in 1992, the old one-lane timber bridge was structurally deficient and required rapid replacement to allow access for the small fishing community's new fire truck.
Traffic Management : ABC is conventional construction in Alaska due to climate and terrain.
Average Daily Traffic At Time Of Construction : 100
Dimensions : 178-ft long and 19.08-ft wide three-span decked adjacent double-tee beam bridge (59.3 ft – 59.3 ft – 59.3 ft)
Primary Drivers : Reduced onsite construction time; improved site constructability; minimized environmental impacts; reduced life-cycle cost Prefabrication provided the Alaska DOT&PF with a new bridge with a longer service life and lower maintenance costs, and it facilitated safe construction in a sensitive environment. Total prefabrication improved constructability for the construction crews and reduced labor costs. Residents of the island got a new bridge quickly constructed and strong enough to support their civic vehicles.
Impact Category : Tier 5 (within 3 months)
Mobility Impact Time : ABC: bridge constructed in five weeks Conventional: ABC is conventional construction in Alaska
Project Location : On Chichagof Island approximately 80 miles west of Juneau in southeast Alaska
Project Summary : 5-week construction of replacement bridge to access island

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