ACROW


Image courtesy of Kiewit

Acrow Steel Truss System Supports Emergency Repairs to Hawaii's Kolekole Stream Bridge

Modular components enabled swift, safe restoration of structure's full load capacity

The Kolekole Stream Bridge in Honomu, Hawaii, was built in 1929 and is located on Mamalahoa Highway, the busy coastal Belt Road encircling the Big Island. When corrosion of the steel trusses was found in September 2021, the weight limit on the bridge was immediately reduced to 4 tons, allowing only one car at a time to cross.

With no reasonable detour route available, emergency welding repairs began immediately, and the weight restriction was raised to 12 tons five days later. This restored the route for most traffic – including emergency vehicles – but was less than the structure's original 40-ton load rating. As permanent repairs would require a lengthy lead time for environmental permitting, including a plan for lead remediation for the bridge, the Hawaii Department of Transportation (HDOT) opted for an intermediate repair project to return the structure to full capacity.

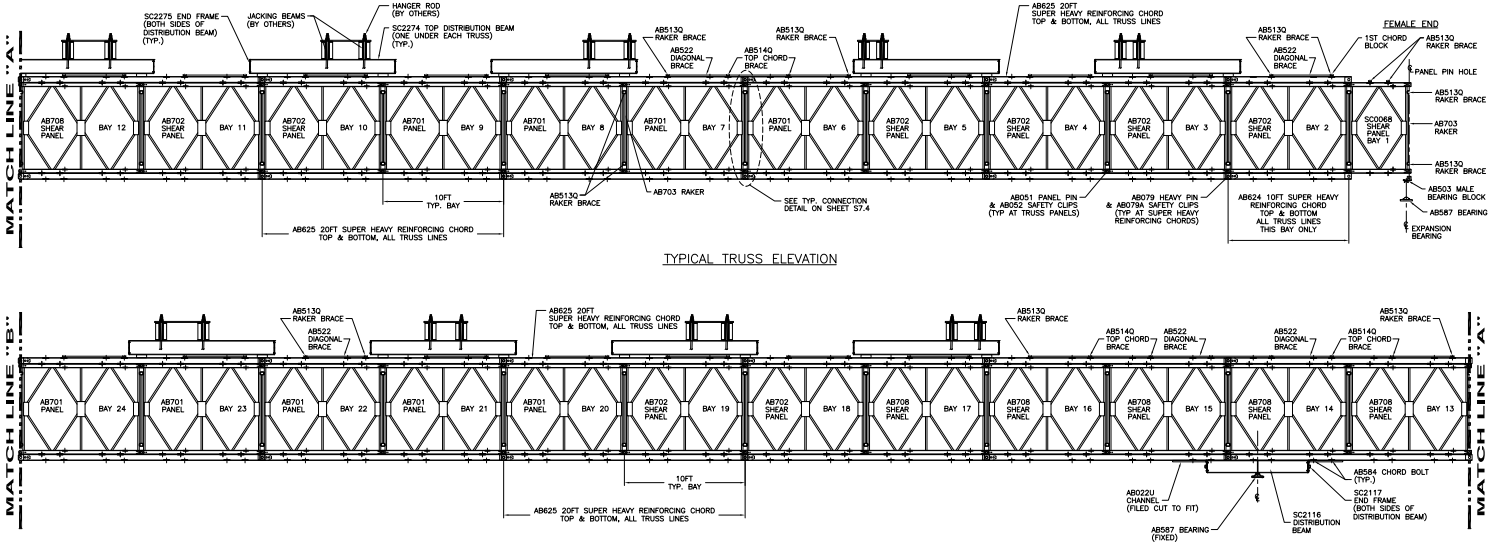
To facilitate safe construction, project contractor Kiewit procured a 265-foot (80.78m) truss system from Acrow that was spanned over the bridge to support the structure from the existing columns with beams and hanger rods and included additional steel supports installed at each pier and the mid-spans.

The project began in January 2021 and presented numerous challenges, including the existing weight restriction on the bridge and the requirement to maintain one lane of traffic throughout construction. Despite these complications and pandemic-related delays, the bridge was restored to its previous 40-ton load limit on July 29, 2022. The project achieved "Best Small Project" in Engineering News Record (ENR) California's 2023 award program.

Acrow's support system will remain in place until the permanent bridge repair project is completed. In addition to lead remediation, future work is estimated to begin in 2024 and will include deck repair, railing replacement, replacement of steel substructure members and painting.

acrow.com
bridges@acrow.com
+1.973.244.0080

ACROW



TYPICAL TRUSS ELEVATION

Specifications

Structure:

265′ (80.78m) truss system and special components

Erection method:

Built in place

acrow.com
bridges@acrow.com
+1.973.244.0080