



Modular Aerial Bridge Provides Wastewater Bypass Solution During Rehab Project in Arizona

Durable steel structure from Acrow enables cost-effective, safe transport of rerouted sewage

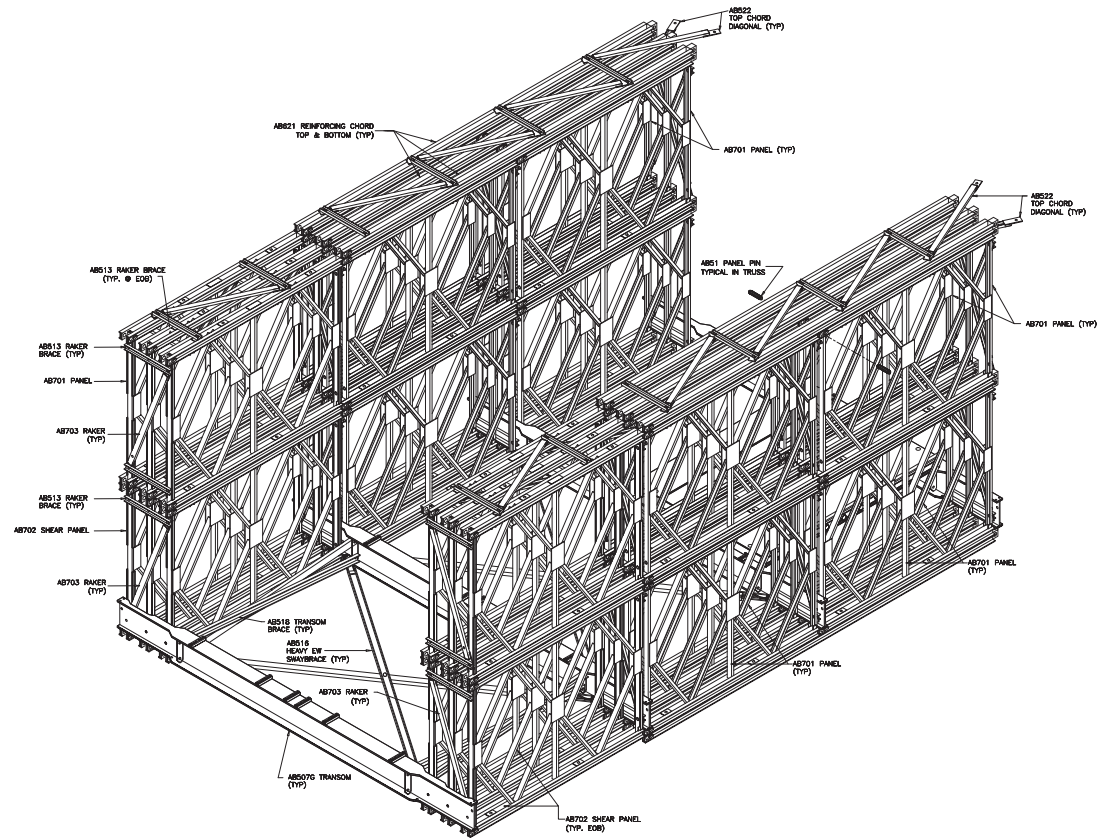
The Northwest Outfall Siphon in Tucson, Arizona, is a dual-barrel sewer siphon managed and maintained by the Pima County Regional Wastewater Reclamation Department. High turbulence in the siphon, which is under the Santa Cruz River, was causing a release of corrosive gases, resulting in an unpleasant odor in the area. The project team designed two new corrosion-resistant structures to replace the existing siphon and address the problem, but required a solution to maintain the flow of wastewater during the rehabilitation.

While drilling a new route under the river was possible, a far less costly option was to direct the sewage over the river. Building a temporary bridge of traditional construction was also an option, but ultimately, the team decided on a modular steel aerial bridge from

Acrow for the project since it would be a faster, more economical alternative, with far less environmental impact.

Acrow's bridge, rented to project contractor Hunter Contracting Co., was 270 feet long (82.3m) and supported three HDPE pipes. The single-span bridge used two Acrow shoring towers as temporary piers during the cantilever launch of the bridge. The contractor designed, furnished and installed a timber deck.

Delivery of the bridging materials began on March 23, 2023, and the structure was launched a month later. After the installation of the deck and spanning of the pipes, the bypass system was put into service for the duration of the siphon replacement. Acrow's bridge was de-launched and removed from the site by the end of July 2023.



Specifications

Bridge length:

270' (82.30m)

Roadway width:

13.78' (4.2m)

Deck surface:

Contractor designed, furnished, and installed timber deck

Bridge erection method:

Full cantilever launch with use of Acrow Towers

Design load:

Live and Utility Load = 360 lb/ft

Standard Acrow bridge finish:

- All major components galvanized to AASHTO M111-ASTM A123
- All bolts are hot-dip galvanized
- All pins are electrogalvanized

Standard Acrow bridge specification:

- (A) Panel chords, diagonals, verticals, reinforcing chords, rakers to AASHTO M223 GD 65
- (B) Raker braces, transoms, top chord braces, swaybraces, transom braces, diagonal chord braces, decking to AASHTO M223 GD 50
- (C) Panel pins to ASTM A 193 GD B7
- (D) Bolts to AASHTO M164M - A325