Construction Project Case Study

Pipe Bridge Inspection & Repair

Inspect a refinery pipe rack that had been loaded beyond capacity

BE Steady

Pipe bridges inside an operating plant are common and necessary structures for carrying process piping and plant utilities from unit to unit while allowing for easy above grade access and safe vehicle travel routes. As a plant expands these bridge structures and foundations can become compromised by the additional piping and utilities necessary for expansion. Often pushing these engineered structures to a critical point of failure resulting in sagging steel beams and buckling of columns. Brindley specializes in quick and accurate evaluations of such structures, resulting in real world solutions to these complex and potentially dangerous problems.

BE the Solution

BE was tasked to inspect a refinery pipe rack that had been loaded beyond capacity and I was tasked with leading this assessment and repair recommendation while being a junior engineer at the start of my career. During the inspection, we found multiple small diameter pipes spanning over 50 ft over a road without an intermediate support. This posed multiple issues such as exceeding ASME max pipe spans, additional stresses and deflections in the pipes, and possible clearance issues for vehicles underneath the piping, and the pipes had noted to already be sagging due to the failing pipe stanchions. Through detailed analysis, BE came up with several viable solutions on how to solve this issue. Ultimately the proper solution was reached by adding a truss pipe bridge over the roadway. This allowed adequate strength and clearance for the span as well as providing adequate room for wide and tall vehicles and equipment to pass through risk-free by preserving the height and width clearances. Ultimately BE determined that the truss bridge would be the ideal solution by meeting all client, safety, and feasibility criteria.

Contact Us

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View of Pipe Bridge as Found

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