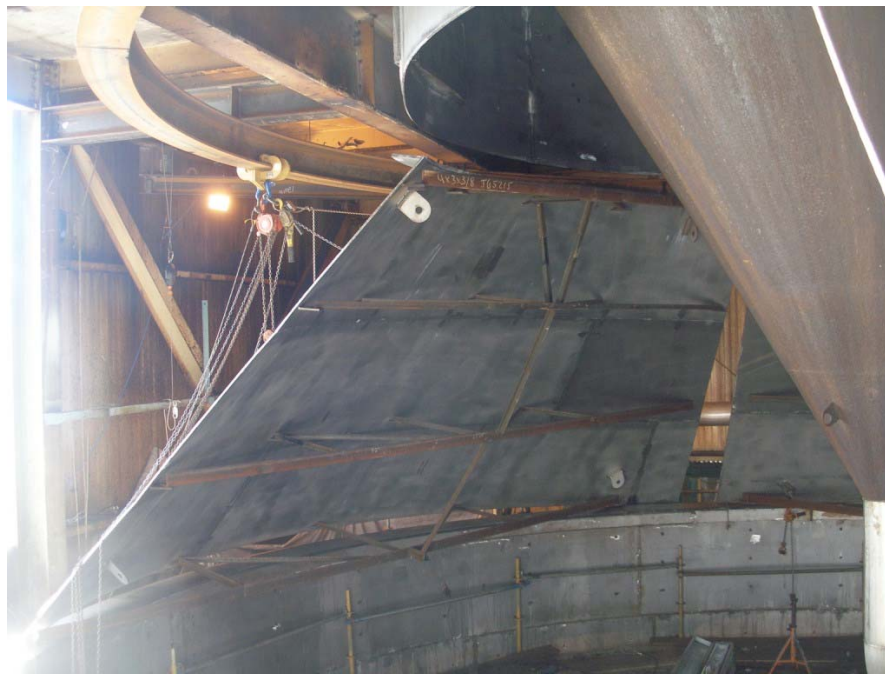




HIGHLANDER

ENGINEERING SERVICES, PLLC

**Design & Construction
Engineering Solutions**



An atmospheric storage tank with a separate tank on top (upper tank operating weight is 600 tons) failed in the transition cone between 21' diameter section and the 40' diameter section. The tank was near failure in the 40' diameter barrel section and lower transition cone.

Highlander was retained by the Owner to develop a repair and provided on-site 24 hour a day technical assistance during a 25 day outage to reconstruct the tank.

Specific engineering services performed by Highlander included:

◆ Detailed design of new conical and cylindrical barrel section supporting upper tank by lower tank. New sections were designed from duplex stainless steel.	◆ Design of structural support to hold existing 100 ton empty upper tank from the building columns while lower tank was partially demolished. Also evaluated existing building for increased loads.
◆ Detailed design of strengthening of 40' diameter barrel section and lower transition cone.	◆ Detailed design on corrosion resistant interior liner, including material selection, for the 40' diameter barrel section and lower transition cone.
◆ Developed RFQ package for reconstruction	◆ Technical review of quotations
◆ Review of vendor submittals	◆ Provided 24 hour technical assistance during 25 day outage to perform work;
◆ QA review during reconstruction	◆ Prepared as-built drawings of reconstructed tank.

Tank Reconstruction

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