

TorcSill is the premier provider of engineered Helical Pile and Anchor solutions to clients in a broad range of industries

Project Type
Crash Wall

Location
South Louisiana

Executive Summary

TorcSill worked closely with a major railroad owner and its Engineer of Record on an important public safety Project, successfully designing and installing more than 100 piles to support highway integrity in the event of a train derailment along a new track addition.



Challenges

Adhering to state Department of Transportation requirements for construction near an existing, active interstate highway, several design and construction considerations helped shaped project development.

Concern over vibrations and over excavation near existing interstate piling encouraged helical deep foundation design.

Other design and installation challenges included low overhead clearance beneath the interstate bridge, dictating a maximum pile length to allow for access, along with the need for a small construction footprint to ensure no disruption to the everyday operations of both the interstate highway and the railway.

What We Did

Focused on safe design and construction, TorcSill's Engineering TEAM developed a "transition" pile to resist high lateral loading while maintaining constructability and significantly reducing the cost of steel used for the foundation. The lead section (helix-flighted section) of the pile was designed as a medium-diameter pile, transitioning to a large-diameter section for the top 15 feet.

Each section of the 60-foot pile was designed at 15 feet to ensure adequate access for the installation equipment.

Upon design approval, TorcSill's Construction Services TEAM conducted load tests to verify pile capacities, before providing survey services to precisely locate each pile placement location.



Solution

The engineered, manufactured, load tested, surveyed and installed Crash Wall Project met all the conditions placed upon the TorcSill TEAM. At completion, 103 transition piles were installed to support an important infrastructure safety project, effectively eliminating vibrations typically associated with driven piles and over excavation and large construction footprint concerns associated with other piling solutions.



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