



COGBILL CONSTRUCTION HELPS MANSON CONSTRUCTION DRIVE PRODUCTIVITY, DEADLINES & KING PILES WITH CUSTOM FABRICATED STEEL TEMPLATE

Manson was searching for an effective way to systematically drive king piles for the berth 5 construction project at the Port of Port Arthur, Texas.

CHALLENGE

Manson needed a sturdy and precise template that would hold the alignment and spacing of the piles while simultaneously providing a safe access platform for the crew to work from. Their challenge was developing something that would allow the 101' x 48" Dia. steel pipe piles to be driven plumb so that the 87' sheet piles could be driven all the way to grade without binding up.

SOLUTION

Cogbill project manager, Steve Hartt, worked closely with Manson's project superintendent, Doug Lowe, and project engineer, Ilias Sgourides in developing the original design into the final fabrication.

The template is a two-tiered system of guides made from rolled 1.5" thick steel plate fitted with 1.5" thick UHMW plastic bumpers. The bumpers were secured using a flush elevator bolting system to allow the seamless movement of the pilings.



SOLUTION

The top deck was fitted with piano-hinged grating for placement and alignment during the driving operation. After a group of king piles was driven to grade, the grating between them could be swung open to allow sheet piles to be driven between them. This provided easy, safe access for the crew while threading the sheets into the king piles.

Four pad eyes with shackles were strategically placed to assist in lifting the template from each set of pilings. This helped distribute the load evenly, creating an optimal 30-degree angle for crane rigging.



Drawings were sent out to several fab/machine shops and Cogbill came in with the schedule and pricing that met our requirements. They have always been there to get us out of a jam.

- Doug Lowe
Manson Project Superintendent



RESULTS

The template guided 53 king piles and 52 sheet piles with precision accuracy. It enabled the Manson team to complete their task with greater ease and efficiency. Manson was allowed a tolerance of 2" in pile location, we built to 1/16th of an inch allowable tolerance. The Manson crew was able to safely position the pilings from the grated platform deck. The project completion timeline was allotted for six weeks, we completed and delivered the template one week ahead of schedule at five weeks. Our team was able to improve Manson's design, schedule, cost and overall productivity.



I enjoyed working with Cogbill very much. They were good at seeing opportunities for improving the design and bouncing ideas back and forth to provide the best possible product. They also did a good job of incorporating some last-minute design changes.

- Ilias Sgourides
Manson Project Engineer

