

CASE STUDY

Twin Dolphin Marina Wave Attenuator Replacement Project

Bradenton, Florida



PROBLEM

The Twin Dolphin Marina is located on the Manatee River close to Tampa Bay. The owners of the marina wanted to upgrade the existing wave attenuator to increase the shelter from hurricanes that sweep through the Gulf of Mexico. The current system offered safety for wave heights up to 3.5 feet. The new system would offer protection from wave heights up to 5 feet.

SOLUTION

Nucor Skyline worked with Moffatt & Nichol, the project engineer, and Misener Marine, the general contractor, to provide design assistance and cost analysis for the material.

A Pipe-Z combined wall system was selected as the final solution due to rapid material availability requirements. The combined wall was comprised of 30" x 0.500" pipe piles and Z-shaped intermediary sections. The pipe piles were 58 feet long and the steel sheet piles were 14.25 feet long. The unique design called for the tip of the sheet piles to stop two feet above the sea bed which meant they had to be suspended between the pipe piles. This was done to allow marine life to move freely from side to side, as required by the EPA.

Pipe-Z System	
Pipe Size	30" x 0.500"
Pipe Length (ft)	58
Sheet Pile Section	Z-shaped
Sheet Pile Length (ft)	14.25