

Design for Structural Constraints

Berth 10, Oakland, California, USA



Application
General Cargo Terminals

Type
SPC Cone Fenders

Date 2025

Reference 1500

A CLOSER LOOK AT THE CASE

The Port of Oakland, **one of the busiest ports on the US Pacific Coast**, handling over 99% of all containerized cargo moving through Northern California continued with its infrastructure improvements. While many of these improvements focus on **enhancing capacity for the largest vessels and reducing environmental impacts**, the refurbishment of Berth 10, a Dredge Material Rehandling Facility, was aimed at addressing the port's operational needs and supporting its long-term development.

To extend the service life of Berth 10, ShibataFenderTeam delivered five sets of Cone Fender systems (SPC 1000, G1.3), with closed-box steel panels (2286 x 3658 mm), all customized to meet the specific requirements of this aging terminal.

Project Scope

- ▶ 5 Cone Fender systems (SPC 1000, G1.3) with closed-box steel panels (2286 x 3658 mm)

CHALLENGE AND SOLUTION

The design of the fender system and substructure was **particularly unique**. Given Berth 10's narrow deck and limited load capacity, a **custom solution** was developed that operates almost independently of the original substructure. For each system, two new piles were driven and connected through a robust clamp, providing the necessary fender mounting space. The fenders absorb berthing energy, while the piles distribute the loads into the ground and partially into the original structure, **reducing stresses in the berth**.

The clamps and fender system were co-designed by our in-house engineering team prior to the tender phase, ensuring a **fully optimized design from the very beginning**. This collaboration streamlined the tendering process for the owner and facilitated a faster execution of the project.



Berth 10 | Oakland | California | USA

At ShibataFenderTeam, we are a **trusted partner** throughout the entire project – from the first contact to signing off on the installed fender systems, we stand by our clients **every step of the way**.

Our extensive design consulting at the early stages and a dedicated local contact were key to the success of the Berth 10 modernization project, which extends the terminal's service life. Explore more SFT Case Studies or Contact Your Nearest Office.

