NUCOR® SKYLINE

CASE STUDY

PortMiami Cruise Terminal

Miami, Florida

HISTORY

In the early 1900s, a powerful hurricane hit the southern end of Florida, creating what is now called Government Cut, by splitting the southernmost tip of Miami Beach. This cut was dredged, along with a new channel, to Bicentennial Park in the heart of downtown Miami. The new access to the mainland created the Main Channel, and shipping access to the new port was greatly improved. The remains from the dredging were used to create three new islands, Dodge, Lummus, and Sam's Islands.

In 1960, the County and City commissioners of Miami-Dade approved the construction of the new PortMiami. This new port would be built on Dodge Island, which was to be connected to both Lummus and Sam's Islands. Upon construction of the new seawalls, transit shed A, the administration building, and a new vehicle and railroad bridge, operations were transferred from the mainland port to the new PortMiami on the wholly man-made Dodge Island.

PROBLEM

PortMiami is recognized as the Cruise Capital of the World. It has retained its status as the number one cruise passenger port in the world for well over four decades, accommodating cruise vessels of many major cruise lines. In 2010, PortMiami handled more than 4.1 million cruise passengers. As the population of South Florida grew, so did the needs of PortMiami.

The cruise industry supports one of the biggest economic generators for the region, tourism. PortMiami plans to remain number one by competing for the growing cruise industry. To accommodate for this growth,

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PROJECT PARTNERS

Owner
Seaport Department of Miami-Dade County – Miami, FL

Construction Manager
Moss Construction Managers – Miami, FL

General Contractor
Ebsary Foundation – Miami, FL

Engineer
Atkins Global – Tallahassee, FL

PRODUCTS

Sheet Pile:
215 pairs: NZ 26 x 58' / ASTM A572 Gr 60
242 pairs: SKZ 31 x 14' / ASTM A572 Gr 50

Pipe Piles:
207 pcs 42" x .625 x 68' A252
Spiralweld pipe

PROJECT TIME FRAME

November 2016 to June 2017

the port must begin to invest in a new, larger terminal complex. This expansion includes three new berthing spaces plus the extension of Berth 6 to accommodate the new standard of larger cruise ships. This will allow for the berthing of nine of the world's largest class of ships.

SOLUTION

Atkins Global, out of Miami, FL, was contracted to design the first of the three new deep water berths along the North Channel, Cruise Terminal A at Berth 7. In order to accommodate the design for this new berth, the channel needed to be dredged further to allow for the new Oasis and future stretch Oasis class ships. After much analysis, the decision was made to cut into existing RORO docks to expand Berth 6 and create the new Berth 7, and eventually, Berths 8 and 9. This option took into consideration cost, future expansion of cruise berths, marine elements, and environmental balance.

The General Contractor of Ebsary Foundation, out of Miami, FL, worked closely with Atkins Global and their supplier, Nucor Skyline, to use a highly improved and advanced steel bulkhead and tie back system. This system utilized a combination wall, comprised of spiralweld steel pipe piles and intermediary steel sheet piles. The many advantages of steel sheet pile include quick installation, larger sections to accommodate new design dredge depth, and the ability to punch into a hard lime rock layer. The design team was able to utilize cold rolled steel sheet pile for the anchor wall, which cut down on cost while increasing strength and thickness.

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For technical questions and engineering support, please contact us via our technical hotline at: **1-866-875-9546** or email us at: **engineering@nucorskyline.com**.