

# The Newcastle

Vol. 32 No. 2

U.S. Army Corps of Engineers Los Angeles District

SPECIAL EDITION 2000

## PORT OF LOS ANGELES PIER 400 DEDICATION



**TIME ON THEIR HANDS.....***South Pacific Division Commander Brig. Gen. Peter T. Madsen, above left, and Los Angeles District Commander Col. John P. Carroll place Corps of Engineers memorabilia in a time capsule at the dedication ceremony of Pier 400. Both officers place their respective Commander's Coins in the capsule along with a Corps Flag and the plans and specs for the LA District's portion of dredging the main channel and using the material to help build Pier 400.*



## Dredging, landfill create huge new pier

# Corps, Port of L.A. celebrate completion of pier project

by Herb Nesmith

TERMINAL ISLAND, Calif. – Time, money and a successful partnership between the Corps, the Port of Los Angeles and contractors have produced a project that will boost the nation's economy by expanding the capabilities of the port – already the second-busiest in the United States and the ninth-busiest in the world.

Six years, \$401 million and 58 million cubic yards of material dredged from Los Angeles Harbor floor all came into play to create a 590-acre landfill that is the new Pier 400, described by the port's executive director Larry Keller as "a monumental engineering feat."

The project accomplished two goals: it deepened channels to enable the new, larger, deeper-draft cargo ships of the world access to a major port, and the dredged material was used to create the new



**FILL 'ER UP.....***The dredge Florida deepened the channel and pumped the material into what eventually became Pier 400.*

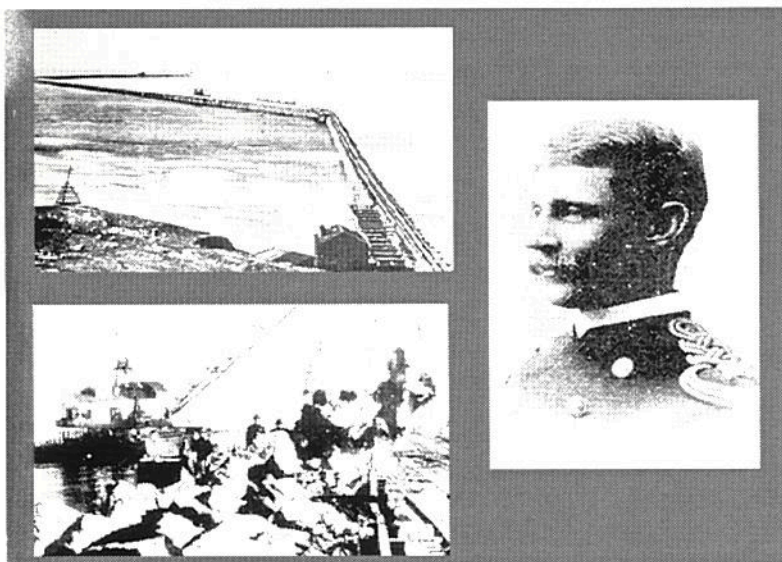
landfill that is Pier 400.

"We have finished an island," Keller said. "We've virtually raised the ocean floor to create this 590-acre site."

Some 11 million tons of quarry rock were used to construct retaining dikes and protect the pier's six-mile-long perimeter. More than 700,000 of the rocks weighed more than a ton, with the largest pieces tipping the scales at about 25 tons. All of the rock was towed on barges from a quarry on Santa Catalina Island – located just 26 miles across the sea, according to a former pop music hit song.

In just the first phase of construction the tugboats and their barges traveled a total of 83,000 miles – farther than driving from Los Angeles to New York City 28 times.

The Corps and the port began making history together more than 100 years ago, South Pacific Division Engineer Brig. Gen. Peter Madsen noted. "It



**100 years ago....***Captain John J. Meyler and 18 men began work in the Los Angeles Harbor when they constructed the San Pedro Breakwater.*



**Standing room only..... dignitaries, contractors, workers, Corps and POLA personnel gathered under the big top to celebrate the dedication of Pier 400.**

was in 1899 that the Corps' brand-new Los Angeles District, as its very first project, began construction of a breakwater that was the first step in developing what is today Los Angeles Harbor. And now, more than a century later, the Corps is completing another project at the port."

Pier 400 was constructed in two stages, the first by the port itself. The main channel was deepened to 63-feet, the north channel to 50-feet, and the dredged material was used to create about half the landfill. The Corps did the second stage, with the work performed by contractors: Great Lakes Dredge and Dock, Connolly Pacific, sub-contractor Manson Construction, and Gahagan & Bryant Surveyors.

From the harbor entrance to the north channel separating the new Pier 400 and the existing, closer-in Pier 300, the main channel is now 9,000 meters (5.6 miles) long and 81-feet deep – enough to completely submerge a five-story building.



The south channel was dredged to a depth of 75-feet, and a shallow portion of the north channel was deepened to achieve a consistent 50-foot depth for its entire length.

The dredged material was used to complete the 590-acre landfill – large enough to accommodate 33 buildings the size of the White House.

The project cost is \$401 million – and construction was completed six years ahead of schedule – according to the Corps' project manager, Ted Gula of Programs & Project Management. Project Engineer Julie Martínez of Construction-Operations, present for the April 27 completion ceremony, was presented an SPD commander's coin by General Madsen for her work on the project.


This project featured some innovative approaches, which led to accelerated accomplishments. Special language in the Water Resources Development Acts of 1988, '90, and '96, allowed the port to perform some of the work in advance, and receive credit for it. And during the course of construction, when federal funding became scarce, the port advanced the funds – since repaid – to allow the work to continue.


"This project is an excellent example of local-federal partnership in action," said Los Angeles City Councilman Rudy Svorinich,


The Port of Los Angeles  
U.S. Army Corps of Engineers


**Pier 400 Design Consultants**

 MOFFATT & NICHOL




 FUGRO

Fugro West Inc.  
Frederic R. Harris  
Moffatt & Nichol Engineers  
GBA Engineers & Surveyors

 **GBA**  
ENGINEERS & SURVEYORS

 HARRIS

**Pier 400 Constructors**

Connolly Pacific Company  
Great Lakes Dredge & Dock Company  
Manson Engineering & Construction Co.

Jr., whose district includes L.A. Harbor. "It creates needed facilities to accommodate the increased movement of goods, while stimulating the economy in our region and remaining sensitive to our environment."

To mitigate for the dredging, the Port of Los Angeles did a number of projects, both on- and off-site. The port restored water quality and wildlife habitat at the 600-acre Batiquitos Lagoon at Carlsbad in northern San Diego County. It also participates in the interagency restoration of the 900-acre Bolsa Chica wetlands.

In the port itself, it constructed more than 250 acres of shallow-water habitat. And it set aside acreage on Pier 400 as a protected nesting site for the California least tern, a bird on the endangered species list.

"This project has resulted in an unprecedented interagency collaboration with the goal of protecting our coastal maritime environment while ensuring economic growth for the region," said Councilwoman Ruth Galanter, chair of the city's Commerce, Energy and Natural Resources Committee.

She also praised all the agencies involved in the project, including the California Department of Fish and Game, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

"Pier 400 progressed from concept to reality only because of the port's invaluable partnership

with the U.S. Army Corps of Engineers," said Dennis McCarbery, Port of L.A. public information director for the project. "The extensive assistance from the Corps includes its Waterways Experiment Station in Vicksburg, Mississippi, where models of Los Angeles Harbor were used to conduct the most comprehensive studies of ocean wave action in maritime history."

Project Manager Ted Gula also has a positive outlook on Pier 400. "One often thinks of major development coming at the expense of the environ-

ment," he said, "but this project combines the largest port development in the country with some very significant environmental successes. The project is on track to complete six years ahead of schedule, and with a savings of \$3 million federal dollars from what was originally budgeted. This is a testimonial to the partnership among the numerous stakeholders, and the innovative ideas and

hard work of the team."

In addition to the environmental aspects, the project portends financial success. Copenhagen-based Maersk Sealand will lease 484 acres of the pier for what will be the world's largest proprietary container facility. The shipping company is expected to generate some \$2 billion in revenue for the city of Los Angeles over the course of a 25-year agreement.

Local congressional representatives ap-



**FESTIVE SALUTE....Two of the Port of Los Angeles Fireboats were on hand to end the ceremony with a demonstration of their 'firepower'!**



plauded the project accomplishment. "I salute the efforts of all the men and women who have worked hard over the last five and a half years to make this project a reality," said a representative from the office of Juanita Millender-McDonald in congratulating the Corps and the Port of Los Angeles. "It is through the dedication and commitment to this partnership that a project of this magnitude was completed in a timely manner."

Congressman Stephen Horn, in a congratulatory letter called the project realization "gratifying." "We have watched in wonder since 1994 as Pier 400 began to rise from the harbor bottom," Horn said in recognizing its completion.

"The Port of Los Angeles and the U.S. Army Corps of Engineers can be proud of their exemplary achievement in completing Pier 400, the largest federally-sponsored navigation project of its kind in the United States." The project "has been a model of management and cooperation," he said.

"The Corps of Engineers was instrumental in making the (nation's) ports (that) we know today," Horn said, touching on history. "One of the Corps' primary mandates is to ensure the navigability of America's waterways. Pier 400 is a shining example of this mission and a model of federal, state and local cooperation."

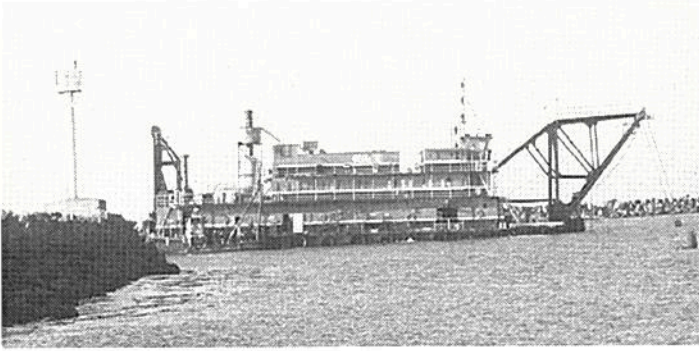
In concluding, Horn observed, "Faced with the difficult problem of increasing cargo volume and ever-larger ships, the Port of Los Angeles and the Corps came together to meet this challenge and keep this region competitive into the new century."

#### **MYSTERY GUESTS SIGN IN.....**

Corps and Port of Los Angeles staffers had guest sign in and then presented them with a POLA hat, a souvenir and a towel to wipe their feet before getting back in their cars.



## California puts Florida to work



The *Florida* was the primary – and largest – dredge involved in the Pier 400 project at the Port of Los Angeles. At approximately 500-feet long, it is the largest cutter suction dredge in the United States.

### ***Some facts and figures:***

Electrically-powered, it generates 17,000 horsepower – more that produced by 37 high-performance, 450-horsepower Dodge Viper automobiles.

The electrical power demand of the *Florida* is enough to provide electricity to 5,000 households simultaneously.

It discharges the material it dredges through a 36-inch-diameter pipe that can be run out as long as 19,000 feet – 3.6 miles.

## ***L.A. Harbor: where is it?***

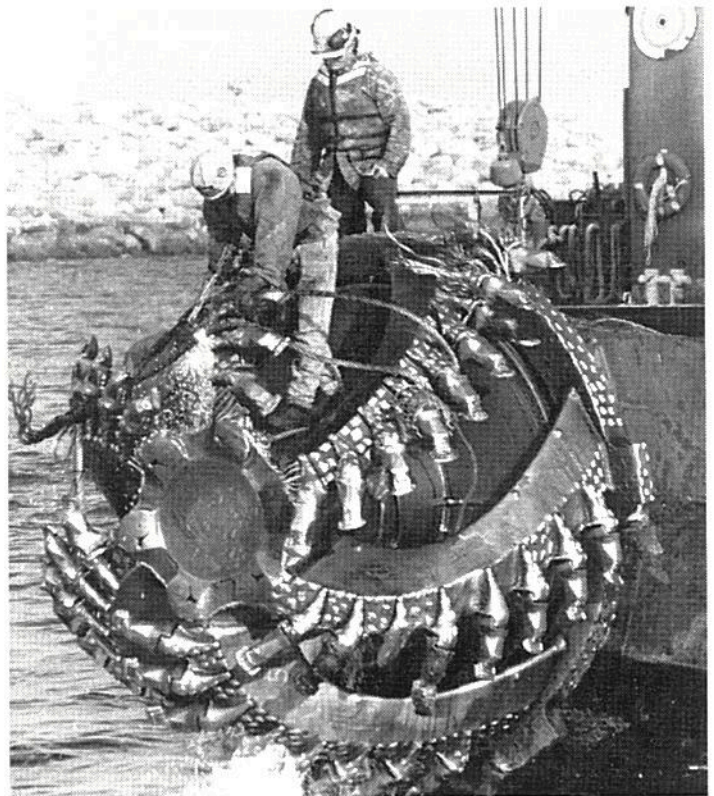
Los Angeles Harbor is located within San Pedro Bay, in the southwest region of the Los Angeles Basin. This basin is a lowland plain bounded by the Santa Monica and San Gabriel Mountains on the north and the Santa Ana Mountains on the east. The plain slopes westward and southward to the Pacific Ocean, interrupted by several ranges of hills including the Palos Verdes Hills, which form a peninsula at the northwestern end of San Pedro Bay. The major streams that drain this portion of the Los Angeles Basin are the Los Angeles and the San Gabriel Rivers.

The Los Angeles River discharges directly into Long Beach Harbor, and the San Gabriel River into the east side of San Pedro Bay at Seal Beach.

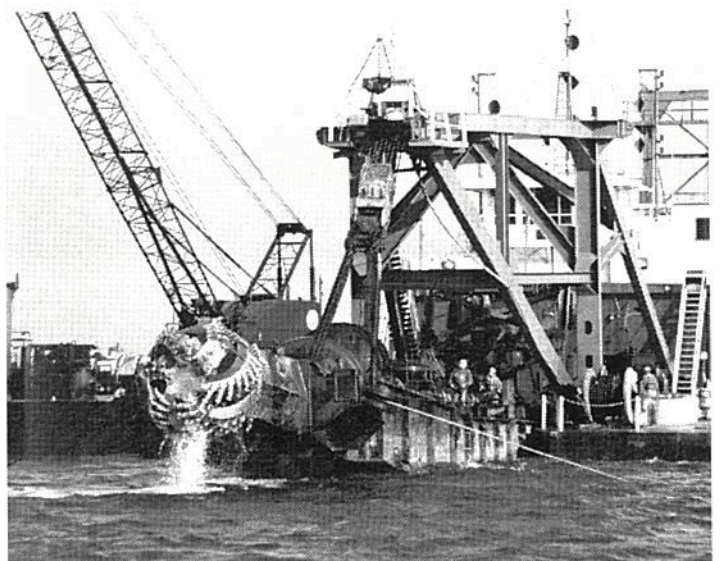
Prior to the development of the Los Angeles and Long Beach Harbors, the project area consisted of tidal lagoons, marshes and mudflats protected by a sandbar from the Los Angeles River which is now Terminal Island.

Dredging, filling and channelization have completely altered the original physiography to produce the existing harbor complex. (Turhollow, 1975)

The *Florida* dredged, in all, some 58 million cubic yards from the harbor floor to deepen the channel and create a landfill.



***Crewmen raise the cutter head for maintenance work. In addition to sand and silt, the cutter also picks up whatever is in its path on the sea floor. Here some steel cable from the bottom of Los Angeles Harbor has become ensnared with the head. A workman uses a torch to cut the cable – which will not be tossed back into the ocean – so that the dredge can get back to work. The Florida is owned and operated by the contractor, Great Lakes Dredge and Dock.***



**FORT T IRWIN SOLDIERS PRESENTED THE COLORS...**  
*Soldiers for Fort Irwin's 'Desert Warriors' Corps Support Battalion provided a touch of military splendor to the Pier 400 Dedication Ceremony. The LA district Public Affairs Office has an ongoing partnership with the Fort Irwin PAO who provide the young soldiers for district ceremonies.*



Photos by  
 Herb Nesmith  
 and  
 Jennie Salas



**SHOWING THEIR COLORS.....***Chief of Public Affairs Dr. Fred-Otto Egeler, left, and POLA Director of Public Information Dennis McCarbery stand in front of the organizations flags during the ceremony. They spent four months planning and coordinating the ceremony held at Pier 400*



**ANOTHER COIN COLLECTOR.....***Rivers and Harbors Project Engineer Julie Martinez, right, is presented a South Pacific Division Commander's Coin for her work on Pier 400 by Brig. Gen. Peter T. Madsen.*

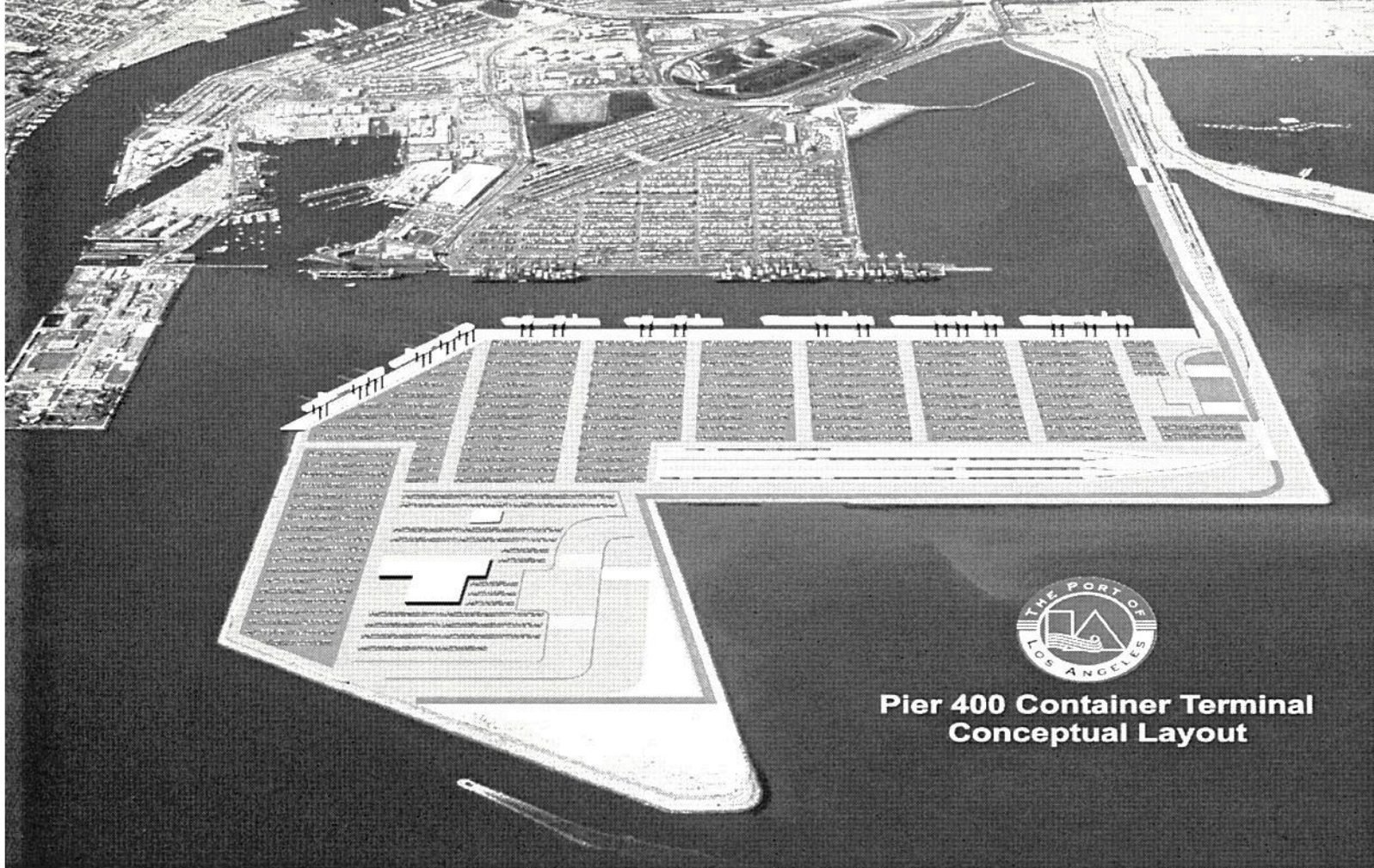
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The Newscastle is published monthly under the provisions of AR 360-81 for the employees and extended Engineer Family of the Los Angeles District, USACE. Views and opinions expressed herein are not necessarily those of the District or of the Department of Defense. Deadline submission is the 15th of the previous month and publication date is the 20th of each month. We publish material furnished by the American Forces Information Service and the Public Health Service. Address mail to the Los Angeles District Public Affairs Office, ATTN: Newscastle Editor, PO Box 532711, Los Angeles, CA 90053-2325. Tel: (213) 452-3921 or FAX: 4209. You can E-mail your information to the attention of the Public Affairs staff listed above.



### **Pier 400 Container Terminal Conceptual Layout**

*An artist's conception shows what Pier 400 might look like when it is built-out. A set-aside portion of the new 590-acre "island" is already successfully working as a nesting area for the endangered California least tern. The causeway (right) connecting Pier 400 to Terminal Island will have*

*a truck roadway and railroad track to speedily move cargo to and from the pier. In the top part of the photo, separated from the new pier by the harbor's north channel, is the existing Pier 300. Work at the port was the district's first project.*

Photo courtesy Port of L.A

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