

1. Component NAVY	FY 2005 MILITARY CONSTRUCTION PROGRAM	2. Date 13 JAN 2004
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3. Installation and Location/UIC: N62688 NAVAL STATION NORFOLK, VIRGINIA	4. Project Title PIER 11 REPLACEMENT (INCREMENT II)
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5. Program Element 0203176N	6. Category Code 15120	7. Project Number P094A	8. Project Cost (\$000) 40,000
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9. COST ESTIMATES

Item	UM	Quantity	Unit Cost	Cost(\$000)
PIER 11 REPLACEMENT (INCREMENT II) (294,156 SF)	m2	27,328		75550
PIER 11 REPLACEMENT (294,156 SF)	m2	27,328	1,326.00	(36240)
5T BASIN DEVELOPMENT (OLD 25T)	LS			(10620)
ANTI-TERRORISM/FORCE PROTECTION	LS			(1580)
ELECTRICAL UTILITIES	LS			(20050)
MECHANICAL UTILITIES	LS			(4420)
NORTH BREAKWATER DEVELOPMENT	LS			(450)
SMALL CRAFT BASIN PIER 11	LS			(1940)
TECHNICAL OPERATING MANUALS	LS			(250)
SUPPORTING FACILITIES				55430
SPECIAL CONSTRUCTION FEATURES	LS			(25130)
ELECTRICAL UTILITIES	LS			(880)
MECHANICAL UTILITIES	LS			(4390)
PAVING AND SITE IMPROVEMENTS	LS			(1660)
DEMOLITION	LS			(23060)
ANTI-TERRORISM/FORCE PROTECTION	LS			(310)
SUBTOTAL				130980
CONTINGENCY (5%)				6550
TOTAL CONTRACT COST				137530
SIOH (6%)				8250
SUBTOTAL				145780
LESS INCREMENT I FUNDING	LS			-27610
LESS INCREMENTS III AND IV FUNDING	LS			-78170
TOTAL REQUEST ROUNDED				40000
TOTAL REQUEST				40000
EQUIPMENT FROM OTHER APPROPRIATIONS (NON ADD)				(1115)

10. Description of Proposed Construction

Double Deck, General Purpose Berthing Pier 28 meters (93 linear feet (LF) wide and 488 meters (1,600 LF)) long with lower deck utilidor, for a total of 869 meters of berthing (MB)). The structure consists of precast, prestressed cylindrical concrete piles, supporting precast concrete pile caps and precast concrete lower deck slabs. Utilities consist of potable water; sanitary sewer, oily waste/waste oil, steam, and fuel piping systems with ship hose service connections and expansion and freeze protection devices. Additional ship-to-shore utilities include electrical, telephone, cable television, fiber optic communications, and a fire alarm. The project includes upgrades to sanitary Pump Station #3 and approximately 460 meters (1,500LF) of existing shore-side gravity sanitary sewer. 480V shore-to-ship power capacity will be 32MVA served via eight skid-mounted secondary unit substations. Secondary unit substations will consist of secondary

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<p>transformers, switchgear, breakers, and shore power outlets in weatherproof enclosures compatible for use on all 34.5kV upgraded piers. The new pier will include 4,160V and 13.8kV shore-to-ship power in a flexible system capable of supporting projected ship power requirements for CVN, CVNX, LHD-8, DDX, and possibly for later variants of LPD-17. Total area of double deck pier is 27,328 m2 (869 MB). The second deck does not require the same pile supports as the first deck, thus the cost per square meter is lower than historical costs for a single deck pier. A new relieving platform will be constructed in front of the Pier 11 bulkhead to provide a continuous, crane-capable corridor immediately along the waterfront. Anti-terrorism/force protection features will be provided.</p> <p>Demolition includes: Pier 11 (892 meters of berthing (MB)), small craft basin (1187 MB), wooden finger piers G and H (548 MB), and a portion of the existing bulkhead, and the laundromat (374 m2).</p> <p>Special Construction Features include: Offshore berths on both sides of the pier will be dredged to a depth of 15.3+0.6 meters (50+2 feet), inshore berth on the north side to a depth of 12.2+0.6 meters (40+2 feet), and small craft basins to 9.1+0.6 meters (30+2 feet); dredge material disposal; mounted oil boom; and two relieving platforms.</p> <p>In addition, a new small craft basin in the area of Pier 5T will be developed. The Pier 5T basin includes breakwaters, small craft piers, YD-capable dolphins, perimeter relieving platforms, a 35-ton travel lift slip/boat ramp, and a boat shed.</p> <p>Additional shore-side work includes removal and replacement of asphalt and concrete pavement, new pedestrian cross-walks and traffic signage, a new 7,430 m2, asphalt parking lot east of the new small craft berthing area, an 8,270 m2, asphalt paved small craft dry storage/repair area east of the small craft berthing area, chain-link security fencing, incidental repairs to paved areas disturbed by construction, provisions for relocation of Laundromat to Building #CEP58, and demolition of a small craft boathouse 403 m2.</p> <p>Sustainable principles will be integrated into the design, development, and construction of the project in accordance with Executive Order 13123 and other laws and Executive Orders.</p>				
<p>11. Requirement: <u>27328m2</u> Adequate: <u>m2</u> Substandard: <u>m2</u></p> <p>PROJECT: This project will construct a new double deck general purpose berthing pier at Naval Station (NAVSTA) Norfolk.</p>				

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<p>(Current Mission)</p> <p>REQUIREMENT: A comprehensive Regional Waterfront Plan for the entire Hampton Roads region drives the requirement for this project. NAVSTA has a requirement for 12,350 MB supporting a 2010 ship loading of 87 ships and utilizing ship nesting. This project constructs 884 MB of that requirement. Currently, Pier 11 is inadequate based on operational constraints. The deficiencies include inadequate utilities, structural limitations, pier separations, and deck size to support current and future ship berthing operations. To provide a portion of the required berthing at NAVSTA, Norfolk, Pier 11 must be replaced with a modern general purpose-berthing pier. The pier will be required to provide necessary utilities, deck space, and deck loading, as well as, pier to pier spacing required to provide efficient and safe general berthing capability in support of the US Atlantic Fleet. An additional CVN capable berth is provided to offset the loss of berthing capacity at times when Piers 12 or 14 are unavailable because of maintenance and recapitalization requirements. Pier 11 will be the first pier at NAVSTA capable of berthing CVNX and LHD-8 class ships.</p> <p>The small craft basins have the requirement to berth eight tractor tugs, five YD cranes as well as various fenders, camels, separators and barges as included in the small craft berthing requirement.</p> <p>CURRENT SITUATION: The existing Pier 11 is a one-sided pier, north side only, with the small craft piers to the south. The shore power electrical system is located in vaults below the existing pier deck resulting in moisture damage to equipment from damp conditions and, in extreme weather conditions, are subject to tidal inundation. Equipment damage and confined space access conditions result in increased maintenance costs and have resulted in the death of one and serious injury to an additional maintenance technician. The current electrical configuration does not provide the required power for CVN, CVNX, LHD-8 and the planned DDX class ships. In order to provide the necessary pier-to-pier spacing and to maximize the use of piers along the entire Naval Station waterfront, the Regional Waterfront Plan relocates the small craft basin to the Pier 5T area and the inshore portion of the south side of the new Pier 11. The existing Pier 11 will be replaced to allow for berthing on both sides of the pier, alleviating the shortage of CVN/CVNX/LHD/LHA berths.</p> <p>Pier 10 is currently the only other pier capable of berthing CVN-65 because of its unique power requirements; therefore, the pier must remain operational until a replacement pier is provided. Pier 11 will provide the necessary power, structural capacity, dredge depth and other capabilities to support CVN-65 and other CVNs. Pier 10, the oldest pier on the waterfront, will become available for recapitalization once this project is completed.</p>			

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Also, only Piers 12 and 14 are currently capable of berthing the other CVNs, greatly limiting berthing flexibility. As a result, there are no alternative CVN berths available when one of Piers 12 or 14 is unavailable due to pier maintenance requirements or an AOE or other large ship occupying a CVN berth.

The small craft piers were originally built to accommodate early submarine berthing and currently support Port-Ops tugboats and other yard craft. Harbor patrol craft are currently berthed in the 'V' area of the former Air Station. In excellent weather, this requires a 20-minute transit to the southernmost general berthing piers with foul weather transit considerably longer. The relocated small craft basin will accommodate these harbor patrol craft placing them in the center of the waterfront and significantly decreasing emergency response times.

NAVSTA currently is developing extensive anti-terrorism/force protection enhancements to offset critical shortfalls in the piers and waterfront area.

This project is part of the long term Regional Waterfront Plan, which at its completion will result in a more efficient, secure and usable waterfront that can accommodate the future ship loading at NAVSTA Norfolk.

IMPACT IF NOT PROVIDED:

The existing pier and the NAVSTA waterfront as a whole will not be able to properly support berthing of future ship classes. By the end of 2005, two LPD-17 class ships will be homeported in Norfolk, replacing ships over 100 feet shorter. The LHD-8 class ship, scheduled for delivery in 2007, will require 4160V service, the same as all other current carriers. CVNX is scheduled for delivery in 2013 and will require 13.8kV service. The lack of adequate berthing space with required utilities is part of a cumulative impact that will prevent NAVSTA from supporting all classes of homeported ships. The single sided pier and existing deck widths prohibit fire and emergency vehicle access during crane operations on the pier. Additionally, the existing deck loading is 600 pounds per square foot falling short of the 1000 pounds per square foot required for CVN loading. Lack of adequate crane operations at the existing pier drives the need to perform costly berth shifts in order to perform weapons loading, logistics and maintenance operations.

Positive impacts on the Quality of Life (QOL) will not be realized including: reduced nesting of ships will reduce ship movements, reduced numbers of cables across the inboard ship's deck, and increase maintenance opportunities and lay down area; utility outages due to storm and wave damage will decrease because of the increased elevation of a double deck pier and pipe protection; simplified CVN loading from drive on ramps to the hanger

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deck; increased pier width along with a deck free of utility cables will improve pier side staging of materials and ammunition movements, improved small craft berthing simplifying all aspects of port operations.

If this project is not completed, the requirements of the Regional Waterfront Plan will not be met resulting in: inadequate slip widths, inadequate total numbers of berths exacerbated by the possibility of DESRON 18 moving five ships from NNSY back to NAVSTA.

12. Supplemental Data:

A. Estimated Design Data:

1. Status:

(A) Date Design Start	112001
(B) Date Design 35% Complete	012003
(C) Date Design Completed	092003
(D) Percent Completed as of SEPTEMBER 2003	100%
(E) Percent Completed as of JANUARY 2004	100%
(F) Type of Design Contract	Design Bid Build
(G) Parametric Estimate used to develop cost	Yes
(H) Energy study/Life cycle analysis performed	Yes

2. Basis:

(A) Standard or Definitive Design:	No
(B) Where Design Was Most Recently Used:	N/A

3. Total Cost (C) = (A) + (B) = (D) + (E) : \$10,535

(A) Production of Plans and Specifications	\$7,901
(B) All other Design Costs	\$2,634
(C) Total	\$10,535
(D) Contract	\$6,585
(E) In-House	\$3,950

4. Contract Award 112003

5. Construction Start 122003

6. Construction Complete 112007

B. Equipment associated with this project which will be provided from other appropriations:

<u>Equipment</u>	<u>Procuring</u>	<u>Fiscal Year</u>	<u>Cost</u>
<u>Nomenclature</u>	<u>Appropriation</u>	<u>Appropriated</u>	<u>(\$000)</u>
		<u>Or Requested</u>	
Brows (30')	OMN	2006	237

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<p>JOINT USE CERTIFICATION:</p> <p>The Regional Commander certifies that this project has been considered for joint use potential. Unilateral Construction is recommended. This Facility can be used by other components on an as available basis; however, the scope of the project is based on Navy requirements.</p>																																							
Activity POC: ANDY SAMPSON		Phone No: (757)-444-4450																																					