

Shipyards Infrastructure Optimization Program

For: BIPOC Business Forum

Program Executive: Mr. Mark Edelson, PEO Industrial Infrastructure

Program Manager: CAPT Luke Greene, SIOP (PMO 555)

Briefer: Dave Sweet, SIOP (PMO 555) Department Director

15 May 2024





Shipyard Infrastructure Optimization Program (SIOP)



- **Problem Statement**
 - Condition, capacity, and configuration of facilities, dry docks, and equipment at the four public shipyards contribute to inadequate throughput and loss of fleet operational availability (Ao)
- **Baseline Performance**
 - Inadequate facilities and equipment led to maintenance delays that contributed, in part, to >1,300 lost operational days for carriers and >12,500 lost operational days for submarines (FY00-16, GAO-17-548)
 - Measures (2018 Report to Congress (RTC)):
 - Dry dock capability/survivability gaps: 14 of 18 certified dry docks
 - Average production shop facility condition rating: 66/80 (poor)
 - Average age of equipment: 24 years (industry standard = 7-10 years)
- **Root Causes / Priority Levers**
 - Shipyard infrastructure historically lags behind new platform development
 - Average production shop facility age for all shipyards (SY) is 82 years
 - Average annual Facilities, Sustainment, Restoration, and Modernization (FSRM) investment below sustainment model
 - Average Capital Investment Program (CIP) investment below requirement
 - Infrastructure not procured as aligned systems according to master plans, resulting in inefficient layouts and configurations



SIOP Definition and Lines of Effort (LOE)

- SIOP is a holistic investment plan that integrates all infrastructure and industrial plant equipment (IPE) investments at the Navy's four public shipyards in order to meet nuclear fleet maintenance requirements, as well as improve Navy maintenance capabilities by expanding shipyard capacity and optimizing shipyard configuration.



LOE 1. Construct and recapitalize dry docks and piers

- New capabilities to support dimensions and utility requirements of Virginia-class submarines and Ford-class aircraft carriers
- Foundational investment to meet class maintenance plans

- ▶ Create capability for new platforms
- ▶ Increase capacity for existing platforms



LOE 2. Recapitalize and reconfigure infrastructure toward improved industrial performance

- Phased industrial modeling and simulation process
- Advanced planning and engineering studies inform optimum shipyard configuration

- ▶ Recapitalize aged infrastructure



LOE 3. Modernize Industrial Plant Equipment

- Capital equipment (>\$350K) to maintain, modernize, and establish new industrial capabilities
- Focus on reducing total ownership cost of ship depot-maintenance operations

- ▶ Modernize towards optimization



LOE 1 – Dry Docks



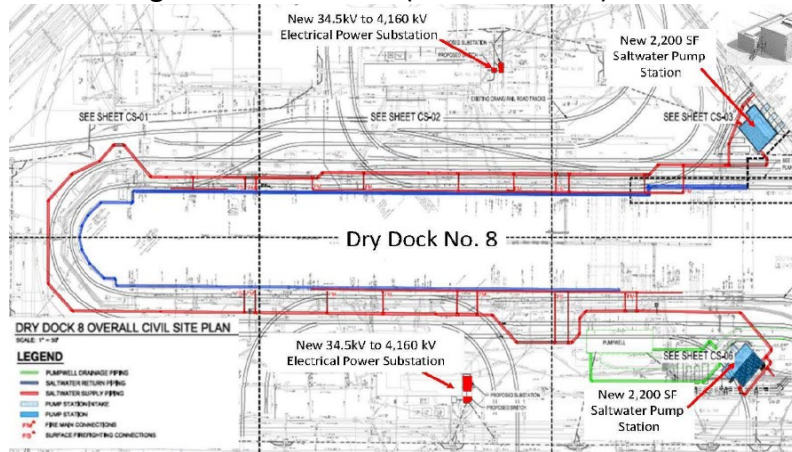
Pearl Harbor Naval Shipyard – New Dry Dock 5
FY28 Docking of USS Virginia-Class (Awarded FY23)



Puget Sound Naval Shipyard – New Multi-Mission Dry Dock
FY35 Docking of USS Ford-Class (Award FY26)



Norfolk Naval Shipyard – Dry Dock 8 Upgrades
FY28 Docking of USS Ford-Class (Awarded FY22)



Portsmouth Naval Shipyard – New Multi-Mission Dry Docks
FY27 Docking of USS Virginia-Class (Awarded FY21)





Current PSNS Dry Dock Capabilities

- PSNS & IMF is a National Historic Landmark District
 - This requires compliance with National Historic Preservation Act (adding project planning/development time and cost)
- Environmental planning is holistically considered
- Most buildings and structures were built during three distinct historical periods:
 - **1891 – 1919** (DD1: 1896; DD2: 1913; DD3: 1919)
Establishment of the Navy Yard at Puget Sound. The shipyards basic physical configuration was established during this time.
 - **1941 – 1945** (DD4: 1940; DD5: 1941)
WW II build-up, the workforce at PSNS was nearly 32,500
 - **1959 – 1975** (DD6: 1962)
Post-Korean War build-up to support America's nuclear Navy
 - **2026 – Future** (Multi-Mission Dry Dock, ~2034)
SIOP, DD6 cannot support Ford-class aircraft carriers. After the last Los Angeles-class availability (recycling), DD1 and DD3 will be *functionally obsolete*



Puget Sound Waterfront circa 1932 (Dry Docks 1-3)



USS Nimitz (CVN 68) docking in DD #6





Environmental Impact Statement (EIS)

Alternative 2 – Multi-Mission Dry Dock @ Dry Dock 3

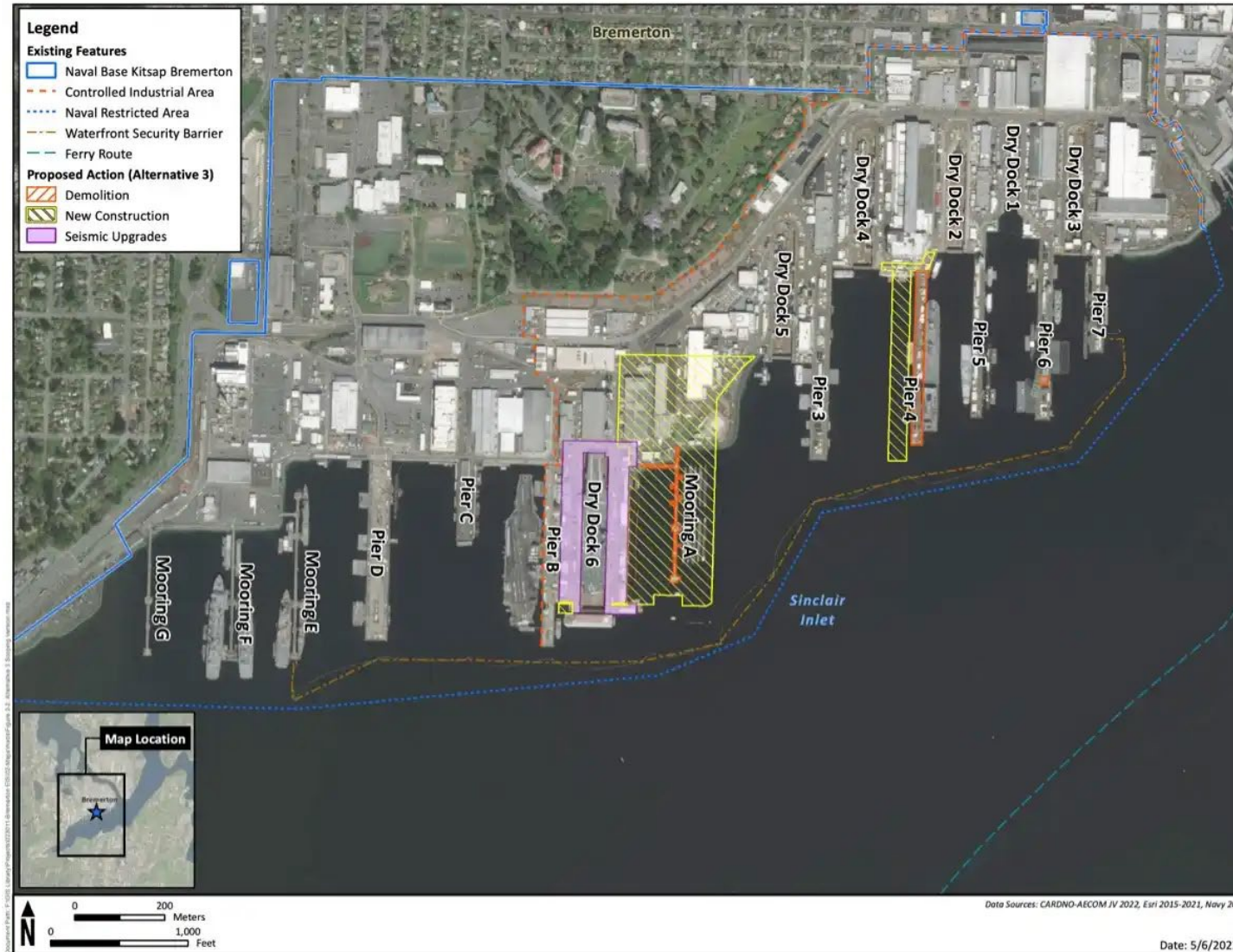


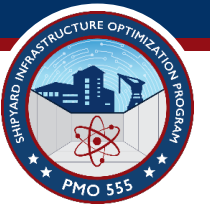
<https://bremertonwaterfrontimprovementseis.com/>



Environmental Impact Statement (EIS)

Alternative 3 – Multi-Mission Dry Dock @ Mooring-A





MILCON P454 Summary

(Part of EIS Alternative 2)

- Purpose
 - Construct a new, multi-mission dry dock to support CVN-78 Class nuclear powered aircraft carriers and all classes of nuclear powered submarines.
 - Timeline: FY22-FY25 Design, FY26 Construction Start
- Project Includes
 - Demolition of existing Dry Dock 3, Pier 6 (including the Hammerhead Crane), Pier-7, and several existing adjacent shipyard buildings such as the forge shop.
 - Construction of 1250ft long x 190ft wide dry dock.
 - Replacement Wharf-7. (Pier-6 replacement is under future MILCON P470, currently un-programmed).
 - Building renovation/construction to relocate displaced shipyard functions.
 - New rail networks, utility systems & tunnels, including replacement of 700ft of Farragut Ave tunnel.





NAVFAC NW for Small Business



- NAVFAC NW aims to award 47% of work to Small Business in FY24
- Opportunities with Small Business Multiple Award Construction Contracts (MACC) and Indefinite Delivery Indefinite Quantity (IDIQ) contact vehicles
- NAVFAC NW Industry Engagement Website Contains prime contactor listing, future workload projections, and links to other enterprise opportunities:
 - <https://pacific.navfac.navy.mil/Facilities-Engineering-Commands/NAVFAC-Northwest/About-Us/Industry-Engagement-Opportunities/>
- Visit Contract Opportunities or SAM.GOV for actual solicitations
 - <https://sam.gov/content/opportunities>
- Small Businesses looking for opportunities with NAVFAC or any business wishing to find subcontracting opportunities for small businesses:

NAVFAC Northwest Deputy for Small Business: Mr. Jim Niles,
james.m.niles4.civ@us.navy.mil, 360-536-7135



Current SIOP Opportunities



- Lease Administrative Office Space to the Navy (PSNS&IMF) to support SIOP, offers due 27 May:
<https://sam.gov/opp/d4f4c6ad280240ec9f4b3f468c35a73b/view>
- PEO II Industry Innovation Day – THINK DIFFERENT, BUILD BETTER
2-part SIOP Industry day coming up on 5 June (virtual) and Aug 13-15 (in-person in Washington DC).
<https://sam.gov/opp/a2979d1c053846c89650e5b7765b4bbd/view>
- More to follow!

The poster for the Shipyard Infrastructure Optimization Program (SIOP) Industry Innovation Day. It features a dark blue background with a photograph of a shipyard. The text is in white and orange. At the top left, there is a small logo for the Industrial Infrastructure PEO. The main text reads: "PROGRAM EXECUTIVE OFFICE INDUSTRIAL INFRASTRUCTURE SHIPYARD INFRASTRUCTURE OPTIMIZATION PROGRAM (SIOP) INDUSTRY INNOVATION DAY". Below this, it says "Delivering the Foundation of Fleet Readiness" and "Bringing together industry, academia, and the United States Government to explore cutting-edge infrastructure solutions to help deliver dry dock upgrades, expand shipyard capacity, optimize shipyard configuration, improve resiliency, speed delivery, and enable increased throughput for the nuclear fleet at the four public shipyards". At the bottom, it says "JUNE 5, 2024" and includes a QR code in the bottom right corner. The background image shows a large shipyard building with the text "PEARL HARBOR The Navy's No. 1 Shipyard" on it.