



# Shipyard Infrastructure Optimization Program, Puget Sound Naval Shipyard

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Presented By:

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## SIOP - Background

### GAO Report

- ❑ Report (17-548, September 2017) noted that the facilities maintenance backlog for naval public shipyards had grown to nearly \$5 billion
- ❑ GAO indicated Navy did not have a comprehensive plan to address and monitor its infrastructure investments.

### Navy Initiative

- ❑ NAVSEA, CNIC and NAVFAC partner in FY17 to analyze the approach to modernizing the naval shipyard infrastructure, and the way shipyard work is accomplished.

### Resulting Product

- ❑ NAVSEA stands up PMS 555, a centrally managed infrastructure program office, to manage the necessary investments to optimize the naval shipyards.
- ❑ PMS 555 is an integrated program office with NAVSEA as the supported command and CNIC/NAVFAC as supporting commands.



# NAVSEA HQ and Public Shipyards

Washington

- PUGET SOUND NSY & IMF



Maine

- PORTSMOUTH NSY

Washington DC

- NAVSEA DIR & PEOs

Virginia

- NORFOLK NSY

Hawaii

- Pearl Harbor NSY & IMF



## Proposed SIOP Investment Areas

### Dry docks

- Needed to recover 67 of the projected 68 moved, deferred and/or rescheduled submarine and aircraft carrier maintenance availabilities.
- Critical to supporting new Class introduction, maintaining dry dock certifications, and seismic and flood protection improvements.
- Essential for improving Fleet readiness by ensuring on time aircraft carrier and submarine availabilities.

### Facilities layout and optimization

- Essential to recovery of 328K man days per year of productive work solely by reducing worker and material movement.
- Necessary to fully realize capital equipment return on investment.

### Capital equipment

- Necessary to modernize the naval shipyard industrial plant and improve efficiency.
- The maximum capital equipment return on investment beyond modernization, though, will not be fully realized without optimizing facilities layout.



# SIOP Program Objectives & Status

## Purpose

- Multi-year program to meet the fleet's current and future aircraft carrier and submarine depot maintenance and inactivation requirements at the Navy's four public shipyards.

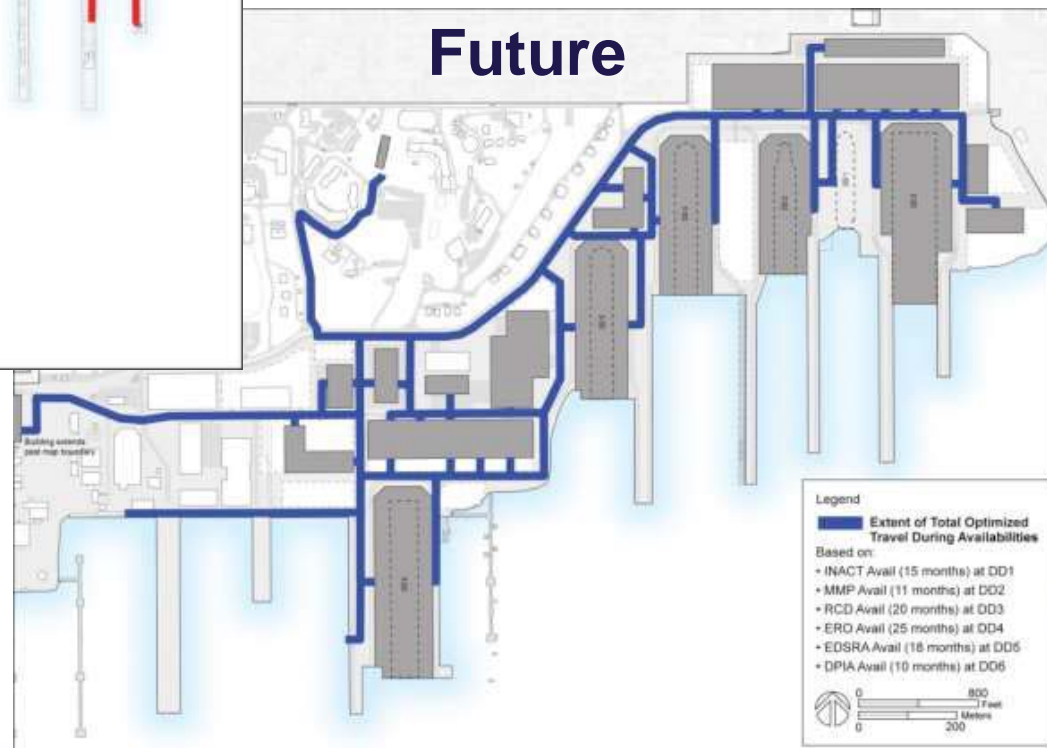
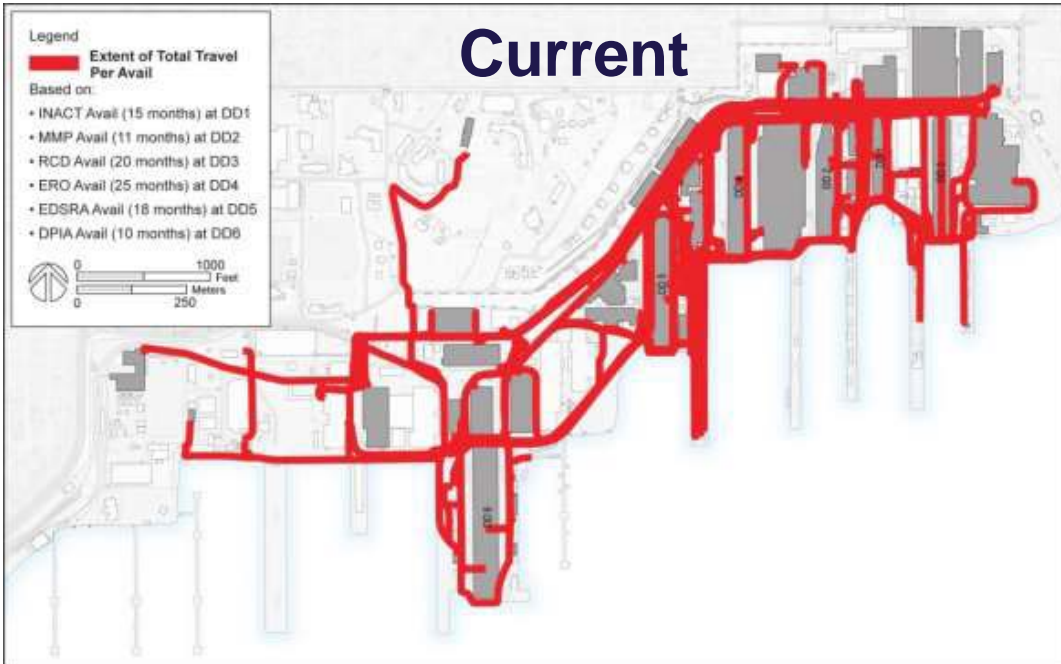
## Objectives

- Dry dock capacity to support all classes of nuclear ships: current and future.
- Facilities configured and modernized to allow for future flexibility in mission change.
- Capital equipment modernization to align to industry standards.

## Status

- Phase I complete: 2018 SIOP Report to Congress and Navy program office established.
- Phase II in progress:
  - Industrial engineering analysis
  - Industrial process modeling and simulation
  - Area Development Plans
  - Ongoing recapitalization investments
- Phase III future: Prioritize, develop, and execute projects identified during Phase II.

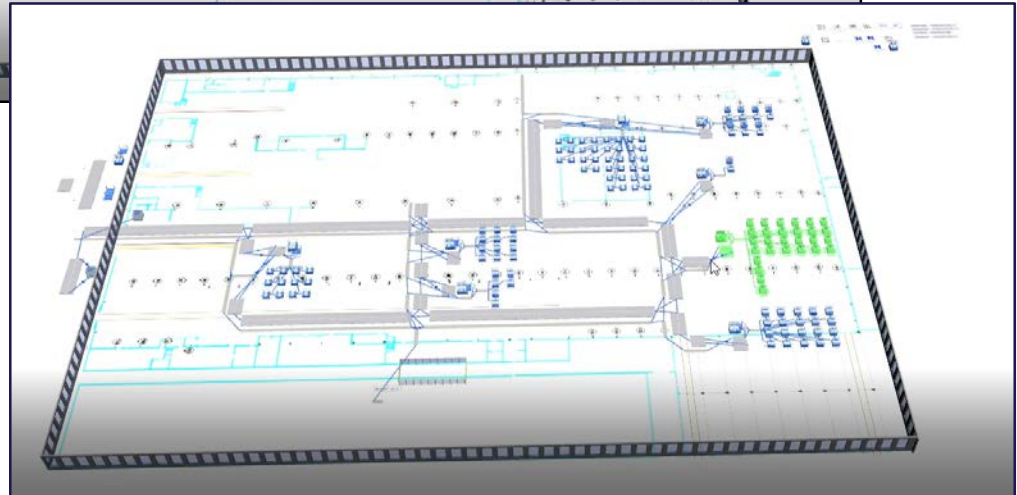
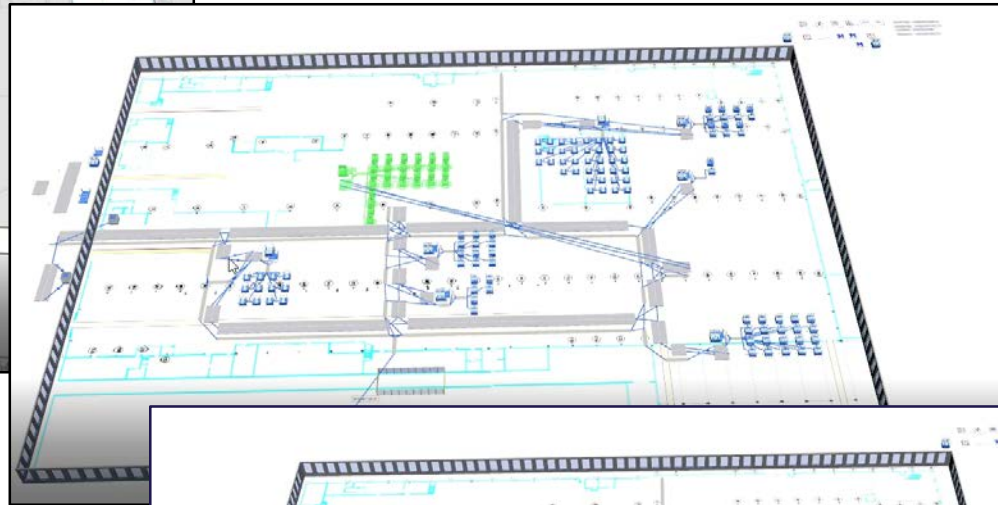
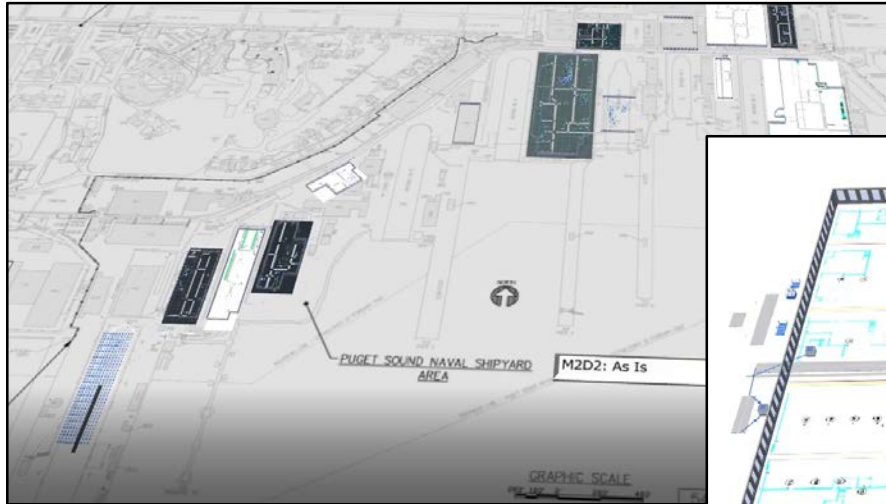
# Phase I Results: Puget Sound Naval Shipyard







## Phase II: Modeling and Simulation & Area Development Plans



Modeling & Simulation enables us to manipulate buildings and equipment along with processes and functions to generate a model shipyard and to visualize synergies and efficiencies.



# PSNS Waterfront Infrastructure Improvements

## Projects

- ❑ Development of a new Multi-Mission Dry Dock (M2D2), required to continue nuclear powered aircraft carrier (CVN) maintenance while the existing Dry Dock (DD) 6 is taken out of service due to seismic vulnerability. DD6 is the only CVN capable dry dock in the pacific theater.
- ❑ Seismic Upgrade of DD6 following M2D2 construction. A second CVN capable dry dock is required to resolve the dry dock capacity shortage at PSNS & IMF.
- ❑ Demolition, upgrade, and/or replacement of select in-water and upland structures.
- ❑ Facilities Optimization Projects resulting from the Area Development Plan

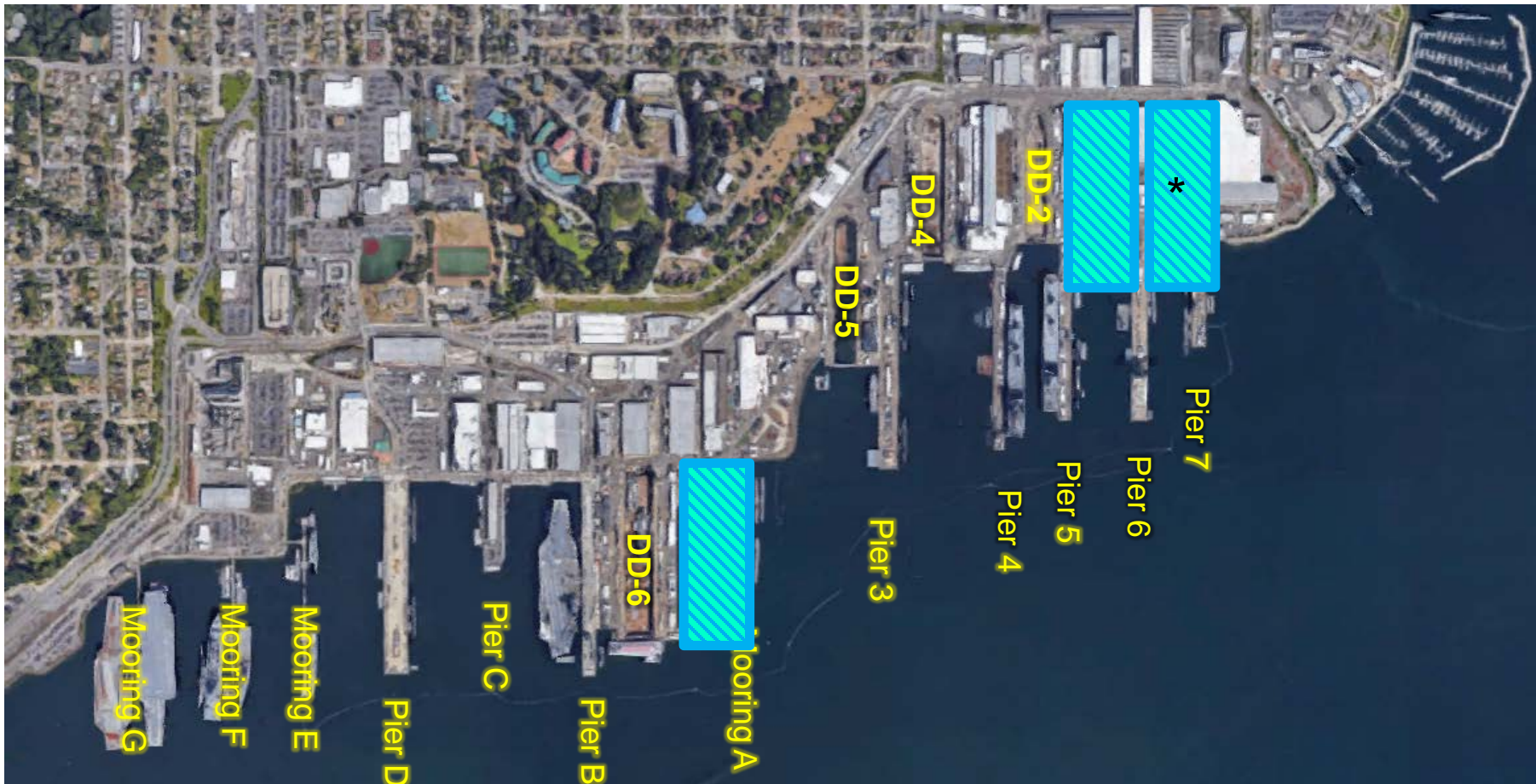
## Status

- ❑ Navy continues pre-planning and evaluation of potential M2D2 locations in support of early MILCON scope and cost estimates – draft Engineering Study and Analysis of Alternatives.
- ❑ Environmental Impact Statement (EIS) internal Navy initial planning is underway, and the Notice of Intent (NOI) is currently planned for August 2021.





# Potential Locations of M2D2



\* Location includes two alternatives with different dry dock dimensions



## Potential Small Business Investment Areas

- Additional modeling and simulation of shipyard layout FY22-23 and Area Development Plan Support
- New Equipment Technology/Process Optimization
  - Dry Dock Lifting and Handling
  - Connected Plant Equipment
  - Material Handling/Warehouse Automation
  - Automated/Robotic/Drone Delivery
- Small Business Mentoring/Protégé with large facility planning and design firms for upcoming MILCONs (through NAVFAC FECs)
- Professional Support Services
- Construction Services
- Environmental and Cultural Consultations
- Smart Shipyard Communications and Network Architecture



**Questions?**