What does it take to deliver a mega program? Examining change and success: Terminal 5 Rehabilitation.

- Submission ID: **1077822**
- Submission Type: **Discussion Session**
- Submission Status: **Complete**

**Speaker(s)**

1. **ED**
   **Emma Del Vento, AICP**
   
   Position:  
   Capital Program Leader  
   
   Organization:  
   Port of Seattle  

   **Role:**
   
   Moderator

2. **SG**
   **Steven Gray, P.E., P.Eng.**
   
   Position:  
   Senior Manager/Supervisory Engineer  
   
   Organization:  
   Moffatt & Nichol  

   **Role:**
   
   Panelist

3. **JH**
   **Joanna Hingle, P.E., S.E., M.ASCE**
   
   Position:  
   Assistant Engineering Director - Design  
   
   Organization:  
   Port of Seattle  

   **Role:**
Panelist

4. TH
   Thais Howard, P.E.
   Position: Director of Engineering
   Organization: Northwest Seaport Alliance

   Role:

Panelist

5. JO
   Jonathan Ohta, P.E.
   Position: Senior Construction Manager
   Organization: Port of Seattle

   Role:

Panelist

6. AP
   Anne Porter, P.E., MBA, LEED AP, CSBA, Envision
   Position: Director Seaport Project Management
   Organization: Port of Seattle

   Role:

Panelist

7. JS
   Jon Sloan, LEED AP
   Position: Senior Manager Maritime Environmental and Sustainability
   Organization: Port of Seattle

   Role:

Panelist

Discussion Session
Is this a panel or round table discussion?

- Panel

**Summary of the Discussion Session Content and Duration**

Background and Objectives: Terminal 5 in Seattle has long been considered a premier container cargo on the West Coast because of its naturally deep berth, wide footprint, and the availability of an on-dock rail yard, which allows containers to be directly loaded from the ship onto rail lines. The new ultra-large container ships, however, require larger, heavier cranes with a longer reach, which in turn requires strengthening the dock and upgrading utilities. Program objectives include a wharf that is capable of handling two ultra large class vessels by early-2023. The improved wharf will support up to 12 cranes and provide ship-to-shore power for vessels berthed at the facility. The proposed capital improvements will maintain the economic and job benefits from the cargo business at Terminal 5. In addition to these infrastructure improvements, Seattle and Tacoma port commissioners have directed staff to bring forward environmental investments to enhance water and air quality for the community. They include updating stormwater treatment systems and installing “shore power” infrastructure, which allows a vessel to plug into electricity while at berth, substantially reducing air emissions. The plan also includes technology improvements to manage truck flow around the terminal and a railroad “quiet zone” to reduce noise impacts for the surrounding community. The Terminal 5 Rehabilitation Program has been awarded four grant funds: one Federal and three state grants.

Plan: Planning started in late 2013, to include: Environmental Impact Analysis, Seattle City Light agreement to increase the power to the Terminal fivefold, Design, Procurement, Public Bid Process, and Tenant negotiation. Execution was envisaged in two stages, north and south berth, over almost four years construction. Total program costs were approved for $340,000,000.

Execution: This segment will be a deep dive panel discussion for a firsthand account of program delivery, variation from the plan, recovery scenarios, and vital lessons. Speakers include:

- Northwest Seaport Alliance, Port of Seattle, Moffatt and Nichol.
- Program Management (Thais Howard and Anne Porter)
- Extreme resiliency: retaining a knowledgeable and dedicated team during COVID Engineering (Joanna Hingle and Steven Gray)
- Pinch piles, Structural Piles, Toe Wall: innovative problem solving with time constraints Environmental, Permitting (Jon Sloan)
- From the EIA to Occupancy: best case scenarios and changing conditions Construction (Jonathan Ohta)
- Partnering: evolving scope and completing construction

Q&A

**Target Audience for the Discussion Session**

The target audience is: People interested in program delivery, community interfaces, dredging, remediation, permitting, cargo dock rehabilitation and redevelopment, pavement and drainage control, impact analysis and mitigations.

**Description of the Benefit of the Discussion Session to Conference Attendees**

Nationwide our infrastructure is reaching end of life. This presentation explores the complexities of infrastructure rehabilitation and redevelopment from an environmental, engineering,
execution standpoint to provide a model for Ports in the United States to frame objectives and delivery successful outcomes.

The project implemented two custom engineering and construction technologies to resolve unforeseen and challenging site conditions while maintaining planned permits conditions and construction schedule.