



**THE NORTHWEST
SEAPORT ALLIANCE**

Gateway to Solutions

Husky Terminal Expansion Part One

U.S. Department of Transportation – Maritime Administration
Port Infrastructure Development Program (PIDP)
Opportunity Number MA-PID-23-001
Submitted by: The Northwest Seaport Alliance

Project Narrative

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SUPPORTING DOCUMENTATION / ATTACHMENTS

Supporting documentation for this grant application have been submitted on www.grants.gov as attachments, separate from this Narrative, the SF-424 and SF-424C. The supporting attachments are as follows:

- Attachment 1 – Project Narrative
- Attachment 2 – Benefit-Cost Analysis (BCA) Report
- Attachment 3 – Benefit-Cost Analysis model (xls)
- Attachment 4 – Project Location file (kmz)
- Attachment 5 – Funding Commitment Letters
- Attachment 6 – Letters of Support
- Attachment 7 – Cost Estimate
- Attachment 8 – Project Schedule

The NWSA has also set up a website for the submitted grant files:

<https://www.nwseaportalliance.com/about-us/planning/2023-pidp-grant-application-husky-terminal-expansion-part-one>



INTRODUCTORY INFORMATION

<i>Name of lead applicant</i>	The Northwest Seaport Alliance (NWSA)
<i>Is the applicant applying as a lead applicant with any private entity partners or joint applicants?</i>	No
<i>Project Name</i>	Husky Terminal Expansion Part One
<i>Project Description</i>	The Project consists of three components: reconfiguring Husky terminal yard to improve truck and yard tractor efficiency; installing 40 reefer racks and power supply; relocating the North Intermodal Yard (NIM) Tower and other terminal support structures; all to triple reefer capacity, increase terminal operating efficiency by 6%, and reduce truck turn times by approximately 8 minutes per gate move without increasing the footprint of the terminal.
<i>Is this a planning project?</i>	No
<i>Is this a project at a coastal, Great Lakes, or inland river port?</i>	Coastal Port
<i>GIS Coordinates (in Latitude and Longitude format)</i>	711894.77 N ; 1167553.17 E
<i>Is this project in an urban or rural area?</i>	Urban
<i>Project Zip Code</i>	98421
<i>Is the project located in a Historically Disadvantaged Community (HDC) or a Community Development Zone?</i>	Yes, HDC
<i>Has the same project been previously submitted for PIDP funding?</i>	No
<i>Is the applicant applying for other discretionary grant programs in 2023 for the same work or related scopes of work?</i>	No
<i>Has the applicant previously received TIGER, BUILD, RAISE, FASTLANE, INFRA or PIDP funding?</i>	Yes: FY20 PIDP: Terminal 5 Uplands Modernization and Rehabilitation Project (\$10.7 M) FY22 PIDP: Terminal 5 Export, Expansion, and Emissions Reduction Project (\$17 M)
<i>PIDP Grant Amount Requested</i>	\$56.6 million
<i>Total Project Cost</i>	\$125.9 million
<i>Total Federal Funding</i>	\$56.6 million
<i>Total Non-Federal Funding</i>	\$69.3 million
<i>Will RRIF or TIFIA funds be used as part of the project financing?</i>	No

I. PROJECT DESCRIPTION

A. PROJECT OVERVIEW

The Northwest Seaport Alliance (NWSA) is requesting \$56.6 million in 2023 Port Infrastructure Development Program (PIDP) grant funding to help fund the Husky Terminal Expansion Part One (the Project) at the Port of Tacoma, Washington (the Port). The Project will support the PIDP's goals of improving the safety, efficiency, and reliability of the movement of goods by more than tripling refrigerated export capacity at the port terminal, increase terminal operating efficiency by 6%, and reduce truck turn times by approximately 8 minutes per gate move without increasing the footprint of the terminal.

The Project consists of three components: 1) reconfiguring the terminal yard for better truck circulation; 2) tripling the refrigerated container capacity by installing reefer racks and additional power supply; and 3) relocating some on-terminal structures to allow for terminal reconfiguration removing pinch points.

Previous modernization projects straightened and modernized the wharf and added new larger cranes to efficiently handle the largest ships with expanded capability to handle multiple post-post Panamax ships at once. This project builds on those prior investments by improving the terminal yard which, today, cannot handle the large discharges of cargo that would be associated with first stop calls of ultra-large ships. This is a major liability given the intense competition NWSA faces from nearby ports in Canada. The Project is the critical next step in accommodating ultra-large container vessels in Tacoma and ensuring the NWSA remains relevant and competitive in a changing industry. It will enhance the competitiveness of refrigerated U.S. exports by providing additional capacity and flexibility for the businesses that depend on them and by helping ensure that goods imported into the U.S. are handled by U.S. seaports and organized U.S. labor.

The Project also supports the commitment of the Ports of Tacoma, Seattle, NWSA, and Vancouver, B.C. to the Northwest Ports Clean Air Strategy (NWPCAS), which calls for a phasing out of all seaport-related emissions by 2050, and to the Husky Terminal Net Zero 2040 Business Plan, including 50% emissions reduction by 2030 and net zero emissions by 2040. Currently, the NWSA is installing shore power to reduce ship emissions. The Project further ensures that these environmental goals can be achieved by increasing cargo handling efficiency, densifying the cargo storage area, and increasing reefer export capacity.

The Project has a combined Benefit-Cost Ratio of 1.5, and the individual project components all have independent utility. The requested PIDP funds of \$56.6 million for the Project represent 45% of the estimated total Project cost of \$125.9 million and will be supported by \$69.3 million in matching funds.

B. APPLICANT ELIGIBILITY

The NWSA is a marine cargo operating partnership governed by the Port of Tacoma and the Port of Seattle as equal members, with each port acting through its elected commissioners. Both are

port authorities under Washington State Law RCW 53.04.010¹. The NWSA itself is a port development authority under Washington State Law RCW Chapter 53.08² and as such is eligible to receive PIDP funds.

The NWSA oversees much of the maritime commerce in the region, including facilities for the export and import of containerized cargo, automobiles, breakbulk cargo, heavy-lift cargo, military cargo, and project cargoes, as well as intermodal rail terminal operations. The NWSA facilities include 33 ship berths that are served by five federal waterways. By operating jointly as the NWSA, the two ports form the seventh largest container gateway, the second largest refrigerated export gateway, and eighth largest export gateway by TEU (twenty-foot equivalent unit) in North America. This unique partnership strengthens the Puget Sound gateway and supports growth for the regional economy. The NWSA marine cargo operations support 58,400 jobs and more than \$4 billion in labor income across the Washington state economy.³



Figure 1: The Port of Tacoma

C. PROJECT NEED / ADDRESSING TRANSPORTATION CHALLENGES

i. Accommodate Shipping Industry Changes & Big Ship Readiness

Today the NWSA receives calls from vessels with more than twice the capacity of the average sized vessel that called our port just ten years ago. Ocean carriers are continuing to emphasize economies of scale and increasingly are only calling at ports that can handle the larger ships.

¹ [RCW 53.04.010](#)

² [RCW 53.08](#)

³ [Economic Impact | Northwest Seaport - Port of Tacoma \(nwseaportalliance.com\)](#)

To remain a preferred port of call and trade gateway for U.S. shippers and counter the BC port investments of the Canadian government and Canada's Class 1 railroads improvements to major rail corridors to the U.S., the NWSA has been proactively planning and developing the facility improvements that are required to accommodate the changes in cargo vessel size that have taken place in the past decade. NWSA has worked with its tenants, including Husky Terminal & Stevedoring, LLC, making major capital improvements to marine terminal facilities, enabling operational improvements to address the shipping industry's trends towards vessel scale efficiencies and consolidation in cargo vessel deployment routes.

ii. Support Demand for Refrigerated Agricultural Exports

Agricultural producers and food processing companies rely on export markets to remain profitable and viable. Modernizing and improving NWSA facilities supports U.S. exporters from Washington, Oregon, Idaho, Montana, Minnesota, the Dakotas, and Iowa. These exporters depend on the NWSA for the fastest and most cost-effective shipping of price- and time-sensitive refrigerated agricultural products such as frozen potato products (75% of all U.S. French fry exports move across NWSA terminals), apples, dairy products, meat, seafood, and fresh potatoes, as well non-refrigerated exports such as hay, soybeans, and legumes. The efficiencies gained from the 5-high reefer stacks will enable NWSA to stay competitive with Canadian ports, preventing the loss of dedicated space on ships, higher export shipping costs, and access to the supply of empty containers returning from inland locations that they previously relied on—which would otherwise be available to exporters in Western Canada instead.

In addition, there is unmet reefer capacity for food consumed in the Pacific Northwest. Previously, all bananas consumed in the Pacific Northwest, accounting for 7,000 reefers annually, moved across NWSA terminals. Now they are being trucked from the Port of Hueneme in California. The Project's tripling of reefer capacity, from 360 to 1,200 reefer plugs, will not only help our nation's export industries, but will also help restore balance to the overall supply chain for U.S. exporters and the agricultural producers that export their products across the globe, resulting in a more reliable and consistent export process. **The NWSA is the #2 reefer export port in North America due to its proximity to growing and food processing facilities; and the #1 gateway for refrigerated apples.** There is unmet terminal handling capacity demand for commodities such as apples, French fries, beef, pork, and dairy products. The additional reefer capacity will provide benefits to exporters and truckers, taking advantage of unused vessel capacity for reefer shipments, and the over 40 cold storage facilities providing 2.3 million square feet of warehouse space near NWSA's harbors.

D. PROJECT CONTEXT

Since its inception in 2015, the NWSA has worked to implement a strategic business plan designed to maintain and improve the competitiveness of its container terminals in the face of rapid and dramatic changes in the industry.

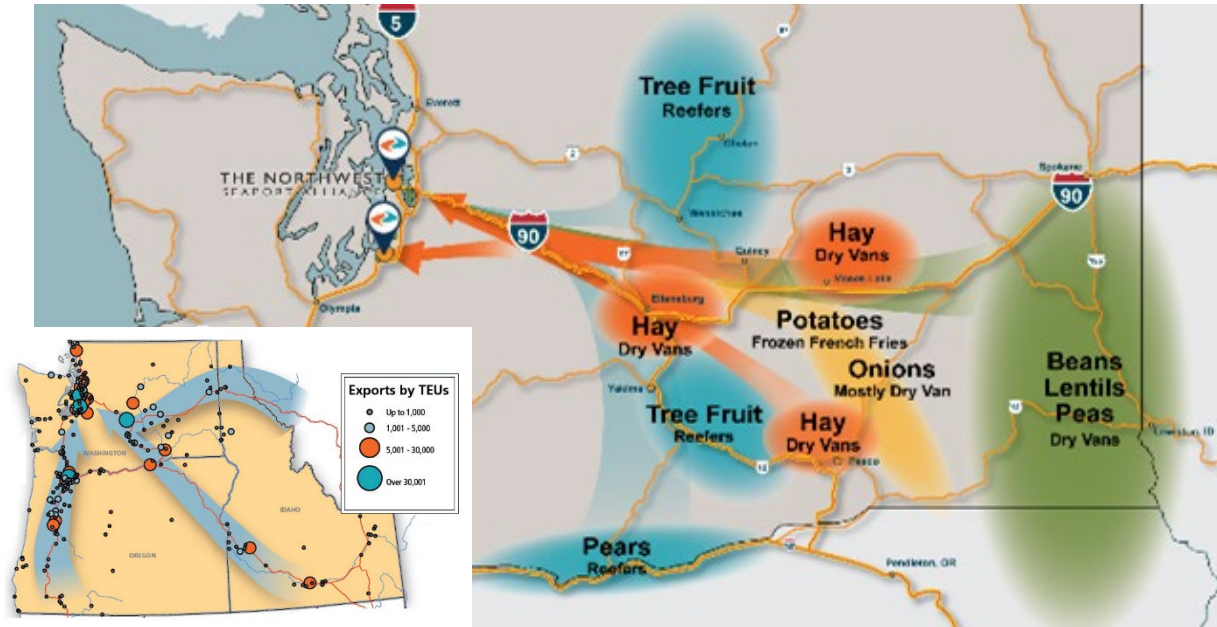


Figure 2: NWSA Exporters

In 2016, the NWSA began construction on the \$141-million Husky terminal pier reconfiguration project. The upgrades included significant pier realignment and reconstruction, creating a continuous 3,000-foot berth, and the purchase of eight new ship-to-shore rail mounted container handling gantry cranes. The Project will adjust the terminal yard configuration needed to fully realize the benefits of these prior investments, allowing the port facility to support two ultra-large ships at the same time.

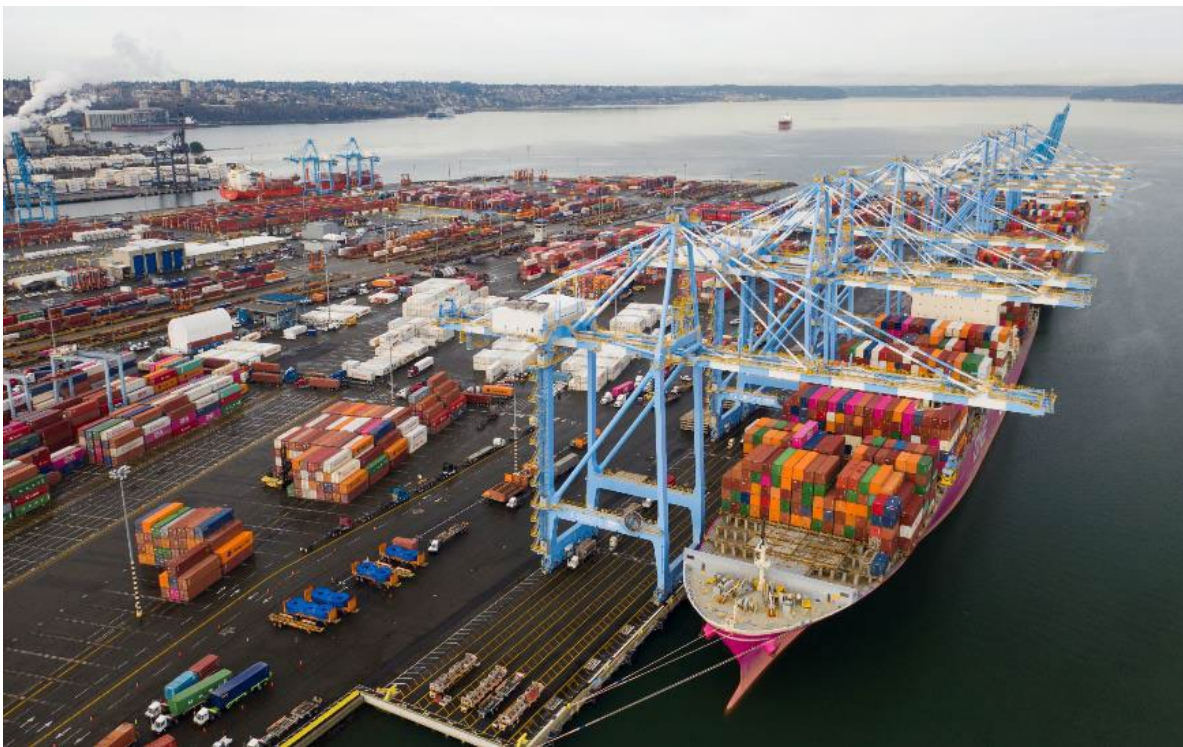


Figure 3: Realigned Husky Terminal Berth on the Blair Waterway, with Commencement Bay in the Background

The Project will improve internal circulation and staging for trucks to improve safety and efficiency and increase container stacking capacity for loaded imports and exports. In total, the Project will reduce port operating costs by approximately 6%, more than triple refrigerated export capacity, and reduce truck turn times by approximately 8-minutes per gate move. Improvements to an existing off-terminal power substation with additional feeders will increase power supply and system redundancy to serve the tripling of reefer capacity on the terminal, and future electrification of cargo handling equipment. This will support the NWSA and Husky Terminal & Stevedoring, LLC plans for zero emissions by 2050 and 2040, respectively. Future improvements to the terminal include a shore power project, the purchase of electric cargo handling equipment and charging infrastructure, and further operational and infrastructure improvements.

E. STATEMENT OF WORK / PROJECT COMPONENTS

Table 1: Project Construction Elements

Project Construction Elements	
Project Component	Construction Element
<u>Component #1</u> Reconfiguration of Container Storage Yard	<ul style="list-style-type: none"> • Demolish rubber-tired gantry (RTG) runs • Relocate utilities, slot drains, light poles, fire hydrants • Pave and adjust/level terminal grade • Stripe pavement
<u>Component #2</u> Installation of Reefer Racks and Add Power Supply	<ul style="list-style-type: none"> • Increase off-terminal power supply to support reefer rack & other future terminal power needs • Install 40 reefer racks & power for reefer racks • Reconfigure existing reefer area • Install utilities, fire protection systems and pavement
<u>Component #3</u> Relocation of Terminal Support Facilities	<ul style="list-style-type: none"> • Demolish scale & security buildings, install utilities, construct modular office complex • Demolish North Intermodal Yard (NIM) Tower • Demolish Pier 3 Marine Tower • Relocate Customs & Border Protection radiation portal monitors

Husky Terminal Expansion Part One has three distinct components. The Project will 1) reconfigure and densify the yard for better truck and yard-truck movements to complement previous wharf upgrades; 2) install reefer racks and power supply to triple reefer capacity and 3) relocate the North Intermodal Yard Tower and other support structures to reduce inefficient truck routing on the terminal. The Project will more than triple refrigerated container (reefer) capacity at the terminal, increase terminal operating cost efficiency by approximately 6%, and reduce truck turn times by approximately 8 minutes per gate move without increasing the footprint of the terminal. Details of the main construction elements of each Project Component are summarized in Table 1.

i. Re-Configuration of Container Storage Yard

Component #1: Re-Configuration of Container Storage Yard will reconfigure the container yard (previously designed to support two angled shorter wharfs) to align with the current straightened, 3,000 ft single wharf, which will improve overall functionality at the terminal. Construction will include moving and densifying the existing container stacks that are served by rubber-tired-gantry cranes (RTGs). The existing RTG area is located just north of the entry truck gate and will be moved northwest to the center-north part of the terminal, where it can be positioned parallel to the wharf.

Component 1 includes partial removal of rubber-tired gantry (RTG) runways, relocation of light poles and foundations, repaving and restoration of the existing asphalt concrete, restriping, reconfigured perimeter fencing, and the replacement of miscellaneous equipment. The reconfiguration will improve the terminal's truck circulation efficiency, which will in turn reduce truck turn and idling times. Reconfiguring the yard will create additional terminal yard container handling capacity that reduces the at-anchor time of two large vessels because they will be worked at the same time.



Figure 4: Project Components 1 & 2

ii. Installation of Reefer Racks and Power Supply

Component #2: Installation of Reefer Racks and Power Supply providing additional power to accommodate new reefers and future electrification of terminal operating equipment, new off-terminal electrical infrastructure is required. This includes capacity enhancements at a nearby substation, two new feederlines from the substation to the terminal, and new tie ins to nearby feeder lines to increase the flexibility and reliability of the power network. The added power supports the addition of 40 refrigerated racks with container (reefer) plugs with associated power infrastructure at the north end of the wharf, and reconfiguration of the central yard reefer area.

Completing this component will triple the terminal's refrigerated export capacity from 360 to 1,200 reefer plugs that can take advantage of Tacoma Public Utilities' 97% carbon-free (renewable) energy grid.⁴

The increased on-terminal refrigerated cargo capacity will allow for expanded receiving windows, allowing exports to be more flexible. This provides increased business opportunities for exporters, improved efficiency for truckers, and potentially lower transportation costs for both parties. The added capacity will allow the terminal to handle more export reefers during peak periods, reducing waiting times for customers, and improving overall service levels.

iii. Relocation of Terminal Support Facilities

Component #3: Relocation of Terminal Support Facilities, will optimize the flow of cargo through the terminal by creating a more efficient path for trucks serving the terminal, reducing truck congestion. This includes the demolition of terminal facilities that cause pinch points for trucks. These changes result in reduced emissions, lower operating costs, and increases in yard capacity that will allow the terminal to work 18,000 TEU ships simultaneously, instead of one. The following elements are included in Project Component #3:

- Relocation of the North Intermodal Yard (NIM) Tower. To ensure that the rail and straddle carrier control functions for the NIM yard (currently housed in the NIM Tower), can continue uninterrupted, this element includes clearing the new site of existing uses, adding new utility connections, constructing a modular office complex in a new location that will not affect terminal operations, and paving. This element must be completed first.
- Demolition of the on-terminal operating NIM Tower and obsolete Marine Tower.
- Relocation of the Customs & Border Protection (CBP) radiation portal monitors (RPMs) will allow import containers to be screened before they move through the NIM,



Figure 5: Project Component 3

⁴ [Clean & Renewable Energy - Tacoma Public Utilities \(mytpu.org\)](https://www.mytpu.org)

streamlining transfer of containers by straddle carriers between truck and rail. The relocated / combined facility will include up to three radiation portal lanes.

II. PROJECT LOCATION

A. PORT OF TACOMA

The Port of Tacoma, located in the Puget Sound region of Washington State, is an urban coastal seaport and a major center for the import and export of containers, breakbulk, project/heavy-lift cargoes, automobiles and bulk, and connects to the second-largest concentration of distribution centers on the West Coast. Maritime shipping and industrial activities in Tacoma cover 2,400 acres concentrated in the Port of Tacoma Manufacturing Industrial Center (MIC), one of Washington's largest and oldest designated MICs. The area includes the natural deepwater port and industrial lands adjoining the Blair, Hylebos, Sitcum, and Foss Waterways, and the Puyallup River.

It is located at the intersection of three jurisdictions – the cities of Tacoma and Fife and Pierce County – and includes a significant portion of historical and current homelands of the Puyallup Tribe of Indians. The Port has five major container terminals where some of the world's largest container shipping lines call. These terminals are managed by the NWSA.

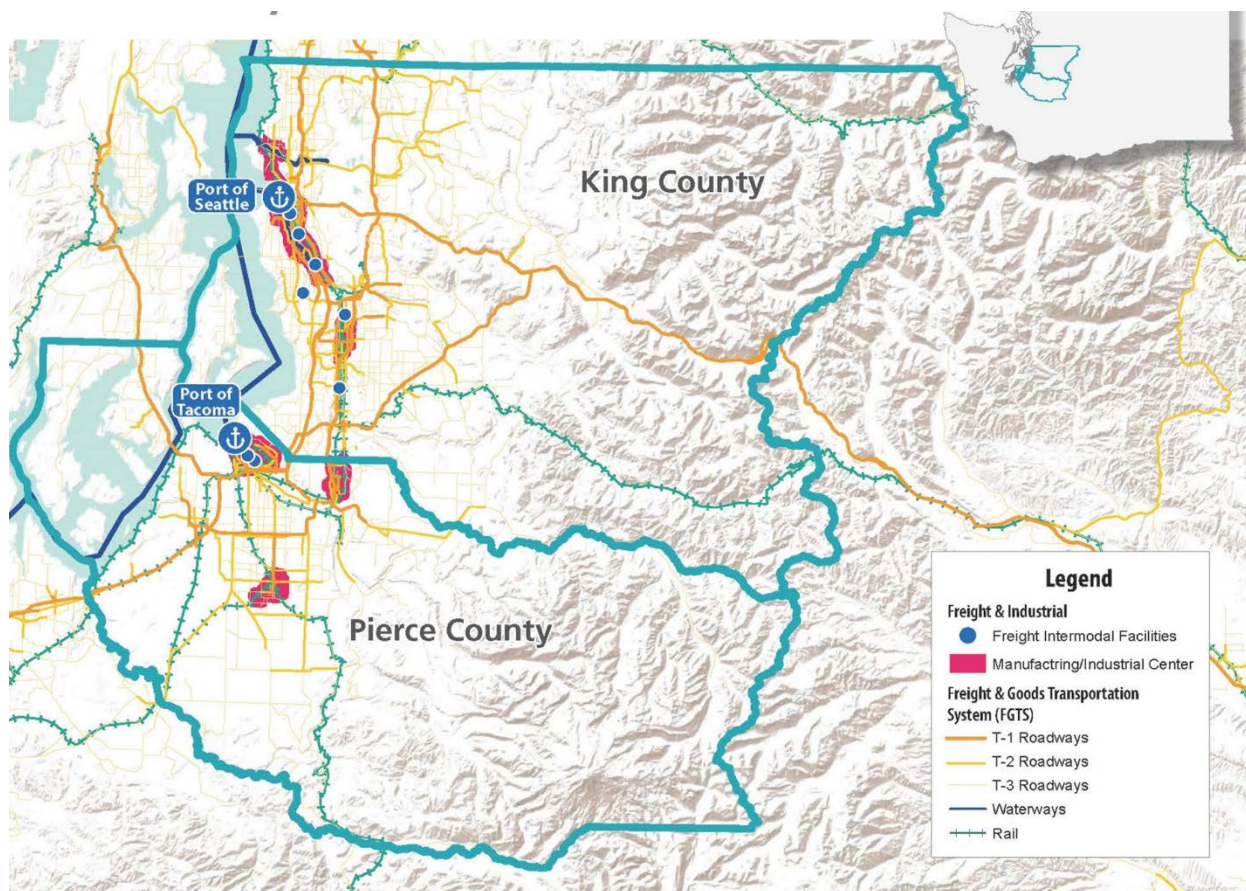


Figure 6: NWSA: Port of Tacoma Location in Washington State

B. PROJECT SITE

The Project is located at the Port of Tacoma in Washington State (711894.77 N and 1167553.17 E), as shown in Figure 7; and in a Historically Disadvantaged Community (HDC) zone and Persistent Poverty Area, and near Tribal and Opportunity Zones, see [Figure 12](#).

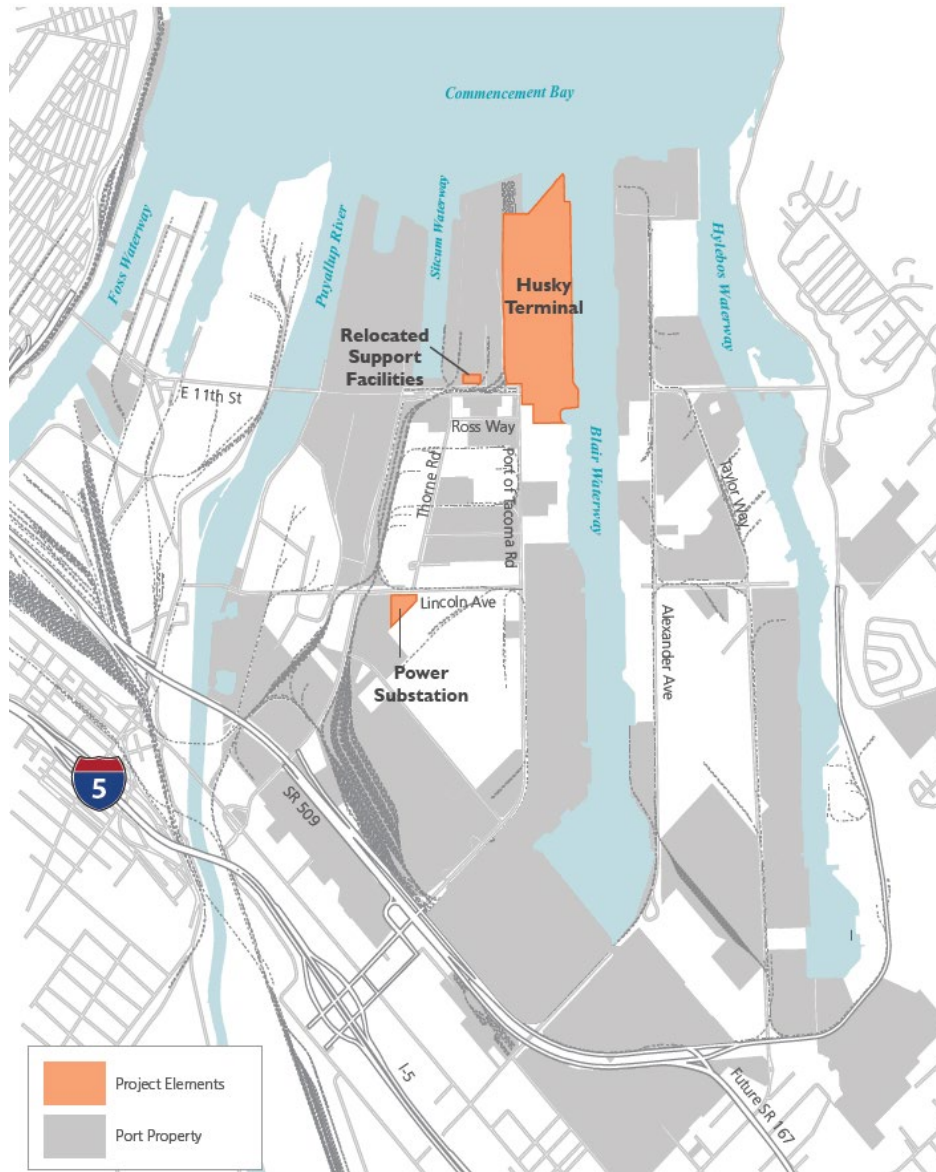


Figure 7: Project Site Location, Husky Terminal, Relocated Support Facilities, and Substation

i. Transportation Connections

Figure 8 shows the location of the terminal within the Port of Tacoma and its connections to major freeway corridors. Landside connections to the Port, and in particular the peninsula, are components of the National Freight Highway Network, with roadway access from Interstate-5 and Interstate-90. The General Central Peninsula is served by Port of Tacoma Road, which is designated both as an NHS Freight Intermodal Connector and STRAHNET Power Projection

Platform Route. Other roadways used for access and egress to the Project also have NHS Freight Intermodal Connector designation, and one is a Critical Urban Freight Corridor (Portland Ave.). Most of these roadways are designated heavy haul routes that serve over-legal export loads. On these routes, any roadway improvements are built with thicker, longer-lasting pavement.

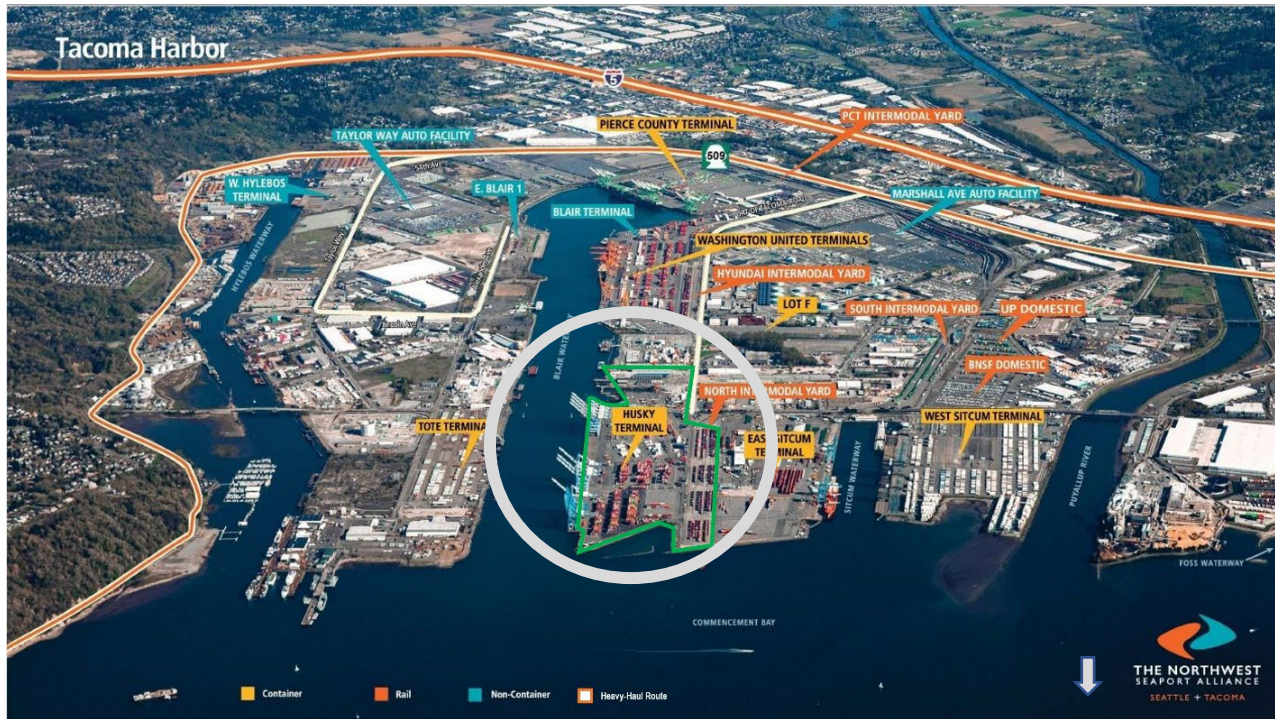


Figure 8: Port of Tacoma Highway Connections

The Port's international container terminals enjoy excellent on-dock and near-dock rail service by Tacoma Rail, a local shortline. Tacoma Rail provides direct rail access to and from Class I railroads, including the Burlington Northern Santa Fe Railway and the Union Pacific Railroad.

C. CENSUS DESIGNATIONS & HISTORICALLY DISADVANTAGED COMMUNITIES

The Port of Tacoma and its NWSA licensed terminals are located in the Seattle, Washington Urbanized Area (Code 80389) as defined by the U.S. Census Bureau. The Urbanized Area's 2010 population was 3,059,393⁵. The City of Tacoma's 2010 population was 198,397, and its 2022 estimated population was 219,205. The Port is wholly located in, and surrounded by, a Historically Disadvantaged Community Zone, as discussed in Section V.B. and shown in Figure 12.

III. GRANT FUNDS, SOURCES, AND USES OF PROJECT FUNDS

A. PROJECT COSTS

The cost estimate for the Project is \$125,900,000. Table 2 shows the expected project costs divided by Project Component. The estimate is based on concept-level engineering and unit costs

⁵ <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural/2010-urban-rural.html>

from NWSA and area construction costs. A more detailed Cost Estimate is provided as Attachment 7.

B. PIDP FUNDING REQUEST AND MATCHING FUNDS

NWSA's request of \$56.6 million (45%) in PIDP grant funding will allow the Project to be completed in the most time- and cost-effective manner for the benefit of U.S. exporters, port operators, and other freight stakeholders throughout the region and nation. A local match of \$69.3 million (55%) will be provided to fund the remainder of the Project.

Project Costs by Component				
Funding Source	Component 1: Reconfiguration of Container Storage Yard	Component 2: Install Reefer Racks and Power Supply	Component 3: Relocation of Terminal Support Facilities	Total (Rounded)
Funding Amount				
PIDP Funds (45%)	\$14,332,500	\$36,810,000	\$5,535,000	\$56,600,000
Non-Federal Funds (55%)	\$17,517,500	\$44,990,000	\$6,765,000	\$69,300,000
TOTAL	\$31,850,000	\$81,800,000	\$12,300,000	\$125,900,000

Table 2: Project Costs & Funding Sources by Component

C. FUNDING SOURCES

The NWSA has developed a comprehensive, multi-sourced funding program for the Project, with the requested PIDP grant funding an essential element of the Alliance's goal of meeting the needs of the freight and logistics industry and the region. The requested PIDP grant funding represents approximately 45% of total project costs.

D. DOCUMENTATION OF FUNDING COMMITMENT

The Project's 55% local match will be funded through non-PIDP funding sources. The cost share will come from NWSA, supported by its tenant, Husky Terminal & Stevedoring, LLC, which is fully engaged in the success of this project. Details about the Project's funding sources and their authorization can be found in the letters of commitment provided as Attachment 5 to this grant application.

IV. MERIT CRITERIA

A. ACHIEVING SAFETY, EFFICIENCY, OR RELIABILITY IMPROVEMENTS

The Project will support the PIDP 2023 program goals of improving the safety, efficiency, and reliability of the movement of goods into, out of, around, and within the port. Reconfiguring and improving the terminal will eliminate significant worker and truck safety risks; increase terminal

capacity and velocity, reducing terminal operating costs; and improve the capacity for, reliability of, refrigerated agricultural exports without adding truck trips to more distant ports. The Project also supports the NWSA's and Husky Terminal & Stevedoring, LLC's commitments to terminal electrification and diesel emissions reduction.

i. Safety - Protects Workers from Risks

Reduction in Ladder Accidents

Installing reefer racks will improve access to reefer containers on the terminal, reducing safety risks for operators, drivers, and mechanics working on the terminal. Today, reefer containers are stacked 2-high and mechanics climb mobile ladders to plug in and unplug the containers. Repairs to the reefers are unable to be performed via ladders and require relocation to designated repair areas. The new, 5-high reefer racks include stairwells and catwalks with railings (Figure 9), which will greatly reduce the chance of accidents. In total, Component 2 will eliminate an estimated one ladder accident per year. The benefits of this safety improvement, which are detailed in the attached Benefit-Cost Analysis Report, total \$1.58 million in avoided ladder-related accidents over the 20-year analysis period.



Figure 9: Old (top) vs New (bottom) Reefer Racks

Fewer Accidents Due to Uneven Pavement

The Project's pavement grading and surface improvements are essential to maintaining safety standards and support the Project's implementation of taller container stacks. The pavement is currently in poor condition and requires continuous operating and maintenance expenditures. Uneven or distressed pavement is one of the primary causes of accidents involving container handling equipment and container stacks. New pavement will improve the safety of yard equipment operators, truck drivers picking up or dropping off containers, and mechanics.

Avoided Increase in Truck Accidents

Without the Project and its increased reefer capacity, refrigerated cargo will continue to be diverted to other ports. Diverting cargo from Tacoma to alternate ports will increase safety risks for truckers since they will have to travel further to reach export terminals that can accommodate export reefer containers. By avoiding this increase in truck miles, the Project will reduce the probability of truck accidents that might occur on these longer routes. As detailed in the Benefit-Cost Analysis (BCA) Report, adding reefer racks will prevent 190 truck accidents, providing \$7.86 million in truck safety benefits.

ii. Efficiency – Impacts on Port Performance

The Project represents one of the few opportunities across the entire U.S. West Coast to expand our nation’s marine terminal capacity. As the NWSA’s top performing terminal in Tacoma Harbor, Husky Terminal already is a vital asset for U.S. supply chains. Over half of NWSA’s import cargo is bound for destinations outside the Pacific Northwest and we handle exports from all 50 states. The Project will help avoid congestion associated with cargo surges in the future and result in efficiency gains that benefit the entire U.S. economy, its capacity, efficiencies, and cost savings are essential if the U.S. is to maintain a top-tier trade gateway in the Pacific Northwest.

Increased Terminal Capacity and Velocity

The terminal yard layout is based on the prior two-wharf, angled configuration, not the current linear 3,000 ft continuous berth configuration. Straightening the eastern portion of the yard to match the realigned berth and relocating key terminal buildings, will reduce both truck detours and yard tractor transit times from vessel to yard and back. This will allow the terminal to work two ultra-large ships at the same time, instead of being limited to one. This will both increase terminal capacity and cargo velocity, making cargo operations more efficient and reliable. This will reduce terminal operating costs by approximately 6%, as detailed in the Benefit-Cost Analysis (BCA) Report, providing \$33.79 million in savings in terminal operating costs over the 20-year analysis period.

Reduces Truck Turn Times

Reconfiguration of the terminal and relocation of key buildings will result in more efficient operations with reduced truck driver detours, faster truck turn times, and more gate volumes. The current yard layout negatively impacts terminal efficiency, creating congestion. As detailed in the attached Benefit-Cost Analysis (BCA) Report, the Project will save an estimated 706,872 hours of truck waiting time at the terminal over the analysis period. By reducing truck wait time at the terminal, the Project will provide \$8.76 million in savings in truck time over the 20-year analysis.

Avoids Increase in Truck Miles

Reconfiguring the reefer layout and installing new reefer racks will allow the terminal to handle the expected increase in reefer volumes. This will avoid the need to divert reefer imports and exports to alternative ports (i.e. Hueneme, CA; Vancouver, BC; and Oakland, CA), providing savings in truck miles and therefore, congestion, noise pollution, operating and maintenance, safety and emission costs. Based on the projected reefer volume for the top three commodities moved through the terminal, and as detailed in the attached Benefit-Cost Analysis (BCA) Report, the Project will avoid over 83.65 million truck miles over the analysis period.

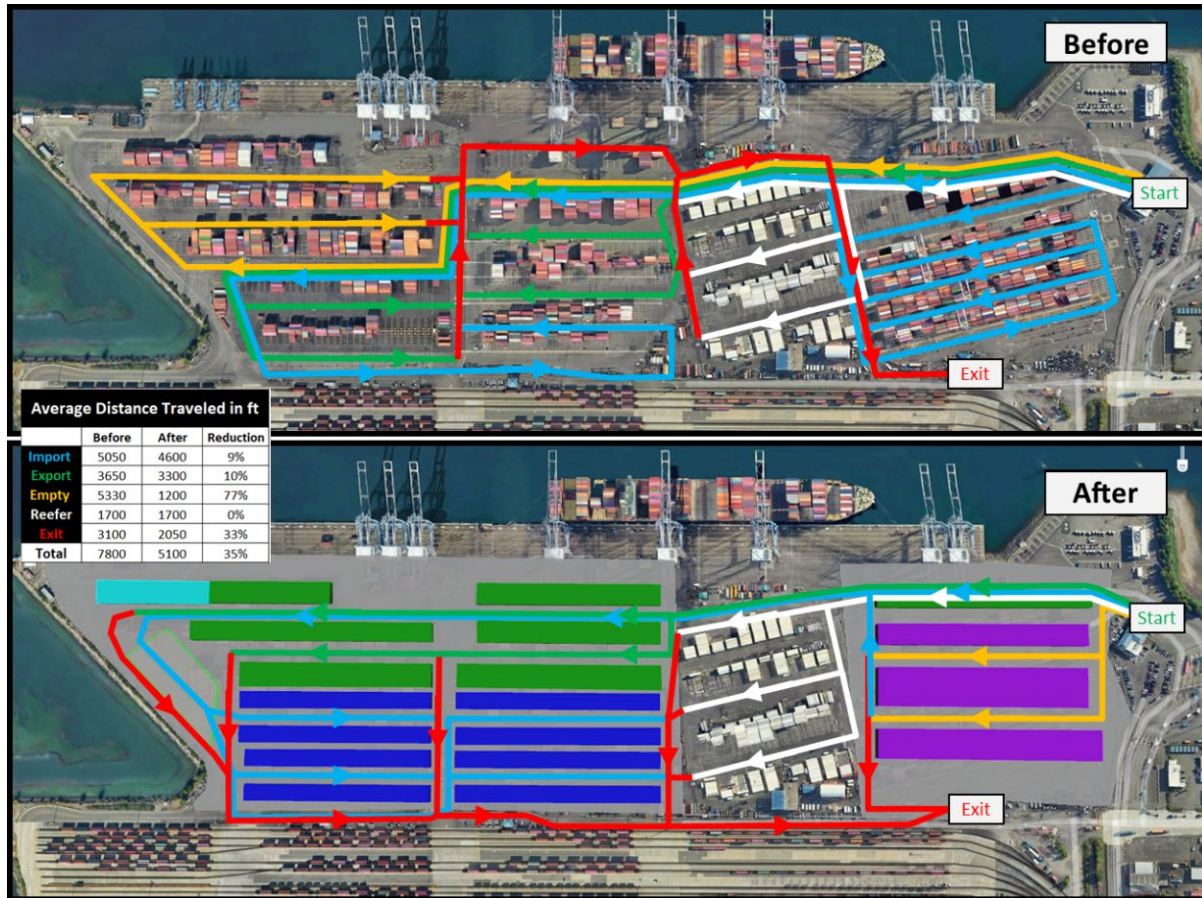


Figure 10: Current & Future OTR Traffic Truck Routes for Container Pick-up and Delivery⁶

iii. Reliability - Improves Dependability of Cargo Operations

Expanded and More Reliable Service for Reefer Customers

The Project will more than triple reefer capacity, allowing for expanded receiving windows at the terminal, which decreases the likelihood that export loads cannot make their receiving windows due to traffic or other unforeseen circumstances. The added capacity will also allow the terminal to handle more export reefers during peak periods, reducing waiting times for customers and improving overall service levels, providing both more certainty and lower costs to U.S. agricultural exporters. NWSA facilities currently move export agricultural products worth over \$10.2 billion per year. That number will grow substantially with the Project.

Due to limited reefer capacity, refrigerated agricultural exports are currently diverted to other ports, increasing uncertainty due to the longer trips. Projected growth in refrigerated U.S. agricultural exports for current exporters from Washington, Idaho, the Dakotas and elsewhere is likely to increase these diversions, adding costs to U.S. exports and reducing their global competitiveness. Because it will result in lower costs and other efficiencies to shippers and ocean carriers, this project will help reclaim cargo market share that has been lost to the Canadian ports of

⁶ Blue in the “future” image refers to RTG work Husky will be pursuing regardless of grant award; green and purple portions indicate grant work

Vancouver and Prince Rupert and thereby increase NWSA's export capacity and bring associated transportation sector jobs back to the U.S.

B. SUPPORTING ECONOMIC VITALITY AT THE REGIONAL OR NATIONAL LEVEL

i. Benefit-Cost Analysis Summary

The benefits quantified to determine the overall Benefit-Cost Ratio of the Project stem from the reduction in trucker hours, the average savings in truck waiting time, and the equipment working hours at Husky Terminal, an avoided increase in over the road truck miles, and a related reduction in diesel emissions. **The overall Project has a Benefit-Cost Ratio of 1.5.**

For the Benefit-Cost Analysis Report (Attachment 2), the following With and Without-Project Scenario assumptions were considered:

- With-Project Scenario: Husky Terminal is reconfigured, increasing terminal capacity and efficiency, and reducing operating costs. The terminal will have the ability to work two +10,000 TEU vessels (each up to 18,000 TEU) at the berth simultaneously, and the more efficient layout will have a significant reduction on both the yard tractor transit time from vessel to yard and the turn times of trucks delivering or picking up containers. The installation of reefer racks will allow the terminal to stack containers 5-high, increasing reefer capacity. The increase in reefer capacity will avoid the need for trucks to make longer trips to alternate ports for reefer imports and exports due to capacity constraints at NWSA. The reefer racks will also reduce maintenance safety risks by replacing ladders with stairs and catwalks to access reefers.
- Without-Project Scenario: Husky Terminal remains in its current condition and layout, misaligned with the newly straightened berth. The locations of the North Intermodal Yard (NIM) and Marine Towers, and Customs and the Border Patrol (CBP) radiation portal monitors continue to cause disruptions in terminal operations efficiency and prevent the terminal from working larger vessels at berth simultaneously. Without the increase in reefer capacity, the NWSA will reach reefer capacity by 2030, diverting trucks to alternate ports for reefer imports and exports. The terminal will continue to limit reefer stacks to 2-high due to limited maintenance and power access to reefers with the use of ladders and the related maintenance safety risks.

The Benefit-Cost Analysis (BCA) reflects the US Department of Transportation's (USDOT) standard guidance⁷ regarding forecast periods and discount rates. As such, all estimates were calculated over a 20-year period, beginning in 2026 following completion of Project Components 1 and 3. Project Component 2 is expected to be completed in 2027. Additionally, a discount rate of 7% was used throughout the analysis (a discount rate of 3% was used for CO₂ emission benefits) as suggested in USDOT BCA guidelines for 2023. **The Husky Terminal Expansion Part One has an overall Benefit-to-Cost Ratio of 1.5.** Results of the BCA are summarized in Table 3.

⁷ [Benefit-Cost Analysis Guidance for Discretionary Grant Programs | US Department of Transportation](#)

Table 3: Summary of Benefits (PV Discounted @ 7%, in Millions)

Category	Present Value (2021 US\$)
Economic Competitiveness	\$88.10
Safety	\$9.44
Environmental Sustainability	\$39.80
Operating & Maintenance Costs	(\$9.60)
Residual Value	\$12.12
Total Benefits	\$139.87
Project Costs	\$92.00
Net Present Value	\$47.86
Benefit to Cost Ratio	1.5

C. LEVERAGING FEDERAL FUNDING TO ATTRACT NON-FEDERAL SOURCES OF INVESTMENT

Currently, no federal funds have been provided for the Project. The \$56.6 million in requested PIDP grant funding represents 45% of the Project's total cost of \$125.9 million. The 55% local match of \$69.3 million will come from the NWSA. Details about the Project's funding sources, and their authorization, can be found in Attachment 5, Funding Commitment Letters.

Leveraging the requested federal funding with a local match will help fund construction jobs and other opportunities through the expansion of the facility, allowing the NWSA to improve its status as one of the nation's premier cargo ports. The Project reinforces the NWSA's commitment to provide an environment where private organizations can remain competitive, resulting in job creation and further economic development in the region.

D. PORT RESILIENCE

Natural and Climate-Related Hazard Risk Reduction

The Project provides resilience due to a carefully researched design that enables the terminal to better withstand natural and climate related disruptions, including sea level rise, storm surge, upland flooding, extreme heat, wildfire smoke, and seismic events and associated liquefaction.

The Basis of Design established sea level rise standards for the Project based on projections from the University of Washington Climate Impacts Group⁸ and national projections from NOAA. The Basis of Design also established standards for storm surge (multi-decadal data from NOAA Tide Station) and for upland flooding (longer and more intense rainfall projections).

In addition, the Project is being designed to ensure that reefer rack foundations can withstand potential ground acceleration and seismic duration, including any potential liquefaction or seismic settlement. The demolition and relocation of the terminal support facilities and utilities included in the Project will improve resilience by removing older structures and building them to newer, more stringent design standards. These improvements will build on previous work at

⁸ Miller et al 2018 - [Projected Sea Level Rise in Washington State – A 2018 Assessment \(uw.edu\)](https://climate.washington.edu/2018/01/projected-sea-level-rise-in-washington-state-a-2018-assessment/)

Husky Terminal including the wharf improvements and new ship-to-shore cranes that have made the terminal more resilient to geohazards like earthquakes, liquefaction, and slope failure.

The new structures and utilities in the Project scope of work will also be more resilient to seasonal hazards such as extreme heat and wildfire smoke. The new buildings will have better building envelopes and HVAC systems that allow workers to escape extreme heat and poor air quality when wildfires affect the region. The Project will support both eRTGs and hybrid. Deploying several hybrid RTGs will allow some operations to continue in the event of a disruption to power supply since the port will have alternative power sources and the terminal operator can utilize fuels to continue operations while the power is down.

Export Supply Chain

The Project will more than triple the terminal capacity for refrigerated agricultural exports. As detailed above, this additional capacity will reduce costs and improve reliability for refrigerated U.S. agricultural exports for current exporters from Washington, Idaho, the Dakotas and elsewhere. The Project will also provide an alternate platform for West Coast refrigerated exports in the event of weather, energy, labor, or commercial disruptions in that fragile supply chain. U.S. and Canadian ports have all experienced shutdowns or slowdowns due to extreme weather events, energy shortages, labor actions, or pricing disagreements.⁹

V. SELECTION CONSIDERATIONS

A. CLIMATE CHANGE AND SUSTAINABILITY

i. Planning Efforts

Section IV.D., immediately above, outlines the NWSA's Natural and Climate-Related Hazard Risk Reduction efforts. In addition, the NWSA, its terminal operators, the Canadian terminals in Vancouver, B.C., and the NWSA private and public sector and community partners have been working together to address climate change by reducing air emissions from, and ensure the sustainability of, maritime operations since 2008. Table 4 outlines these efforts:

Table 4: NWSA Sustainability Efforts

NWSA Sustainability Efforts		
Planning Element	Description	Timelines
Puget Sound Maritime Air Emissions Inventory ¹⁰	Prepared by the Puget Sound Maritime Air Forum, a voluntary association of private and public maritime organizations, ports, air agencies, environmental and public health advocacy groups and other parties with operational or regulatory responsibilities related to the maritime industry.	Baseline inventory 2005, updated in 2011 and 2016. NWSA is currently leading the 2021 update.

⁹ <https://www.feedstuffs.com/news/west-coast-port-debacle-strands-us-ag-exports>

¹⁰ [2016 Puget Sound Maritime Air Emissions Inventory – Puget Sound Maritime Air Forum](#)

NWSA Sustainability Efforts		
Planning Element	Description	Timelines
Northwest Ports Clean Air Strategy (NWPCAS) ¹¹	Collaborative effort between the NWSA, the Port of Tacoma, the Port of Seattle, and the Vancouver BC Fraser Port Authority to reduce air pollutant and GHG emissions from seaport related activities in the Puget Sound – Georgia Basin Airshed, with the vision of phasing out emissions from seaport related activities by 2050.	Established 2008, updated in 2013 and 2020
NWSA NWPCAS Implementation Plan ¹²	Five-year implementation plan to guide the first years of implementation of the 2020 NWPCAS vision to phase out emissions. Includes collaboration with terminal operators and partners to test and implement zero emissions trucks and cargo handling equipment as well as shore power.	2021 – 2025 timeframe

ii. Project Components Will Reduce Emissions

Component #1 will reduce truck turn times at the terminal, reducing emissions. Applying USDOT emission costs to the avoided increase in emissions determined that Component #1 will save \$1.06 million in truck emissions due to reduced truck turn time over the 20-year analysis period, as shown in Table 13 of the Benefit Cost Analysis (BCA) Report.

The Project will triple the terminal’s refrigerated export capacity from 360 to 1,200 reefer plugs that can take advantage of Tacoma Public Utilities’ 97% carbon-free (renewable) energy grid.¹³ Further distribution work is needed to create tie ins to other feeders to increase available capacity on the existing feeders to support the planned load growth in 2025 and increase the reliability of the power network, designed to support reefer plugs and future zero emissions cargo handling equipment.

The increased on-terminal reefer storage capacity will allow for expanded receiving windows, allowing exports to be more flexible. This can lead to increased business opportunities for exporters, improved efficiency for truckers, and potentially lower transportation costs for both parties. The added capacity will allow the terminal to handle more export reefers during peak periods, reducing waiting times for customers, and improving overall service levels.

In addition, the NWSA is working to implement the power infrastructure for future shore-to-ship power and is finalizing the scope of a zero-emission truck purchase and charging pilot in Pierce County, with the expectation that zero emission trucks will serve the terminal in the future.

Component #3 will reduce truck turn times at the terminal, reducing emissions. For this analysis, it is assumed that trucks average an on-terminal operating speed of 5 miles per hour. Multiplying

¹¹ [2020 NWPCAS Strategy](#)

¹² [2021 NWSA NWPCAS Implementation Plan](#)

¹³ [Clean & Renewable Energy - Tacoma Public Utilities \(mytpu.org\)](#)

truck speed by the savings in truck turn time with the emission rates for trucks provides the estimated decrease in truck emissions on the terminal. Based on USDOT BCA guidance for emission costs, Component #3 is expected to save \$634,487 in truck emissions over the 20-year analysis period, as shown in Table 29 of the Benefit Cost Analysis (BCA) Report.

iii. Environmental Benefits to the Community

The reduction in diesel emissions associated with the Project will benefit port workers, truck drivers serving the facilities, and surrounding communities. In the Tacoma area, diesel exhaust presents the greatest public health risk of all toxic air pollutants. The project location is in close proximity to Downtown, East Side, Hilltop, and Northeast Tacoma, as well as the City of Fife. Many of these areas are disproportionately impacted by air pollution due to their proximity to the Port of Tacoma Manufacturing Industrial Center and the Interstate-5 corridor. Figure 11, drawn from the EPA's EJScreen¹⁴ mapping tool, shows that the terminal and the surrounding areas are in the 90 -95th percentile, the second highest range for diesel emissions (in orange).



Figure 11: 0-95 % EJScreen Score for Diesel Emissions

The Project is expected to decrease truck emissions over the Project lifetime, benefitting terminal workers, truck drivers and the surrounding neighborhood zip codes. Many of these zip codes are listed as HDC, Persistent Poverty, and Opportunity zones, and most fall into more than one of these categories. Figure 12 highlights the areas to which these categories apply.

B. EQUITY AND JUSTICE⁴⁰¹⁵

i. Equity Focus

The Project is located in a Historically Disadvantaged Community (HDC) census tract and is surrounded by census tracts that qualify as HDC, Persistent Poverty and Tribal tracts, as well as designated Opportunity Zone tracts. Section V.C.ii. below, outlines the NWSA/Port's efforts to draw and train youth from these communities into the trades, so that they are qualified for construction jobs related to the Project, new permanent on-terminal union jobs supported by the Project, and future opportunities in the maritime trades. Figure 12 illustrates the location of

¹⁴ [EJScreen \(epa.gov\)](https://www.epa.gov/ejscreen)

¹⁵ The NWSA and its parent, the Port of Tacoma, have not been the subject of any compliance reviews, external lawsuits, investigations, or complaints alleging discrimination of any kind in the last 5 years.

the Project in relation to the census tracts listed above. In addition, the Project's focus on emissions reduction will benefit the surrounding neighborhoods, as outlined in Section V.A.iii.



Figure 12: HDC, Persistent Poverty, Tribal and Opportunity Zones at and near Project Location

ii. Public Engagement

The Port of Tacoma conducted a public involvement element as part of the State Environmental Impact Assessment (SEPA) process for a program of projects on the terminal and surrounding facilities that dates back to 2018, including the Project. This helped the community understand the scope of the entire program and its potential impacts on their neighborhoods.

In addition, the NWSA has robust community engagement plan that is focused on addressing the air emissions impacts of its terminals, including Husky Terminal. Working closely with the Port of Tacoma (and the City of Tacoma), NWSA continues to strengthen its efforts to engage and partner with near-port residents and communities to ensure that its clean air and climate actions and investments incorporate community experience, perspectives, priorities, and ideas. The NWSA engaged closely¹⁶ with these communities, community-based organizations, and environmental NGOs, among other stakeholders in the development of the 2020 update to the NWPCAS and subsequent implementation plans through workshops, public webinars, and listening sessions. In addition, the NWSA has committed to three specific actions for ongoing engagement, all of which are expected to be implemented in the summer of 2023:

1. A quarterly newsletter to keep community members informed on the actions and accomplishments of our clean air and climate programs.
2. Targeted frameworks for ongoing community engagement in both Tacoma and Seattle.
3. A web-based resource guide for community members, providing access and detailed information on NWSA's clean air and climate programs and engagement opportunities.

C. WORKFORCE DEVELOPMENT, JOB QUALITY, AND WEALTH CREATION

i. Project Construction

In addition to complying with all requirements laid out in USDOT's current guidance document for projects receiving federal funds, the NWSA will follow Washington State guidance for projects over \$1 million.

ii. Unions

The Port and the NWSA have supported quality union jobs enabling wealth creation for many years. In addition to labor operating Husky Terminal, the Port's and NWSA's maintenance workforce supporting NWSA facilities in the Tacoma harbor, including Husky Terminal, are unionized. All on-terminal labor is unionized, and it is expected that the Project will create new permanent union jobs on the terminal due to previous, the Project's, and future related improvements. These well-paying union jobs include Union Mechanics earning an average \$113,000 per year and Union Longshoremen earning an average of \$172,400 per year. The NWSA also intends to include a contract clause that would ensure that contractors do not prohibit unionization.

¹⁶ [20190916-NWPCAS DD1-Summary Notes](#), [20200707-NWPCAS DD2-Summary Notes.pdf](#), [20201223-NWPCAS-Engagement Summary Round 3.pdf](#)

iii. Labor Standards

Fifteen percent of labor will be provided through apprenticeships, as required by NWSA and the State of Washington for project elements estimated to cost over \$1 million. For each project that has apprentice requirements, NWSA contract documents require that the contractor submit a “Statement of Apprentice and Journeyman Participation,” on forms provided by the NWSA, with every request for project payment. The Contractor is then required to submit consolidated and cumulative data collected by both the Contractor and all subcontractors.

iv. Inclusive Hiring Practices

The NWSA encourages participation by firms certified¹⁷ by Washington State’s Office of Minority and Women’s Business Enterprises (MWBE) in all contracts. Participation may be either on a direct basis by the contractor or as a subcontractor. When required by federal statutes, regulations, grants, or contract terms referenced in the contract documents, preference will be included in the evaluation of Bids, minimum level of 15% MWBE participation shall be required as a condition for receiving an award, and Bids will be rejected or considered non-responsive on that basis. Any affirmative action requirements set forth in federal regulations or statutes included or referenced in the contract documents will apply. The port also encourages participation by Veteran-owned businesses, using Washington’s Department of Veterans Affairs’ database.¹⁸

The NWSA is exploring opportunities for the Project to closely monitor contractor compliance with this policy such as tracking actual subcontractor payments during the construction period. The NWSA also intends to include a contract clause that would ensure that contractors do not prohibit unionization.

v. Workforce Development Programs

The creation of quality, living wage jobs that enable wealth creation and workforce development efforts are key elements of the Port of Tacoma’s mission as economic development agency for Pierce County. The Port of Tacoma’s 2021-2026 Tacoma Strategic Plan¹⁹ further grounds this mission in ensuring that there is equitable access to these quality jobs by stating that: “The Port supports the principles of diversity, equity, and inclusion throughout our organization and community.” The NWSA adheres to, and fully supports, its parent Port’s visions and goals. That means that every Port and NWSA project, including the Project, is designed to support the Port’s/NWSA’s mission. Current efforts include:

“The Port’s workforce development strategies were developed to create more pathways for local youth and young adults to get hands-on experience and build bridges to opportunities for meaningful, well-paying jobs in maritime and skilled trades.” -- Don Meyer, Port of Tacoma Commission President

- **2022 Workforce Development Strategic Plan²⁰**, with focus on the trades and the workforce needs of the Port/NWSA and key customers. The plan is designed to facilitate

¹⁷ [Directory of Certified Businesses | Office of Minority and Women's Business Enterprises \(wa.gov\)](#)

¹⁸ [Search for Veteran Owned Businesses | WDVA \(wa.gov\)](#)

¹⁹ [2021 - 2026 Strategic Plan | Port of Tacoma](#)

²⁰ [Workforce Development | Port of Tacoma](#)

connections between organizations, encourage the development of new programs, provide technical or financial assistance to organizations, and will scope outreach around customer feedback regarding the needs of their workforce. Elements include:

- Apprentice utilization requirements
 - Internships/Job training programs
 - Community engagement activities
- **Maritime 253²¹** will be a regional Career and Technical Education Center (CTE) serving high school students from multiple school districts throughout Pierce County.

VI. PROJECT READINESS

A. TECHNICAL CAPACITY

i. Experience and Understanding of Federal Requirements

The Project team has overseen the construction of \$569 million in NWSA improvements since the Ports of Seattle and Tacoma created the NWSA in 2015. That in-house capital program experience will oversee the Husky Terminal Expansion Project – Part One.

The Project team has the requisite experience and understanding of federal requirements, from contracting to constructing, to ensure the project can be delivered on time and within budget. The Project team has already conducted environmental studies for the site as part of other nearby projects that will reduce the likelihood of environmental challenges to the project under the National Environmental Policy Act (NEPA), State Environmental Policy Act (SEPA), Endangered Species Act, or Clean Water Act. The Project team has extensive experience procuring services and goods in compliance with the Federal Acquisition Regulation and is committed to maintaining an open, competitive bidding and procurement process for all components proposed within this application. If awarded PIDP funds, the Project team will quickly begin issuing FAR-compliant bidding packages to enable the Project to begin moving forward shortly after entering into a grant agreement with the Maritime Administration.

ii. Experience Working with Federal Agencies and Federally Funded Projects

The Project team has a long history working with a range of federal agencies, including the U.S. Department of Transportation, Maritime Administration, U.S. Army Corps of Engineers, U.S. Coast Guard, the Federal Emergency Management Administration, National Oceanic and Atmospheric Administration/National Marine Fisheries Service, and US Fish and Wildlife Service. Partnerships with these and other federal agencies have resulted in direct funding of critical infrastructure projects, knowledge sharing and development of best practices, regional readiness planning for disasters, early compliance with forthcoming rules and regulations, and preparing for future economic and community growth.

The NWSA has direct experience with federal grants that will be leveraged to help implement the Project on time and on schedule. In 2020, the NWSA was awarded \$10,687,333 for the Terminal

²¹ [Maritime | 253 - Tacoma Public Schools \(tacomaschools.org\)](https://www.tacomaschools.org/maritime-253)

5 Uplands Modernization and Rehabilitation Project: Final Phase, which consisted of infrastructure improvements including paving, installation of Phase 2 of a terminal-wide storm water treatment system, as well as infrastructure to increase the electric refrigerated plug capacity and on-terminal rail infrastructure improvements. The project, managed by the Port of Seattle with NWSA support, is currently under construction and work will continue through 2025.

The NWSA, together with the Port of Seattle, is also administering \$17 million via the 2022 PIDP program for the Terminal 5 Export, Expansion, and Emissions Reduction Project. As of this writing, the FY22 PIDP award is still in agreement, with execution expected by autumn 2023. The FY22 PIDP award will meet its obligation, construction, and performance goals. Additionally, NWSA staff, in collaboration with Port of Tacoma staff, has been successful in securing and administering federal Diesel Emission Reduction Act (DERA) grant dollars, most recently for upgrades to yard tractors at the Tacoma South intermodal yard. In early 2023, the Port of Tacoma hired a full-time Grants Administrator to support post-award management activities for Port of Tacoma grants and NWSA grants in the Tacoma harbor.

iii. Feasibility / Constructability

The NWSA is experienced with the process of port-related development and for decades its governing ports of Tacoma and Seattle have completed similar types of projects requiring planning, stakeholder outreach and coordination, preliminary and final design, environmental review and permitting, bidding, and construction. The design of the project component ranges from the 10 to 60% level. The Project will be procured using a traditional design-bid-build (DBB) approach.

iv. Schedule

The Project schedule is shown in Figure 13 and a more detailed schedule is provided as Attachment 8. Construction start is scheduled for Q1/Q2 of 2025. Although the assumption for grant agreement obligation, is about 9 to 12 months, it should be noted that the environmental process required before obligation could be reduced depending on the level of NEPA review required (CATEX versus EA). Design and construction for all project components is carefully sequenced to minimize operational disruptions. For example, design and installation/construction of the new North Intermodal Yard (NIM) tower will be completed prior to demolishing the existing NIM tower. Construction of the relocated Customs & Border Protection (CBP) radiation portal monitors (RPM) will be completed in parallel with the NIM and Marine Tower work to similarly minimize yard disruptions. Construction end is scheduled for Q2 of 2027. This date is in alignment with the anticipated grant program 5-year period of performance. The latest date anticipated for funds to be needed is about Q2/Q3 of 2027.

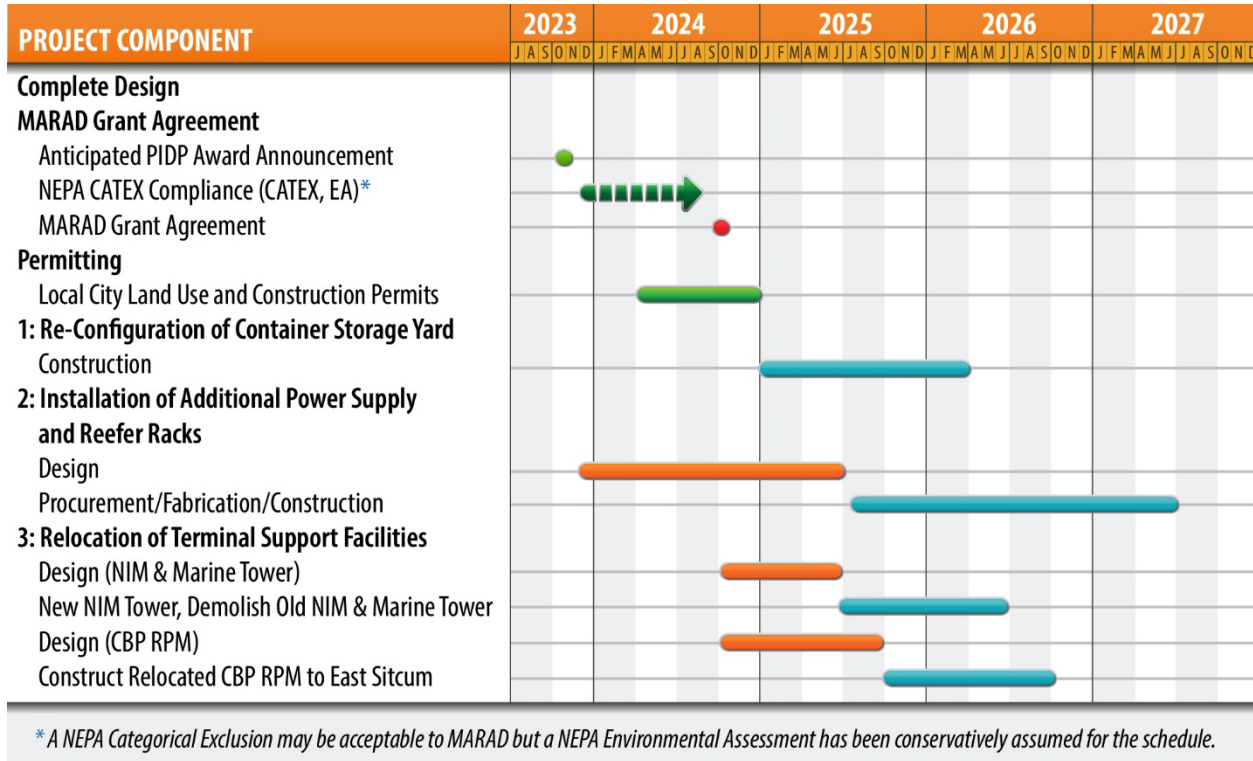


Figure 13: Project Schedule

v. Cost Data

Costs for most Husky Terminal Expansion project components, as detailed in Attachment 7, were developed in third quarter 2022. Costs associated with materials and labor escalation, general inflation, engineering design, permitting, survey, engineering construction support services, and Washington State sales tax were included as a percent of total cost or relevant component total cost. Some of these actual percentages are dependent on future macroeconomic events and are unknown. As a result, percentages for these items have been developed based on historical experience.

Estimates considered material take-offs from the design and concept plans. The cost estimate (for all Project elements except for the NIM Tower relocation and new off-terminal power infrastructure) was developed in Heavy Bid by Heavy Construction Systems Specialists (HCSS) software. The estimates contain costs developed through two methods of cost estimating, detailed or semi-detailed costs and reference-based costs. (RSMeans and subcontractor pricing data). Estimates also consider estimator knowledge of the industry and recent construction.

The costs for the NIM Tower Relocation construction element of the Project were developed based on a conceptual idea of how to handle the required office, break room, and other components necessary to support the relocation of the operations that currently happen in the NIM Tower and to accommodate the relocation of the NWSA Military operations. As the long-term use of the area is undefined and the overall layout of the peninsula may change over time, the project team prefers a modular compound over a typical "brick and mortar" building. Utilities are already present in the area, thereby minimizing the amount of trenching required for

connection. These costs were derived from similar elements of current or previous Port projects completed in the last 12 to 18 months.

The costs for the new off-terminal electrical infrastructure were provided by the electrical utility provider based on their historical experience with this type of work on their system.

vi. Consistency with Ongoing Planning Efforts

The Project is part of the General Central Peninsula (GCP) Improvement Program started in 2011 by the Port of Tacoma and transferred the Northwest Seaport Alliance and its tenants at the founding of the NWSA. The yard reconfiguration and tripling of the existing reefer capacity in this Project is the next element of the GCP Improvement Program. The new off-terminal power supply infrastructure and improvement to increase reliability of the power network will support the tripling of reefer capacity and the future charging infrastructure for zero-emissions yard equipment are designed to support the NWSA's and Husky Terminal & Stevedoring, LLC's plans for zero emissions by 2050 and 2040, respectively.

The Project is currently not included in the regional or state Transportation Improvement Programs since Husky Terminal is not a public roadway facility, which is the focus of these programs. It will be included once grant funding has been secured.

The NWSA and Port of Tacoma have a five-year capital improvement plan (CIP). The NWSA developed a Coordinated Course to 2035, an internal guidebook that describes how an optimal NWSA gateway can look and function in 2035, or sooner. The Northwest Ports Clean Air Strategy Implementation Plan, developed jointly by the NWSA, the ports of Seattle and Tacoma, and Port Vancouver, BC, provides a roadmap to electrification by 2050, is funded for the first five-years in the current CIP, as outlined in Table 4 in Section V.

In the next five years, the NWSA plans \$18 million in berth deepening at Husky and the Port of Tacoma plans \$19 million in associated channel dredging to further improve the terminal.

vii. Risk Mitigation

The improvements proposed for the Project involve standard civil works construction within a design-bid-build procurement framework. As with any project that involves construction below the ground surface, there is always some degree of risk involved with encountering unforeseen conditions such as obstructions, contaminated soils, or unmapped utilities. The minimal risks to Project financing and construction include those outlined in Table 5.

Table 5: Project Risks and Mitigation Strategies

Project Risks and Mitigation Strategies			
Risk	Description	Impact / Probability	Mitigation
Stakeholder Consensus	Community and Tribal groups fail to agree on mitigation	H/L	In-person outreach, NWSA maintains regular meetings with Puyallup Tribe staff that can be used to discuss any project questions

Project Risks and Mitigation Strategies			
Demolition Hazmat	Testing reveals potential hazmat in buildings to be demolished	M/M	Add budget and schedule buffers
Contaminated Soil/ Groundwater	Site work could encounter contaminated soil/groundwater	L/I	Given past studies at the site (2017) and experience working on port terminals, avoidance and mitigation measures are in place
Funding	PIDP grant request rejected	H/M	Timeline for Project will be Extended and Inflation will Increase Project Costs

B. ENVIRONMENTAL RISK

The proposed improvements will occur on an existing and heavily developed port terminal facility. Only upland construction activities are proposed (no in-water work will occur as part of the Project).

The Project will be completed using standard construction practices. Site work may encounter contaminated soil and groundwater from historical use of the project site, as is common with port terminal facilities. A summary of environmental conditions and constraints present in the area of the Project was completed in 2017, which minimizes this risk. If required, additional targeted soil/groundwater recharacterization will be completed and best practices implemented as commonly used by NWSA for any project that involves below ground construction.

i. NEPA Status

The Project may be eligible for a NEPA Categorical Exclusion or may require an Environmental Assessment (EA), with a likely Finding of No Significant Impact (FONSI). The Project schedule conservatively assumes the need for a NEPA EA.

Section 7 Endangered Species Act (ESA) consultation with the National Oceanic and Atmospheric Administration Fisheries Service and U.S. Fish and Wildlife Service may be required if a NEPA EA is conducted. A *No Effects Determination* would likely suffice as no ESA-listed plants or animals are located at the site. As stated previously, in-water work is not proposed and impacts to aquatic species will not occur.

Compliance with Section 106 of the National Historic Preservation Act will also be required if a NEPA EA is needed. This would include outreach with tribes (i.e., the Puyallup Tribe of Indians) and the Washington State Department of Archaeology and Historic Preservation. The 2018 cultural resources survey report completed for the General Central Peninsula (GCP) Improvement Program and a project-specific Archaeologic Inadvertent Discovery Plan will likely be sufficient to support the Section 106 consultation requirements. The NWSA and Port have regular meetings with tribal staff that can be used for tribal consultation should it be necessary.

The NWSA is familiar with MARAD NEPA guidelines and requirements and has successfully complied with them in the past. The NWSA/Port's most recent NEPA process with MARAD was a

NEPA EA that was successfully completed with a FONSI within eight months. The same environmental team would be completing the NEPA EA for this Project, if funded.

ii. State and Local Approvals

Compliance with the Washington State Environmental Policy Act (SEPA) was established for the Husky Terminal Expansion Project – Part One in 2018 as part of the GCP Improvement Program. No in-water permits are required. The following outstanding state and local permits are common to port terminal development and will be applied for further along in design.

A standard Washington State Department of Ecology National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit, including a Stormwater Pollution Prevention Plan may be required for construction. Existing NPDES permits may need to be updated. The NWSA has an award-winning stormwater management team used to working with Ecology in updating and obtaining NPDES permits and the affiliated stormwater plans.

A City of Tacoma (City) Shoreline Substantial Development Permit or Conditional Use Permit may be required for minor upland work to be completed within 200 feet of the shoreline. If so, a Coastal Zone Management Act (CZMA) certification may also be required. Critical areas preservation compliance is required for projects that could impact critical areas within City limits. Critical areas compliance was approved in 2018 for some of the GCP improvements but may require some updating. City Site Development, Demolition, and Building Permits are also likely required. These permits will be supported by the project drawings, stormwater site plan report, stormwater pollution prevention plan, and geotechnical report describing existing conditions and infiltration facility designs. Tacoma Public Utilities (TPU) will complete or manage the new Project utility connections, simplifying permitting for these Project elements.

Past experience demonstrates that the NWSA team is familiar with the above requirements and has a long-standing constructive relationship with the City of Tacoma's permitting team and TPU. The budget and schedule include effort and time to obtain these permits.

iii. Environmental Studies

The following environmental studies have been completed for the Project:

- SEPA for the General Central Peninsula Improvement Program, which includes Husky Terminal Redevelopment, was completed in 2018. The Project is the next step in modernizing and optimizing the container operations and support facilities on the General Central Peninsula (GCP) in Tacoma Harbor. This integrated program is increasing throughput, efficiency, and capacity throughout the Port of Tacoma marine terminals, while reducing overall greenhouse gas emissions and operating costs without automation.
- Critical Areas Assessment – A Critical Areas Assessment and Report was completed for the GCP Improvement Program in 2018 to document the existence of any critical areas present within project boundaries, proposed impacts, and how local regulations are met.
- Cultural Resources Survey – A 2018 cultural resources survey and incidental discovery plan was completed for the GCP Improvement Program and is anticipated to suffice for any required DAHP Section 106 consultation.

- A summary of environmental conditions and constraints present in the proposed project was completed in 2017. The memorandum summarizes known areas of soil and groundwater contamination, including a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) confined disposal facility (CDF) with associated covenants, at and adjacent to the project site.

Additional soil testing and hazardous materials testing may be required during design and plans required to define and understand any findings. For example, a Hazardous Material Management Plan (HMMP), often required for port terminal projects, provides guidance for worker safety, material handling, and disposal if contaminated material is encountered during site construction. The presence of soil and groundwater contamination within port terminals is not uncommon and the level of contamination at this site is well studied and understood. Health and safety protocols for construction, consistent with working on contaminated sites, and coordination with any applicable cleanup site agencies, will be implemented.

VII. DOMESTIC PREFERENCE

The construction elements included in this grant application are scheduled to comply with PIDP 2023 contracting and acquisition requirements that relate to material or equipment purchases from U.S. suppliers.

Materials and manufactured products used in the Project will be produced or manufactured domestically and in accordance with the Build America, Buy America requirement. This provision will be included in all procurement documents used by contractors. Materials used to improve NWSA property and equipment installed for the Husky Terminal Expansion Project – Part One will not require any exception or waiver of the Build America, Buy America provisions described in the Notice of Funding Opportunity. The intent of the NWSA is to source product locally to enhance local benefit and job creation. The NWSA will require Build America, Buy America provisions to flow down to every task undertaken in the project description and funded with the MARAD Port Infrastructure Development Grant Funding.

VIII. STATUTORY DETERMINATIONS

Table 6: Statutory Determinations

Project Determination	Response
<p><i>1. The project improves the safety, efficiency, or reliability of the movement of goods through a port or intermodal connection to the port.</i></p> <p>Component #1: Re-Configuration of Container Storage Yard</p>	<p>Safety improvements: New reefer racks with stairs and catwalks replacing ladders (#2), Reducing truck accident by cutting on-terminal truck mileage (#1, #3) and avoiding additional freeway truck miles (#2), Eliminating uneven pavement (#1, #3)</p> <p>Efficiency improvements: Shorter routes for trucks picking up or delivering containers (#1, #3), Less congestion at terminal intersections benefitting both trucks and yard tractors (#1, #3), Avoided truck maintenance and freeway congestion costs due to reefer diversion to CA, BC ports (#2)</p> <p>Reliability improvements: Tripling reefer capacity on the terminal will allow for expanded receiving windows, allowing exporters to be more</p>

Project Determination	Response
Component #2: Installation of Reefer Racks and Additional Power Supply Component #3: Relocation of Terminal Support Facilities	flexible, and increase the likelihood reefer plugs will be available during peak periods. (#2)
2. The project is cost effective.	Overall BC Ratio: 1.5; Component #1: 1.3; Component #2: 1.6; Component #3: 1.5. The results of the BCA are summarized in Table 3 of this Narrative and the attached Benefit-Cost Analysis Report (Attachment 2) and BCA Model (Attachment 3).
3. The eligible applicant has the authority to carry out the project.	The NWSA is a port development authority under Washington State Law RCW Chapter 53.08.
4. The eligible applicant has sufficient funding available to meet the matching requirements.	NWSA projects to secure additional revenue through an upcoming lease amendment with Husky Terminal & Stevedoring, LLC, to help fund the Project. Husky Terminal is fully engaged in the success of the Project. As a joint venture between the ports of Tacoma and Seattle, the NWSA provides funds from operations to the two ports. The two ports use the funds from the NWSA operations, along with cash on hand, cash from other home port operations, and, if necessary, cash from revenue or tax secured bonds, to fund the NWSA's capital commitments. Subject to NWSA board approval, the two ports could be asked by the NWSA to fund the Project even without a lease amendment with Husky. Both the Port of Seattle and the Port of Tacoma are expected to have adequate funds available to support this NWSA investment not funded by the PIDP grant.
5. The project will be completed without unreasonable delay.	The Husky Terminal Expansion Part One schedule in Figure 13 shows that the Project will be completed without unreasonable delay and as soon as possible given permitting timelines. Design and development activities are well underway. Construction start is scheduled for Q1/Q2 of '25, and construction end is scheduled for Q2 of '27. This date is in alignment with the obligation of PIDP funds by Sept '26, and the anticipated grant program 5-year period of performance. The latest date anticipated for funds to be needed is about Q2/Q3 of '27.
6. The project cannot be easily and efficiently completed w/out Federal funding or financial assistance available to the project sponsor.	NWSA does not have the means to construct the Project with existing resources. Without a PIDP grant, construction will be indefinitely delayed during this period of significant inflation. Such a delay will directly affect U.S. export farmers (especially those exporting reefers), producers, and manufacturers.