Port of Port Angeles

Intermodal Handling and Transfer Facility Improvements

(Small project at small port)

MARAD Port Infrastructure Development Program

May 13, 2022

Project Narrative – Coversheet Table

Item	Project Information
Name of applicant	Port of Port Angeles
Is the applicant applying as a lead applicant with any private entity partners or joint applicants?	No, the Port owns and operates the Intermodal Handling and Transfer Facility.
What is the project name?	Intermodal Handling and Transfer Facility Improvements
Project description	This project will (1) rehabilitate and improve the Cofferdam Dock and (2) regrade and asphalt pave 10 acres of upland that supports handling and sorting of cargo.
Is this a planning project?	No
Is this a project at a coastal, Great Lakes, or inland river port?	Coastal on the Strait of Juan De Fuca within the Puget Sound
Is this application for a small project at a small port?	Yes
Is this project located in a noncontiguous State or U.S. Territory?	No
GIS Coordinates (in Latitude and Longitude format)	Lat 48.128679 / Lon -123.459996
Is this project in an urban or rural area?	Rural The project is in Port Angeles, WA, an urban cluster per 2010 Census but has a population of less than 50,000.
Project Zip Code	98363
Is the project located in a Historically Disadvantaged Community or a Community Development Zone? (A CDZ is a Choice Neighborhood, Empowerment Zone, Opportunity Zone, or Promise Zone.)	Project is located within Low Income Community Opportunity Zone Census Tract 7 and near Historically Disadvantaged Community census tract 12 of Clallam County, WA.
Has the same project been previously submitted for PIDP funding?	No
Is the applicant applying for other discretionary grant programs in 2022 for the same work or related scopes of work?	No
Has the applicant previously received TIGER, BUILD, RAISE, FASTLANE, INFRA or PIDP funding?	No
PIDP Grant Amount Requested	$ 8,608,000
Total Future Eligible Project costs	$10,760,000
Total Project Cost	$12,670,000
Total Federal Funding	$ 8,608,000
Total Non-Federal Funding	$ 2,152,000
Will RRIF or TIFIA funds be used as part of the project financing?	No

Contents

I. Project Description

A. Project Component Overview

The Port of Port Angeles (Port) is seeking financial assistance to make needed improvements at its Intermodal Handling and Transfer Facility (IHTF). The proposed improvements align with the priorities detailed in the Maritime Administration's Port Infrastructure Development Program (PIDP) by improving the safety and efficiency of the movement and sorting of forest products through the Port.

This funding application is for two connected project components within the IHTF. The first component is the Cofferdam Dock Facility rehabilitation and improvements, and the second is the Phase 1 Site Improvements. The satellite image below shows the Port's Intermodal Handling and Transfer Facility. The Cofferdam Dock is outlined in blue; Phase 1 Site Improvements are outlined in magenta and future phases of site improvements are outlined in green.

Figure 1: Google Earth™ Satellite Image of the Port's Intermodal Handling and Transfer Facility

Improving the Port's waterfront facilities will create an environmental compliant, efficient, seamless way to transport forest products to markets. Figure 2 provides an illustrative model of the key flows of material that provides the analytical context for the subsequent estimation of social and environmental benefits. The outflow of wood fiber to domestic manufacturers (primarily whole logs at this time) is derived from sustainably managed private and public lands in Clallam and Jefferson Counties. Jobs and wages, commensurate with those activities, are supported in the forests, on the highways via surface transport, at the log scales, in log preparation, and handling and loading. Some of those logs are sold to local sawmills (Evergreen, Interfor and Port Angeles Hardwoods) where they are manufactured into final products. On-site operations are conducted by Port IHTF union staff, who work collaboratively with

truck drivers and barge crews. Logs are off-loaded from trucks, sorted, stacked in decks, inventoried, and ultimately loaded on to barges for export. Domestic exports, move to destinations in Skagit and Snohomish counties in Washington, and Coos County Oregon. From there, logs are off-loaded and short hauled to BUSE Timber and Canyon Lumber (Snohomish), Sierra Pacific Industries – Burlington (Skagit), and Roseburg Lumber and Southport Forest Products (Coos). The IHTF also receives barged logs from locations in Canada and Washington, which are off-loaded and short hauled to Port Angeles Hardwoods (PAHW). Evergreen will soon import logs by barge to support its operations.[1]

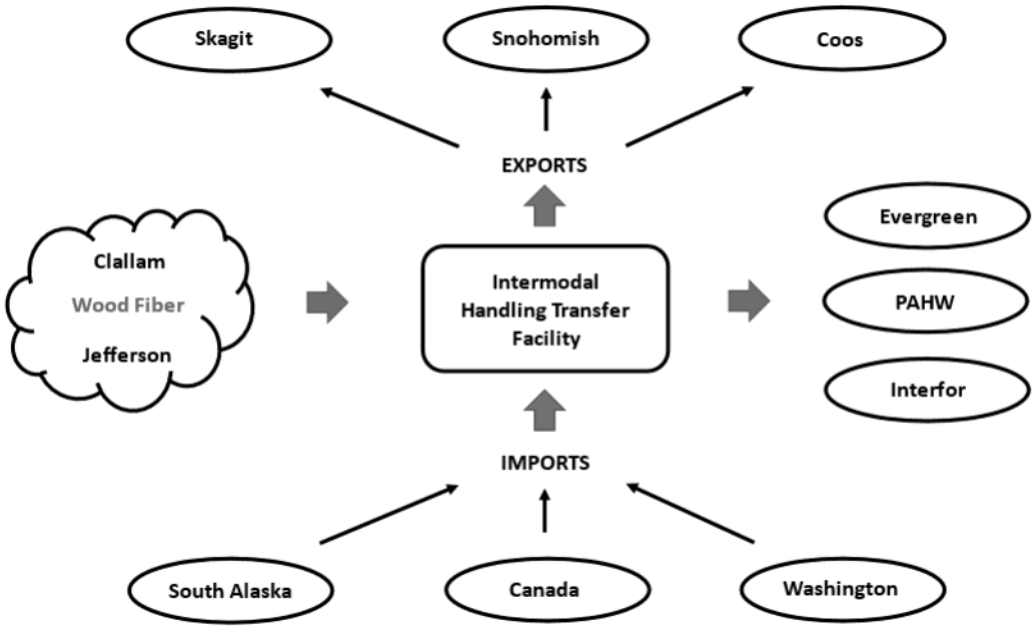

Figure 2: Cargo flow diagram

B. Project Sponsor Overview

The Port of Port Angeles is a municipal corporation that was created by a vote of the people in 1922 to fuel the North Olympic Peninsula's economy by supporting job creation in industry and commerce through building critical infrastructure. The Port's strategic position on the Strait of Juan de Fuca, being located in a deep-water protected harbor, having waterfront facilities that support marine transportation, and access to natural resources all contribute to a unique and robust economic engine.

The Port's Intermodal Handling and Transfer Facility serves as a key cog in the freight transportation system for movement of raw and processed forest products coming into and out of Clallam County. The Port is a global hub for moving forest products from both local and non-local sources to domestic and international markets. Forest products originating from North Olympic Peninsula forests are shipped to

[1] Evergreen is the single largest supplier of wood chips to Port Townsend Paper Company (PTPC), located in adjacent Jefferson County. PTPC is the largest private sector employer in Jefferson and pays the highest average wage. Port Townsend Paper Corporation » EDUCATION (ptpc.com)

mills in Puget Sound and west coast destinations by barge. Forest products originating from Alaska and Canada reach American markets by traveling through this Port facility.

The current activity at the Port is primarily logs and residual fiber (chips). The history of materials dependent on this working waterfront have included finished lumber, paper, wood chips, cardboard and aggregate. There are ongoing discussions with public agencies and private sector businesses for the possibility of handling waste and recycled cardboard materials through this Intermodal Handling and Transfer Facility in the future.

C. Regional Economic Base / Facility Economic Impact

The forest products sector has been the primary industry in Clallam County since the mid-1800's. The expansion of the railroad to the area and hydroelectric power from the Elwha River dams spurred development of sawmills and later pulp and paper mills. The industry continued to expand with log exports through the Port to markets in Japan and later China. The industry shrank rapidly due to the removal of Olympic Region's federal forest land from harvest due to the listing of the Northern Spotted Owl as threatened under the Endangered Species Act and the rule making that culminated in the Northwest Forest Plan.

The significant reduction in harvestable timberland resulted in a drastic and immediate reduction in volume of raw logs which eventually led to the closure of numerous mills between the mid-1990's and mid-2010's. Timber harvests levels have since stabilized given the available harvestable acres from private and state lands. Even though the forest products sector has shrunk from its earlier levels, it still serves as the foundation of the Clallam County private sector economy.

The Port's Intermodal Handling and Transfer Facility is a major transportation link that serves many interests beyond the North Olympic Peninsula, bringing their business to Clallam County. The forest product industry has and will continue to serve as the foundation of the local private sector economy in Clallam County and provides an important tax base for the local community. The Port's Intermodal Handling and Transfer Facility directly employs between four and seven union workers, and makes possible hundreds more jobs throughout the forest product sector in Clallam County such as foresters, loggers, accountants, marketers, machine operators, truckers, tug and tow operators, pilots, agents and repair services. There are many independent businesses that form a complex interdependent relationship within the forest products industry, from growing trees to finished wood products to residual fiber. In 2018, the Port commissioned a study to analyze the economic impacts of the forest products industry and its connection to the Port's Intermodal Handling and Transfer Facility. Below is a summarized list of the facility's economic impacts[2]:

- Forests Products Industry directly supports 665 living wage jobs in Clallam County
- Forest Products Industry is the largest single source of external revenues to Clallam County resulting in $144 million in external revenue in 2017 (2020$)
- ~50% of Clallam County's forest products sector jobs are connected to the Port's Intermodal Handling and Transfer Facility.

[2] The Port of Port Angeles Log Yard: A Nexus in the Forest Products Industry by Olympus Consulting, Daniel A. Underwood, Ph. D. (August 30,2018). See Attachment A.

- 595 jobs are reliant on the Port's Intermodal Handling and Transfer Facilities.

D. Addressing Transportation Challenges and Improving Economic Resilience

One of the biggest challenges Clallam County faces is its remote location that is served by one major two-lane state highway (Highway 101) that traverses the County from its northeastern boundary to the southwestern boundary. To open additional markets for forest landowners and local mills; an efficient waterborne transportation system is critical for the movement of raw material and finished product. The Port's IHTF is the only waterfront facility that provides the vital transportation link for forest products to come in and go off the peninsula. There are local mills that are forced, at times, to source their log supply from area's outside of the North Olympic Peninsula. That supply will come through the Port's Intermodal Handling and Transfer Facility. With this Port facility, local mills gain access to hardwood and softwood logs from Alaska, British Columbia, Canada and within the Puget Sound.

E. Project Components

1. Cofferdam Dock Facility Improvements

The Port's Cofferdam Dock Facility was first constructed in 2004 by the Washington State Department of Transportation and later transferred to the Port of Port Angeles in 2006. The facility was initially intended to be a temporary structure but has since become a critical piece of transportation infrastructure to allow an efficient and cost-effective means of transporting logs on and off the North Olympic Peninsula by barge. The scope of repairs and improvements for the Cofferdam include:

- Installation of fiberglass sheet pile encasement.
- Replacement of structural steel beam.
- Remove and replace existing retaining wall and place fill with geotextile reinforcement.

Figure 3: Aerial photo of barge being unloaded at the Cofferdam Dock.

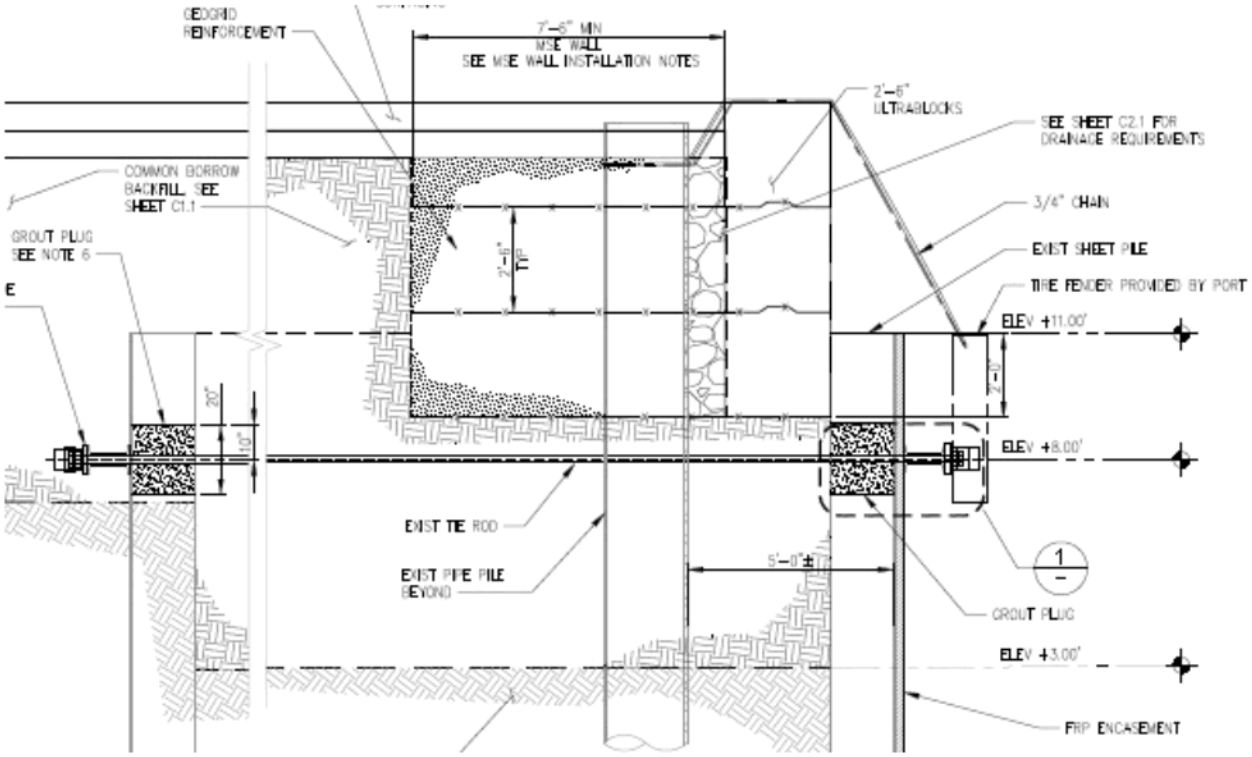

Figure 4: Section view of the proposed improvements to the Cofferdam Dock

2. Intermodal Handling and Transfer Facility – Phase 1 Site Improvements

The Port's Intermodal Handling and Transfer Facility (historically and still commonly referred to as the Log Yard) has long had a location along the Port Angeles Waterfront. The Port operates the facility with four to seven employees that are represented by the International Longshore and Warehouse Union (ILWU) Local 27. The Port operates the facility directly vice another entity to ensure equal access for all customers and to prohibit monopolization of this important public asset.

The facility has a total footprint of approximately 30 acres for cargo handling, sorting and staging. The current surface is a mixture of gravel and deteriorated asphalt and concrete. The existing surface condition creates numerous inefficiencies including stormwater management, grounds maintenance and equipment life management. The proposed improvements will raise the existing surface elevation and construct a high load capacity asphalt surface covering approximately 10 acres of the yard (Phase 1). The Phase 1 footprint of the yard is the highest priority area for improvement to support the weighing, sorting and staging activities. The Port has designs for future phases of site improvements covering 8 additional acres along with stormwater treatment upgrades that the Port will seek additional funding sources outside of this funding application.

The resurfacing of the yard will have significant water quality benefits by reducing sediment and woody debris from becoming suspended in the runoff. Stormwater will be conveyed to the existing treatment system by raising the site surface, inclining and paving to allow sheet flow. These improvements will allow for routine sweeping and collection of sediment and wood debris that will significantly reduce the

pollutant source that needs to be filtered out prior to discharge to Port Angeles Harbor. It also eliminates the need for routine and costly catch basin and pipe cleaning.

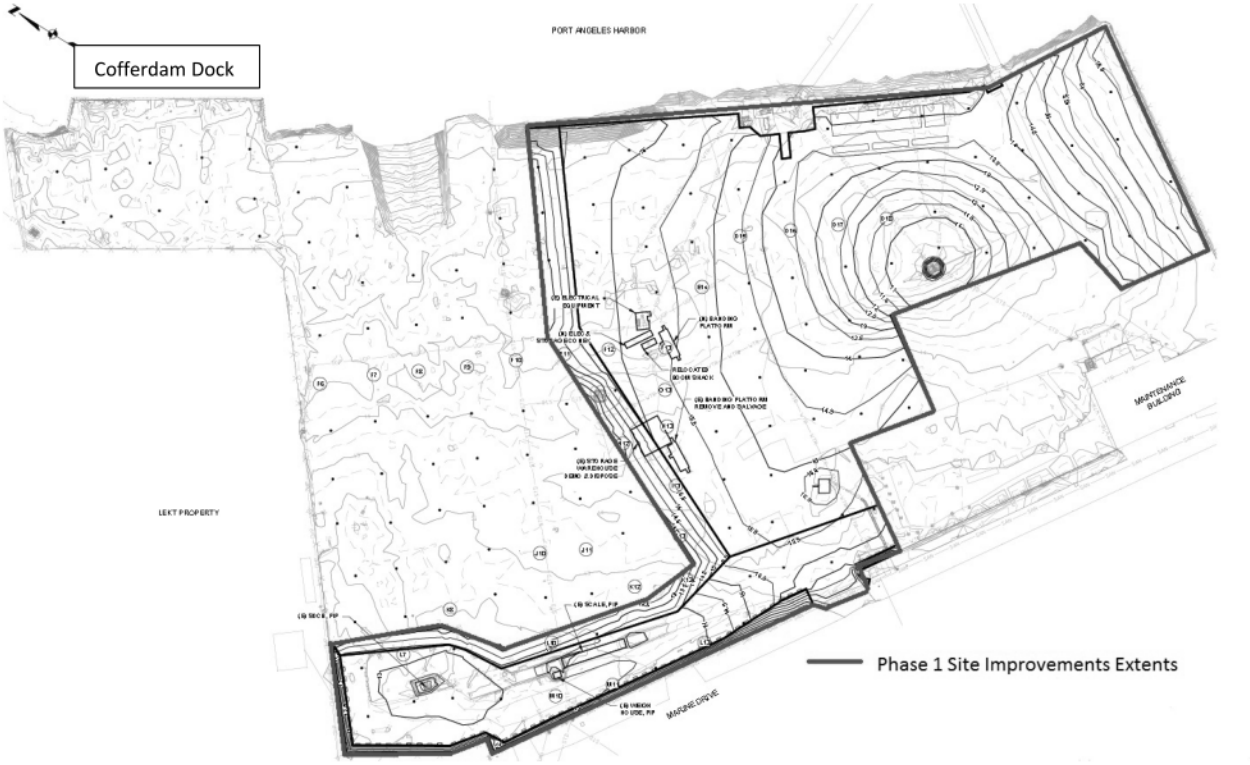

Figure 5: Intermodal Handling and Transfer Facility – Phase 1 Site Improvements

F. Project Context

1. Port of Port Angeles Capital Improvement Plan

The Cofferdam Dock and Phase 1 Site Improvements have been long-term strategic projects for the Port of Port Angeles for many years. There are documented project planning expenses starting in 2018 for the Cofferdam and back as far as 2014 for the Phase 1 Site Improvements. The Cofferdam Dock and the Intermodal Handling and Transfer Facility Site Improvements are programmed as two separate projects within the Port's Five-year Capital Improvement Plan.

If successful with this funding application for both components, the two separate projects will be combined into a single project to allow for more efficient project management and coordination between the trades near each other. It is feasible (see Section V for the project schedule) that both project components would be completed in a single spring – summer - fall construction window.

2. Planning for Climate Change and Resilience

An important aspect of this project is to account for predicted sea level rise given the best available modern science models. The land – water interface of the Cofferdam is being raised by 1.5 feet, which

will mitigate for predicted sea level of 1.21 feet by 2080[3] under the intermediate modeling scenario. The stormwater collection, treatment and discharge facilities incorporate an existing pump system, which allows the outfall to be located above predicted sea level rise and has the adaptability to be raised higher in the future.

Providing access to geographic and economically diverse markets provides opportunities for the local economy and supply chain to diversify and be more resilient from economic and environmental events such has a temporary mill shut down or a major storm occurrence that closes the supply of logs from any single supplier. Raising the land – water interface to account for predicted sea level rise is an example of prudent planning to adapt for predicted climate change impacts.

II. Project Location

A. Port of Port Angeles Location

The Port of Port Angeles shares its jurisdictional boundary with Clallam County which is located at the far northwest corner of the "lower 48 states" of the United States.

The Port's Intermodal Handling and Transfer Facility is located within the natural protection of Port Angeles Harbor at 1305 Marine Drive, Port Angeles, WA 98363 (geospatial coordinates 48°07'45"N 123°27'36"W) as shown at Figure 6. The Port of Port Angeles has both advantages and disadvantages for freight mobility. The natural protection and accessible deep water within Port Angeles Harbor provides an excellent opportunity for waterborne transportation. To be effective, the Port of Port Angeles is seeking financial assistance to make the intermodal transportation system more efficient and reliable. However, the remoteness of its location, on the North Olympic Peninsula makes movement of raw materials and finished product by highway costly and susceptible to interruption by landslides, flooding and road capacity.

The Project is:

a. Located in a rural area	✓
b. A Great Lakes port project	✗
c. A coastal seaport project	✓
d. A small project at a small port	✓
e. Located in:	
• A Qualified Opportunity zone	✓
• An Empowerment Zone	✗
• A Promise Zone	✗
• A Choice Neighborhood	✗

The Port of Port Angeles is a small port, per 46 U.S.C 50302(d). According to the U.S. Army Corps of Engineers (USACE)[4], Port Angeles had a total cargo volume of 622,053 short tons in 2019.

B. Census Information & Opportunity Zones

The project site is in Port Angeles, Washington Census Tract 7, Block 1002 (Geographic Identifier 53009000700102). The Emerald Coast Opportunity Zone (ECOZ), which consists of a diverse group of

[3] National Oceanic and Atmospheric Administration Sea Level Rise Viewer.
[4] US Army Corps of Engineers Digital Library.

geographical census tracts, is intended to make the Olympic Coast more attractive to investors. Working together, the ECOZ is a catalyst for economic development in rural areas by engaging with communities and connecting the best opportunities with private capital.

The Opportunity Zones located throughout the Olympic Peninsula are a unique collaboration of five Tribal Nations, four cities, two counties (Clallam and Jefferson) and two port authorities that spans 14 federally designated Opportunity Zone census tracts. Together, the partners of the Emerald Coast Opportunity Zone are building an "engine" of community driven projects that present both good investments and create good jobs.

C. Regional Transportation Connections

Marine Drive is a designated Washington State Truck Freight Economic Corridor that connects the Port's Intermodal Handling and Transfer Facility to state Highway 101. All cargo being transported to and from the Port by truck uses Marine Drive. Freight heading east of the project site will travel east along Marine Drive, which transitions to 1st Street and then to eastbound Highway 101. Freight heading West will initially head east on Marine Drive for a less than a mile before turning onto Highway 117 heading south before connecting to westbound Highway 101. There are no alternative freight routes.

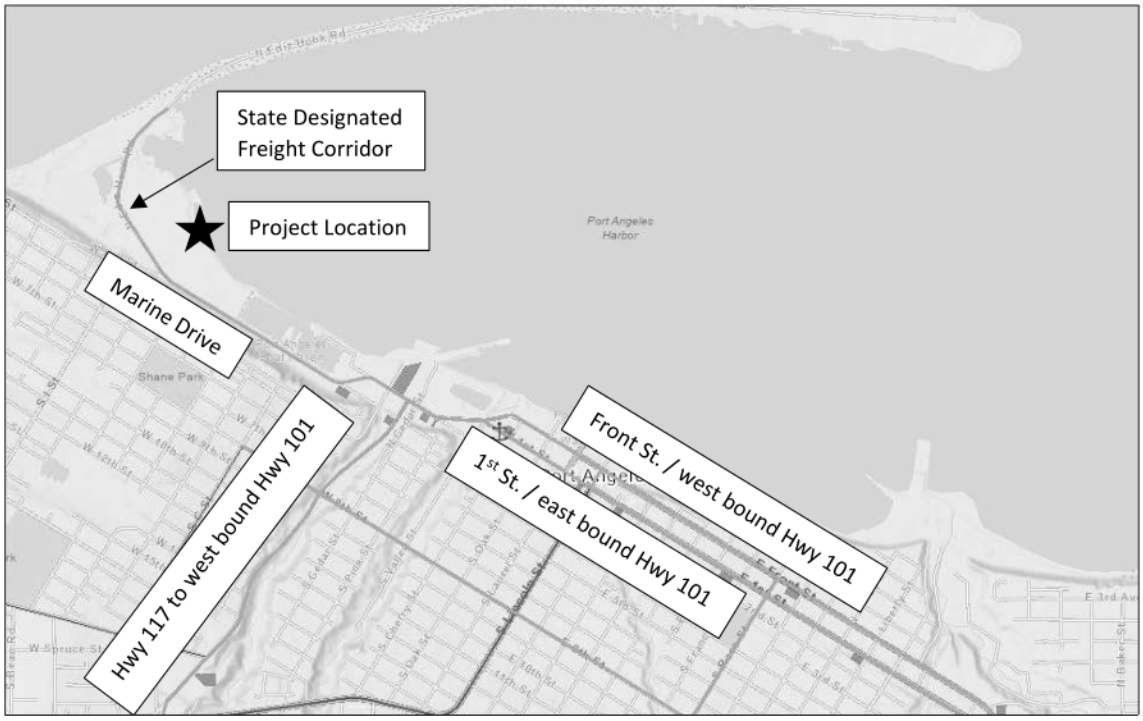

Figure 6: Washington State Department of Transportation, Truck Freight Economic Corridor[5]

[5] GIS, WSDOT - Truck Freight Economic Corridors.

III. Grant Funds, Sources and Used of Project Funds

A. Project Costs

The two project components of the Intermodal Handling and Transfer Facility Improvements are at 90% design and have had recent engineer's construction cost estimates completed. The cost estimate table below includes a 3% annual cost escalation to account for expected increases between 2022 and an expected construction date of 2024.

Cofferdam Dock Facility Improvements

Description	Cost (2024 $)
Mobilization / General Conditions	$ 100,000
Temporary Erosion and Sediment Control	$ 50,000
Earthwork / MSE Wall	$ 400,000
Bulkhead Wall Repairs	$ 550,000
Subtotal	$ 1,100,000
Contingency (25% of subtotal)	$ 275,000
Washington State Sales Tax (8.8%)	$ 121,000
Grant, Contracts & Const. Management (6%)	$ 94,000
Design / Permitting	$ 20,000
Total =	**$ 1,610,000**

Phase 1 Site Improvements

Description	Cost (2024 $)
Mobilization / General Conditions	$ 500,000
Temporary Erosion and Sediment Control	$ 150,000
Demolition	$ 80,000
Earthwork & Site Prep	$ 870,000
Asphalt Pavement	$ 3,750,000
Stormwater Treatment System	$ 700,000
Misc. Utility Alterations	$ 220,000
Construct new banding platform	$ 100,000
Install Connex to house electrical	$ 65,000
Subtotal	$ 6,435,000
Contingency (25% of subtotal)	$ 1,608,750
Washington State Sales Tax (8.8%)	$ 707,850
Grant, Contracts & Const. Management (4%)	$ 348,400
Design / Permitting	$ 50,000
Total =	**$ 9,150,000**

B. Funding Sources of Future Eligible Costs

All future eligible costs are those estimated to occur in 2023 and 2024. Ongoing engineering and permitting expenses scheduled to occur in 2022 and before are included in the previous project expense table and are not included as part of this grant request.

	Project Component			Source of Funds		
Future Eligible Costs	**Cofferdam**	**Phase 1 Site Impts.**	**Total Future Eligible Cost**	**Port**	***State**	**PIDP (80%)**
Design / Permit	$ 20,000	$ 50,000	$ 70,000	$ 14,000	$ -	$ 56,000
Construction	$ 1,496,000	$ 8,751,600	$10,247,600	$ 1,195,000	$ 855,000	$ 8,198,080
Grants, C.M., Contracts	$ 94,000	$ 348,400	$ 442,400	$ 88,000	$ -	$ 353,920
Total	**$ 1,610,000**	**$ 9,150,000**	**$10,760,000**	**$ 1,297,000**	**$ 855,000**	**$ 8,608,000**

* State funds apply towards the phase 1 site improvements project component only.

C. Previously Incurred Expenses

The Cofferdam Dock and Phase 1 Site Improvements have been long-term strategic projects for the Port of Port Angeles. There are documented project planning expenses starting in 2018 for the Cofferdam component and back as far as 2014 for the Phase 1 Site Improvements. Combined, there has been over $1.9 Million in previous related expenses for the two project components. The Port has been awarded two previous state grants to help fund an archaeology site survey and for design and permitting related expenses for the Phase 1 Site Improvement project component. See the below table for a breakdown of previous project expenses.

	Project Component			Source of Funds		
Future Eligible Costs	**Cofferdam**	**Phase 1 Site Impts.**	**Total Prev Cost**	**Port**	**State**	**Federal**
Engineering Reports	$ 68,000	$ 245,000	$ 313,000	$ 313,000		
Design / Permit	$ 321,500	$ 808,000	$ 1,129,500	$ 889,500	$ 240,000	
Interim SW Treatment		$ 271,000	$ 271,000	$ 271,000		
Archaeology Site Survey	$ 8,500	$ 191,000	$ 199,500	$ 8,500	$ 191,000	
Total	**$ 400,000**	**$ 1,515,000**	**$ 1,913,000**	**$ 1,482,000**	**$ 431,000**	**$ -**

IV. Merit Criteria

A. Achieving Safety, Efficiency or Reliability of Improvements

The Port of Port Angeles is committed to safety, efficiency and reliability and strives to always improve on these key areas. This project will directly affect the safety, efficiency and reliability of loading and unloading forest products at the port's IHTF. This project will also streamline the movement of goods into, out of, around and within the port.

1. Loading and Unloading of Goods

This project primarily focuses on improvements that safely enhance throughput capacity for loading and unloading cargo at the port and movement of goods within the Port's IHTF. The current condition of the Cofferdam Dock and the surface condition at the IHTF suffer from multiple inefficiencies that include, but are not limited to:

a. Structural deficiencies of the Cofferdam due to corrosion and section loss of steel sheet pile and waler beam.
b. Unsuitable and uneven surface throughout the IHTF within the phase 1 area that currently consist of a mixture of dirt (mud in the winter), deteriorated asphalt and other unsuitable material.
c. Poor surface quality and drainage results in excessive suspended sediment and wood debris in stormwater runoff that lead to higher operation and maintenance cost of the existing stormwater conveyance and treatment facility.

These inefficiencies cause significant constraints in usage, which limits the Ports ability to meet increased domestic forest products manufacturing needs. Additionally, the uneven and differing surface types creates delays in transit across the IHTF and increases the wear and tear on Port machinery.

Finally, stormwater discharges from the facility need to adhere to strict water quality standards. This project will bring operational improvements and efficiencies to allow collected storm water to meet treatment system design limits to ensure water quality standards are met.

The Port's proposal remedies these issues by making the following improvements:

a. Address identified structural deficiencies at the Cofferdam Dock by encapsulating sheet piles with fiberglass sheet pile and grout filler and replace waler beam.
b. Replace existing gravity retaining wall with properly designed and engineered Mechanically Stabilized Earth Wall.
c. Replacing non-construction grade fill dirt with layers of course gravel with geotextile fabric reinforcement.
d. Improve surface and drainage with new asphalt surfacing.

These improvements to the Cofferdam Dock will upgrade the structural integrity and lengthen the useful life of the Cofferdam Dock (which was originally designed as a temporary structure when built in 2004 by WSDOT) allowing this vital piece of transportation infrastructure to continue to safely serve the region's forest products industry for decades ahead. Not only will it serve the current customer base,

but it will also allow for new uses of the facility to accommodate different commodity needs. The improvements to the surface of the Cofferdam and uplands will create a more streamlined operation by creating logistical efficiency. The result will shorten load/unload time and allow for an increase in volume of forest products moving through the IHTF. Notably, this will also allow for continued growth, in usage of the IHTF consistent with recent experience. For example, in the last three years we have seen a 13% per year increase in load counts. Year to date, we are operating at 130% compared to the same time last year. The 2022 estimated numbers are derived from a straight-line average of the first quarter actual load counts.

Truck Loads

Year	Annual Load Count	Monthly	Daily	Hourly
2019	5,945	495.42	22.87	2.86
2020	6,888	574.00	26.49	3.31
2021	7,848	654.00	30.18	3.77
2022 (est.)	11,164	930.33	42.94	5.37
Average	**7,961**	**663.44**	**30.62**	**3.83**

By performing these outlined improvements to the IHTF, the Port of Port Angeles will be able to:

a. Improve available capacity, ensuring the IHTF can handle current and expected growth to meet the needs of domestic manufacturers.
b. Increase the efficiency of the IHTF to minimize time in, out and within the yard.

There is little research on facilities such as the IHTF. Even *Forest Products Journal*[6] "Only 26 percent of the surveyed log yard designs have been systematically evaluated and improved over the last 15 years." The *Journal* points out, "Matters surrounding drainage and residue management require a solid surface material. Unfortunately, only 15.5 percent of log yards have more than 20 percent of surface asphalted; only 26 percent of log yard managers plan to invest in solid surface in the next 5 years." The Port would like to be in the latter category.

A conservative estimate is that resurfacing will reduce the total time it takes for a load to come in and go out of the facility (throughput) by 10%. A load is defined by the cargo volume of a fully loaded log truck. Below is list of recorded times to perform specific operations within the IHTF in its current condition:

a. Tractor trailer unload by Wagner log stackers = 7 Minutes
b. Wagner log stacker decks unloaded logs = 4 Minutes
c. Transportation off decks = 5 Minutes
d. Load tractor trailer = 5 Minutes
e. Barging takes 45 loads and loads/unloads in three hours = 4 Minutes per load
    a. Transport off deck = 5 minutes
    b. Load Tractor Trailer = 5 minutes

[6] Trzcianowska, M.; Beaudoin, D.; Lebel, L.: Current Practices in Log Yard Design and Operations in the Province of Quebec, Canada. *Forest Product Journal* 2019 Vol. 69 No. 4 pp.248-259

Overall, the load time is 21 minutes from an incoming truck to deck to an outgoing truck, or 14 minutes per load from an incoming barge to an outgoing truck. A 10% efficiency increase last year would have allowed approximately 800 additional loads to move through the facility or a 10% decrease in equipment operation time.

One key area for Port of Port Angeles is ensuring safety. The IHTF is a heavy industrial facility and is staffed by Port Union employees as well as log scalers and private business employees. Tractor trailers, heavy equipment and machinery are in constant operation. The improvement of the Cofferdam Dock and the Phase 1 Site Improvements will reduce the risk of injuries by improving physical stability and traction of equipment on the site. This will lower the likelihood of injury from potential vehicle and equipment accidents, falls, and structural failures. Additionally, taking trucks off the road will improve public safety by providing alternatives for the movement of goods through populated areas.

1. Movement of goods into, out of, around, or within a port.

As outlined in Section I, the IHTF is intrinsically connected with the local, regional, national and international supply chains. Currently, the facility supports the supply chain by providing sorting, storage, transloading and transportation for the forest products industry on the North Olympic Peninsula, across Washington State, Oregon, British Columbia and even Alaska. Some forest products moved through the IHTF are ultimately bound for international markets.

The proposed improvements will streamline and improve the transportation of forest products in and out of the IHTF, resulting in improved predictability, safety and reliability for forest product manufacturers along the west coast.

2. Operational improvements, including projects to improve port resilience.

The Cofferdam was originally built as a temporary structure connected to a graving dock project that was abandoned in 2004. At that time, WSDOT transferred the Cofferdam to the Port, who has put the facility to productive use. However, the cofferdam must be rehabilitated and improved to continue safely serving the needs for forest products manufacturers across the region. Without improvements, the Port may be forced to discontinue its current use.

The proposed project will extend the cofferdam's useful life for at least 20 years. These improvements consist of replacing a structural steel waler, installing a protective fiberglass sheet pile encasement and replacing an existing gravity retaining wall with a properly designed and engineered Mechanically Stabilized Earth Wall. In addition, the land – water interface of the Cofferdam will be raised by 1.5 feet, which will mitigate for predicted sea level rise of 1.21ft by 2080. This height improvement will also make the area more resilient in the face of unpredictable natural weather events such as floods and extreme high tide events as well as provide better stormwater runoff control.

Additionally, with the current mix of inadequate surfaces, disruptions occur in the form of equipment breaking down or getting stuck. An adequate surface would reduce wear and tear on machinery and eliminate issues with the machinery becoming immobilized and therefore reducing delays and bottlenecks at the IHTF.

Figure 7: Log truck being loaded just upland of the Cofferdam

3. Environmental and emissions mitigation measures.

Mitigation for the in-water habitat impacts of the cofferdam structure was implemented in 2003 with 1,500 feet of shoreline restoration conducted on the adjacent sand spit of Ediz Hook. This advanced mitigation included the removal of a boat launch, creosote pilings, manmade debris and hard armoring of the shoreline. The mitigation also included placement of clean sand, large woody debris, and vegetation to mirror conditions of adjacent beaches. The restoration has provided long-term benefits to the nearshore and riparian habitats and offsets the existence of the Cofferdam Dock.

The facility itself serves to mitigate emissions by promoting a more energy efficient form of freight transportation. Freight transportation by barge directly affects those disadvantaged communities that are often located along side highways and designated freight corridors by reducing heavy truck traffic and the corresponding diesel particulate emission. Specific metrics regarding reduction of truck miles and CO_2 emission are discussed later.

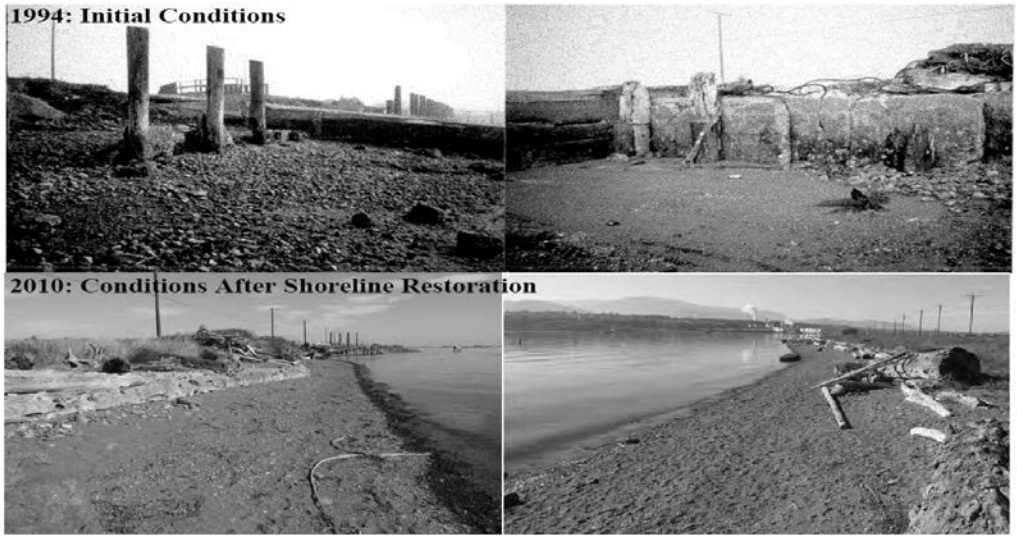

Figure 8: Shoreline Restoration (1,500 feet): Condition before (1994) and after (2010)

B. Supporting Economic Vitality at the Regional Level (Small Projects at Small Ports)

1. Economic Advantage

The Port of Port Angeles is ideally located *for maritime trade*. The Port is the closest deep-water port in the Puget Sound to the Pacific Ocean and is directly across the Strait of Juan de Fuca from Vancouver Island, BC. Surface transportation on the North Olympic Peninsula is limited to one, two lane state highway to accessing domestic markets. The IHTF is critical to the economic well-being of our region because it allows for a viable, cost-effective option to transport forest products by water to the Puget Sound region, British Columbia, Oregon, and Alaska.

The IHTF services over a dozen forest products companies from large national and international timberland owners to small local businesses, including tribal enterprises. The IHTF lowers the economic barrier to the industry by applying the same price to all customers, regardless of quantity, allowing these businesses and tribes to compete on an even playing field.

The improvements to the IHTF will allow the Port to operate at a higher efficiency and capacity, affording more opportunities to customers, while also creating resiliency for future groups. These improvements will assist in eliminating the economic barriers by making the Port's flat rate pricing structure available to more potential clients. Also, the project will allow for competitive movement of other products into metropolitan markets. By improving its waterside logistics capabilities, the Port can take advantage of its strategic location in the Strait of Juan de Fuca to expand break and bulk cargo movement by sea.

The improvements will undoubtedly create efficiencies for labor, resources and customers as access to the IHTF and logistics within and around the location are at the heart of this application. By improving physical access to the site and increasing operational efficiencies, the Port will be able to expand its services at the IHTF. This will create jobs and equitable opportunities for hiring and promotion within the Port and its customers.

2. Contribution to Freight transportation at, around and through the port

The IHTF project will contribute to freight transportation by improving the physical process of handling, sorting, staging and transporting products in and out of the Port's IHTF. Presently, tractor trailer and machinery are required to drive, load and unload on different surfaces, including pavement, asphalt, gravel and dirt. The resurfacing of the designated areas will allow for a seamless inflow/outflow of trucks and machinery. Additionally, the rehabilitation and improvements to the Cofferdam Dock will streamline the transload process between the water and land.

Moreover, during the loading of forest products onto barges, there is commonly a line of tractor trailers that extend throughout the port and spill onto the adjacent public street causing congestion. The resurfacing, relocation of banding station and improvements to the Cofferdam Dock will relieve this congestion in and around the Port.

The Port's IHTF will rely on upgrades made to the surface and the cofferdam to ensure future use, growth and overall resilience. The improvements to the surface and to the cofferdam will both aid in the logistics of handling product at the IHTF and reduce wear and tear on the machinery such as tractor trailers, loaders, dump trucks, excavators, etc. used at the site.

Figure 9: Existing surface condition typical during winter months

The cofferdam was not designed for long term use. As mentioned earlier, when the Port acquired the cofferdam, it was put to productive use. But the "temporary" structure now must be rehabilitated and upgraded. The improvements to the facility will extend the Cofferdam Dock's useful life, improve efficiency of the transload process between water and land, and will eliminate operational and safety concerns posed by the aging structure.

Figure 10: Drone photo of the Cofferdam Dock from the waterside

Potential interruptions to the IHTF are primarily the logistical ability to/from and within the site, as well as the water interface. Lack of an adequate operating surface creates bottlenecks in distribution throughout the Port. Additionally, weather and overall availability of the Cofferdam Dock are common reasons for disruptions to the facility's operations. Finally, the resiliency of the IHTF rely on being able to operate in compliance with environmental requirements.

The improvements to the surface of the Port's IHTF will allow alternative and efficient traffic flows within the facility that will alleviate bottlenecks. The work done to the Cofferdam Dock will allow product to be loaded and unloaded more efficiently, freeing up time for other potential clientele access

to the facility. Also, the additional 1.5 feet of elevation to be added to the cofferdam will allow the port to operate during inclement weather. Ensuring the Port can operate the IHTF into the future will depend heavily on the Port's ability to consistently meet National Pollutant Discharge Elimination System (NPDES) permit pollutant benchmarks. A new properly constructed asphalt surface in the IHTF Phase 1 area will help the Port efficiently collect and treat stormwater as previously explained.

3. Overcoming competitive disadvantages of the port.

The Port's primary competitive disadvantage is our geographic location and the lack of logistical infrastructure, such as lack of rail. The North Olympic Peninsula is served by only one major state highway, Highway 101. One of the key access points from the North Olympic Peninsula to the I-5 Corridor is via the Hood Canal bridge. The Hood Canal bridge is a floating bridge that closes for boat crossing and extended times for maintenance, resulting in extended long-haul trucking delays which impacts the dependability and predictability of land freight.

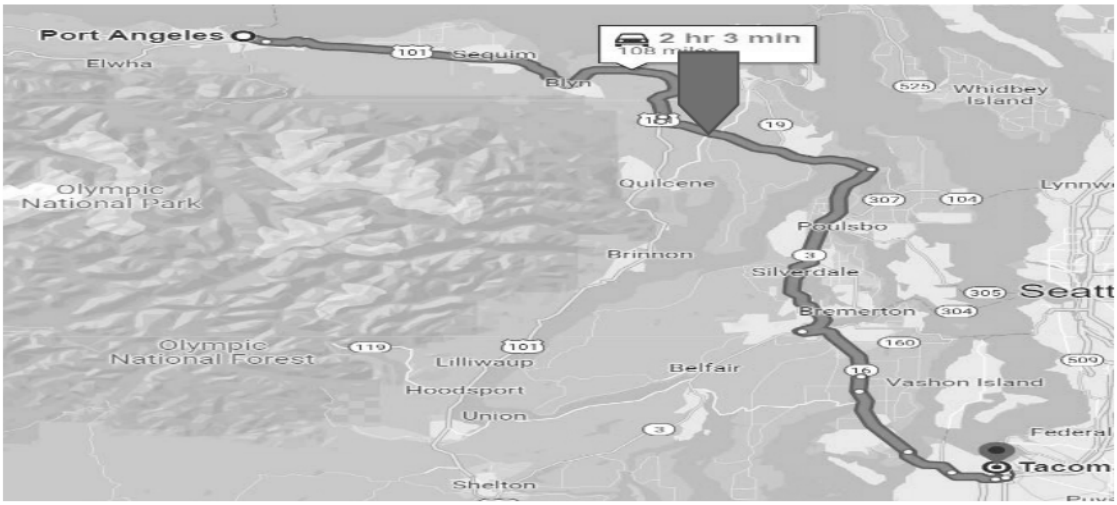

Figure 11: Hood Canal Bridge and Highway 101

For these reasons, it is highly desirable to use the Port's water interface to deliver forest products regionally, nationally and internationally. By using the water interface, the number of trucks on the road is reduced, which in turn reduces safety concerns, CO_2 emissions, wear and tear on public highways, and reduces the vehicular accident rate.

A recent study[7] comparing barge versus surface transportation options for the current usage of the IHTF showed that barge transportation reduced truck mile usage on our roads and highways by 750,000 miles. This reduction lowered carbon emissions by 612 metric tons of CO_2, even when accounting for transportation to the mills from the barge loading/unloading locations.

Forest products coming in and out of the IHTF often require reloading onto trucks that transport forest products to their final destinations using Highway 101 and City streets. The surface improvements will increase the efficiency of loading and unloading. Additionally, surfacing of the facility will eliminate the

[7] Attachment B - The Intermodal Handling & Transfer Facility: Social and Environmental Benefits by Danial A. Underwood, Ph.D, May 2022

transfer of mud and debris to city streets and roads from trucks leaving the site, eliminating the need for sweeping services to clean up public roads.

The IHTF in Port Angeles is unique. Commonly these areas are operated by private industry that prioritize profit. The Port's goal is equity and access. We serve more than a dozen individual businesses and organizations, including tribal interest, within our facility and pricing is the same for large multinational companies, or small local organizations. This facility gives equitable access to the services and logistics that these organizations require to operate. The improvements to the Cofferdam Dock and the surface of the IHTF will allow the Port to serve more clientele at a more efficient rate for the foreseeable future.

This project is economically vital to the whole North Olympic Peninsula. This project will not only support current movement of goods but also stimulate additional movement of goods and ensure a prosperous community and economy. This project will have a direct effect on the intermodal transportation in the region, primarily truck to storage, truck to truck and truck to barge.

As previously stated, the Port's IHTF not only supports private businesses, but also economically distressed communities that financially support themselves via forest products, including indigenous tribes on the peninsula. The project will support diversification of marine trade activity at the Port, benefitting the region's economy.

The Port of Port Angeles has a strong history of workforce development. In 2010 the Washington Legislature amended RCW 53.08.245 to allow port districts to work with nonprofits on workforce development. However, only non-profits in existence when the statute took effect (June 10, 2010) were eligible. This proved to be a significant limiting factor in workforce development.

In 2019 the Port of Port Angeles, along with other Washington Public Ports worked with the Washington Legislature and expanded RCW 53.08.245 to broaden the definition of workforce development and to remove the limitation on non-profits. The revised RCW 53.08.245 took effect on July 28, 2019. The Port of Port Angeles passed a Resolution on August 13th, 2019 to include Workforce Development into the Port's mission

The long-term stability and benefits of this project will allow the Port to increase its ongoing efforts to support workforce development opportunities in our community. The Port has long had partnerships with local educational institutions and vocational schools, including Peninsula College, the Northwest School of Wooden Boatbuilding and area high schools. With the stability and growth this project brings to the Port, we can leverage these partnerships to help attract and train individuals who are interested in entering into related trades.

Finally, the importance of the forest products industry to our region cannot be understated. The average direct timber industry wage in Clallam County is $63,108, more than double the county's average per capita income of $31,601 (according to the United States Census Bureau). Additionally, the industry accounts for more than 1500 jobs.

C. Addressing Climate Change and Environmental Justice Impacts

1. Climate Change.

The project elements are designed to improve port infrastructure resilience to climate change. Climate change adaptation is important to the region and the City of Port Angeles primary in respect to sea level rise impacts to the commercial and industrial waterfront.

The Port participated in the 2015 Climate Change Preparedness Plan for the North Olympic Peninsula produced by the regional North Olympic Development Council. This preparedness plan is an ongoing effort to build climate change resilience for the region. The Port is also currently participating in the City of Port Angeles Climate Resiliency Planning Process and the development of a carbon inventory. This in-process plan and inventory will provide our community a baseline and goals for reducing our footprint and strategies for adapting to climate change.

An important aspect of this project is to account for predicted sea level rise given the best available modern science and build climate change adaptation into the project. The land – water interface of the Cofferdam is being raised by 1.5 feet, which will mitigate for predicted sea level rise of 2-ft to 4-ft beyond 2080[8].The proposed stormwater collection, treatment and discharge facilities at the project site incorporate an existing pump system, which allow the outfall to be located above predicted sea level rise and has the adaptability to be raised higher in the future.

Through community climate change planning and project development, the Port recognizes its important role in helping to limit global warming and that continually reducing diesel particulate matter and other air emissions is critical for the health of local communities. Especially in areas where environmental health disparities exist along transportation corridors and roadways. This project will reduce CO_2 emissions by 612[9] metric tons due to avoided on highway truck transportation with wood products transported efficiently by barge (Attachment B).

2. Environmental Justice.

This project supports a sustainable and resilient forest products industry by improving the efficient handling and transfer of forest products. The region is rural with an economy historically based on resource extraction (Forest Products). Because of the volatile nature of the forest products industry over the last 30-years the area has greater than the national average of low-income population. The EJSCREEN data details that the low-income population is at the 70-90% the national percentiles at the census tracts adjacent to the project (See Figure 12). The population demographics in the City of Port Angeles and Clallam County is 87% white and the largest minority population is American Indian or indigenous people as is observed in Figure 13.

[8] National Oceanic and Atmospheric Administration Sea Level Rise Viewer.

[9] Attachment B - The Intermodal Handling & Transfer Facility: Social and Environmental Benefits by Danial A. Underwood, Ph.D, May 2022

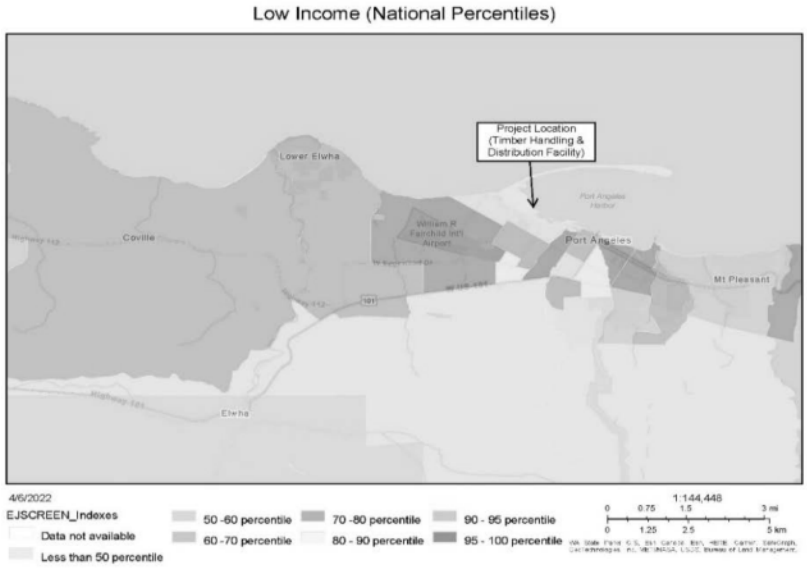

Figure 12: EJSCREEN – Low Income (National Percentiles)

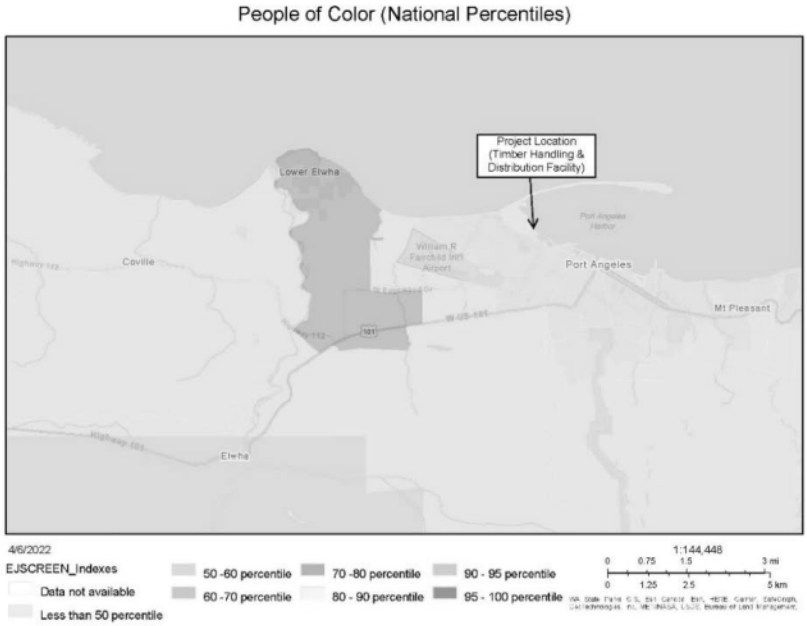

Figure 13: EJSCREEN – People of Color (National Percentiles)

To improve the local economy, the region has embraced tourism and diversified by growing marine trades while continuing its support of the forest products industry. This project will improve the efficient handling and transfer of forest products which generates living wage jobs and will reduce both CO_2 and diesel particulate emissions from reduced truck transportation.

Highway freight transportation activities contribute to regional and local air pollutant concentrations. Lower-income, indigenous, and disadvantaged communities are often located along Highway 101, amplifying the importance of improving air quality to advance social equity and environmental justice in our community (See Figure 12).

The project outcome of higher percentage of on-water barge intermodal movements, both import and export, will reduce not only carbon dioxide emissions but also diesel particulate emissions along the region's Highway 101. The transportation of wood product via barge to and from the project facility will reduce 750,000 truck miles on public highways and reduce CO_2 by 612 metric tons.

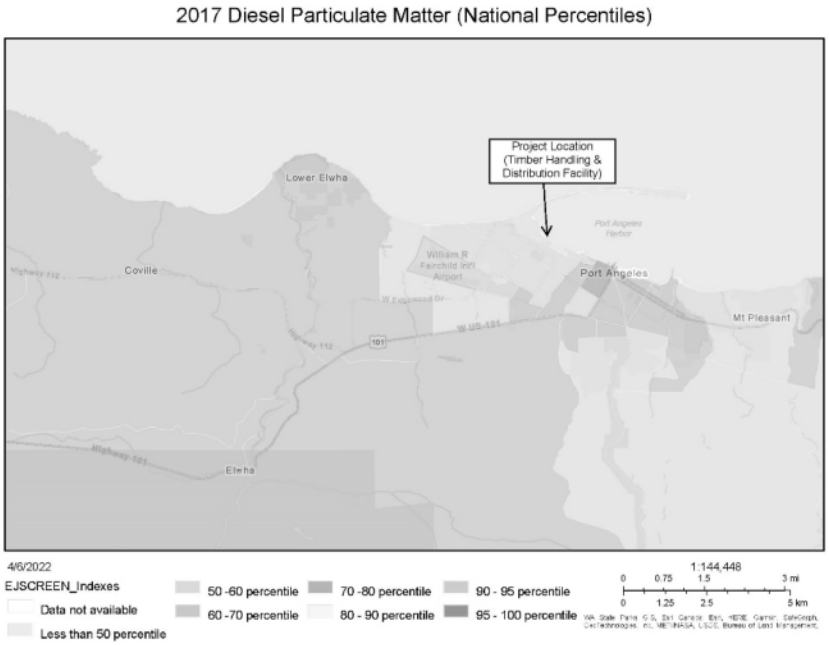

Figure 14: EJSCREEN – Diesel Particulate Matter (National Percentiles)

To communicate the need, benefits, and impacts from this project, the Port has had direct engagement with stakeholders in the community and local tribes. This outreach has included:

- Presentations to multiple service and fraternal organizations in the community about this project over the last two years.
- Informal consultation and multiple meetings with Lower Elwha Klallam Tribe to discuss project alternatives and the protection of cultural resources along our community's waterfront.
- Future public outreach will be conducted during the formal environmental review of the project under both the state and federal environmental policy acts. This will include both scoping meetings and public comment periods.
- A Joint Port / Clallam County Public Meeting on April 27, 2022 discussed the Port's grant applications and its benefits to the County.
- Support letters for this grant application have been provided by the Port's Federal and State representation, the Makah Tribe, as well as with many private business stake holders. See Attachment C for copies of support letters.

D. Advancing Equity and Opportunity for All

The Port of Port Angeles is structured to ensure all individuals benefit from Port and federal funds. Port initiatives and staff specifically advance equity and promote workforce opportunities through:

- Compliance with state and federal wage rate requirements

- Employment and equal opportunity compliance
- Bid preferences to encourage inclusion of:
    - DBE – Disadvantage Business Enterprise
    - MBE – Minority Business Enterprise
    - WBE – Woman Business Enterprise
    - VOSB – Veteran Owned Small Business
    - DOBE – Disabled Owned Business Enterprise
    - SBE – Small Business Enterprise
- **Port Strategic Plan[10]:** Job creation (especially important for our economically distressed area) to foster economic prosperity and living wage jobs.
- **Port Commissioners' Resolution No. 19-1199**[6]: Per RCW 53.08.245 the Port works with tenants, private companies, and academic entities to develop occupational training and workforce development opportunities.
- **Port Limited English Proficiency Plan**[6]**:** The Port is responsible that equal access to services, programs, and activities is provided to persons with limited English proficiency. This is an important step to eliminate barriers that prevent full participation of some groups.
- **Olympic Workforce Development Council:** Is a tri-county hub for gathering and disseminating information about the area's labor market and business' employment needs. The Port and Clallam County are represented through the local Economic Development Council staff that participate in this group. This council is important to allow local companies to grow so people can reach their career goals, no matter their background or barriers.
- **Port's Intermodal Handling and Transfer Facility – Union Jobs:** The operators and Port employees at our waterfront facilities are members of the local International Longshore and Warehouse Union and work under a bargaining agreement. This results in higher wages, better benefits, and excellent workplace safety. The public operation with union employees keeps access to the facility on an equal playing field to all customers.
- **Workforce Development Program:** In 2022, the Port is developing a comprehensive workforce development program that will focus on the trades and the workforce needs of the port and key customers and tenants. This plan will continue to facilitate connections between organizations (local high schools & community colleges), 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. Key to the success of this program will be that everyone has equal access to opportunities.

The Port of Port Angeles Intermodal Handling and Transfer Facility Improvement Project will increase access and efficiencies for local private and state landowners to transport their commodities to regional saw and pulp mills. The Port's customers include private, public and tribal timber landowners and suppliers. The Makah Tribe located in the northwest corner of Clallam County manages thousands of acres of timberland. Some of this timber is processed and sorted at the Port's IHTF. Natural resources from the forest have always been a cornerstone for local tribes. The management of these timberlands by the Makah Forestry Enterprises for economic development and job creation is a continuation of this

[10] Attachment D - Policies and Plans to Advance Equity and Opportunity for All

connection. This project improves a facility that supports a tribal enterprise that is providing employment opportunities for a unique nation of indigenous people.

E. Leveraging Federal Funding to Attract Non-Federal Sources of Infrastructure Investment

The Port will leverage the proposed $8.61 Million in federal funds with $2.15 Million in State and Port Funds to construct the proposed improvements. The Port was recently awarded $855,000 in Washington State Capital Funds by the Legislature. The Port has committed approximately $1.30 million from its Capital Improvement fund to round out the $10.76 Million Dollar project. Port Resolution 22-1258, Attachment E, details the Commission action to ensure the Port has the committed matching funds.

V. Project Readiness

A. Technical Capacity

1. Port's history of completing federally funded projects

The Port of Port Angeles is a small Port but is fortunate to have the necessary administrative staff to successfully compete for federal grants and implement the project within the proposed budget and schedule. Below is a table of successful federally funded projects the Port has accomplished over the last ten years.

Federal Grant Funded Projects – Last 10 Years

Year	Project	Grant Agency	Federal Share	Non-Federal Share
2012	Airport Guidance Signs & Taxiway Lighting	FAA / Airport Improvement Program	$1,250,000	$138,000
2013	Marine Terminal Redevelopment	EDA / Public Works Assistance	$1,500,000	$3,380,000
	Airport Apron	FAA / Airport Improvement Program	$931,000	$103,000
2014	Marine Terminal Security Improvements	FEMA / Port Security	$701,000	$237,000
	Airport Fencing	FAA / Airport Improvement Program	$783,000	$87,000
2015	Composite Recycling Technology Center	EDA / Public Works Assistance	$2,000,000	-
		State Dept of Commerce	-	$1,000,000
		County Opportunity Fund	-	$1,000,000
	Marine Terminal Security Improvements	FEMA / Port Security	$157,000	$52,000
	Airport Access Road	FAA / Airport Improvement Program	$1,100,000	$122,000
2016	Airport Apron	FAA / Airport Improvement Program	$1,300,000	$144,000
	Marine Terminal Security Improvements	FEMA / Port Security	$53,000	$18,000
2017	Marine Terminal Security Improvements	FEMA / Port Security	$102,000	$34,000
2018	Marine Terminal Security Improvements	FEMA / Port Security	$18,000	$6,000

2020	Marina Fuel Float & Pump-out Replacement	USFWS / Boating Infrastructure Grant	$497,000	$723,000
		USFWS / Clean Vessel Act Grant	$242,000	241,000
	Airport Runway & Taxiway Design	FAA / Airport Improvement Program	$463,000	$9,000
2021	Port Cyber Security Improvements	FEMA / Port Security	$145,000	$48,000
	Airport Taxiway Design	FAA / Airport Improvement Program	$380,000	-
2022	Airport Runway Rehab	FAA / Airport Improvement Program	$5,370,000	$471,000
		WSDOT / Airport Aid Grant	-	$299,000
	Marine Trades Center Development	EDA / 2019 Disaster Funding	$7,200,000	$3,800,000
		Total (10-Years)	**$24,192,000**	**$11,912,000**

Note: No grant funding awarded in 2019

2. Project Schedule

Both project components; (1) Cofferdam Dock and (2) Phase 1 Site Improvements are at 90% design. Permitting is in progress and the last major hurdle is filling in the funding gap with this PIDP grant request. Below you'll see a high-level project schedule showing the milestones including permitting, final design, bidding and construction. Construction is anticipated to occur during the spring and summer of 2024 and there are no foreseen issues to have the project completed by the statutory deadline of September 30, 2025. Figure 15 provides a summary Gannt chart of the project schedule. The full detailed project schedule is attached as Attachment F.

Task Mode	Task Name	Duration	Start	Finish	Predecessors
	Intermodal Handling & Transfer Facility Improvements	**1117 days**	**Thu 8/20/20**	**Fri 11/29/24**	
	90% Design Drawings	**80 days**	**Mon 4/18/22**	**Fri 8/5/22**	
	Project Permitting	**904 days**	**Thu 8/20/20**	**Tue 2/6/24**	
	NEPA / SEPA	**827 days**	**Thu 11/19/20**	**Fri 1/19/24**	
	USACE Nationwide Permit 3 - Cofferdam	**560 days**	**Thu 8/20/20**	**Wed 10/12/22**	
	Building Permit - Cofferdam	**134 days**	**Thu 1/27/22**	**Tue 8/2/22**	
	Section 106 Review	**413 days**	**Mon 4/11/22**	**Thu 11/9/23**	
	Shoreline Substantial Development	**723 days**	**Thu 11/19/20**	**Mon 8/28/23**	
	Building / Clearing & Grading / Stormwater Permits	**136 days**	**Tue 8/1/23**	**Tue 2/6/24**	
	Bid Documents	**30 days**	**Mon 10/23/23**	**Fri 12/1/23**	
	Bidding & Contracting	**76 days**	**Fri 1/5/24**	**Fri 4/19/24**	
	Construction	**140 days**	**Mon 5/20/24**	**Fri 11/29/24**	

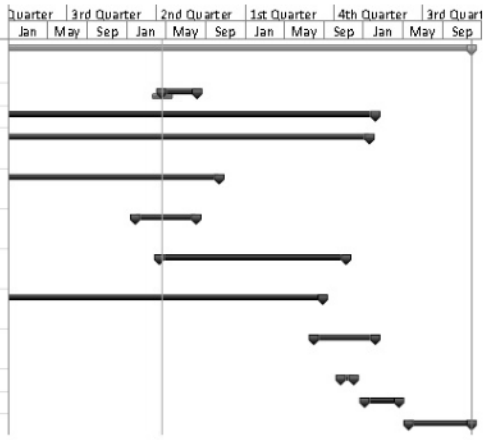

Figure 15: *Project Schedule Summary*

3. Project Cost Background

The two project components of the IHTF improvements are at 90% design and have recent cost estimates completed. The cost estimate table for each project component is included in Section III of this application.

B. Environmental Risk

1. NEPA Environmental Permits & Review

The current federal nexus for the National Environmental Policy Act (NEPA) compliance is the U.S. Army Corps (USACE) of Engineers Clean Water Act Section 404 and Rivers and Harbors Act Section 10 permit requirements triggered by the in-water work on Cofferdam Dock improvements. The USACE permit process is underway with NEPA implementation completed under the national decision documents for the issuance of Nationwide Permits. The upland Phase 1 Site Improvements will also require NEPA consultation if project receives federal funding. It is anticipated that a federal agency such as USACE or MARAD would serve as the lead agency for NEPA consultation.

After reviewing MARAD MAO 600.1 NEPA procedure, it is anticipated that this redevelopment project will be eligible for a NEPA Categorical Exclusion (CE) under MARAD (CE) #4. This project will not change the use from a port maritime facility. This is a modernization and redevelopment of an existing barge facility and the resurfacing of adjacent upland cargo storage area to improve environmental performance and operational efficiency. Thus, the Port does not anticipate any adverse impacts from this project. If a NEPA EA is required, it is anticipated that the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) can be completed and approved within a 12-month timeframe.

The Port is familiar with the environmental review (NEPA) and federal, state, and local permitting processes and is ready to complete SEPA (the state environmental review process) and local building and shoreline development permits for this project.

2. Environmental and Engineering Studies

The Port has diligently been working through the planning process of both project components for multiple years. Below is an abbreviated list of environmental and engineering studies completed to date for each of proposed project components.

<u>Cofferdam Dock Facility Improvements:</u>

- Geotechnical Engineering Design Report
- Cultural Resource monitoring of test pits with associated technical memorandum
- Biological Evaluation
- 90% Design Drawings and Technical Specifications
- Engineers Construction Cost Estimate

<u>Phase 1 Site Improvements</u>

- Engineering Design Report w/ Addendum
    - Submitted to Washington State Department of Ecology November 10, 2021
- Paving Alternative Study
- Archaeological Resource Survey and Testing
- 90% Design Drawings
- Engineers Construction Cost Estimate

3. Federal, State and Local Approvals

Below is a list of Federal, State and Local permits that have been received, applied for and pending agency review or will be applied for in the future. See the full project schedule that is included as Attachment F for additional details concerning estimated approval timelines for all required project permits.

Cofferdam Dock Facility Improvements:

- Nationwide Permit Pending – United States Army Corp of Engineers
    - Formal Consultation initiated May 27, 2021 with National Marine Fisheries Services and United States Department of Fish and Wildlife.
- Hydraulic Project Approval (complete) – Washington State Department of Fish and Wildlife
- Shoreline exemption (complete) – City of Port Angeles
- SEPA exemption (complete) – Port of Port Angeles
- Building Permit (Pending) – City of Port Angeles. Submitted in January 2022.

Phase 1 Site Improvements:

- Site Alteration and Excavation Permit– Washington State Department of Archaeology and Historic Preservation (DAHP).
    - Submit in second quarter of 2022. This permit will provide basis for Section 106
- Section 106 Review – USDOT is lead agency
    - Complete in 2023
- SEPA / NEPA – complete process by early 2024
- Shoreline Substantial Development – City of Port Angeles
    - Complete in 2023

C. Risk Mitigation

The majority of the proposed improvements entail civil site work and surfacing improvements with very limited in-water work. The Port will use a standard design-bid-build procurement method to accomplish the work.

The permitting process for in-water work is in process and the United States Army Corp of Engineers has already engaged the services for endangered species act consultation. There has been extensive subsurface exploration throughout the IHTF in partnership with the Lower Elwha Klallam Tribe and the Washington State Department of Archaeology and Historic Preservation due to a known archaeological site adjacent to the Port's property. The design was developed using the survey results to ensure the site improvements avoid disturbing possible archaeological resources. Additionally, the Port of Port Angeles, City of Port Angeles, State of Washington and the Lower Elwha Klallam Tribe have a 4-Party Agreement that specifically allows for the intended use of the property and provides a framework if a potential archeological discovery occurs.

Given the history of industrial use, there is potential for subsurface soil contamination. The Port has been working with the Washington State Department of Ecology and has developed an acceptable Remedial Action Work Plan and are currently reviewing a draft agreed order. Washington State's

Department of Archaeology and Historic Preservation is aware of the proposed project and has already acknowledged that there will not be the typically subsurface exploration at this site because of the protentional for disturbance of archaeological resources. Since the nature of the Phase 1 improvements are to bring in clean fill material and cap the site with asphalt; there is extremely limited risk that subsurface soil contamination poses a risk to this project.

VI. Domestic Preference

The Port of Port Angeles is committed to procuring materials that are 100% produced, manufactured, or assembled domestically in alignment with the Buy American Act (46 U.S.C. 54301(a)(6)(A)). The Port's contract documents will include language that shall require the contractor to comply with all Buy American Act provisions and the Port will be responsible to ensure the contractor complies through submittal review and project oversite. The project components for which the Port is requesting funding under the PDIP have been selected to avoid undue delays or risks associated with the process of requesting a waiver to the Buy America Act.

VII. Determinations

Project Determination	Response
1. The project improves the safety, efficiency, or reliability of the movement of goods through a port or intermodal connection to the port.	This project will directly improve the safety, efficiency and reliability of loading and unloading forest products at the Port's IHTF by rehabilitating and improving the Cofferdam Dock and making surfacing improvements in the yard. This project will streamline the movement of goods into, out of, around and within the port. The Port's IHTF reduces the annual truck miles on public highways by ~750,000 miles which results in in reduction of 3 highway accidents. Additionally, barge transportation reduces CO_2 emission by 612 tons annually as compared to trucking.
2. The project is cost effective.	Not applicable to small projects at small ports.
3. The eligible applicant has the authority to carry out the project.	The Port of Port Angeles is an independent municipal corporation that operates under Title 53 of the Revised Code of Washington and is classified as a special purpose district. The Project encompasses three adjacent Port-owned properties (1319 Marine Dr, 1433 Marine Dr and 1511 Marine Dr). As owner of these properties and operator of the facility, the Port of Port of Port Angeles has the authority to carry out Project construction.
4. The eligible applicant has sufficient funding available to meet the matching requirements.	Per Port of Port Angeles Resolution 22-1258 (Attachment E of this narrative) the Port is committed to providing the matching requirements per this grant request and proposed project. Per the resolution, $1,297,000 in Port capital funding and $855,000 in previously awarded Washington State Capital Grant

	funding have been authorized to match potential federal PIDP grant funds.
5. The project will be completed without unreasonable delay.	The project will be completed without unreasonable delay. The Project design is 90% complete and should be 100% by August 2022. For the in-water improvements, ESA consultation with the Services was initiated in May 2021 and the United States Army Corp of Engineers issuance of a Nationwide Permit is pending. The NEPA documentation process is included in the schedule in Figure 15 of this narrative. All other necessary permitting, approvals, final design, and construction will be completed through 2024 to allow PIDP funds to be obligated sufficiently in advance of the statutory deadline (September 30, 2025).
6. The project cannot be easily and efficiently completed without Federal funding or financial assistance available to the project sponsor.	The Port's request of $8.608 million in PIDP grant funding will allow the Port to complete the Project in the most time- and cost-effective manner for the benefit of regional stakeholders and our community. The relative size of this capital project exceeds most capital projects for a small port of the size of Port of Port Angeles. If PIDP or other federal funds are not received, the following consequences are likely: • While the project scope will remain the same, this key safety, efficiency, reliability and resilience project will have to be delayed until funding can be obtained. • Without grant funding, project construction will likely be delayed as other funding opportunities are investigated. • Construction costs will rise due to inflation caused by the delay.

VIII. List of Attachments

Attachment A – The Port of PA Log Yard: A Nexus in the Forest Products Industry

Attachment B – The Intermodal Handling & Transfer Facility: Social and Environmental Benefits

Attachment C – Letters of Support

Attachment D – Policies and Plans to Advance Equity and Opportunity

Attachment E – Port Resolution 22-1258

Attachment F – Project Schedule

The Port of Port Angeles Log Yard: A Nexus in the Forest Products Industry

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August 30, 2018

OLYMPUS CONSULTING

Abstract

This report explores how the Port of Port Angeles Log Yard integrates a complex flow of wood fiber to support economic development associated with the forest products industry. The economic impacts resulting from that integration are estimated in terms of employment and income. Economic sectors analyzed include forest preparation and management, commercial logging, truck and water transport, wood product manufacturing, and activities at the Port Log Yard and Marine Terminal. How those sectors affect the overall economy of Clallam County is explored. The report concludes with a discussion of strategic issues confronting current and future economic development as affected by the Port of Port Angeles Log Yard.

PORT of Port Angeles

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A Foreword from the Port Commission President

The Port of Port Angeles commissioned Olympus Consulting in the spring of 2018 to study the economic impacts of the Port's Log Yard because we needed an objective analysis to help guide our capital investments on the industrial waterfront. The economic effects of the Port's Log Yard throughout the economy of the north Olympic Peninsula are significant. The Port is pleased to share this study with fellow agencies and the community. We feel that the information in this study will also be beneficial in informing the policy decisions of other groups.

The Port is a leader in economic development and has at its core the mission of bringing prosperity to the communities of the north Olympic Peninsula. Our mission statement is: *We bring people, resources and industry together to foster economic prosperity and living wage jobs*. Focusing on living wages jobs is significant. As part of raising the overall well-being of a community, it is important for a local organization to take the lead on focusing on higher paying jobs that have a good multiplier effect to create additional jobs. Higher paying jobs accessible to the average citizen are primarily in manufacturing. Therefore, the Port focuses on industrial development and manufacturing. Other organizations focus on other needs in the community.

The Port will use this analysis to make decisions about current and future resource allocations, infrastructure planning, assessing opportunities in forest products, and providing better service to those who depend on the Port's Log Yard. We also hope it will help readers gain a clearer understanding of how far-reaching the Port's Log Yard impacts are felt, and the complexity and interconnectedness of our local forest products industry. Forest products touch our lives on a daily basis, from the homes we live in to the products we use, from the direct jobs in the forests to the supply chain and indirect services, and from the food we eat and drink that uses wood in its preparation, to the forests, meadows and streams that we recreate in. Wood is a wonderful renewable resource that is subject to conscientious regulation to protect the environment it grows in and to ensure that future generations will also reap the benefits of wood.

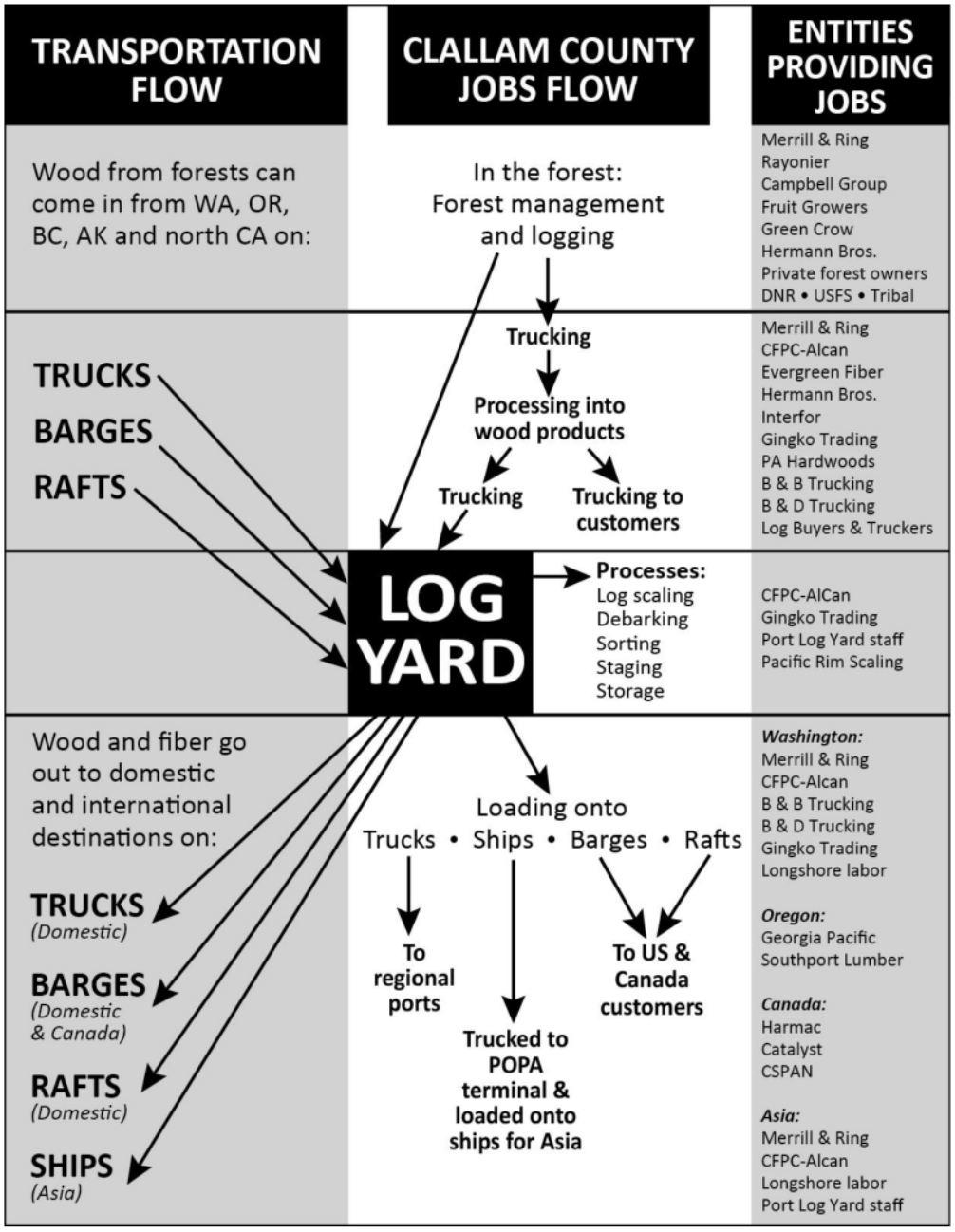
The Port is grateful to Olympus Consulting for the outstanding work it has produced. The data results are invaluable and will prove extremely useful not only to us, but to all those who have an interest in a healthy forest products industry.

Connie Beauvais

Connie Beauvais, Port Commission President

PORT of Port Angeles

Based on Olympus Consulting's study on the Port's Log Yard (August 2018), we now have a better understanding of how the flow of logs from forests in the Pacific Northwest and beyond creates jobs in Clallam County. There are complex, integrated relationships throughout the forest products industry, and changes in one part of the industry will impact jobs in another part of the industry. The Port's log yard and marine terminals are essential to support jobs throughout the entire economy of Clallam County due to their effects on direct, directly dependent, indirect and induced jobs.



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Executive Summary

The Port of Port Angeles (Port) Log Yard (Port Log Yard) is a nexus integrating a complex flow of wood fiber from forests on the North Olympic Peninsula to final markets. The most obvious user is CFPC-Alcan with exports of 33.8 million board feet (MMBF) of saw logs in 2016.[1]

The Port Log Yard integrates a complex flow of wood fiber from forests on the North Olympic Peninsula to final markets.

The flow of wood fiber moving through the Port Log Yard begins in the forest with preparation and management; there is commercial logging and truck transport. Some wood fiber arrives at the Port Log Yard by barge and raft. Wood fiber is scaled, debarked, sorted and stacked for different customers, including Evergreen Forest Industries, Interfor and Port Angeles Hardwood. Wood not exported by water – ship, barge and raft – moves by truck. Wood exported by water also moves by truck. At each stage in these integrated processes expenditures are made by the enterprises involved supporting employment and creating income. These are the economic impacts analyzed in this report.

Table ES1 presents direct economic impacts derived from the flow of wood fiber described above in terms of full time equivalent workers (FTE), the average monthly wage (Average), a living wage premium (LWP), the difference between a monthly wage and that necessary to support a family of 4 with 2 adults, one working, and monthly proprietor gross income (Monthly PI).

Direct jobs from wood flowing into the log yard include forest preparation and management, commercial logging, truck transport, scaling, debarking, sorting and stacking, movement by truck through the Port Log Yard, and loading of ships, barges and rafts.

The direct impact includes forest preparation and management, commercial logging, truck transport, scaling, debarking, sorting and stacking, movement by truck through the Port Log Yard, and loading of ships, barges and rafts. For the study year 2016 the direct economic impacts of the Port Log Yard was 81.4 FTE at an average monthly wage of $4,990 with LWP = $1,003; monthly proprietor gross income were $1,038,913. The indirect economic impacts – those caused by expenditures in the supply chain – were 19.1 FTE at an average monthly wage of $2,339 with LWP = -$1,648; monthly proprietor gross income was $42,785. Those directly

[1] Merrill and Ring does not use the Port Log Yard in its operations, and is not included in the main body of this report. Its economic impacts are included in Appendix B, The Total Economic Impacts of the Forest Products Industry.

and indirectly employed made expenditures in the economy of Clallam County creating induced impacts of 80.2 FTE at an average monthly wage of $1,833 with LWP = -$2,154; monthly proprietor gross income was $34,443. These sum to 180.7 FTE with an average wage of $3,308 with LWP = -$679 and monthly proprietor gross income of $1,116,140. This does not include the direct impacts of local wood product manufacturers.

Impact Type	FTE	Average	LWP	Monthly PI
Direct	81.4	$4,990	$1,003	$1,038,913
Indirect	19.1	$2,339	-$1,648	$42,785
Induced	80.2	$1,833	-$2,154	$34,443
Total	**180.7**	**$3,308**	-$679	**$1,116,140**

Table ES1: The direct economic impacts of the Port Log Yard.

The direct economic impacts of the Port Log Yard extend beyond the flows analyzed above. Primary flows result from imported wood by water to support operations. Local wood product manufacturers obtain some of the wood they process as ancillary flows from water export activities, or as primary flows from water import activities. Ancillary flows consisting of wood fiber not meeting export requirements is sent to different customers and markets, either from the Port Log Yard or in the process of sorting logs in the forest that is trucked to different customers. Thus, *those businesses are directly dependent upon the flow of wood moving through the Port Log Yard*. The primary businesses affected are Evergreen, a subsidiary of Hermann Brothers, Interfor, and Port Angeles Hardwoods, a subsidiary of Cascadia Hardwood Group. The impacts of directly dependent economic effects are summarized in Table ES2. The flow of wood fiber analyzed in this report supports 48 FTE directly associated with Evergreen, 125 FTE at Interfor, and 83 FTE at Port Angeles Hardwoods. The indirect employment impact in the supply chain is 22.4 FTE, 98.1 FTE, and 65.1 FTE respectively. The resulting induced impacts from those directly and indirectly employed are 38.7 FTE, 69 FTE, and 45.8 FTE respectively. The total employment impact for each business – sum of direct, indirect and induced employment – upon the economy of Clallam County is 109.1 FTE, 292.1 FTE, and 193.9 FTE respectively. The grand total employment impacts are 256 direct FTE, 185.6 indirect FTE and 153.5 induced FTE. Thus, the total directly dependent employment effect of the Port Log Yard is 595.1 FTE as accounted for by the operations of Evergreen, Interfor, and Port Angeles Hardwoods, the primary local wood product manufacturers.

Directly Dependent Businesses	Direct	Indirect	Induced	Total
Evergreen	48	22.4	38.7	109.1
Interfor	125	98.1	69	292.1
Port Angeles Hardwoods	83	65.1	45.8	193.9
Grand Total FTE	**256**	**185.6**	**153.5**	**595.1**

Table ES2: The employment impacts of businesses directly dependent on the Port Log Yard.

Total employment is 256 direct FTE, 185.6 indirect and 153.5 induced FTE . . . the total direct employment effect of the Port Log Yard is 595.1 FTE as accounted for by the . . . primary wood product manufacturers in Clallam County.

Not included in Table ES2, are the impacts on Port Townsend Paper Company. Trees harvested from peninsula forests are segmented for different uses. Approximately 45 percent of a tree is for saw logs, 43 percent for wood chips, and 12 percent for hog fuel (tree bark). Every MMBF of logs moving onto the Log Yard is matched by 0.96 million board feet (MMBF) moving to Evergreen for wood chip production, and 0.27 MMBF as hog fuel. That flow of wood fiber is critical to the operations of Port Townsend Paper Company. Approximately 80 percent of the wood chips and hog fuel used by Port Townsend Paper Company come from Evergreen. With 300 FTE at an average monthly wage of $5,833 with LWP = $1,846, Port Townsend Paper Company is a major employer on the North Olympic Peninsula that directly depends on the flow of wood fiber moving through the Port Log Yard.

Overview

The Port of Port Angeles (Port) contracted Olympus Consulting (Olympus) to investigate the strategic role of the Port Log Yard in supporting the forest product industry in Clallam County. Towards that general objective four research questions were formulated.

(1) How much wood fiber moves through the Port's Log Yard?
(2) What businesses make use of that flow of wood fiber?
(3) What are the economic impacts of those businesses in term of employment and income?
(4) How might the Port Log Yard be used to stimulate economic development?

Towards that objective, Olympus conducted numerous interviews with professionals representing land management firms, commercial logging, wood product manufacturing, land and water transport, domestic and international wood fiber imports and exports, and investment capital.[2] The individuals interviewed and the organizations of which they are a part face competitive conditions. Values used for estimates were obtained from those interviews, Port records, various data bases and previous studies. The information interviewees shared at least partly reflects their strategic position and interests.

Olympus has endeavored to use that information in an objective fashion to analyze the strategic role of the Port Log Yard to create a quantitative approximation of actual physical and economic relationships between various businesses, their interconnections, and resulting economic impacts. While the overarching goals were broad, the analytical scope was tightly focused. Information provided in those interviews, and that available from public data sources was used to construct a regional economic impact model using IMPLAN.[3]

The estimated economic impacts for Clallam County can facilitate an understanding of the interconnections between industries in the local economy that depend on the forest products industry and support from the Port Log Yard.

The estimated economic impacts for Clallam County as approximations can inform development of a qualitative understanding of the interconnections between industries in the local economy as dependent on the forest products industry and supported by the Port Log Yard. While employment and income estimates are approximations, values are large and any small error will be insignificant to overall economic impacts presented. Thus, decision makers can gauge likely effects of the Port Log Yard on the economy using the results in this study. This report will help interested parties understand how the Port's Log Yard directly supports current

[2] Bill Hermann and Mike Hermann, Hermann Brothers; Ron Hurn and Michelle Pettit, Port Angeles Hardwoods; Norm Schaff, Merrill and Ring; Heather Buckmaster and Riley Fogarty, Merrill & Ring Timber & Land Trust; Grant Munro, Munro LLC; Travis Bear, B&D Trucking; Rich Runkel, SSA Marine; Roger Redifer, ALCAN-China Forest Products; Paul Bialkowsky, Interfor; Emily Browning and Chris Browning, B&B Trucking; Don Covington, Green Crow; Eric Haller, NW LOG-ISTICS; Bart Hollen, Ginkgo Trading; Tyler Kruzfeldt, Monta Vista Capital. Information was also obtained from Port staff: John Nutter, Mike Nimo, Dan Shae and Debbie Roebuck.

[3] Data employed is explained in Appendix C, Data and Methodology.

operations in the forest products industry in terms of employment and income, and how those operations support the broader economic community. This report also explores the potential strategic role of the Port Log Yard in creating future opportunities and synergies to develop sustainable energy and material industries that can provide living wage jobs for local families.

The Port of Port Angeles Log Yard as a Nexus for Forest Products

The Port of Port Angeles (Port) Log Yard integrates a complex flow of wood fiber products through a number of sectors comprising the forest products industry.

The Port of Port Angeles (Port) Log Yard integrates a complex flow of wood fiber products through a number of sectors comprising the forest products industry. The flow of wood fiber between various economic sectors and businesses is illustrated in figure 1 where the Port Log Yard is the nexus of those interrelationships.

Wood fiber moving into the Port Log Yard comes from harvests in Clallam and Jefferson Counties, and wood imported by barge or raft.

Wood fiber moving into the Port Log Yard (indicated by directional arrows) comes from two primary directions: harvests from Clallam and Jefferson Counties and wood imported by barge or raft.[4,5] Wood imported by water comes primarily from Vancouver Island and Southern Alaska. The economic sectors accounting for the timber harvests include forest preparation and management, commercial logging, and truck transport. It is to be emphasized that the majority of those harvests, including harvests from public lands, move directly to wood product manufacturers: Evergreen, Ginkgo, Interfor and Port Angeles Hardwoods (PA HW). Each of those wood product manufacturers sends their products to final markets primarily by truck. Ginkgo moves wood chips produced at the Eclipse Industrial Park by truck to the Port Log Yard and then onto sea going vessels by conveyor.[6]

Wood from peninsula harvests is scaled and debarked at the Port Log Yard.

Wood transported from peninsula harvests is scaled and debarked at the Port Log Yard. Debarking creates hog fuel, a renewable energy resource – bioenergy – that is trucked to final customers.[7] The majority of that wood fiber, in the form of saw logs, is exported to international markets (indicated by directional arrow) by way of the Port Marine Terminal. Wood fiber not meeting international export requirements is sold and moved by truck to

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[4] Wood fiber could also be imported by ship, though current market conditions and the structure of the forest products industry are not favorable for this sourcing. However, wood fiber markets are dynamic and international in scope and wood fiber will flow to take advantage of differential prices and opportunities in final wood products.

[5] The wood coming from Clallam and Jefferson Counties would be from private lands. That said, scenarios do exist under which a log could be harvested from public lands and sent to the Port Log Yard for sorting and transport to a domestic saw mill.

[6] Port Townsend Paper Company, which is not located in Clallam County, is present in the illustration because it plays a key role in the discussion of strategic issues and as a major destination for Evergreen products.

[7] Ginkgo is exploring the feasibility of exporting hog fuels and other forest bioenergy to international markets.

Evergreen, Interfor and PAHW. Green Crow acquires and accumulates miscellaneous logs trucked to final customers. Some wood fiber moving through the Port Log Yard is exported by water to domestic markets: Southport Lumber, Sierra Pacific, and Georgia Pacific. Lastly, wood chip exports are an emergent market with a recent sale to Nanaimo.

Some of the wood fiber moving through the Port Log Yard is exported by water to domestic markets. The flow of wood into the Port Log Yard begins in forests.

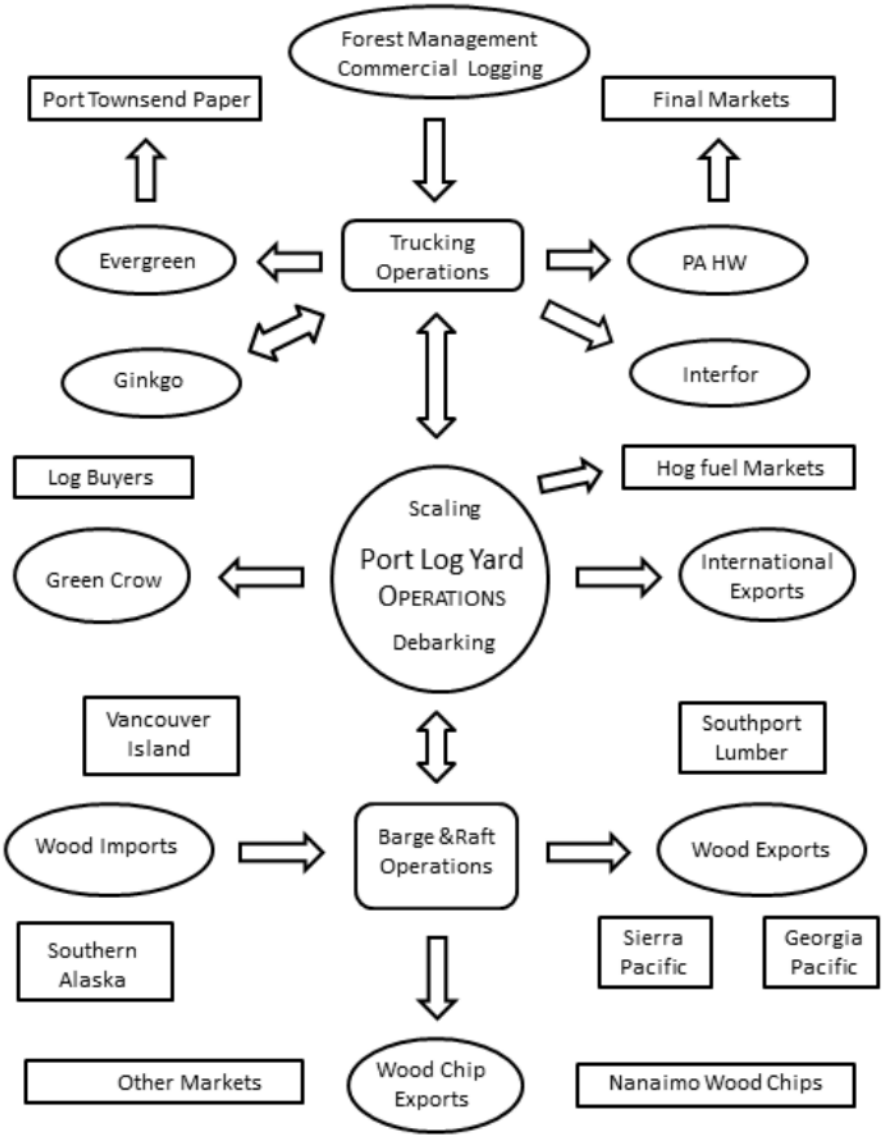

Figure 1: The Port of Port Angeles as a nexus for the forest products industry.

Figure 1 makes clear that the flow of wood fiber through the Port Log Yard begins in the forest, be those forests on the peninsula or elsewhere. Trucks are integral to the flow of that fiber, either directly to wood product manufacturers, indirectly to wood product manufactures by way of the Port Log Yard, and to final customers.

Wood fiber is sorted for various markets: saw logs, for domestic or international use; chip and saw, and pulp logs used for renewable material resources.

Wood fiber is sorted for various markets: saw logs for domestic or international use; chip and saw, and pulp logs used in markets for renewable material resources. Bark (hog fuel) and harvest slash constitute fourth and fifth products used as bioenergy. Thus, a tree is apportioned to final users who constitute three different yet related markets for sustainable materials; by-products of those materials move to markets for sustainable bioenergy.

The sections that follow explore the *direct effects* of those flows. All wood fiber moving to and from the Port Log Yard constitutes a direct employment effect. The economic impacts of these direct employment effects begin in the forest and include forest preparation and management, commercial logging and truck transport of wood fiber to the Port Log Yard.[8]

All wood fiber moving to and from the Port Log Yard constitutes a direct employment effect.

Direct effects also include activities associated with moving wood through the Port Log Yard facilities, from scaling to sorting and stacking. Lastly, direct effects include movement out of the Port Log Yard for local wood product manufacturing or export, be it by water transport or truck transport. While these are the direct effects associated with the Port Log Yard, there are also *directly dependent employment effects* that are analyzed. Wood fiber imported through the Port Log yard by barge or raft transport is utilized by local wood product manufacturers. Those imports are a source of wood fiber in addition to harvests from private and public lands on the North Olympic Peninsula.

Wood fiber imported through the Port Log yard by barge or raft transport is used by local wood product manufacturers.

Some of that imported wood fiber moves toward domestic or international export after processing. Some of that processing occurs at the Port Log Yard; the remainder of the processing is done off-site by local businesses. In addition, some wood harvested from the peninsula moves through the Port Log Yard for scaling, sorting and stacking until sufficient quantities are accumulated for use by local wood product manufacturers, or transported by water or truck to more distant markets. The economic impacts of those wood product manufacturers are therefore included in this report as *directly dependent employment effects*.[9]

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[8] This assumption, which best captures the linkage between forest activities and the Port Log Yard – the overarching objective of this report – does not affect total FTE estimates. Only their distribution is affected, appearing as direct effects and not in the supply chain as indirect effects. Similarly, the impact on the overall economy through induced effects is not altered.

[9] There is no absolute objective basis from which to determine the extent to which operations of a local wood product manufacturer is directly dependent upon flows of wood fiber moving through the Port Log Yard. If a local mill obtains 10 percent of its wood from barge imports, does that mean only 10 percent of its payroll depends on those imports? The answer is no. It is often the case that the net increment in wood fiber is the difference between profitability and insolvency. The issue of net increments will be explored in the report's conclusion.

Exploration of Direct Employment Effects

THE FLOW OF WOOD FIBER INTO THE PORT LOG YARD

Wood harvested from private lands in Clallam and Jefferson counties, 201.4 MMBF in 2016,[10] moves by truck for scaling at four locations: the Pacific Rim Scale on Highway 101, Interfor, Port Angeles Hardwoods and the Port Log Yard. In 2016, 43.6 MMBF of that private timber was trucked to the Port Log Yard for scaling, debarking, sorting and stacking.[11] The employment in forest preparation and commercial logging required to provide that flow of 43.6 MMBF consisted of 4 FTE and 51 FTE respectively.[12],[13]

In 2016, 43.6 of 201.4 MMBF of private timber was trucked to the Port Log Yard for scaling, debarking, sorting and stacking.

In addition, wood was barged and rafted to the Port Log Yard. In 2016, approximately 3.8 MMBF were imported by CFPC-Alcan for sale to Port Townsend Paper, and another 2.1 MMBF for international export. Port Angeles Hardwood rafted in 3 MMBF for local operations. Another 6 MMBF was imported by raft for various customers. In sum, for the year 2016, approximately 58.5 MMBF of timber moved through the Port Log Yard: 43.6 MMBF by truck and 14.9 MMBF by water creating direct and directly dependent employment effects.[14]

Imported wood, as saw logs or pulp logs, comes primarily from Vancouver Island and Southern Alaska by barge or raft.

Imported wood, as saw logs or pulp logs, comes primarily from Vancouver Island and Southern Alaska by barge or raft. The primary destinations for wood imported by barge and

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[10]Daniel Underwood and Jason Cross, *The Economic Impacts of Private Timber Harvests: An Exploratory Investigation of Harvests, Exports, Employment, Income and Tax Remittances*, December 2017. Published by the Port of Port Angeles.

[11] Source, correspondence with Pacific Rim Scaling.

[12]Daniel Underwood and Jason Cross, *The Economic Impacts of Private Timber Harvests: An Exploratory Investigation of Harvests, Exports, Employment, Income and Tax Remittances*, December 2017. Published by the Port of Port Angeles. These FTEs in forest preparation would be employed in Clallam and Jefferson counties, as the 43.6 MMBF of timber was sourced from those destinations.

[13] Employment is defined as all wage and salaried employees who would be reported to the Washington Employment Security Department. An FTE is, in general, an individual working 2080 hours per year. Not all FTEs in this report meet that requirement. There is some seasonality in economic sectors. Forest preparation is one example. However, with that exception, all other FTEs reported in the forest products industry satisfy that threshold, or come close. Other sectors analyzed, in the supply chain and service economy, tend to exhibit seasonality in employment and part time employment. Thus, the total number of people employed would be greater than the report FTE.

[14] Two interviews were conducted with Port staff to determine volumes of wood fiber moving into the Port Log Yard by barge and raft. Estimating total wood fiber for a calendar year is problematic given there are differences between the accounting processes used and the timing of wood flows. Accordingly, these volumes must be regarded as rough approximations. While the quantitative values are approximations, the qualitative strategic ramifications of those flows will remain the same. Barge and raft are used to import additional wood fiber in a tight local market.

raft are local mills, domestic exports, and international exports. NW LOG-istics provides services for log acquisition, transport and distribution to domestic markets, including Southport Lumber, Georgia Pacific and Sierra Pacific in the USA. At present, CFPC-Alcan is an international customer.[15]

THE FLOW OF WOOD FIBER THROUGH THE PORT LOG YARD

The primary buyers of wood fiber moving through the Port Log Yard are CFPC-Alcan, Port Angeles Hardwoods, NW LOG-ISTICS, Interfor and Green Crow. Munro LLC contracts and manages many private timber sales in this flow.[16]

The primary buyers of wood fiber moving through the Port Log Yard are CFPC-Alcan, Port Angeles Hardwoods, NW LOG-ISTICS, Interfor and Green Crow.

The scaling facility at the Port Log Yard employs 2 FTE. Wood moving directly to the Port Log Yard is de-barked by a machine owned by CFPC-Alcan, which is managed by B&B Trucking.[17] Debarking operations employ 4 FTE. Logs are then sorted and stacked, activities supported by Port Log Yard personnel, consisting of 7 FTE at the Port Log Yard and 1 FTE in support staff.[18] Logs not meeting export requirements, but of sufficient dimensions for milling, can be sold to Interfor.[19] Green Crow buys miscellaneous logs that are sorted and stacked to meet the needs of various customers, including Interfor and Bussey in Everett.[20] Of the 1.5 to 2 MMBF purchased by Green Crow annually, approximately 65 percent come from nonindustrial private forest lands (NIFL) on the peninsula.[21] While Green Crow's relative acquisitions are small (about 3 percent of the total volume moving through the Port Log Yard), it plays an important functional role integrating NIFL owners and local log buyers by accumulating sufficient volumes to complete a transaction, an activity which helps to increase wood fiber volumes to local wood product manufacturers and to allow small scale NIFL owners to access these markets.[22]

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[15] NW LOG-ISTICS uses the Port Log Yard for sorting and stacking, and then exporting to customers primarily by water. Some of those logs go to Alcan-China Forest Products. An interview with Eric Haller did not result in isolation of specific numerical values of timber flows to estimate economic impacts. That interview did provide qualitative information used in this report about economic interrelationships between entities as integrated through the Port Log Yard and for strategic issues.

[16] Interview, Grant Munro, Munro LLC.

[17] Chris Browning, B&B Trucking.

[18] John Nutter, Port of Port Angeles. Support staff includes office and grounds security. While formal job assignments, overtime, and necessary shifting of job responsibilities make this FTE estimate problematic, all estimates are within 1 FTE..

[19] Interfor buys and mills logs 19 inches or less in diameter. Interview, Paul Bialkowsky, Interfor.

[20] It is interesting to note from multiple independent interviews that all wood fiber removed from the forest is used: milled into lumber, chipped into pulp, debarked to produce energy, and firewood to heat homes. At present, slash piles remain in the forest for incineration could be used for bioenergy.

[21] Don Covington, Green Grow.

[22] NIFL might serve as a source of increased private harvests from the peninsula. Grant Munro, Munro LLC.

INTERNATIONAL EXPORTS

CFPC-Alcan and Merrill and Ring are the two primary international exporters of wood fiber – saw logs – from the Port of Port Angeles. In 2016, combined, they exported 84.1 MMBF of timber by ship through the Port of Port Angeles Marine Terminal: 50.4 MMBF by Merrill and Ring and 33.8 MMBF by CFPC-Alcan. As Merrill and Ring does not use the Port Log Yard, those activities are not analyzed in this report.[23] Merrill and Ring does, however, make use of the Port's Marine Terminal and the Airport Industrial Park.[24]

Before logs sorted and stacked at the Port Log Yard can be loaded onto ships for international export by CFPC-Alcan, Port Log Yard staff use Wagners to load log trucks dispatched by B&B Trucking.[25] It takes 22 trucks operating 8.5 hours for 8 to 9 days to move sufficient logs to load a shipment of 7 MMBF, or 1,590 driving hours per ship. As CFPC-Alcan exported approximately five 7MMBF ships in 2016, a total of 7,950 driving hours were required. This translated into 3.8 FTE log truck drivers.[26,27]

Hog fuel (tree bark) is a significant by-product of the process whereby logs transported to the Port Log Yard are processed for export.

Hog fuel (tree bark) is a significant by-product of the process whereby logs transported to the Port Log Yard are processed for export. As discussed above, the de-barking operations managed by B&B Trucking employ 4 FTE. Hog fuel is an energy feedstock used in paper production.[28] Port Townsend Paper and Brady in Shelton are the primary customers for CFPC-Alcan's hog fuel. Under the current form of organization for log movement by truck from peninsula forests, approximately 3 loads of hog fuel per day move from the Port Log Yard, primarily to Port Townsend Paper Company, which supports 1 FTE truck driver.[29] Local feedstocks – wood chips and hog fuel – support the local economy from the forest to local users while minimizing travel distance, and have been estimated as direct employment effects. It does not include the number of proprietors.

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[23] The total economic impacts associated with international exports through the Port's Marine Terminal can be found in Daniel Underwood and Jason Cross, *The Economic Impacts of Private Timber Harvests: An Exploratory Investigation of Harvests, Exports, Employment, Income and Tax Remittances*, December 2017. Published by the Port of Port Angeles. 16.4 FTE are supported in ship side operations as longshore men. Those exports supported 106 FTE in forestry and logging and an additional 30.6 FTE in the supply chain. 117.1 FTE are supported in the broader economy.

[24] Those economic impacts appear in Appendix B.

[25] Emily Browning, B&B Trucking. These FTE estimates correspond to those for B&D Trucking when moving similar volumes. Interview, Travis Bear, B&D Trucking.

[26] The log trucks utilized in this process are owned by a variety of companies, including B&D Trucking, Hermann Brothers, and Swanson Trucking.

[27] The total number of truck drivers needed to move logs to the Marine Terminal for twelve 7 MMBF ships (84.1 MMBF exported in 2016) is 9.2 FTE. That total is the sum of exports by Alcan-China Forest Products and M&R.

[28] It was also used by NIPPON Paper to generate electricity and steam for operations.

[29] Chris Browning, B&B Trucking.

SUMMARY OF DIRECT EMPLOYMENT EFFECTS

Table 1 summarizes total direct employment effects resulting from the flow of wood fiber from the forests of the North Olympic Peninsula through the Port Log Yard as illustrated in Figure 1. The corresponding NAICS codes are listed at the 3 digit level.[30] Employment effects are presented as FTE, or full time equivalent employees: individuals working 40 hours a week for 52 weeks. Table 1 reveals 2 FTE for scaling and 4 FTE for de-barking. 1 FTE is employed trucking hog fuel. The Port Log Yard Crew consists of 7 FTE plus 1 FTE in support staff, or 8 FTE. Green Crow has 1 FTE working at the Port Log Yard. Ship loading employs 3.8 FTE driving log trucks and 6.6 in shipside operations. Not included is Roger Redifer, CFPC-Alcan ; Grant Munro, Munro LLP; and Eric Haller, NW LOG-ISTICS. Each has a small office staff assisting their operations.[31]

NAICS	Economic Activity	FTEs
115	Forest Preparation	4
113	Commercial Logging	51
113	Log Scaling	2
113	De-barking	4
113	Green Crow Log Buyer	1
113	Port Log Yard Crew	8
113	Trucking of Logs at Log Yard	3.8
4883	Shipside Operations	6.6
113	Trucking of Hog Fuel	1
Total Direct Employment		**81.4**

Table 1: Total direct employment effects from Port Log Yard operations in 2016.

The direct employment effects discussed above do not include the economic impacts from Ginkgo Trading (Ginkgo), as Ginkgo was not operating in 2016, the study period. However, it is an emergent and potentially growing operation with real economic impacts. At present, Ginkgo is in negotiations with numerous international buyers of wood chips and biomass energy fuels.[32] Projected annual sales are for twelve 2,300 ton barges, four ships transporting 45,000 tons of wood chips, and four 45,000 ton shiploads of biomass energy. Table 2 presents the direct employment effect of 10.5 FTE associated with a single 45,000 ton shipload of wood chips exported in January of 2018.[33] As seen in previous export analysis

[30] NAICS – North American Industrial Classification System is used to organized economic data into specific sectors. 3 digit NAICS codes are translated into IMPLAN code for impact analysis, explained in Appendix C.

[31] Given the nature of the estimation in IMPLAN, it is likely that some of the economic impacts directly associated with the activities of Redifer, Munro and Haller may appear as proprietor income and FTE as indirect effects.

[32] Bart Nollen, Ginkgo Trading.

[33] Insufficient information exists at present to estimate the direct employment effects for biomass energy exports. As those exports will utilize wood waste products, they may not directly contribute to employment in forestry preparation or commercial logging. While not requiring chipping, harvest waste is chopped into fuel form in the

conducted by Olympus, the majority of employment impacts are in the forest, or 8.3 FTEs in forest preparation and commercial logging, to provide enough forest fiber for a single shipload. In addition to the FTE in forest preparation and commercial logging reported in Table 2, 0.1 and 1.1 proprietors are supported in those respective sectors. 2.2 FTEs are directly supported in wood chip manufacture and loading operations. If Ginkgo's projected sales are achieved, the total direct employment effect of chip exports will be 4.6 times greater than the values presented in table 2, or 48.3 FTE.[34]

It is critical to keep in mind the estimated employment impact of 48.3 FTE assumes an increased in the availability of wood fiber for chip production.

It is critical to keep in mind *the estimated employment impact of 48.3 FTE assumes an increased in the availability of wood fiber for chip production*. The 48.3 FTE can only represent a net increase in employment provided there are no negative impacts with other businesses utilizing the flow of wood fiber as analyzed in this report. Similarly, it assumes the current organizational structure to produce and move wood chips remains constant. If Ginkgo's use of wood fiber decreases fiber used elsewhere, a net reduction in FTE may result. This topic is rejoined in the discussion of strategic issues.

NAICS	Economic Activity	FTEs
115	Forest Preparation	0.7
113	Commercial Logging	7.6
321	Chipping	0.9
113	Chip Transport by Truck	0.7
4883	Shipside Operations	0.5
113	B&D Operations	0.1
Total Direct Employment		**10.5**

Table 2: Total annualized direct employment effects for a 45,000 ton shipload of wood chips exported by Ginkgo Trading from the Port of Port Angeles.

field before loading onto trucks. However, the employment estimates in Table 2 for other operations – trucking and loading – should be similar.

[34] This expansion factor assumes FTEs are allocated on a per ton basis independent of transport mode. While this is not true, ship export accounts for 87 percent of the total tonnage. Thus, this assumption is a close approximation of expected outcomes.

Directly Dependent Employment Effects

In this report *a business is said to be directly dependent on the Port Log Yard if a portion of the wood fiber it buys and/or sells move through the Port Log Yard*. At least three wood product manufacturers receive a portion of the wood fiber they process from the Port Log Yard and meet this definition: Evergreen Forest Industries (Evergreen), Interfor and Port Angeles Hardwoods.[35]

In this report a business is said to be directly dependent on the Port Log Yard if a portion of the wood fiber it buys and/or sells move through the Port Log Yard.

Figure 1 illustrates this directly dependent relationship with the Port Log Yard. While the majority of the wood fiber manufactured by these enterprises is harvested from private and public forests on the North Olympic Peninsula, a portion is imported by barge and/or raft for wood product manufacturing. In addition, the Port Log Yard serves as the interface for water borne exports for some of their products, with emergent markets in Canada and China for wood chips.[36] Lastly is the interface with Evergreen. Trees harvested in the forest are portioned into saw logs, chip and saw, and pulp logs, illustrated in Figure 2. In addition, bark, renewable bioenergy, is the feedstock for hog fuel. By volume, approximately 45 percent of a tree is a saw log, 43 percent chip and saw and pulp log, and 12 percent hog fuel.[37] Thus, a log moving through the Port Log Yard for export has a directly dependent component that moves to Evergreen for debarking, chipping, and transport to customers, even if that wood fiber does not physically move through the Port Log Yard.

Wood fiber flow is complex and interconnections between economic entities is not readily apparent.

This discussion emphasizes that the wood fiber flow is complex and interconnections between economic entities is not readily apparent. Trees are apportioned in the forest for different markets (Figure 2). Thus, a log transported to the Port Log Yard for export by CFPC-Alcan is directly associated with the remainder of the tree which is transported to different customers to be processed for different markets. In this case Evergreen debarks and chips the non-export portion of the log and transports it to a final customer, mostly Port Townsend Paper Company, as wood chips and hog fuel.

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[35] Ginkgo may also receive a portion of the wood fiber they process. However, the economic impacts of Ginkgo's operations are examined under direct employment effects as they are an international export operation that utilizes the Port for transport.

[36] In January Ginkgo exported its first barge load of wood chips to Nanaimo, Canada. The feasibility of developing international markets for hog fuel is also under exploration.

[37] Bill Hermann, Hermann Brothers.

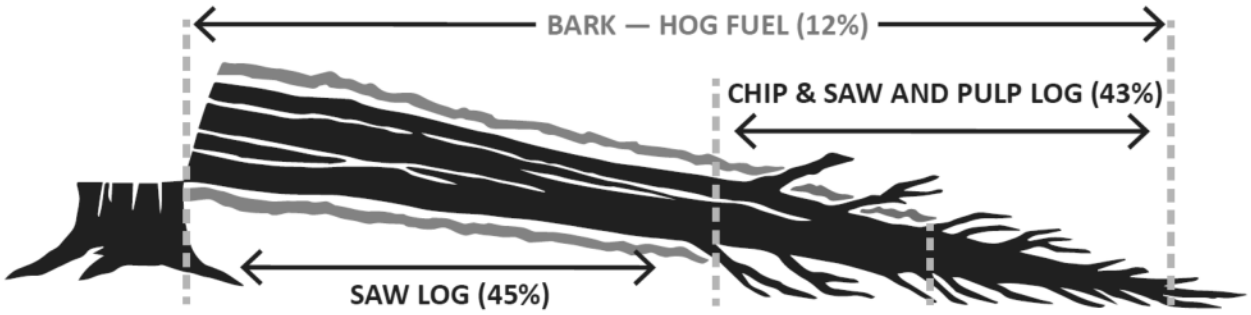

Figure 2: Segmentation of a tree by market.[38]

THE FLOW OF FIBER TO WOOD PRODUCT MANUFACTURERS

Evergreen is the largest producer of wood chips and hog fuel in Clallam County and provides most of the feedstock used by Port Townsend Paper Company.[39] Hermann Brothers, of which Evergreen is a subsidiary, has developed a complex and extensive market system for its trucking fleet, with customers ranging from northern Oregon, to western Montana and Utah. Evergreen receives most of the wood it processes directly from harvesting operations on the peninsula when trees are sorted as saw logs, chip and saw, and pulp logs.

Evergreen is the largest producer of wood chips and hog fuel in Clallam County and provides most of the feedstock used by Port Townsend Paper Company.

Wood imported by CFPC-Alcan is another source of wood fiber for Evergreen. Log sections not meeting CFPC-Alcan export requirements can move to Evergreen as pulp and chip and saw logs. Those materials too are a source of wood chips used by Port Townsend Paper Company. Logs meeting milling dimensions for Interfor are trucked to that destination when acquired on the market. The sources of those logs are both private and public harvests from the peninsula, and wood imported by barge or raft.[40] At present, Port Townsend Paper Company is the largest buyer for wood chips produced by Evergreen, and receives from 35 to 60 truckloads per day. About 4 loads of hog fuel are shipped daily. Chipping operations at Evergreen employ 6 FTE. However, individuals operating the chipper are a small component of the total operations, as the bulk of employment move wood fiber to Evergreen and then chips to customers by truck. Shipment of wood chips and hog fuel to Port Townsend Paper Company employs approximately 21 FTE annually, 6 operating the chipper and 15 in trucking.[41] It is to be emphasized that the majority of FTE in wood chips are in transport, not direct manufacture.

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[38]Mike Nimmo, Port of Port Angeles; Bill Hermann, Hermann Brothers. Illustration, Laurel Black Designs.

[39] It was also a primary supplier of hog fuel and wood chips to Nippon Paper. Evergreen will likely play an important role providing raw materials to McKinley Paper should it commence operations.

[40] At present, Interfor receives little wood fiber by water import. However, as discussed previously, Interfor has an expressed interest in utilizing this method of transport provided technical issues associated with water contact can be resolved. This topic is rejoined in the discussion of strategic issues.

[41] A value of 40 truckloads of wood chips was used at 3 trips per day, plus 4 loads of hog fuel for approximately 15 FTE in trucking. Actual FTE can be much larger. Analyzing the multifarious ways Evergreen interfaces with the Port Log Yard was exceptionally complex.

These numbers do not contain other related activities at Evergreen (Hermann Brothers) which keep that flow of wood chips and hog fuel moving, and therefore capture but a portion of the directly dependent employment effect, explored in more detail below and in Appendix C.[42]

Interfor obtains wood fiber primarily from public and private lands in Clallam and Jefferson counties.

Interfor obtains wood fiber primarily from public and private lands in Clallam and Jefferson counties. Interfor uses approximately 100 MMBF annually to support two operational shifts that employ approximately 125 FTE. At present, between one third and one half of the wood volume comes from private lands, the remainder from public lands. Interfor does make use of import/export facilities at the Port Log Yard, as a source of logs, and as an export venue for its wood chips.[43] At present, Interfor has markets for increased production. However, insufficient timber supply prevents increasing production to access additional markets; thus employment and income in Clallam County could be greater with increases in harvests from peninsula forests, and especially harvests from public lands. The only other source for increased wood fiber would be imports barged in.[44] At present, the form of barging operations limits cost effective imports at large scale.[45] Needed is a cost effective way to bundle loads of logs so that they can be off loaded without contact with sea water. This is an economic constraint – an opportunity – that, if solved, can increase economic development in Clallam County.

Port Angeles Hardwoods is a third major milling operation in Clallam County, employing 83 FTE to process red alder, black cottonwood and big leaf maple.

Port Angeles Hardwoods (PAHW in figure 1) is a third major milling operation in Clallam County, employing 83 FTE to process approximately 27-30 MMBF of red alder, black cottonwood and big leaf maple annually. Of that total, approximately 10-15 percent moves through the Port Log Yard, imported by barge or raft from markets in Southern Alaska and Vancouver Island. Finished lumber from Port Angeles Hardwoods moves by truck to markets throughout the United States, where it is used in the production of furniture.

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[42] It is critical to keep in mind the difference between partial and general analysis. While a part of an operation may not seem important, the financial viability of an entire organization likely depends on it. Furthermore, a shutdown of one business can cause shut downs elsewhere given the highly integrated structure of the forest product industry in Clallam County. Daniel A. Underwood, Dan Friesner and Jason Cross, "Towards an Institutional Legitimation of Sustainability, *Journal of Economic Issues* (December 2015): 112-1123; Daniel A. Underwood and Jason Cross, *Analysis of the Wild Olympic Wilderness and Wild and Scenic Rivers Acts of 2012: Economic Impacts and Opportunities*, published by the Port of Port Angeles, November, 2012.

[43] Interfor is experimenting with quality control of the size and shape of wood chips from milling for exports to paper mills. Paul Bialkowsky, Interfor.

[44] At present, rafting has been an unsuccessful method of importing timber for Interfor as the wood is in contact with salt water which impairs milling operations and contaminates bark as a source for hog fuel.

[45] Interviews indicated a strong belief that increased harvests from Vancouver Island could provide a cost effective source of imports. Those increased harvests should be the result of second growth forests reaching maturity in the near future. A critical issue is avoidance of wood contact with salt water and/or methods of treating and/or using salt water contaminated wood.

Emergent from this discussion is that the Port Log Yard is the nexus for a complex set of interrelationships between a multitude of economic entities from a wide range of economic sectors. The Port manages that nexus, employing 7 FTE at the Log Yard and 1 additional FTE in support staff.[46] These individuals work in a variety of occupations, ranging from operating log handling equipment to managing barge and ship operations. Wood flows to and from Clallam County through this nexus of operations. While most of the private wood harvested from the peninsula is milled locally, 42 percent is exported.[47] Exports increase total wood demand, putting upward pressure on price. While higher prices can squeeze margins for local firms, those higher prices increase the total tax revenues going to local governments, both as tax remittances from timber sales from Trust Lands and from excise taxes imposed on all harvests. Excise taxes from private lands in 2016 totaled $1.4 million, approximately $150,000 of which was due to increased price of timber associated with log exports.[48]

Economic Impact Analysis

The conceptual model developed in the previous section and illustrated in figure 1 presents the Port Log Yard as a nexus integrating a variety of economic sectors. A regional model was created using IMPLAN to analyze two related forms of impacts: direct employment effects and directly dependent employment effect as explained above. The *direct effects* are the focal point of this study and analyze wood fiber moving into the Port Log Yard where they are processed and then exit as final products.[49] Accordingly, the regional model begins in the forest with forest preparation, and moves forward as commercial logging, scaling, debarking, sorting and stacking at the Port Log Yard, and then handling for export, and appear as direct impacts. Thus, those direct effects include employment and income from activities in the forest, activities that would generally appear in the supply chain for a wood product manufacturer.[50] Other economic impacts in the supply chain – from wholesaling to management of companies – are estimated as *indirect impacts*. Those directly and indirectly employed make expenditures in the economy of Clallam County, supporting a wide array of business sectors. Those expenditures create *induced impacts*.[51]

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[46] The number of FTE working at the Port Log Yard has increased to 8.

[47] Daniel A. Underwood and Jason Cross, *The Economic Impacts of Private Timber Harvests: An Exploratory Investigation of Harvests, Exports, Employment, Income and Tax Remittances*. Published by the Port of Port Angeles, November, 2017. This study determined a small quantity of the 84.1 MMBF exported was harvested on Vancouver Island and imported by barge and raft.

[48] Ibid.

[49] A debarked log for international export is a final product. The direct employment effect includes all activities including loading it onto the ship. Similarly, the bark (hog fuel) moves by truck to a final customer and thus too is a final product, and the process thus constitutes part of the direct employment effect.

[50] This methodology was critical to capture the linkages between the Port Log Yard and the forest. While IMPLAN did not capture this linkage, its modeling flexibility makes it possible.

[51] Appendix C: Data and Methodology elaborate on the relationship between these economic impacts.

Direct employment effects are concentrated in wood product manufacturing. The economic impacts from forest preparation and management and commercial logging are indirect impacts.

Also analyzed were those sectors of the forest product industry *directly dependent* on the flow of wood fiber to and from the Port Log Yard. In terms of magnitude those effects are concentrated in wood product manufacturing. Accordingly, the economic impacts from forest preparation and management and commercial logging are indirect impacts in the supply chain. This assumption is reasonable as wood product manufacturers acquire wood fiber from a multitude of sources, including wood fiber moving through the Port Log Yard.[52]

In this section the economic impacts are estimated in terms of employment (FTE), average monthly wages (Average), and monthly proprietor gross income (Monthly PI) for the study year 2016. To provide a comparative reference point for wages, a Living Wage Premium (LWP) for a family of four with two adults, one working, which equals the difference between an average monthly wage and $3,987. This section proceeds as follows. First, the economic impacts of direct employment effects are presented and summarized. Second, the economic impacts of directly dependent employment effects are presented and summarized.[53]

THE ECONOMIC IMPACTS OF DIRECT EMPLOYMENT EFFECTS

The direct employment effects presented in table 1 begin in the forest with preparation and management (4 FTE and 0.5 proprietors), and commercial logging 51 FTE and 7.1 proprietors), which includes transport to the Port Log Yard. The process continues with log scaling and de-barking (6 FTE and 0.8 proprietors), Green Crow operations (1 FTE), Port Log Yard employees (8 FTE), trucking of logs at the Port Log Yard (4.8 FTE and 0.7 proprietors), shipside operations (6.6 FTE), and trucking of hog fuel (included with truck hauling). Each of these activities is part of the process of moving logs from the forest onto the Port Log Yard, and moving out as forest products. Table 3 presents employment as FTE, average monthly wage (Average), LWP, proprietors and monthly proprietor gross income (Monthly PI).[54]

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[52] The section "The Economic Impacts of the Wood Product Manufacturing," which can be found in Appendix A, explores how changes in one sector impact other parts of the economy in Clallam County. It also explains how changes in the employment of one sector affect other sectors throughout the economy, including the monetary compensation gained or lost.

[53] The methodology employed in this section is explained in the Appendix C: Data and Methodology.

[54] As explained in Appendix C: Data and Methodology, employment multipliers for proprietors are only available for NAICS 113 and 115, the two sectors with large levels of proprietor income. As proprietor income is a gross revenue value and average monthly wage is not presented. Rather, the monthly proprietor gross income is presented.

Sector by NAICS	FTE	Average	LWP	Proprietors	Monthly PI
115 Forestry, and timber tract production	4	$3,052	-$935	0.5	$34,208
113 Commercial logging	51	$4,377	$390	7.1	$697,638
113 Scaling and De-barking	6	$4,377	$390	0.8	$82,075
423 Green Crow	1	$4,377	$390		$13,679
113 Port Log Crew	8	$4,824	$837	1.1	$123,113
113 Truck Hauling	4.8	$4,377	$390	0.7	$65,660
4483 Shipside Operations	6.6	$8,479	$4,492		$22,539
Total	**81.4**	**$4,688**	**$701**	**10.2**	**$1,038,912**

Table 3: The direct economic impacts by sector from operations moving wood fiber through the Port of Port Angeles Log Yard in 2016.[55]

The total direct employment effects of the Port Log Yard is 81.4 FTE at an average monthly wage of $4,688 and LWP = $701. The average monthly wage is pulled upward by the average wages of Shipside Operations that include significant benefits. [56] That direct economic activity supports an additional 10.2 proprietors with a combined average monthly gross income of $1,038,912.[57] On a sector by sector basis, all sectors except timber tract preparation pay a living wage, with LWP ranging from $390 to $4,492 in shipside operations.[58]

Total direct employment effects of the Port Log Yard are 81.4 FTE at an average monthly wage of $4,688 and LWP = $701.

The economic impacts in table 3 create expenditures in the supply chain (indirect impacts) and elsewhere in the economy (induced impacts) of Clallam County. The sum of direct, indirect and induced effects is presented in table 4. The 81.4 FTE employed from activities ranging from forest preparation through shipside operations earn an average monthly wage of $4,688 and LWP = $701 with a monthly proprietor gross income of $1,038,913.[59] That direct employment supports an additional 19.1 FTE in the supply chain (indirect impacts) at an average monthly wage of $2,339 and LWP = -$1,648 with a monthly proprietor gross income of $42,785. The expenditures of those directly and indirectly employed support an additional 80.2 FTE in the economy of Clallam County at an average annual wage of $1,833 and LWP = -$2,154 with a monthly proprietor gross income of $34,667. The total 180.7 FTE earn an average wage of $3,308 with LWP = -$679 with monthly proprietor gross income of $1,116,140.

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[55] IMPLAN estimates wages for forestry and timber tract production differently than the wage aggregation in QCEW data for NAICS 115. The implications for wage estimates are explained in Appendix C.

[56] Benefits were not included under wages for all other sectors.

[57] IMPLAN's estimates for proprietor income are "operating income" which, from an accounting standpoint, would be regarded as revenues. It is not net income, or revenues minus operating expenses. Proprietor income has a significant impact on indirect impacts as it covers expenses for operations, which creates employment and income in related sectors.

[58] The average monthly wage of $4,377 is associated with NAICS 113 in the QCEW data for 2016, the code applied to several activities that all fall into commercial logging.

[59] Rounding accounts for the discrepancy of $1 between tables 3 and 4.

Impact Type	FTE	Average	LWP	Monthly PI
Direct	81.4	$4,990	$1,003	$1,038,913
Indirect	19.1	$2,339	-$1,648	$42,785
Induced	80.2	$1,833	-$2,154	$34,443
Total	**180.7**	**$3,308**	**-$679**	**$1,116,140**

Table 4: Total annual direct economic impacts from operations moving wood fiber through the Port of Port Angeles Log Yard in 2016.

THE ECONOMIC IMPACTS OF DIRECTLY DEPENDENT EMPLOYMENT EFFECTS

As mentioned earlier, in this report *a business is said to be directly dependent on the Port Log Yard if a portion of the wood fiber it buys/sells move through the Port Log Yard*. While that volume may be a small proportion of its total, it can be the difference between profitability and insolvency. The directly dependent employment effects consist of 21 at Evergreen (chipping and transport) plus 27 in commercial logging for 48 FTE,[60] 125 at Interfor, and 83 at Port Angeles Hardwoods. The 21 FTE at Evergreen are a portion of the total operations of Hermann Brothers, whereas the 125 at Interfor and 83 at Port Angeles Hardwoods constitute their entire payroll in Clallam County.

A business is said to be directly dependent on the Port Log Yard if a portion of the wood fiber it buys and/or sells move through the Port Log Yard.

The indirect effects begin with forest preparation and commercial logging and extend to trucking of final products to market.[61] Those trucking operations include movement of hog fuel and wood chips. The values presented in this section are for each firm analyzed independently of the others. Thus, the values in the tables that follow cannot directly be combined with tables summarized in the section *The Economic Impacts of Direct Employment Effects*, as there are spillover effects. To do so can result in counting an economic impact twice.[62,63] With this

[60] As emphasized in Appendix C, modeling Evergreen's economic impacts is complex. To avoid a substantial downward bias in estimates, operations in the woods had to be included as direct FTE to more accurately capture the economic impacts of Evergreen.

[61] The reader is reminded to keep in mind footnote 58. The connection between jobs in the woods for Interfor and Port Angeles is strong, so that those impacts can be treated as indirect.

[62] As an example in the analysis of Evergreen some of its wood fiber supply comes from Alcan-China Forest Products. The expenditures for that supply will appear as indirect impacts in this section. However, in the section direct employment effects, when modeling the flow of wood fiber through the Port Log Yard, some of the labor used to move that wood fiber was analyzed as a direct impact.

[63] An additive methodology could have been developed for this study. However, as with any study, tradeoffs are necessary. It was determined that for the purposes of making maximum potential use of the results herein contained, analyzing each wood product manufacturer separately could inform decision makers of how these employers contribute to the economy of Clallam County.

caveat in mind, the aggregation of direct and directly dependent employment effects does create an approximation of total impacts.

Economic Impacts of Evergreen

Evergreen (EFI) wood chip production is a subsidiary operation of Hermann Brothers, a local company with a long term standing in the forest products industry in Clallam County. In addition to operating the Eclipse Industrial Park, which includes the physical location of Port Angeles Hardwood, Hermann Brothers employs 95 FTE driving 70 trucks. Hermann Brothers also maintains numerous ancillary operations, from mechanics to specialized hog fuel processing machines used in the forest.[64]

Hermann Brothers employs 95 FTE driving 70 trucks.

Hermann Brothers is the primary exporter of the wood chips and hog fuel used at Port Townsend Paper Company, the largest private sector employer in Jefferson County, with 300 FTE at an average monthly wage of $5,833 and LWP = of $1,846. On a daily basis, Evergreen transports 35-60 truckloads of wood chips and 3-4 truckloads of hog fuel to Port Townsend Paper. While the direct linkage in this report between Evergreen and the Port Log Yard is export logs sold by CFPC-Alcan, Hermann Brothers also produces and transports wood chips and hog fuel to Port Townsend Paper Company provided by other suppliers of these feedstocks (see Figure 2). In total Hermann Brothers provides upward of 80 percent of the total feedstocks used by Port Townsend Paper Company.[65] Evergreen's products also include beauty bark, top soil and saw timber exported to markets as distant as Ogden, Utah, and Boise, Idaho.[66] Thus, Evergreen's directly dependent employment in this study is a subset all of these economic activities, from wood product manufacture to transport by truck.

Evergreen is directly dependent upon the Port Log Yard as CFPC-Alcan is a customer. When Munro LLC contracts for and executes a timber sale, logs are sorted and directed to specific customers. The export log section goes to CFPC-Alcan. Chip and saw and pulp wood can be sent to Evergreen for processing into wood chips and trucking to Port Townsend Paper. The directly dependent employment impacts associated with Evergreen were estimated by using a daily wood chip transport of 40 loads, plus 4 loads of hog fuel transported to Port

[64] Bill Hermann, Hermann Brothers.

[65] IMPLAN does not directly capture the structure of Evergreen's operation. A model that does capture those operations was used for the estimate below. The methodology is explained in Appendix C.

[66] Evergreen processes logs harvested on the peninsula for Alcan-China Forest Products as well. Those economic impacts are captured in the analysis of direct employment effects. Similarly, Evergreen processes logs imported by Alcan-China Forest Products using barge and raft. The movement of those materials is captured in this section.

Townsend Paper Company.[67] Employment (FTE), average monthly wage (Average), Living Wage Premium (LWP) and monthly proprietor gross income (Monthly PI) are presented in table 5.[68] While the values presented capture most of Evergreen's economic impacts, those impacts are only a small part of the total economic impacts of Hermann Brothers on the economy of Clallam County.

Impact Type	FTE	Average	LWP	Monthly PI
Direct	48	$4,688	$701	$363,094
Indirect	22.4	$2,942	-$1,045	$91,526
Induced	38.7	$1,838	-$2,149	$16,647
Total	**109.1**	**$3,319**	**-$668**	**$441,846**

Table 5: The estimated directly dependent economic impacts of Evergreen in 2016.

The 21 FTE employed by Evergreen and Hermann Brothers to transport and produce wood chips directly derived from the 43.6 MMBF of wood fiber harvested from private lands on the peninsula moving through the Port Log Yard in 2016 also directly employed 27 FTE in the woods, in forest preparation and management and commercial logging. Thus, total direct FTE is 48, the sum of 21 and 27.[69] The average monthly wage was $4,688 with LWP = $701. The monthly proprietor gross income of $363,094 supported nearly 4 proprietors in forest preparation and management and commercial logging. Indirect employment was 22.4 FTE at an average monthly wage of $2,942 with LWP -$1,045 and monthly proprietor gross income of $91,526.[70] Induced employment is 38.7 FTE at an average monthly wage of $1,838 with LWP = -$2,149 and average monthly gross proprietor income of $16,647. There are 109.1 FTE impacted by this component of Evergreen's operations at an average monthly wage of $3,319 with LWP = -$668 and monthly proprietor gross income of $441,846.

[67] Actual transports can be as high as 60 truckloads per day. Thus, the values in table 5 are conservative, and actual impacts can be far greater.

[68] The direct dependent employment effects of Evergreen were estimated using a mix of trucking and wood chip manufacturing. An aggregate of values is presented, where FTE is the sum of values shared by Hermann Brothers and average monthly wage estimated using IMPLAN modeling. The goal is to protect proprietary information while estimating reasonably accurate approximations.

[69] The complex and large scale structure of Hermann Brothers makes modeling problematic. Evergreen processes all of the chip and saw and pulp logs harvested on the North Olympic Peninsula. Only a portion of those operations are captured in the estimates appearing in this report. See Appendix C.

[70] Given the analytical assumptions necessary to capture Evergreen's economic impacts, explained in Appendix C, most of the "jobs in the woods" are captured as direct effects; hence, average indirect wages are biased downward in this section.

Economic impacts of Interfor

Interfor employs approximately 125 FTE over 2 shifts to process an average of 100 MMBF of timber annually. Capital equipment is routinely updated to maintain an efficient production facility.

Interfor employs approximately 125 FTE over 2 shifts to process an average of 100 MMBF of timber annually.

Its milling capabilities utilize logs of 19 inches in diameter or less. At present, Interfor cannot fully utilize potential markets for its products due to limited availability of saw logs. Given the current level of public harvest, and tight competition for private harvests which are at their maximum sustainable threshold, imports by water are seen as the remaining potential to increase operational capabilities.

The 125 FTE was used along with Quarterly Census of Employment and Wages (QCEW) data and proprietor income created by IMPLAN. The results are presented in table 6 in terms of direct, indirect and induced impacts. Impacts are presented in terms of employment (FTE), average monthly wage (Average), Living Wage Premium (LWP) and monthly proprietor gross income (Monthly PI). Employment at Interfor provides an average monthly wage of $4,420 with a LWP = $433. Indirect impacts are 98.1 FTE at an average monthly wage of $3,214 with a LWP = -$773. Monthly proprietor gross income is $459,239 with 88 percent in commercial logging. The indirect 98.1 FTE include proprietors. 25.3 of those indirect FTE are employed in commercial logging at an average monthly wage of $4,377 with a LWP = $777.

The 125 FTE at Interfor support an additional 167.1 FTE at an average monthly wage of $2,648 in the economy of Clallam County.

The estimated 4.1 proprietors receive a monthly gross income of $404,806 from forest preparation and commercial logging. Induced impacts consist of 69 FTE at an average monthly wage of $1,842 with a LWP = -$2,145; monthly proprietor gross income is $29,642. The 125 FTE at Interfor support an additional 167.1 FTE at an average monthly wage of $2,648 in the economy of Clallam County.

Impact Type	FTE	Monthly Wage	LWP	Monthly PI
Direct	125	$4,420	$433	$23,661
Indirect	98.1	$3,214	-$773	$459,239
Induced	69	$1,842	-$2,145	$29,642
Total	**292.1**	**$3,406**	**-$581**	**$512,542**

Table 6: Estimated directly dependent economic impacts of Interfor in 2016.

Economic impacts of Port Angeles Hardwoods

Port Angeles Hardwoods (PA Hardwoods) is a subsidiary of Cascadia Hardwood Group. Capital equipment is routinely updated to maintain an efficient production facility. At present 83 FTE are employed to process an average of 28.8 MMBF of Alder, Maple and Cottonwood annually. Approximately 85% were harvested from the peninsula while approximately 15% was barged into the Port's Log Yard. Those imports are necessary to compensate for insufficient peninsula harvest to maintain a single shift operating at slightly above 100% production capacity.[71]

At present 83 FTE are employed to process an average of 28.8 MMBF of alder, maple and cottonwood annually. Approximately 85% were harvested from the peninsula while approximately 15% was barged into the Port's Log Yard. Those imports are necessary to compensate for insufficient peninsula harvest.

In addition, it makes possible sourcing wood fiber at markets with lower prices thereby increasing profit margins. Were PA Hardwoods to run a second shift that wood fiber would likely need to be imported via barge and/or raft.

The current 83 FTE was used along with QCEW wage data and proprietor gross income created by IMPLAN. The results are presented in table 7 in terms of direct, indirect and induced effects. Impacts are presented in terms of employment (FTE), average monthly wage (Average), Living Wage Premium (LWP) and monthly proprietor gross income (Monthly PI). Employment at Port Angeles Hardwoods provides an average monthly wage of $4,420 with a LWP = $433. Indirect impacts are 65.1 FTE at an average monthly wage of $3,216 with a LWP = -$771. Monthly proprietor gross income is $304,935 with 88 percent in commercial logging. The indirect 65.4 FTE include proprietors. 16.8 of those FTE are employed in commercial logging at an average monthly wage of $4,377 with a LWP = $777; that estimate corresponds to 2.6 proprietors and a monthly gross income of $267,119. Induced impacts consist of 45.8 FTE at an average monthly wage of $1,843 with a LWP = -$2,144; monthly proprietor gross income is $19,682. The 83 FTE at Port Angeles Hardwoods support an additional 114.1 FTE in the economy of Clallam County.[72]

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[71] The shift operates at 40 hours a week for about half the year, and 50 hours a week the other half. Michelle Petitt, Port Angeles Hardwoods. Payroll data was provided; however, values contained in this report were generated using IMPLAN to protect the proprietary nature of that payroll data. As the payroll data exceeds

[72] Port Angeles Hardwood pays a wage plus benefits in excess of that reported here, which uses QCEW data. Thus, the methodology employed results in a downward bias in the estimates presented. Stated differently, Port Angeles Hardwood contributes more to the economy of Clallam County in terms of employment and income.

The 83 FTE at Port Angeles Hardwoods support an additional 114.1 FTE in the economy of Clallam County.

Impact Type	FTE	Monthly Wage	LWP	Monthly PI
Direct	83	$4,420	$433	$15,711
Indirect	65.1	$3,216	-$771	$304,935
Induced	45.8	$1,843	-$2,144	$19,682
Total	**197.1**	**$3,352**	**-$635**	**$340,328**

Table 7: Estimated directly dependent economic impacts of Port Angeles Hardwoods in 2016.

The Port of Port Angeles Log Yard and a Strategic Future

The forest products industry– forest preparation and management, commercial logging, wood product manufacturing and exports – provides direct employment of 662 FTE at an average wage of $4,550 with a LWP = $603.[73]

The forest products industry provides direct employment of 663 FTE in Clallam County at an average monthly wage of $4,550.

In addition, that direct impact supports 54 proprietors with a combined average monthly gross income of $5,643,545. Those direct impacts support indirect employment of 296 FTE in the supply chain and another 555 FTE as induced employment in the overall economy. This report has detailed the role of the Port Log Yard as a nexus for those interconnected impacts.

The specific ways in which the Port Log Yard supports the forest product industry have changed over time in response to changing market conditions. It continues to provide an interface between water transport and the movement of wood fiber that is open to all potential customers. The presence of a long term infrastructure that meets changing economic needs can continue to support the industry that is the largest single source of export earnings in Clallam County, $193,735,806 in 2015.[74] At present, the Port Log Yard serves as a nexus whereby wood harvest on the peninsula is exported, by truck, barge, raft or ship, to domestic and international markets.[75] Those exports take the form of saw logs and, recently, wood chips. Imported logs arrive by barge and raft. The Port Log Yard also provides the space for log

[73] This analysis is presented in Appendix B, The Total Economic Impacts of the Forest Products Industry.
[74] This constitutes 19 percent of total exports. With paper production, the value was $351,925,758, or 35 percent of total export income. Exports represent an infusion of income and employment to the economy that would not exist otherwise. In the forest products industry, export sales create multiple stages of value added and, as a result, significant employment multipliers.
[75] Sales to Port Townsend Paper Company are a source of export income.

processing, from scaling to debarking, and sorting and stacking in preparation for sales. Some of those sales are to local mills, where wood fiber is transported by truck. Some logs processed at the Port Log Yard are exported to domestic markets by truck. At each stage of expenditures employment, generally at a living wage, is created for local families. These activities occur in a dynamic market, the uncertainties of which pose a number of strategic challenges.

At present, harvests from private lands are at or near upper sustainable thresholds. Harvests from public lands have been uncertain, and future harvest levels from State Trust Lands remain unknown as the sustainable harvest guidelines for 2015 have yet to be established by the Board of Natural Resources.

Harvests from private lands are at or near upper sustainable thresholds. Harvests from public lands have been uncertain, and future harvest levels from State Trust Lands remain unknown.

Harvests from Olympic National Forest are, at present, a by-product of forest restoration activities. As harvests from public lands cannot be exported internationally prior to value added manufacturing, they represent a source of wood fiber, including bioenergy, which can be captured with some certainty by local manufacturing firms, thus increasing stages of processing and expenditures with impacts on corresponding employment and income.

Saw log demand is high, and softwood demand is forecast to grow at an annual rate of 2.3 percent through 2030, reaching an all-time high.[76] Thus, price competition is and will continue to be significant.

Saw log demand is high, and softwood demand is forecast to grow at an annual rate of 2.3 percent through 2030, reaching an all-time high.

Demand comes from local mills, the international export market, and off peninsula markets for saw logs. Interfor could expand production with more wood input, as markets for their product exist. Port Angeles Hardwoods has insufficient supply for one shift, and imports 10-15% of its raw material by water. It is to be stressed profitability at these mills is wood fiber supply dependent: reductions in those flows can make the difference between economic viability and insolvency. At the same time, the demand for wood chips is high. Market conditions for wood chips changed rapidly over the past 12 months. At present there is insufficient supply for users in the Pacific Northwest. Demand is increasing from China as new investments in chemical cellulose manufacturing are made that require an increased supply of wood chips produced

[76] Industry News, *Forestry Source*, April 2018, p. 11.

from hemlock.[77] At present, Port Townsend Paper Company is the primary consumer of wood chips on the peninsula. There is reason to believe that competition for pulp logs and chip and saw logs will be intense. If that demand results in buying saw logs for chipping, there will be constraints on the capability of local saw mills to operate.[78]

While the shutdown thresholds caused by wood shortages-price increases are unknown, they do exist. In 2015 we experienced two such events with Green Creek and Interfor shutdowns.

While the shutdown thresholds caused by wood shortages-price increases are unknown, they do exist. In 2015 we experienced two such events: Green Creek and Interfor shutdowns.[79,80]

The emergence of Ginkgo Trading increases the problematics discussed above. The planned annual export of four 45,000 ton ships is equivalent to 11 weeks of total wood chip volume used by Port Townsend Paper Company.[81] On a per ton basis, wood chips going to Port Townsend Paper Company support more FTEs than will international exports for two primary reasons. The first are the 300 FTE employed at the mill.

Wood chips going to Port Townsend Paper Company support more FTEs than international exports for two reasons. The first are the 300 FTE employed at the mill. The second are the 15 drivers employed moving chips to the mill.

The second are the 15 drivers employed moving chips to the mill. *Ginkgo only represents increased employment if additional fiber is available*. If their operations mean shifting that fiber from one place to another, there may be losses in terms of local economic development.[82] Specifically, the employment and income effects of Ginkgo's chip exporting operations are less than those corresponding to Evergreen's processing and distribution to Port Townsend Paper Company. Should a reduction of hog fuel and wood chips reduce Port Townsend Paper Company's margin precipitously and force closure, the adverse economic consequences for the North Olympic Peninsula could be catastrophic, especially for Jefferson County.

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[77] Interview, Bill Hermann, Hermann Brothers.

[78] Pulp markets were so tight the winter of 2017-2018 that some paper mills were forced to buy chip and saw logs as a substitute for lower cost pulp wood. Mike Hermann, Hermann Brothers.

[79] NIPPON Paper ceased operations in 2016. Among the economic factors involved in the shutdown decision, one was a tight fiber supply. Interview, Harold Nordland, NIPPON

[80] Two of these three shut downs were predicted, and estimates of the economic impacts, in Daniel A. Underwood and Jason Cross, *Analysis of the Wild Olympics Wilderness and Wild and Scenic Rivers Act of 2012: economic impacts and opportunities*, published by the Port of Port Angeles, November, 2012.

[81] Bill Hermann, Hermann Brothers.

[82] If Ginkgo locates at the Port Log Yard, truck hauling will be reduced with corresponding reductions in driver FTE.

The discussion above leads to the issue of increasing the supply of wood fiber from off-peninsula regions. The Port Log Yard provides the facilities to import wood. There are established markets on Vancouver Island. However, institutional barriers make those potential imports problematic: "rights of refusal" by Canadian mills and export taxes. Wood can also be imported from Southern Alaska, and other northwest regions. However, northwest fiber markets are "tight," and price competition can be significant.

The Port Log Yard provides the facilities to import wood in order to increase supply.

Modification and or development of facilities at the Port Log Yard to improve the feasibility and efficiency of water imports could increase the availability of wood fiber to local markets by off-setting price competition as wood fiber "follows the money."[83] Similarly, the marine terminal makes possible imports by ship. Given the international nature of wood markets and unknowns of what species might be optimal for advanced wood manufacturing, the future feasibility of using those facilities should not be underestimated.[84]

There are at least two potential emergent markets: tree bark and advanced wood manufacturing.

There are at least two potential emergent markets related to this investigation. The first is that at present there is one form of forest fiber in surplus, partly due to the closure of NIPPON – tree bark that can be used as beauty bark and hog fuel. At present, there is a market for surplus beauty bark in Anacortes, which can be economically accessed using existing barge facilities at the Port water front.[85] Approximately two barges bring in wood for Port Angeles Hardwoods and return empty. They could be loaded with beauty bark. The same export process might be applied to export hog fuels to markets in the Northwest. Related is export of hog fuel to emergent international markets. At present there is surplus hog fuel. Thus, it is an export market that can be pursued without adverse impacts on the local economy as long as a surplus exists. However, consideration should be given to hog fuel needs should McKinley Paper begin operating as support of those operations would increase local employment and income.

The second potential emergent market would involve creating at least one additional stage of value added. It could take the form of advanced wood manufacturing. It might make use of saw logs currently exported. If so, local FTE will likely increase. If it makes use of

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[83] Mike Hermann, as conveyed by Bill Hermann, Hermann Brothers.
[84] Tyler Kruzfeldt., Monta Vista Capital.
[85] Mike Hermann, Hermann Brothers.

materials currently utilized elsewhere in the local economy, the net change in FTE could be positive or negative. If it makes use of imported wood, local FTE will increase. Development of such an new and emergent sector will require addressing several economic challenges. First is identification of a product, ideally one that fills an open niche. Integration of wood fiber with recycled composite carbon fiber may provide that opportunity. Second will be completion of a carbon life cycle study which explores the potential carbon capture of that product. This is important because, and especially on a global scale, growth in demand for carbon sequestering building materials is expected.[86] Third will be identifying and securing a reliable supply of wood fiber. Public harvests from the North Olympic Peninsula are one possibility. However, the use of water borne imports through Port facilities should not be discounted. Fourth will be the organizational structure of this emergent sector. Ideally that form of organization can minimize handling and transport costs from harvest through completion of the final product for export. A sequential organizational process may be ideal, one that brings in wood from the forest for processing, from one stage to the next in the absence of necessary loading and unloading onto trucks. This could be literally "seamless," from debarking, to dimensional sawing, to cross lamination, to the addition of recycled composite carbon with a final product emerging and ready for export, by truck or water.

[86] Tyler Kruzfeldt, Monta Vista.

Appendix A: The Economic Impacts of Wood Product Manufacturing

Figure 1 illustrates the complex economic network interconnecting multiple sectors of the forest products industry: forestry and logging, transport, wood product manufacturing, and exports. Those direct economic activities are in turn supported by a wide range of businesses in the supply chain, the indirect impacts. All those employed and earning income through direct and indirect impacts in turn make expenditures in the local economy, the induced impacts. The interconnections between these effects and all of the business sectors involved can be analyzed by following the flow of expenditures, illustrated in Figure A-3. The results are captured by IMPLAN and explained below. The discussion that follows is intended to help the reader better understand how a change in the forest products industry impacts other sectors of the economy in Clallam County.

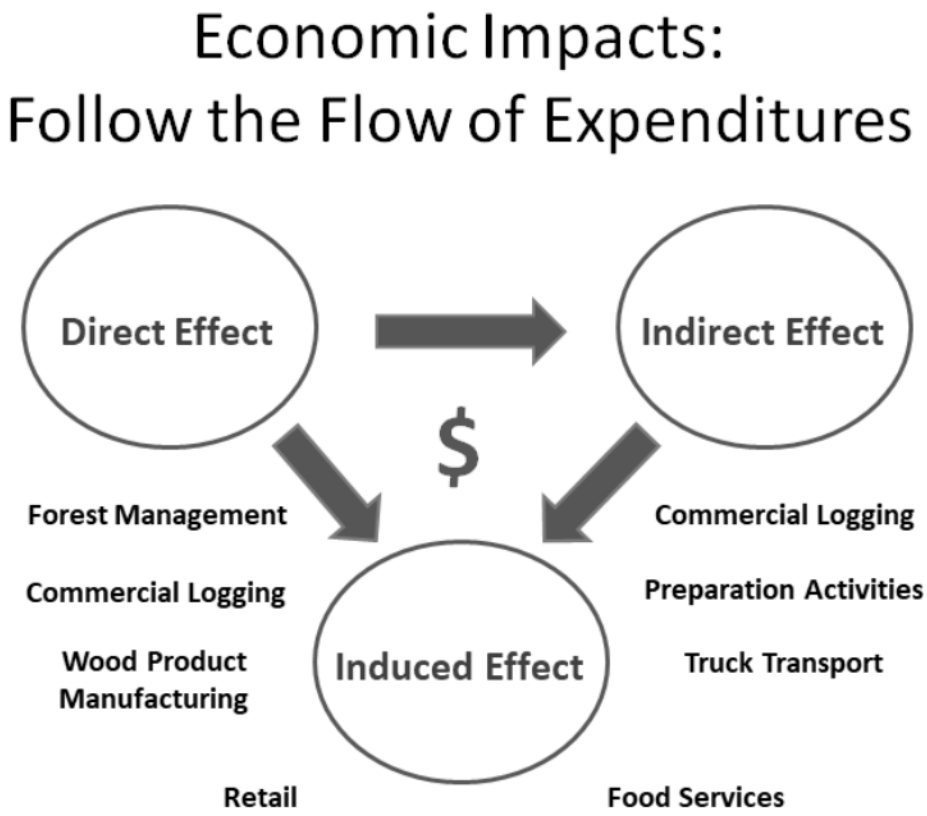

Figure A3: Expenditure flows and direct, indirect and induced economic impacts.

A simple model was used to present the linkages between wood product manufacturing and the economy of Clallam County. The model assumed an imaginary mill was created that employs 100 people in 2016 earning an average wage in wood manufacturing of $4,420. The use of 100 makes interpretation and application of corresponding employment impacts

straightforward. That will constitute the direct impact. Indirect impacts in the supply chain are then estimated along with resulting induced impact. Employment in the indirect and induced impacts includes proprietors. Income for indirect and induced impacts can be analyzed as a total for payroll employees and proprietors, or independently estimated. That is, for any total level of FTEs, IMPLAN can be used to separately estimate total value added, payroll income, and proprietor gross income. Table A-1 presents direct, indirect and induced impacts in terms of FTE, average monthly wage, Living Wage Premium (LWP), and monthly proprietor gross income (Monthly PI). While direct FTE does not include the number of proprietors, proprietor employment is included at FTE for indirect and induced impacts.[87] The table illustrates every FTE in wood product manufacturing supports 0.784 FTE in the supply chain (indirect impacts) and 0.552 FTE as induced impacts. Thus, *every wood product manufacturing FTE supports an additional 1.337 FTE in the economy* of Clallam County.[88]

Impact Type	FTE	Income	Average	LWP	Monthly PI
Direct	100	$5,303,913	$4,420	$433	$18,929
Indirect	78.4	$3,026,876	$3,217	$2,820	$367,391
Induced	55.2	$1,220,271	$1,842	$1,445	$23,714
Total	**233.7**	**$9,551,060**	**$3,406**	**$3,009**	**$410,034**

Table A1: Direct, indirect and induced impacts from a mill employing 100 FTE in 2016.

The aggregate employment impacts in table A-1 can be analyzed over 536 individual economic sectors. The indirect employment impacts cover 112 sectors, ranging from commercial logging (20.2 FTE) to vegetable farming (0.1 FTE). Induced impacts cover 131 sectors, ranging from real estate (4.1 FTE) to veterinary services (0.1 FTE). Table A-2 illustrates those employment FTEs for the top ten industries for indirect impacts. Those top ten industries contain 51.6 of the 78.4 indirect FTE (66%). The average monthly income in the top ten industries is $4,672 with LWP $685. When reviewing the indirect and induced impacts by top ten sectors, it is important to emphasize that FTEs in all sectors presented except IMPLAN 16, commercial logging, *include* proprietors. With the exception of commercial logging and sawmilling, reported average wages were estimated by IMPLAN and include proprietor income, wages and benefits. The average wage data for commercial logging and sawmills used QCEW data to retain consistency with previous sections. Those sectors too often pay benefits, and we

[87] IMPLAN automatically estimates proprietors as FTE for indirect and induced impacts. It does not estimate the number of proprietors under direct impacts. Given the existence of little monthly proprietor gross income for wood product manufacturing, there would be only a small proprietor employment impact. This issue has been addressed elsewhere in this report, including estimating the direct FTE for forest preparation and management and commercial logging. Also see Appendix C.

[88] The total employment and income multiplier impacts depends on the number of times income is spent locally. For comparison, when people shop outside of the county, that income leaves the local economy and has no employment and income impact.

have seen that proprietor income can be significant. Keeping this caveat in mind, the averages reported in Table A2 understate total compensation in commercial logging and sawmilling.[89]

To help decision makers better assess average income, wages plus proprietor income was used to compute the averages in Table A2 except for commercial logging and sawmilling, where QCEW values are used to retain consistency with analysis in previous sections. Thus, those averages should not be compared with average wages in commercial logging and sawmilling because those averages used QCEW data and do not include benefits and proprietor income. The number of proprietors and their income has been analyzed in previous sections

IMPLAN	Description	FTE	Average	LWP
16	Commercial Logging	20.21	$4,377	$390
395	Wholesale Trade	6.9	$8,469	$4,482
134	Sawmills	5.4	$4,667	$680
411	Truck Transportation	5.3	$5,528	$1,541
448	Accounting and Payroll	3.6	$2,377	-$1,610
461	Management of Companies	2.7	$6,920	$2,933
468	Services to Buildings	2.4	$1,245	-$2,742
502	Full Service Restaurants	1.8	$1,766	-$2,221
19	Agr Support Activities	1.7	$2,006	-$1,981
460	Professional Services	1.6	$1,817	-$2,170
Total Indirect Effects for Top-10 Sectors		51.6	$4,672	$685

Table A2: The economic impacts on the top ten indirect sectors as affected by a mill employing 100 FTE in 2016.

Similar analysis for induced impacts is presented in table A-3. The total induced employment impacts in the top-10 sectors is 23.8, less than one-half the indirect employment effects. Average induced wages range from $3,082 in General Merchandise Retail to $234 in Non-store Retail. The average wage of $1,683 is well below that of $4,672 for top-10 indirect effects. The value of $1,683 is weighted downward by Real Estate and Non-store Retail.[90]

[89] The estimated FTE for commercial logging was adjusted for the total number of proprietors, which is 0.14 proprietors for each 1 FTE, or (0.14 x 20.21) = 2.83 proprietors. Total FTE is thus 20.21 + 2.83 = 23.04. Inclusion of the high average monthly gross proprietor income would have significantly increase the average wage causing difficulty of interpretation.

[90] IMPLAN estimates for total income in real estate are poor. Detailed testing of the IMPLAN model by Olympus reveals the total value added by those 4.1 FTE was $168,159, for an average of $3,418. That value added covers wages, proprietor income and, likely, commissions. Thus, the average monthly income in Real Estate is probably near but below the average value of $3,418.

IMPLAN	Description	FTE	Average	LWP
440	Real Estate	4.1	$416	-$3,571
501	Full Service Restaurants	3.5	$1,779	-$2,208
485	Individual and Family Services	2.6	$1,572	-$2,415
502	Limited Servcie Restaurants	2.5	$1,558	-$2,429
400	Retail: Food and Beverage	2.2	$2,942	-$1,045
405	Retail: General Merchandise	2.1	$3,082	-$905
407	Retail: Nonstore	1.8	$234	-$3,753
483	Nursing and Community Care	1.8	$2,956	-$1,031
503	Other Food and Drinking	1.8	$2,202	-$1,785
406	Retail: Miscellaneous	1.4	$1,062	-$2,925
Total Indirect Effects for Top-10 Sectors		23.8	$1,683	-$2,304

Table A3: The economic impacts on the top ten induced sectors as effected by a mill employing 100 FTE in 2016.

For illustrative purposes, imagine entry of a new wood product firm with 10 FTEs. While precise economic impacts will depend upon the structure of that firm's expenditure flows to trace out expected impacts on the County's economy, the estimates provided in this section can be applied directly to any changes in wood product manufacturing. Those 10 direct FTE would support 2.6 indirect FTE in commercial logging earning $4,377 with LWP = $390. In addition, 0.36 proprietors would be supported with an average monthly proprietor gross income of $12,873. We would expect to see 0.69 FTE in the wholesale trade, 0.53 in trucking, and 0.36 in accounting as indirect employment effects. In terms of induced effects, we would expect 0.41 FTE in real estate, 0.35 FTE at full service restaurants, and 0.26 in individual and family services.

Appendix B: The Total Economic Impacts of the Forest Products Industry

The total direct economic impacts associated with the forest products industry begin with forest preparation, forestry and logging. Logs are sorted for distribution to customers: local wood product manufacturers, and domestic and international export markets. Some of that sorting by customer is done at the Merrill and Ring (MR) operation at the Port Airport Industrial site and at the Port Log Yard by businesses described in this report.[91] Wood fiber harvested from Clallam and Jefferson counties (approximately 200 MMBF from private lands and 29 MMBF from State Trust Lands in 2016 moves by truck to scales operated by Pacific Rim. Scales are physically located on Highway 101, Interfor, Port Angeles Hardwoods, and the Port Log Yard. Total FTE moving that flow of wood fiber was 383 in 2016, with 24 in forest preparation and 359 in forestry and logging, which includes truck transport. Wood product manufacturing employed 255 FTE. Export operations employed 24 FTE, 16 as maritime workers and 9 as employees of the Port of Port Angeles. This flow of is illustrated in Figure B1.

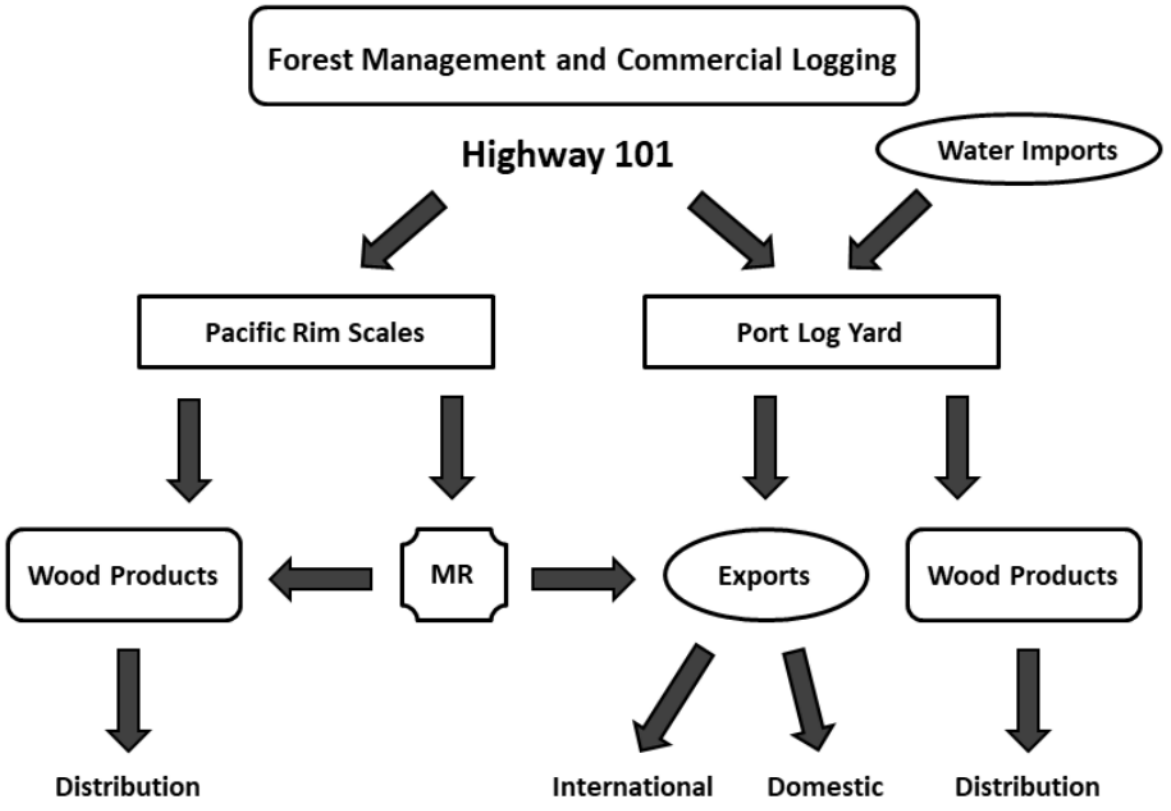

Figure B1: The flow of wood fiber through the forest product industry.

[91] For analysis of the log export industry, see Daniel Underwood and Jason Cross, *The Economic Impacts of Private Timber Harvests: An Exploratory Investigation of Harvests, Exports, Employment, Income and Tax Remittances*, December 2017. Published by the Port of Port Angeles.

Table B1 presents FTE by North American Industrial Classification System (NAICS) and economic activity using QCEW data for NAICS 115, 113 and 321; data for the Port Log Yard and shipside operations came from cited interviews and studies previously cited. Also contained is average monthly wage (Average), living wage premium for a family of four (LWP), the number of proprietors estimated using IMPLAN, and monthly proprietor gross income (Monthly PI). The table reveals the average monthly wages range from $3,052 in forestry preparation, a sector with seasonality in employment, to $8,691 in shipside operations. Employment in forestry and logging, wood product manufacturing and at the Port approximates $4,500 per month. Each of those activities provides a family living wage. A total of 54 proprietors are supported in all economic activities using NAICS 113 and 115.[92] Monthly proprietor gross income ranges from $48,269 in wood product manufacturing to $5,211,770 in forestry and logging. That income is a gross before expenses. Coverage of those expenses results in support of employment in the supply chain, or indirect impacts.

NAICS	Economic Activity	FTE	Average	LWP	Proprietors	Monthly PI
115	Forestry preparation	24	$3,052	-$935	3	$204,387
113	Forestry and logging	359	$4,377	$390	50	$5,211,770
321	Wood product manfacturing	255	$4,667	$680		$48,269
113	Port Log Yard staff	8	$4,824	$837	1	$56,007
4883	Shipside operations	16	$8,691	$4,704	0	$123,113
Total Direct Economic Impacts		**662**	**$4,550**	**$563**	**54**	**$5,643,545**

Table B1: Total direct economic impacts associated with the forest products industry.[93]

Direct employment in the forest products industry, as illustrated above in table B1, results in expenditures in the supply chain creating indirect impacts. Those directly and indirectly employed, when making expenditures in the economy of Clallam County create induced impacts, supporting employment and income in a wide range of economic sectors. The precise linkage between direct, indirect, and induced impacts was explored in Appendix A. Table B2 presents the total direct, indirect, and induced economic impacts caused by the forest product industry in 2016.[94] Direct employment of 662 FTE earning an average wage of $4,550 with LWP = $563 in the forest products industry supports 296 FTE in the supply chain as indirect impacts with an average monthly wage of $2,908 with LWP = -$1,079. These impacts are

[92] The Port Log Yard plays the economic function of commercial logging – it is a log yard operation – and thus supports proprietors off site.

[93] Discrepancies in sums are due to rounding.

[94] Earned income values used in these estimates was taken from QCEW data for 2016; values for Port Log Yard employees were provided by the Port of Port Angeles and do not include benefits. Income values for shipside operations come from Daniel Underwood and Jason Cross, *The Economic Impacts of Private Timber Harvests: An Exploratory Investigation of Harvests, Exports, Employment, Income and Tax Remittances*, December 2017. Published by the Port of Port Angeles.

summarized in Table B2. The direct and indirect employment and income supports 555 FTE in the general economy at an average monthly wage of $1,839 with LWP = -2,148. Monthly proprietor gross income is $5,643,545 from direct impacts, $1,164,309 from indirect impacts, and $238,963 from induced impacts. The total economic impact of the forest product industry – direct, indirect and induced impacts – is 1,515 FTE at an average monthly wage of $3,231 with LWP = -$756 and monthly proprietor gross income of $7,046,817.

Impact Type	**FTE**	**Average**	**LWP**	**Monthly PI**
Direct Effect	662	$4,550	$563	$5,643,545
Indirect Effect	296	$2,908	-$1,079	$1,164,309
Induced Effect	555	$1,839	-$2,148	$238,963
Total Effect	**1515**	**$3,231**	-$756	**$7,046,817**

Table B2: Total direct, indirect and induced economic impacts of the forest products industry.

Appendix C: Data and Methodology

AN OVERVIEW OF ECONOMIC IMPACT ANALYSIS

The primary objective of this technical report is to capture the direct economic impact of the Port Log Yard on the local economy. However, as the flow of wood fiber through the Port Log Yard affects other businesses in the forest product industry, directly dependent economic impacts were also investigated and analyzed. While the methodologies were commensurate, some modeling complexities created estimates between effects which are not additive. In other words, some impacts in the directly dependent effects also appear in the direct effects. Adding those tables together would result in double counting. In appendix B, all sectors were integrated into a single model so that the limitations described above are not a problem. However, in so doing the interactive dynamics of the Port Log Yard as a nexus supporting economic relationships is obscured.

To help the reader interpret how employment and income changes in one sector affect employment and income in another, Appendix A was developed to demonstrated how an imaginary mill of 100 FTE affect the overall economy. Appendix B summarizes the total economic impacts associated with the forest products industry, including the Port Log Yard. This appendix explains the nature of the data used and how it can be interpreted. In addition, it explains the analytical approach used and the strengths and limitations of its estimates.

The North American Industrial Classification (NAICS) is used to identify the sectors analyzed. The economic sectors directly analyzed are Forest Preparation and Management (NAICS 115), Commercial Logging (NAICS 113), Log Yard Operations (NAICS 113), Log Scaling (NAICS 113), Wood Product Manufacturing (NAICS 321), Debarking (NAICS 321), Wood Chipping (NAICS 321), Log Trucking (NAICS 113), and Shipside Operations (NAICS 4883).[95] The Bureau of Labor Statistics annual revised Quarterly Census of Wages and Employment (QCEW) for 2016 was used for employment and annual wages. 2016 is the most recent revised annual QCEW available. Annual wage estimates in QCEW do not include benefits. As a result, estimated economic impacts are biased downward as many employers in the forest products industry provide benefits.[96] An exception was analysis of Evergreen Forest Industries where some actual payroll data was used.[97] In addition employment is reported as FTE: all employers report monthly their total number of employees and total payroll. They do not report total hours worked.

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[95] Only log trucking operations were directly analyzed. There are also indirect trucking impacts included in the indirect effect analysis.

[96] Interviews indicate all of the major employers in the forest products industry provide some level of employee benefits. Benefits are also estimated by IMPLAN. To protect proprietary information, as requested, QCEW data was used for NAICS 115, 113 and 321. Thus, wages under direct impacts are biased downward in this report.

[97] Bill Hermann provided the data and allowed its use in this study. Its use was partial, including only truck drivers. Hermann Brother wages are significantly above norms. Use of QCEW data would have significantly reduced the impacts of those operations.

IMPLAN is a regional input-output modeling system that uses primary economic data obtained from the Bureau of Economic Analysis, Bureau of Labor Statistics, and the US Census Bureau. It is an effective means for conducting economic impact analyses, and, as the industry standard, was used here to estimate employment, wages and monthly proprietor gross income (income before expenses). While IMPLAN adjusts for benefits and estimates proprietor income, reported average wages for direct employment were based solely on QCEW, unless otherwise noted. Evergreen and Port Log Yard employees are exceptions. Average wage data for indirect and induced employment includes IMPLAN's estimates for benefits. Actual payroll data was used for the Port Log Yard Crew, and estimated values for shipside operations from previous analysis.[98] In the process, the model constructs expenditure multipliers between economic sectors within specified regions, in this study, Clallam County.

For illustrative purposes, when a local mill buys timber, a series of interrelated expenditures are set into motion. Where these expenditures begin is the direct impact. That direct impact sets into motion a series of subsequent expenditures that ripple through the County's economy. They are analyzed as indirect impacts and induced impacts. The indirect impacts capture all dependent activities in the supply chain. If the direct impact was a mill buying timber, the indirect impacts capture activities beginning with forest preparation, forest management, logging operations that range from cutting timber, moving it through the forest to landing operations, trucking, and log scaling. Some of that economic activity is provided by businesses with a corresponding covered payroll contained in QCEW data, while some is provided by proprietors. In some economic sectors – forest management and commercial logging – 12 and 14 percent of the total employment goes to proprietors. All of the people working in direct and indirect activities spend income in the local economy thus support induced impacts. These induced effects range from food services and retail stores, to real estate and the offices of physicians and dentists.

IMPLAN constructs expenditure multipliers for all of these interconnections, making it possible to estimate indirect and induced changes in employment, wages, and proprietor income caused by a direct impact - the employment and corresponding income resulting from an intended outcome. In this study, those outcomes[99] are driven by changes in the portion of private timber harvest that uses the Port Log Yard. Those direct impacts include wood fiber exported by ship as logs or chips. It also includes wood fiber moved by barge and raft.

Application of IMPLAN to estimate economic impacts

IMPLAN, a regional economic impact modeling system, traces how changes in expenditure flows affect employment, wages and proprietor income in what might otherwise appear as disparate sectors. Activities that increase direct employment in one sector (e.g. logging) create employment, wages, and proprietor income in the supply chain (indirect), including trucking, wholesaling, management services, and more. The numbers of full-time

[98] Daniel Underwood and Jason Cross, *The Economic Impacts of Private Timber Harvests: An Exploratory Investigation of Harvests, Exports, Employment, Income and Tax Remittances*, December 2017. Published by the Port of Port Angeles.

[99] IMPLAN data for Clallam County for the year 2015, adjusted into 2016 was used.

equivalent (FTE) jobs in each sector, along with wages and proprietor income are estimated. Wages associated with direct and indirect employment become expenditures in the broader economy (induced impacts). The number of FTE by employment sector (food services, retail, offices of physicians, etc.) along with wages and proprietor income are estimated. Sectors 15 (Forestry), 16 (Commercial Logging), and 134 (Sawmills) were used for direct impacts in the forest product industry as they best capture the processes used for harvest and wood processing[100]. The impacts of ship-side operations use sector 414 (Sight Seeing and Water Transportation). Wage estimates used in 414 were acquired using QCEW from NAICS 4883, which accurately reflects employment in shipside operations. All monetary values are expressed in $2016.

IMPLAN does not estimate the number of proprietors associated with any direct effect though it does capture the corresponding proprietor income. Olympus worked with Mark Taylor at IMPLAN to estimate the relative number of proprietors to total covered FTEs in forestry and commercial logging, sectors with high levels of proprietor income. In forestry (NAICS 115/IMPLAN 115) each 1 FTE is associated with 0.12 proprietors. In commercial logging (NAICS 113/IMPLAN 116) each 1 FTE is associated with 0.14 proprietors. IMPLAN estimates for indirect and induced employment include proprietors, which can then be separated from total estimated employment using these ratios for those 2 sectors. Total indirect and induced income can be separated into wage and salary income and proprietor income. As a result, this technical report provides a far more comprehensive presentation of who earns what, where, and whether they are wage and salary or proprietors than was possible in the past.

The Living Wage Premium

In the process of evaluating the impacts of economic development, decision makers often confront an estimated wage. Useful in the assessment process would be a quantitative or qualitative metric that indicates whether those wages will increase (or decrease) the average level of welfare to constituents. The Living Wage Premium was developed to meet this need,[101] and applied the Living Wage Estimator developed by Dr. Amy Grasmier, MIT. The Living Wage Estimator calculates the cost to provide for basic family needs – housing, transportation, food, health care – for different family compositions, from a single adult to households with adults and children. The Living Wage Premium (LWP) is the difference between an average monthly wage and $3,987, the living monthly wage for a family of four with two adults, one working.[102]

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[100] NAICS codes are, respectively, 115, 113, and 321. As there are no expected changes to paper production, this sector was excluded in the analysis..

[101] Daniel A. Underwood, Donald Hackney and Dan Friesner, "Criteria for Sustainable Community Economic Development: Integrating Diversity and Solidarity into the Planning Process, *Journal of Economic Issues* (December 2015): 1112-1123; Daniel A. Underwood and Dan Friesner,
"Asset Mapping, the Social Fabric Matrix, Economic Impact Analysis, and Criteria for Sustainability and Justice: Operational Elements for Holistic Policy Planning," *Journal of Economic Issues* (September 2017): 813-827.

[102] The living wage in Clallam, for a family of four with one working adult is $47,840 annually or $3,987 monthly. http://livingwage.mit.edu/counties/53009 See Daniel A. Underwood, Donald Hackney and Dan Friesner, "Criteria for Sustainable Community Economic Development: Integrating Diversity and Solidarity into the Planning Process, *Journal of Economic Issues* (December 2015): 1112-1123.

Wages greater than $3,987 pays a positive wage premium – they cover more than the essentials – and thus increase the level of general welfare in a community. Wages less than $3,987 pay a negative wage premium and thus decrease the level of general welfare relative to this benchmark.

The value to decision makers is thus straightforward: to determine if economic development will increase welfare, look at the LWP. The average monthly wage in Clallam County for 2016 was $3,051 for a negative LWP of $-936.[103] Thus, the average wage does not support a family of four. Furthermore, that gap has been increasing annually since 1992.[104]

ESTIMATING DIRECT EMPLOYMENT EFFECTS

The overarching objective of this report was to estimate the total economic impact of the Port Log Yard in terms of employment and income. The structure and operations of the Port Log Yard are "unique" in the sense that an available model to work from does not exist. Accordingly, Olympus used the flexible modeling capabilities of IMPLAN to explore the overarching objective.[105] As explained in the body of the report, interviews were conducted with a wide variety of businesses associated with the Port Log Yard. The nexus of those operations was illustrated in Figure 1. Those interviews produced employment estimates for the sectors illustrated, defined using NAICS, and converted into IMPLAN sectors. Wage data for NAICS sectors was obtained using QCEW data for 2016, and was used in IMPLAN.[106] Interviews, previous studies, and scaling data was used to estimate total wood fiber flows by source through the Port Log Yard and to final customers. Those volumes were used to estimate corresponding FTE in forest preparation and management and commercial logging. FTE values for the Port Log Yard and related activities, from scaling to trucking, were derived from interviews. The sums of those FTE are the *total direct employment effect*, presented in Table 1. In the process of moving that flow of wood fiber, proprietor income was also generated along with corresponding employment. Both FTE and proprietors, along with income, were presented in Table 3: 82.4 FTE earning an average wage of $4,690 with LWP = $703 and 10.2 proprietors with average monthly gross income of $1,038,912. IMPLAN was used to estimate the resulting indirect and induced employment which was presented in Table 4. The 80.4 FTE and 10.2 proprietors created expenditures supporting 19.1 additional FTE and proprietors in the supply chain at an average wage of $2,339 with LWP = -$1,648 and average monthly gross proprietor income of $42,785. Direct and indirect employment created expenditures supporting 80.2 FTE and proprietors in the general economy at an average wage of $1,845 with LWP = -$2,142 and average monthly gross proprietor income of $34,667.

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[103] This negative living wage premium of $-936 indicates that the average occupation in Clallam County would need to pay $5.40/hour more to provide a living wage for a family of four.

[104] Daniel A. Underwood and Jason Cross, Wilderness Declarations, Wild and Scenic River Designations, and Additions to Olympic National Park: Evaluating the Cumulative Economic Impacts on Clallam and Jefferson Counties. Port of Port Angeles, September 2011.

[105] The same process was used to analyze the economic impacts of Ginkgo Trading.

[106] The partial exception was some wage data associated with Evergreen. This investigation, and others conducted by Olympus, reveal Hermann Brothers is one of the highest paying employers in Clallam County.

ESTIMATING DIRECTLY DEPENDENT EMPLOYMENT EFFECTS

The sectoral models of IMPLAN were used to estimate the direct, indirect and induced economic impacts of wood product manufacturers who receive a portion of their wood fiber through the Port Log Yard, as explained in the body of the report. The wood product manufacturers analyzed in this report are Evergreen, Interfor, and Port Angeles Hardwoods. Data values were obtained in the same fashion as that described for direct employment effects. Wage data for Interfor and Port Angeles Hardwoods was taken from QCEW. So too were wages for milling at Evergreen. However, the trucking wages used for Evergreen were used from interview data as the largest employment sector for Hermann Brothers is trucking and Hermann Brothers pays a relatively high wage, including benefits.

Modeling Evergreen

Evergreen, much like the Port Log Yard, also is a nexus in the forest products industry. In 2016 it was the only chipping operation on the North Olympic Peninsula. As a result, of timber harvest for saw logs, chip and saw and pulp logs move to Evergreen for processing before transport to final customers. Thus, part of a saw log moving through the Port Log Yard for export, either international or domestic, moves to Evergreen by truck. The same would be the case for a saw log harvested and sent to Interfor. As illustrated in Figure 2, about 42% of a tree moves to Evergreen for chipping, and 12 percent become hog fuel. IMPLAN multipliers are built using totals flows to construct average FTE, and significantly underestimate "jobs in the woods" as supported by Evergreen's expenditures, and Port Townsend Paper Company's expenditures for raw materials. A detailed model of these relationships was beyond the scope of this study. At the same time, Olympus wanted to reasonably capture Evergreen's economic impacts. Working with input from Bill Hermann, a partial solution was found.

As the overarching objective was to estimate the direct and directly dependent effects of the Port Log Yard, only wood fiber moving through the Port Log Yard has been analyzed. This is less than half the total volume moving through Evergreen. Thus, the impact analysis presented in the economic impacts of the Port Log Yard significantly biases downward the contributions of Evergreen. The employment and income effects associated with Merrill and Ring operations have been excluded because the Port Log Yard is not used, though the Marine Terminal is. In 2016, 43.6 MMBF of saw logs moved through the Port Log Yard. As a saw log has the equivalent of 0.96 in chip and saw and pulp logs (0.43/0.45), that 43.6 MMBF corresponds to 41.9 MMBF of wood fiber equivalent that moved through Evergreen for processing into wood chips and transport.[107] To capture the "jobs in the woods" supported by that volume, table 3 can be used. The FTE for NAICS 113 Commercial Logging and 115 Forest Preparation and Management were necessary to harvest the 43.6 MMBF moving through the Port Log Yard. For every MMBF moving through the Port Log Yard, 0.96 MMBF moved to

[107] For every log that is loaded onto a ship for export, 0.96 logs graded as chip and saw and pulp logs move to Evergreen. On a volume basis, about half of the jobs supported in the woods for export and local milling are supported by Evergreen's operations. This is the major reason Evergreen is so difficult to analysis in terms of economic impacts.

Evergreen. Thus, about half of the FTE in those sectors were directly dependent on Evergreen.[108] Evergreen supports about 2 FTE in NAICS 115 and 25 FTE in NAICS 113 by way of the flow of saw logs through the Port Log Yard.[109] These values were used to construct a regional impact model for this subset of Evergreen's operations, the results of which appeared in Table 3.

Direct employment for Evergreen was estimated using the 21 reported FTE (mill workers and drivers) as NAICS 321 (IMPLAN 134, Sawmilling) wood product manufacturing. Direct impacts also include the 2 FTE in NAICS 115 and 25 FTE in NAICS 113.[110] Indirect impacts also contain commercial logging and forest preparation and management, expected as Evergreen's operations and expenditures feedback into the forest supporting additional jobs. Olympus tested the efficacy of these assumptions, and others as well. Given the scope of this investigation, the economic impacts of the "jobs in the woods" correspond to the total FTE to produce the 41.9 MMBF of chip and saw and pulp logs going to Evergreen as a result of the 43.6 MMBF moving through the Port Log Yard. Indirect effects include additional employment in Commercial logging, expected given spillover effects, especially as additional truck transport of related businesses that include other wood product manufacturers. Thus, Table 5 provides a "reasonable" approximation of the economic impacts of Evergreen as directly dependent on the Port Log Yard. However, these values mask the overall economic impacts associated with Hermann Brothers. There is not straightforward solution to analyzing that nexus within the context of this study. Indeed, it would be a comprehensive study in and of itself.

Modeling Interfor and Port Angeles Hardwoods

The FTE values of 125 and 83, respectively, were obtained from interviews. Wages came from QCEW. IMPLAN sector 134, Wood Product Manufacturing, was used to estimate indirect and induced impacts. Paid compensation was separated from proprietor income to better reflect average monthly wages. Proprietors are included in FTE for indirect and induced employment impacts, which bias the average wage downward. The reader may note that indirect employment pays more on average in directly dependent employment effects than under direct employment effects. The reason is that forest preparation and management and commercial logging – appear as indirect effects in the supply chain for directly dependent employment effects. This has a significant impact on the estimated average wage as employment in commercial logging pays an average of $4,764 with LWP = $777. This weight the average for indirect employment upward relative to that seen under direct employment effects: $4,556 versus $2,339. The difference reveals that, on average, employment in commercial logging provides living wage employment.

The reason for modeling the two effects – direct and directly dependent – is straightforward. When analyzing direct employment effects, FTE began in the forest and continued through Port Log Yard operations. This was necessary, first, given the overarching

[108] This is a general and approximate assumption, reasonable given the estimation needs in this section. The goal is to give the reader an approximate idea of what individual businesses contribute to the economy where and how.
[109] In actuality, Evergreen supports far more than this as the primary chipping operation in Clallam County.
[110] Wages came from QCEW. For NAICS 115, QCEW for 2015 was used as values were "zeroed out" for 2016.

objective. Second, given the unique organizational structure forest operations had to be integrated with the Port Log Yard. Otherwise, IMPLAN would not make the connection under standard assumptions. While forest operations could have been modeled as indirect impacts, the overarching objective led Olympus to include them in direct effects. Total employment and total wages were not affected by this assumption, only the line in which those values appear.

Annually, barge water transport that uses the Intermodal Handling & Transfer Facility at the Port of Port Angeles eliminates 750,000 truck miles from roads and highways, and 3 associated truck accidents. The reduction in diesel fuel consumption eliminates 612 tons of CO_2 emissions.

The Intermodal Handling & Transfer Facility: Social and Environmental Benefits

A Technical Memo

Daniel A. Underwood, Ph.D.
Olympus Consulting

May 11, 2022

OVERVIEW AND BACKGROUND

The Port of Port Angeles (Port) is in the process of seeking funding for investments to improve and expand operations at its Intermodal Handling & Transfer (IHT) Facility. The area covers about 30 acres. A Google Earth view is presented in Figure 1. The IHT Facility makes possible transfer of materials from the shore to the ocean without use of large-scale docking and lifting equipment. The absence of those large-scale capital structures makes possible rapid adaptation to evolving needs of customers by utilizing flexible smaller scale capital equipment. In addition, the IHT Facility docking site, combined with expansive upland staging areas with capital infrastructure for preparation of materials, has lower operating costs compared to large-scale facilities. Road corridors from near-by private staging areas allow private sector businesses to readily utilize the facility. This advantage helps Clallam County businesses to remain financially viable by offsetting other costs associated with the remote geographic location. The result is that the IHT Facility and local businesses are competitive with markets in the distant urban-waterfront zones, and can support higher wage employment in an economically distressed region.

Figure 1: Google Earth Satellite Image of Port of Port Angeles Intermodal Handling & Transfer Facility[1]

At present, the IHT Facility is primarily used to barge logs as exports and imports. Export operations begin with sustainably grown and harvested wood from Clallam and Jefferson Counties on the North Olympic Peninsula of Washington State. It is barged to wood product manufactures located along the Northwest coast. Import operations proceed in the same fashion, with the difference that logs are used by local sawmills. Each stage of these operations, from tree planting, to commercial

[1] Image provided by Chris Hartman, Port of Port Angeles.

harvesting, to short-haul trucking, log handling, shore to barge transfer, barging, barge to shore transfer, short-haul trucking, and wood sent to manufacturers, plays an important role in supporting the economy of Clallam County. In addition, these activities create social and environmental benefits. The Port commissioned Olympus Consulting to examine these impacts.[2] Social and environmental benefits, in the form of reduced Truck Miles and Truck Accidents, and environmental benefits in the form of reduced greenhouse gas (GHG) emissions, are estimated in this Technical Memo.

The research question addressed in this Technical Memo is "*What are the social and environmental benefits of the Port of Port Angeles Intermodal Handling & Transfer Facility?*" To answer this question, the first task is to trace the transport of logs from source to final destination. The second task is to estimate travel costs for two alternative modes of transport – long-haul trucking and barging. The difference in costs between those two alternatives will measure the net benefit of substituting barging for long-haul trucking. The third task is to use the coefficients thus developed to estimate social benefits in terms of reduced Truck Miles and associated Truck Accidents, and environmental benefits as reductions in GHG emissions.[3]

TASK 1: CONCEPTUALIZING THE FLOW OF MATERIALS THRU THE INTERMODAL HANDLING & TRANSFER FACILITY

Olympus utilized the expertise of Chris Rasmussen, Port Operations Director, to trace the movement of materials at the Port's existing facility and to envision investments that would expand its capabilities and allow adaptation to future needs and opportunities. The goal was to develop a quantitative model of material flows, transport processes, and end uses. The analytical focal point is the IHT Facility located on the waterfront of the Port. The physical infrastructure consists of the loading and material handling facilities, the cofferdam dock, and Terminal 7. Anticipated investments will import fill and install new asphalt pavement surface which will increase the facilities efficiency and throughput capacity while improving water quality of the stormwater runoff. In addition, the cofferdam dock will receive needed structural repairs and surface improvements. These investments on the cofferdam dock will provide the physical infrastructure to accommodate barge transloading, and increase access for the export of bio-energy.

Figure 2 provides an illustrative model to identify key flows of materials that will provide the analytical context for the subsequent estimation of social and environmental benefits. The outflow of wood fiber (primarily logs at this time) is derived from sustainably managed private and public lands in Clallam and Jefferson Counties. Logs moving to the IHT Facility are illustrated using solid green arrows. Jobs and wages, commensurate with those activities, are supported in the forests, on the highways via surface transport, at the log scales, in log preparation, and handling and loading.[4] Some of those logs are sold to local sawmills (Evergreen, Interfor and Port Angeles Hardwoods) where they are manufactured into final products. On-site operations are conducted by Port IHT Facility union staff, who

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[2] A detailed investigation into the value of the IHT Facility is forthcoming and will contain more detailed analysis.
[3] While there are additional benefits to be derived from investment in the IHT Facility, like use of Roll on Roll Off barging and export of bio-energy wood fiber, they are not explored in the Technical Memo.
[4] These are among the highest paying private sector jobs on the North Olympic Peninsula, and are analyzed in a forthcoming companion Preliminary Investigation.

work collaboratively with truck drivers and barge crews. Logs are off-loaded from trucks, sorted, stacked in decks, inventoried, and ultimately loaded on to barges for export. Exports, denoted by solid blue arrows, move to destinations in Skagit and Snohomish counties in Washington, and Coos County Oregon, denoted by black line arrows. From there, logs are off-loaded and short-hauled to Sawmills in those counties.[5] The IHT Facility also receives barged logs from locations in Canada and Washington, which are off-loaded and short hauled to Port Angeles Hardwoods (PAHW). Imports too are denoted by a solid blue arrow and import sources by black line arrows. Evergreen will soon import logs by barge to support its operations.[6] Logs moving through the IHT Facility to local mills is denoted by a solid green arrow.

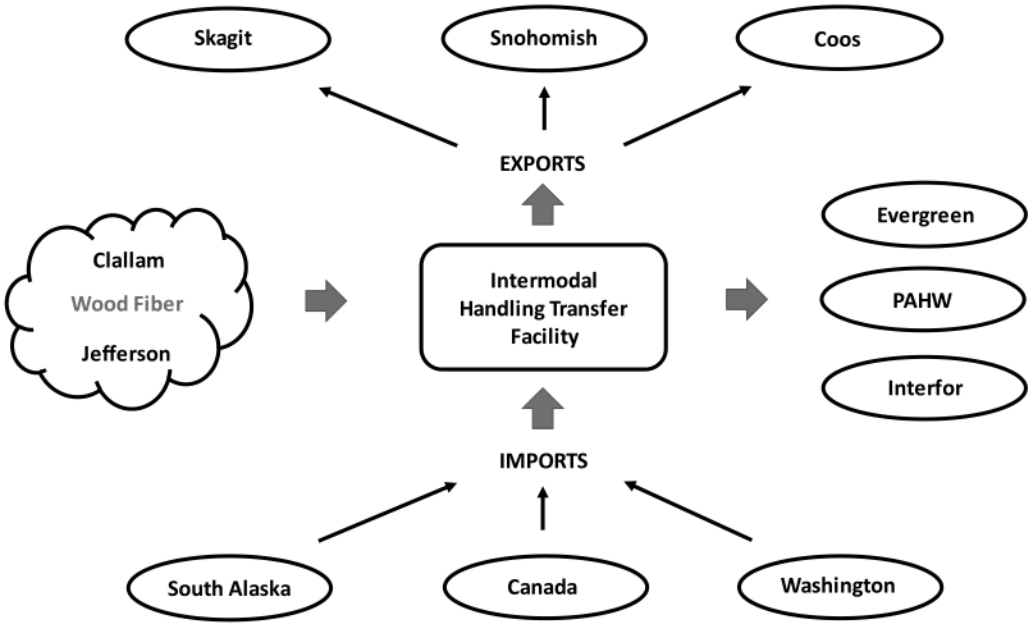

Figure 2: Current material flows through the Intermodal Handling & Transfer Facility.

TASK 2: THE ESTIMATION OF TRAVEL COSTS FOR LONG-HAUL TRUCKING AND BARGE TRANSPORT

Substitution of barging for long-haul trucking can reduce transport costs. The substitution of barging for long-haul trucking requires additional stages of on-loading materials to the barge. There will also be the cost of barging, off-loading, and use of short-haul trucks to move logs from the port of destination to the final purchaser. As off-loading by the purchaser – in this analysis, wood product manufacturers – would be necessary independent of transport method, there will be no additional off-loading costs at that point. Barging will reduce the total Truck Miles on highways, a reduction which will decrease highway congestion and improve public safety, depreciation of roadways, and diminish travel

[5] Sawmills are not identified by name to protect the proprietary nature of their log purchases.
[6] Evergreen is the single largest supplier of wood chips to Port Townsend Paper Company (PTPC), located in adjacent Jefferson County. PTPC is the largest private sector employer in Jefferson and pays the highest average wage. Port Townsend Paper Corporation » EDUCATION (ptpc.com)

pollutants caused by trucking. The analysis in this section quantifies reductions in Truck Miles and diesel fuel consumption, and GHG emissions. In the next section, the analysis is extended to capture changes in Truck Accidents. Essential to this process will be identification of the parameters needed to construct conversion coefficients. The coefficients for analysis are

(1) Long-haul trucking (distance/mpg);
(2) Barging (distance x time/distance x gph);
(3) Onload and offload activities (loads x hours/load x gph);
(4) Short-haul trucking (distance/mpg);
(5) Truck Accidents (accidents/distance);
(6) CO_2 emissions (total gallons Diesel fuel x CO_2/gallon).

Calculating diesel fuel consumption by transport component

The assumptions, data and methodology used are as follows. First, to determine long-haul distances, Google maps was used to find travel distance from the Port to purchasing wood product manufactures in the area. Likewise, long-haul truck distances for imports to Port Angeles Hardwoods (PAHW) were found. Second, and similarly, short-haul distances from the port of destination to the wood product purchaser (manufacturer) were found. Third, distances between the Port of Port Angeles and the Port of Everett were provided by the barge operator along with their diesel fuel consumption rate of 4.17 gallons per nautical mile.[7] As diesel fuel consumption for large scale ocean barging was not available, values for inside passage barging were used for all barging transport routes.[8] Distance to the Port of Coos and Port Mellon were found using Charts.org. Published studies were consulted for log truck fuel consumption, and a value of 6 mpg used.[9] Diesel fuel consumption for Onload/Offload was estimated using average operations at the Port.[10] It is assumed that these costs are approximately the same at all ports. The Energy Information Administration was used to find GHG emissions, measured in terms of CO_2, emitted from combustion of diesel fuel: 22.46 pounds (lbs.) per gallon of diesel fuel. [11] Lastly, logs move from the forest to scales, and then to a yard where it is off-loaded, sorted and stacked. Those operations are independent of final destination and transport mode. Accordingly, they are not analyzed.[12]

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[7] Makai Magnuson, General Manager and Operator of Koshega. Mr. Magnuson also provided diesel fuel consumption for these trips.
[8] It is unknow at this time the direction of bias resulting from this assumption. However, as in general fuel efficiency for volume/weight hauled increases with barge size, the likely bias will underestimate efficiency gains.
[9] A wide range of studies have been completed that estimate diesel fuel consumption for hauling by log trucks, on gravel and paved roads. *The Washington Log Trucking Industry: Costs and Safety Analysis*, Rural Technology Initiative, estimates 5.1 MPG on roads with 17 percent gravel and 83 percent paved. Brandon Schoettle, Michael Sivak and Michael Tunnel, *A Survey of Fuel Economy and Fuel Usage by Heavy-Duty Truck Fleets*, University of Michigan, October 2016. A value of 6 mpg was used in this study.
[10] Chris Rasmussen, Operations Director, Port of Port Angeles.
[11] Energy Information Administration.
[12] This assumption likely causes a downward bias in the estimates of net benefits. The reason is that the costs of on-loading long-haul trucks is not addressed, whereas picking up logs for movement to barges is. Technically, there should be a deduction in time and effort to pick up Loads using Wagners.

Estimating diesel fuel consumption, Truck Miles, and GHG (CO_2) emissions by transport option

Table 1 presents the total Diesel fuel consumption, Truck Miles, and corresponding GHG (CO_2) emissions that would have resulted if logs exported from the Port to final destinations in Snohomish, Skagit and Coos Counties used long-haul trucking.[13] Similar results are presented for imports from Washington and Canada, using distances from the Port of Everett and Port Mellon to Port Angeles Hardwoods (PAHW).[14] The table begins with the total export volume, in thousands of board feet (MBF), to each county. The same was done for imports, but specifies PAHW as the final destination. Volumes were converted to Loads (truck loads) using the conversion factor of 4,200 board feet (BF). Distances in miles were estimated using Google Maps. A fuel efficiency factor of 6 mpg was used for long-haul trucking to calculate total Diesel fuel consumption. Truck Miles are the product of loads and distance. Lastly, Diesel fuel consumption was converted into tons of CO_2.

	Long Haul Trucking: Diesel Fuel, Truck Miles, and CO2					
	Wood Fiber (Logs)		Long Haul Trucking			
Destintation	**Vol (MBF)**	**Loads**	**Dist (MI)**	**Diesel (gal)**	**Truck Miles**	**CO2 (tons)**
Snohomish	1,052	250	91	3,799	22,794	43
Skagit	3,974	946	130	20,501	123,005	230
Coos	4,409	1,050	433	75,758	454,547	851
PAHW (WA)	4,032	960	93	14,880	89,280	167
PAHW (CA)	2,358	561	210	19,650	117,900	221
Grand Totals	**15,825**	**3,768**		**134,588**	**807,525**	**1,511**

Table 1: Fuel consumption and CO_2 emissions from long-haul trucking by volume and destination, 2021.

The estimated values presented in Table 1 indicate that for 2021 it would have taken 3,768 trucks traveling 807,525 Truck Miles to export and import 15,825 MBF of logs. Those trucks would have traveled on surface streets and highways. That transport would have required 134,588 gallons of Diesel fuel. Combustion of that diesel fuel would result in 1,511 tons of CO_2 emissions. These estimated values represent the cost of using long-haul trucking to support the export and import of logs from the North Olympic Peninsula. When barging is substituted for long-haul trucking, those costs are reduced, the difference representing a net benefit to society.

To capture efficiency gains and the net benefits resulting from the substitution of barge shipping for long-haul trucking, a travel model was developed that consisting of the following components:

(1) Onloading and offloading at ports;
(2) Barging between ports;
(3) Off-loading and short-haul trucking to the final purchaser.

[13] Proxy distances were used for sawmills in export destinations to avoid specification of specific buyers of logs.
[14] Import data provided by Port Angeles Hardwoods aggregates all Canadian imports from Vancouver and the Sunshine Coast of British Columbia.

These components are the only additional sources of wood handling and transport between forest operations and arrival at the purchasing wood product manufacturer.[15] Thus, Diesel fuel used with corresponding CO_2 emissions, and short-haul Truck Miles were analyzed and estimated accordingly.

Logs that have been scaled, sorted and stacked by final purchaser are moved by Wagner L80's to the cofferdam.[16] A Wagner L80 consumes 18 gallons of diesel fuel per hour (G/HR). It takes a Wagner L80 3 hours to move 50 loads, the capacity of a small barge. In the process, it consumes a total of 54 gallons of Diesel fuel, releasing 0.6 tons of CO_2. Logs are then loaded onto the barge using a Doosan 300LL and a Doosan 380LL. They consume 12 and 14 G/HR respectively to complete barge loading. Working in tandem, it takes 2 and 3 hours to complete barge loading, consuming an additional 66 gallons of Diesel fuel, which releases 0.8 tons of CO_2. Thus, on-loading uses a total of 120 gallons of Diesel fuel with 1.3 tons of CO_2 emissions. The same process is reversed at the port of destination. These estimated one-way values are presented in Table 2.

Onload or Offload Operations: Diesel Fuel and CO2 per 50 Load Barge						
	Gallons	Total	Total	Hours	Gallons	CO2
Equipment	Hour	Hours	Loads	Load	Diesel	Tons
Wagner L80	18	3	50	0.06	54	0.6
Doosan 300LL	12	2	20	0.10	24	0.3
Doosan 380LL	14	3	30	0.10	42	0.5
Totals	**44**	**8**	**50**	**0.26**	**120**	**1.3**

Table 2: Fuel consumption for onload or offload operations per 50 load barge, 2021.

TASK 3: ESTIMATION OF NET SOCIAL AND ENVIRONMENTAL BENEFITS DERIVED FROM BARGE SUBSTITUTION

Table 3 integrates the analysis in Table 1 and Table 2 to estimate the total consumption of Diesel fuel, Truck Miles and CO_2 emissions from using barges rather than long-haul trucking. The total Loads in Table 1 are converted to Barge Loads, at 50 Loads per barge. Total Diesel fuel consumption is then estimated using 120 gallons of Diesel fuel per barge, doubled for offloading, and the total number of barges. The impacts of short-haul trucking as Truck Miles are the product of loads and travel distance between the port and final purchaser. CO_2 is estimated using the coefficient described above. The 75 Barge Loads exported and imported consumed 18,086 gallons of Diesel for on and off-loading, 52,738 gallons for barge transport, and 9,209 gallons for short-haul trucking, for a total of 80,033 gallons of Diesel fuel. The sum total of this Diesel fuel combustion resulted in 899 tons of CO_2 emissions.

[15] Wood moves from the forest to the Port for scaling, sorting and stacking. Not all of that wood is exported. Some is purchased and used at local mills, an additional source that makes operations profitable.
[16] Source: Chris Rasmussen, Operations Director, Port of Port Angeles.

Barging: Diesel Fuel, Truck Miles, and CO2												
	Onload + Offload			Barging			Short-Haul Trucking			Totals		
	Barge	Diesel	CO2	Dist	Diesel	CO2	Dist	Diesel	CO2	Diesel	Truck	CO2
Desintation	Loads	(gal)	(tons)	(NM)	(gal)	(tons)	(MI)	(gal)	(tons)	(gal)	Miles	(tons)
Snohomish	5	1,202	14	60	1,253	14	6	250	3	2,706	1,503	30
Skagit	19	4,542	51	60	4,735	53	42	6,623	74	15,900	39,740	179
Coos	21	5,039	57	439	38,435	432	9	1,575	18	45,048	9,448	506
PAHW (WA)	19	4,608	52	60	4,804	54	3	480	5	9,892	2,880	111
PAHW (CA)	11	2,695	30	75	3,512	39	3	281	3	6,487	1,684	73
Totals	**75**	**18,086**	**203**	**694**	**52,738**	**592**	**63**	**9,209**	**103**	**80,033**	**55,255**	**899**

Table 3: Diesel fuel consumption and CO_2 emissions from barging by barge loads and destination, 2021.

The net benefits to society from the substitution of barging for long-haul trucking can now be estimated as the difference between transport costs, or

NB = cost of barge transport – cost of long-haul trucking;

= [(cost on/off-loading) + (cost barging) + (cost short-haul trucking)] – cost long-haul trucking,

where, cost is measured in terms of Truck Miles, CO_2 emissions, and Truck Accidents. Truck Accidents are added to the NB equation in the next section.

DISCUSSION OF RESULTS

The preceding analysis was used to compile the summary results contained in Table 4. The first section presents the total Truck Miles needed to deliver total long-haul Loads to the final purchaser with corresponding CO_2 emissions. The 3,768 Loads exported and imported in 2021 would have required 807,525 Truck Miles for delivery, resulting in a total of 1,511 tons of CO_2 emissions. In actuality, 75 barges were used to deliver those Loads, rather than long-haul trucking, creating a Net Benefit. Onloading and offloading operations, barge transport, and short-haul trucking used 55,255 Truck Miles (less than one-tenth) with 899 tons of CO_2 emissions. The difference between the cost of long-haul trucking in terms of Truck Miles and CO_2, and the cost of barge transport represent social and environmental Net Benefits. Thus, current operations at the IHT Facility reduce total highway traffic by 752,270 Truck Miles and CO_2 emissions by 613 tons. Truck Miles also affect traffic safety. The column Truck Accidents in Net Benefits was constructed using data from the Federal Highway Administration and the National Highway Safety Administration. In 2019, a total of 124,746,000,000 Truck Miles occurred on rural and urban roads.[17] In the same year there were "an estimated 538,000 large truck police-reported traffic crashes" injuring 159,000 people, 5,005 fatally.[18] This translated into an accident rate of 0.000,004 truck accidents per 1,000 Truck Miles. The coefficient was used to estimate a total decline in Truck Accidents of - 3.0 associated with reductions in Truck Miles by substitution of barging

[17] Miles traveled in 2019.pdf

[18] National Highway Traffic Safety Administration, *Traffic Safety Facts* 2019 Data.

for long-haul trucking.[19] This is a second social benefit derived from the substitution of barging for long-haul trucking made possible by the IHT Facility.

Efficiency Gains from Substitution of Barging for Long-Haul Trucking									
	Long Haul Trucking			All Barging Costs			Net Benefits		
	Total	Truck	CO2	Barge	Truck	CO2	Truck	CO2	Truck
Destintation	Loads	Miles	(tons)	Loads	Miles	(tons)	Miles	(tons)	Accidents
Snohomish	250	22,794	43	5	1,503	30	-21,291	-12	-0.1
Skagit	946	123,005	230	19	39,740	179	-83,265	-52	-0.3
Coos	1,050	454,547	851	21	9,448	506	-445,099	-345	-1.8
PAHW (WA)	960	89,280	167	19	2,880	111	-86,400	-56	-0.3
PAHW (CA)	561	117,900	221	11	1,684	73	-116,216	-148	-0.5
Totals	**3,768**	**807,525**	**1,511**	**75**	**55,255**	**899**	**-752,270**	**-613**	**-3.0**

Table 4: The net benefits from barge substitution for long-haul trucking, 2021. [20]

CONCLUSION

The analysis in this Technical Memo indicates that on an annual basis, operations at the Intermodal Handling & Transfer Facility reduces total Truck Miles on roads and highways by over 752,000. Fewer trucks on the road reduces highway congestion, road depreciation, and other associated pollutants. Fewer trucks driving fewer miles also improve highway safety. This Technical Memo quantify this increase in public safety as 3 fewer truck related Accidents. Lastly, fewer trucks driving fewer miles reduces Diesel fuel combustion. One important result is a reduction in GHG emissions, estimated as an annual saving in CO_2 emissions of over 600 tons.

[19] There are other net benefits to be derived by substitution of barging for long-haul trucking, including highway congestion, road depreciation and other forms of pollutants associated with trucking.
[20] Values rounded, except as shown.

The following Letters of Support are attached:

1. **Indigenous People**
    a. Makah Tribe

2. **Federal Representatives**
    a. Derek Kilmer – United States Representative - WA-006

3. **State Representatives**
    a. Senator Kevin Van De Wege, Representee Mike Chapman, & Representative Steve Tharinger - WA State 24th Legislative District

4. **Local Government & Regional Economic Development Entities**
    a. Clallam County
    b. City of Forks
    c. North Olympic Development Council

5. **Private Business Stakeholders**
    a. Cascade Hardwood Group
    b. Green Crow
    c. Sierra Pacific Industries
    d. Osprey Logistics

MAKAH FORESTRY ENTERPRISE

P.O. Box 185 • Neah Bay, Washington 98357
(360) 645-3060 • Fax (360) 645-3061

Port of Port Angeles
Attn: John Nutter
338 W. First Street
Port Angeles, WA 98362

May 6, 2022

Dear Mr. Nutter:

I am writing to you in support of the grant application for the Port of Port Angeles' Intermodal Handling and Transfer (IHT) Facility Improvements located on industrial zoned waterfront property in Port Angeles, WA.

The Makah Forestry Enterprise (MFE) is a tribally-chartered enterprise whose primary functions serves as that of a log brokerage firm. The MFE employs two (2) full-time employees; its long-term goals lies in that of expanding its operations in Clallam County. The MFE has been a user of the Port of Port Angeles for approximately thirty (30) years we hope to increase that level of operations there, for the long term, assuming conditions allow.

The proposed improvements to the Port's Intermodal Handling and Transfer Facility is of great interest to our company because it will enhance vital infrastructure that would allow our company to expand through significantly increased production rates. Our company creates two (2) family wage jobs with an annual payroll of $135,000. In addition to our payroll, the MFE hires local contractors which provides income to multiple families in both the local community and the extended communities of Clallam County. Noteworthy to the effects of the aforementioned job creation, our contractors and employees purchase goods and services in our local community, which bring more jobs and economic benefits to the region.

The proposed improvements to the Port's IHT Facility, including the cofferdam dock and phase 1 site improvements will allow the MFE to fulfill its goal of future growth for the future. We are confident this improved infrastructure will bring new opportunities, with jobs and economic activity, to the Olympic Peninsula through its forest product companies.

The IHT Facility is a vital part of the freight transportation infrastructure on the Olympic Peninsula. The Port of Port Angeles is located along the Straits of Juan De Fuca, a major hub for timber harvest and lumber production, but there are very few logistical options for transporting product onto and off the peninsula. These infrastructure improvements will provide a safer, more reliable and cost-effective option for freight transportation.

Additionally, it will reduce the number of trucks on the highway and carbon emissions through a more efficient mode of transportation by barge versus individual truck trips.

We urge support for the Port of Port Angeles' grant application. The investment will enhance economic activity and improve the transportation network that connects our remote community on the northern Olympic Peninsula.

Regards,

James R Campbell

James R. Campbell
Operations Manager

Cc: file

DEREK KILMER
6TH DISTRICT, WASHINGTON

COMMITTEE ON APPROPRIATIONS
DEFENSE SUBCOMMITTEE
INTERIOR, ENVIRONMENT, AND RELATED AGENCIES SUBCOMMITTEE
ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515-4706

OFFICES:
2059 RAYBURN OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-5916

950 PACIFIC AVENUE
SUITE 1230
TACOMA, WA 98402
(253) 272-3515

345 6TH STREET
SUITE 500
BREMERTON, WA 98337
(360) 373-9725

www.kilmer.house.gov

May 10, 2022

The Honorable Pete Buttigieg
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg:

I am pleased to write in support of Port of Port Angeles's U.S. Department of Transportation Port Infrastructure Development Program (PIDP) grant proposal. The Port is seeking funding for improvements to its Intermodal Handling and Transfer (IHT) facility located at the Port of Port Angeles on the Olympic Peninsula of Washington state.

The Olympic Peninsula has historically been a center for timber harvest and lumber manufacturing from public and private lands. However, its remote location and lack of rail limits logistical options for transporting product onto and off the Peninsula for domestic manufacturing.

The IHT facility is the only industrial facility with a water interface on the Olympic Peninsula that can process whole logs coming from Canada and Alaska. The IHT facility also moves logs from the Peninsula to manufacturers elsewhere in Washington state and Oregon using maritime (barge) transportation. The IHT facility is a vital part of the freight-transportation infrastructure on the Olympic Peninsula, through its barging and log-rafting capability, and directly supports domestic manufacturing, timber industry jobs, and economic development throughout the region. The living wage jobs the IHT supports, both directly and indirectly, have a profound impact on the citizens of Clallam County, where more than 15% of the population lives below the poverty line.

The Port's proposed project will improve the IHT facility's efficiency and increase its barging capacity. In turn, this will provide a safer, more reliable, and cost-effective option for freight transportation to support domestic manufacturing in Washington and Oregon. Importantly, a recent carbon emissions study shows that barge transportation to and from Port Angeles to domestic manufacturers emits 76% less carbon when compared to long-haul trucking. And while the study did not analyze impacts to road maintenance or traffic flow, it did reveal that barge transportation to these markets reduces 600,000 miles of truck use on roads and highways.

DEREK KILMER
6TH DISTRICT, WASHINGTON

COMMITTEE ON APPROPRIATIONS
DEFENSE SUBCOMMITTEE
INTERIOR, ENVIRONMENT,
AND RELATED AGENCIES SUBCOMMITTEE
ENERGY AND WATER
DEVELOPMENT SUBCOMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515-4706

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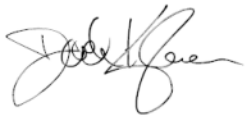
SUITE 500
BREMERTON, WA 98337
(360) 373-9725

www.kilmer.house.gov

Again, I am pleased to write in support of Port of Port Angeles's proposal for PIDP funding and urge your full and fair consideration. This investment will enhance economic activity, improve the transportation network that connects the remote northern Olympic Peninsula community to domestic forest product markets, and reduce the environmental impact over alternative transportation methods. Should you have any questions, please contact Andrea Roper in my district office at Andrea.Roper@mail.house.gov.

Sincerely,



Derek Kilmer
Member of Congress

Legislative Building

Washington State Legislature

Olympia, WA 98504-0600

May 9, 2022

U.S. Department of Transportation
MARAD Port Infrastructure Development Program

RE: Support for the Port of Port Angeles Grant Request

As elected state legislators from Washington's 24th Legislative District, we are urging support for the grant funding request submitted by the Port of Port Angeles for improvements to its Intermodal Handling and Transfer (IHT) facility at the Port of Port Angeles.

The Olympic Peninsula has historically been a major center for sustainable timber harvest and lumber manufacturing from public and private lands. However, its location and lack of rail limits logistical options for transporting product onto and off the peninsula for domestic manufacturing.

The IHT facility is the only local industrial facility with a water interface that can handle whole logs coming from Canada and Alaska for processing on the Olympic Peninsula. The IHT facility also moves logs from the Peninsula to domestic manufacturers in Washington State and Oregon using maritime (barge) transportation. The IHT facility is a vital part of the freight transportation infrastructure for the Olympic Peninsula through its barging or log rafting capability and directly supports domestic manufacturing, timber industry jobs and economic development throughout the community. These living wage direct and indirect jobs have a profound impact in lifting the economy of Clallam County, where more than 15% of the population currently lives below the poverty line.

The Port's proposed project will improve the IHT facility's efficiency and improve its barging capacity. In turn this will provide a safer, more reliable, and cost-effective option for freight transportation to support domestic manufacturing in Washington and Oregon. Importantly, a recent carbon emission study shows that barge transportation to and from Port Angeles to domestic manufacturers emits 76% less carbon when compared to long-haul trucking. Although the study did not analyze impacts to road maintenance or traffic flow, it did reveal that barge transportation to these markets reduces 600,000 miles of truck use on our roads and highways.

We urge approval of the Port of Port Angeles' grant request. The investment will enhance economic activity, improve the transportation network that connects the remote northern Olympic Peninsula community to domestic forest product markets and reduces the environmental impact over alternative transportation methods.

Sincerely,

Senator Kevin Van De Wege
24th Legislative District

Representative Mike Chapman
24th Legislative District

Representative Steve Tharinger
24th Legislative District

Board of Clallam County Commissioners

223 East 4th Street, Suite 4
Port Angeles, WA 98362-3015
360.417.2233 Fax: 360.417.2493
Email: commissioners@co.clallam.wa.us

MARK OZIAS, District 1, Chair
RANDY JOHNSON, District 2
BILL PEACH, District 3

RICH SILL, County Administrator

May 10, 2022

The Honorable Pete Buttigieg
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Re: Port of Port Angeles grant funding request – Intermodal Handling and Transfer Facility at Port Angeles

Dear Secretary Buttigieg:

We are writing on behalf of Clallam County Commission to endorse the grant funding request submitted by the Port of Port Angeles for improvements at its Intermodal Handling and Transfer (IHT) facility at Port Angeles.

The Olympic Peninsula has historically been a major center for sustainable timber harvest and lumber manufacturing from public and private lands. However, its location and lack of rail limits logistical options for transporting product onto and off the peninsula. The IHT facility is the only local industrial facility with a water interface to handle whole logs for processing on the Olympic Peninsula and export to domestic markets using maritime transportation. The IHT facility is a vital part of the freight transportation infrastructure for the Olympic Peninsula through its barging or log rafting capability, directly supporting timber industry jobs and furthering economic development throughout the community. These living wage direct and indirect jobs have a profound impact in lifting the economy of Clallam County, where more than 15% of the population currently lives below the poverty line.

The Port's proposed project will improve the IHT facility's efficiency and improve its barging capacity. In turn this will provide a safer, more reliable and cost-effective option for freight transportation. Importantly, a recent carbon emission study detailed that barge transportation to and from Port Angeles to existing markets emits 76% less carbon when compared to long-haul trucking. Further, though road maintenance nor impacts to traffic flow were specifically addressed in the study, the reduction of approximate 600,000 truck miles for the forest products to reach domestic customers from Port Angeles should not be missed.

The Port of Port Angeles' grant application has our strongest support. The investment will enhance economic activity, improve the transportation network that connects the remote northern Olympic Peninsula community to domestic forest product markets and reduces the environmental impact over alternative transportation methods.

Sincerely,

BOARD OF CLALLAM COUNTY COMMISSIONERS

Mark Ozias, Chair

Randy Johnson

Bill Peach

j:\public\correspondence\from bocc\2022\port of port angeles intermodal handling & transfer facility 5-17-22.docx
A72

CITY OF FORKS

500 E. Division St. • Forks, Washington 98331-8618

(360) 374-5412 • Fax: (360) 374-9430 • TTY: (360) 374-2696
forkswashington.org

Mr. Geoff James, Director
Port of Port Angeles
338 West First Street
Port Angeles, WA 98362

2 May 2022

On behalf of the City of Forks, I am writing to you today to strongly support and endorse the grant funding request the Port of Port Angeles is pursuing for improvements at its Intermodal Handling and Transfer (IHT) facility at Port Angeles.

The City of Forks has long supported efforts that continue the sustainable timber harvest of our region's public and private forest lands. The Port has been a critical component in the transportation of harvested timber and manufactured lumber from the Peninsula. Without rail opportunities in our region, the Port's IHT facility is the only local industrial facility with a water interface to handle whole logs for processing on the Olympic Peninsula and export to domestic markets using maritime transportation. The critical nature of the IHT facility as part of our region's freight transportation infrastructure supports timber industry jobs and furthers economic development throughout our collective community. These living wage direct and indirect jobs have a profound, significantly positive impact on the economy of Clallam County, where more than 15% of our community lives below the poverty line.

We support the Port's proposed project to improve both the barging capacity and efficiency of the IHT facility. As proposed, the improved IHT facility will provide a safer, more reliable and cost-effective option for freight transportation. Importantly, a recent carbon emission study detailed that barge transportation to and from Port Angeles to existing markets emits 76% less carbon than does long-haul trucking. The project could not only reduce some 600,000 truck miles for the forest products to reach domestic customers, but also reduce road maintenance associated with such reductions.

I strongly support the Port of Port Angeles' grant application. The investment will enhance economic activity, improve the transportation network that connects the remote northern Olympic Peninsula community to domestic forest product markets, and reduce the environmental impact over alternative transportation methods.

Sincerely,

Tim Fletcher
Mayor

EXECUTIVE BOARD
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Jefferson County

Vice President
Mark Ozias
Clallam County

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City of Port Angeles

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City of Forks
City of Sequim
Clallam EDC
Clallam PUD
Clallam Transit
Dungeness Valley Creamery
EDC Team Jefferson
Field Arts & Events Hall
Jamestown S'Klallam Tribe
Jefferson Community Foundation
Jefferson County Chamber of Commerce
Jefferson Land Trust
Jefferson PUD
Lumber Traders
North Olympic Land Trust
Pacfic Northwest National Laboratory
Port Angeles Business Association
Port of Port Angeles
Port Townsend Foundry
Sequim-Dungeness Valley Chamber of Commerce
The Food Co-op of Port Townsend
WSU Jefferson County Extension

NODC
NORTH OLYMPIC DEVELOPMENT COUNCIL
PO Box 2526, Port Angeles, WA 98362 ▪ www.noprcd.org ▪ 360-477-1593

May 2, 2022

As the regional Economic Development District for Clallam and Jefferson Counties in Washington, the North Olympic Peninsula Resource Conservation & Development Council (NODC) is pleased to endorse the grant funding request submitted by the Port of Port Angeles for improvements at its Intermodal Handling and Transfer (IHT) facility at Port Angeles.

The Olympic Peninsula has historically been a major center for sustainable timber harvest and lumber manufacturing from public and private lands. However, its location and lack of rail limits logistical options for transporting product onto and off the peninsula.

The IHT facility is the only local industrial facility with a water interface to handle whole logs for processing on the Olympic Peninsula and export to domestic markets using maritime transportation. The IHT facility is a vital part of the freight transportation infrastructure for the Olympic Peninsula through its barging or log rafting capability, directly supporting timber industry jobs and furthering economic development throughout the community. These living wage direct and indirect jobs have a profound impact in lifting the economy of Clallam County, where more than 15% of the population currently lives below the poverty line.

The Port's proposed project will improve the IHT facility's efficiency and improve its barging capacity. In turn this will provide a safer, more reliable and cost-effective option for freight transportation. Importantly, a recent carbon emission study detailed that barge transportation to and from Port Angeles to existing markets emits 76% less carbon when compared to long-haul trucking. Further, though road maintenance nor impacts to traffic flow were specifically addressed in the study, the reduction of approximate 600,000 truck miles for the forest products to reach domestic customers from Port Angeles should not be missed.

The Port of Port Angeles' grant application has my strongest support. The investment will enhance economic activity, improve the transportation network that connects the remote northern Olympic Peninsula community to domestic forest product markets and reduces the environmental impact over alternative transportation methods.

Sincerely,

Karen Affeld
Executive Director
karen@noprcd.org

The NODC prohibits discrimination in its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status

CASCADE HARDWOOD GROUP

CASCADE HARDWOOD | PORT ANGELES HARDWOOD

April 27, 2022

Dear Chris,

I am writing to you in support of the grant application for the Port of Port Angeles' Intermodal Handling and Transfer (IHT) Facility Improvements located on industrial zoned waterfront property in Port Angeles, WA.

Port Angeles Hardwood/ Cascade hardwood are Hardwood Mills and employs 225 people for our operations in Clallam and Lewis County. Port Angeles/ Cascade Hardwood has been a user for 14 years and we hope to maintain and increase the level of operations there, for the long term, assuming conditions allow.

The proposed improvements to the Port's Intermodal Handling and Transfer Facility is of great interest to our company because it will enhance vital infrastructure that would allow our company to expand. Our company creates 225 family wage jobs directly with an annual payroll of $18,000,000. In addition to our payroll, we purchase goods and services in our local community, which bring more jobs and economic benefits to the region.

The proposed improvements to the Port's IHT Facility, including the cofferdam dock and phase 1site improvements, would be an integral part of our companies planning for growth in the future. We are confident this improved infrastructure will bring new opportunities, with jobs and economic activity, for regional forest product companies.

The IHT Facility is a vital part of the freight transportation infrastructure on the Olympic Peninsula. The Port of Port Angeles is located along the Straits of Juan De Fuca, a major hub for timber harvest and lumber production, but there are very few logistical options for transporting product onto and off the peninsula. These infrastructure improvements will provide a safer, more reliable and cost-effective option for freight transportation. Additionally, it will reduce the number of trucks on the highway and carbon emissions through a more efficient mode of transportation by barge versus individual truck trips.

We urge support for the Port of Port Angeles' grant application. The investment will enhance economic activity and improve the transportation network that connects our remote community on the norther Olympic Peninsula.

Regards,

Darrell T. Alvord

Darrell Alvord
Resource Manager
360-431-0421

GREEN CROW

727 East 8th • P.O. Box 2469
Port Angeles, WA 98362-0074
Phone 360-452-3325 • Fax 360-417-3676

Dear Chris,

I am writing to you in support of the grant application for the Port of Port Angeles' Intermodal Handling and Transfer (IHT) Facility Improvements located on industrial zoned waterfront property in Port Angeles, WA.

Green Crow is a timberland owner and log yard operator that employs 10 employees for our operations in Clallam County. Green Crow has been a tenant at the Port of Port Angeles for over 35 years and we hope to maintain our level of operations for the long term, assuming conditions allow.

The proposed improvements to the Port's Intermodal Handling and Transfer Facility are of great interest to our company because it will enhance vital infrastructure that would allow our company to continue its operations at the port. Our company creates over 20 family wage jobs. In addition, we purchase goods and services in our local community, which bring more jobs and economic benefits to the region. We remain actively involved in multiple local charitable organizations in an effort to give back to the community which gives so much to us.

The proposed improvements to the Port's IHT Facility, including the cofferdam dock and phase 1 site improvements, would be an integral part of our planning for growth in the future. We are confident this improved infrastructure will bring new opportunities, with jobs and economic activity, for local and regional forest product companies.

The IHT Facility is a vital part of the freight transportation infrastructure on the Olympic Peninsula. The Port of Port Angeles is located along the Straits of Juan De Fuca, a major hub for timber harvest and lumber production, but there are very few logistical options for transporting product onto and off the peninsula. These infrastructure improvements will provide a safer, more reliable and cost-effective option for freight transportation. Additionally, it will reduce the number of trucks on the highway and carbon emissions through a more efficient mode of transportation by barge versus individual truck trips.

We urge support for the Port of Port Angeles' grant application. The investment will enhance economic activity and improve the transportation network that connects our remote community on the northern Olympic Peninsula to other parts of the state and rest of the world.

Regards,

John T. Crow

Green Crow Corporation, President and CEO

SIERRA PACIFIC INDUSTRIES
Growing Forests For Our Future

Sierra Pacific Industries

421 South Front Street (P.O. Box 700), Shelton, WA 98584

April 11, 2022

Chris Rasmussen
Director of Operations
Port of Port Angeles
338 W. First Street
Port Angeles, WA 98362

Dear Chris,

I am writing to you in support of the grant application for the Port of Port Angeles' Intermodal Handling and Transfer (IHT) Facility Improvements located on industrial zoned waterfront property in Port Angeles, WA.

Sierra Pacific Industries (SPI) has been working with the Port of Port Angeles (POPA) in handling and transporting logs since 2007. We employ more than 900 people throughout the state of Washington at four different locations. Two of our locations, Shelton and Burlington, rely on logs generated and handled by the Port of Port Angeles. When we started using the POPA facilities we exclusively rafted logs out of the Port. For the past 6 years we have exclusively barged logs out of POPA. Our hope is to not just continue with these operations, but to increase our volumes as conditions allow.

The proposed improvements to the Port's Intermodal Handling and Transfer Facility are of great interest to our company because it will enhance vital infrastructure that would allow our company to grow our volume throughput. In 2021, our company supported 915 family wage jobs with an annual payroll of $73 million. In addition to our payroll, the contractors who work to harvest and transport the logs we need to our mills and those involved in transporting our finished products to markets are estimated to have an additional 900 employees as well.

The proposed improvements to the Port's IHT Facility, including the cofferdam dock and phase 1 site improvements, would be an integral part of our companies planning for growth in the future. We are confident this improved infrastructure will bring new opportunities, with jobs and economic activity, for SPI and other forest product companies.

The IHT Facility is a vital part of the freight transportation infrastructure on the Olympic Peninsula. The Port of Port Angeles is located along the Straits of Juan De Fuca, a major hub for timber harvest and lumber production, but there are very few logistical options for transporting product onto and off the peninsula. These infrastructure improvements will provide a safer, more reliable and cost-effective option for freight transportation. Additionally, it will reduce the number of trucks on the highway and carbon emissions through a more efficient mode of transportation by barge versus individual truck trips.

We urge support for the Port of Port Angeles' grant application. The investment will enhance economic activity and improve the transportation network that connects the communities where we have facilities to the northern Olympic Peninsula.

Sincerely,

William S. Turner
Washington Log Procurement Manager

OSPREY LOGISTICS

May 11, 2022

Dear Chris,

I am writing to you in support of the grant application for the Port of Port Angeles' Intermodal Handling and Transfer (IHT) Facility Improvements located on industrial zoned waterfront property in Port Angeles, WA.

Osprey Logistics is a full-service, intermodal terminal and freight broker and employs 11 people for our operations in Clallam County. Osprey Logistics has been a user of Port owned facilities for 2 years and we hope to increase that level of operations there, for the long term, assuming conditions allow.

The proposed improvements to the Port's Intermodal Handling and Transfer Facility is of great interest to our company because it will enhance vital infrastructure that would allow our company to expand. Our company creates 15 family wage jobs with an annual payroll of $1.409 million, as well as an additional 30 indirect jobs (truck drivers). In addition to our payroll, we purchase goods and services in our local community, which bring more jobs and economic benefits to the region.

The proposed improvements to the Port's IHT Facility, including the cofferdam dock and phase 1 site improvements, would be an integral part of our companies planning for growth in the future. We are confident this improved infrastructure will bring new opportunities, with jobs and economic activity, for regional and local forest product companies.

The IHT Facility is a vital part of the freight transportation infrastructure on the Olympic Peninsula. The Port of Port Angeles is located along the Straits of Juan De Fuca, a major hub for timber harvest and lumber production, but there are very few logistical options for transporting product onto and off the peninsula. These infrastructure improvements will provide a safer, more reliable and cost-effective option for freight transportation. Additionally, it will reduce the number of trucks on the highway and carbon emissions through a more efficient mode of transportation by barge versus individual truck trips.

We urge support for the Port of Port Angeles' grant application. The investment will enhance economic activity and improve the transportation network that connects our remote community on the northern Olympic Peninsula.

Regards,

Megan Doyle, on behalf of Rob Janicki
Owner

2326 27th Pl NE, Everett, WA 98201 425-522-5424

The following are Port adopted plans or resolutions that support a commitment to promoting a diverse, equitable, and inclusive workforce as described in the Project Narrative:

1. **Port Strategic Plan:** Job creation (especially important for our economically distressed area) is our number one priority as is detailed in our mission statement: "We bring people, resources and industry together to foster economic prosperity and living wage jobs".

2. **Port Commissioners' Resolution No. 19-1199:** Per RCW 53.08.245 the Port works with tenants, private companies, and academic entities to develop occupational training and workforce development opportunities.

3. **Port Limited English Proficiency Plan:** The Port is responsible that equal access to services, programs, and activities is provided to persons with limited English proficiency. This is an important step to eliminate barriers that prevent full participation of some groups.

Port Strategic Plan

PORT OF PORT ANGELES

STRATEGIC PLAN

2016-2021

Updated May 2021

OUR VISION:

A Prosperous Clallam County.

Board of Commissioners:
Colleen McAleer, *District 1*
Steven Burke, *District 2*
Connie Beauvais, *District 3*

Geoff James, *Executive Director*

OUR MISSION:

We bring people, resources and industry together to foster economic prosperity and living wage jobs.

OUR VALUES:

- **LEADERSHIP**
  Bringing together private and public entities in the community to lead economic development.
- **STEWARDSHIP**
  Responsibly managing resources for long term sustainability and to quickly respond to new opportunities.
- **INTEGRITY**
  Doing the right thing in a responsive manner.
- **EXCELLENCE**
  Striving for continuous improvement.
- **ACCOUNTABILITY**
  Accepting responsibility and embracing professional and ethical standards.
- **TRANSPARENCY**
  Openly sharing information with the public by explaining actions, decisions and resulting consequences.

Port Commissioners' Resolution No. 19-1199

Port of Port Angeles

Port Angeles, Washington

Commissioners' Resolution No. 19-1199

A RESOLUTION OF THE BOARD OF COMMISSIONERS FOR THE PORT OF PORT ANGELES, RELATING TO PORT DISTRICT ECONOMIC DEVELOPMENT PROGRAMS.

WHEREAS, the expenditure of port funds for industrial development and trade promotion is considered a public purpose under the Washington State Constitution;

WHEREAS, it is a public purpose for port districts to engage in economic development programs under RCW 53.08.245;

WHEREAS, the Legislature unanimously amended RCW 53.08.245 to allow port districts to contract with private and public entities, in addition to nonprofit corporations, that provide economic development programs, including training systems as defined in RCW 28C.18.010 and those that promote workforce diversity;

WHEREAS, RCW 53.08.245(2)(a) reads "economic development programs may include: occupational job training and placement, job advancement and job retention, preapprenticeship training, or occupational education programs associated with port tenants, customers, and local economic development related to port tenants or port-related economic activities that are sponsored by a port and operated by a nonprofit, private, or public entity";

WHEREAS, such economic development programs provide a substantial public benefit consistent with the port commission's economic development goals and ongoing advocacy efforts for worker training initiatives;

WHEREAS, workforce development is a basic business interest and a real-world necessity for ports and industry partners; and

WHEREAS, the Strategic Plan for the Port of Port Angeles explicitly states that the agency will advocate to advance the development and retention of a diversified and skilled workforce within Clallam County.

NOW, THEREFORE, BE IT RESOLVED:

1. The Port shall work with its customers, tenants, and others to identify and develop occupational training and workforce development opportunities as appropriate.

2. The Port shall be authorized to invest in occupational training and workforce development programs that provide a substantial public benefit.

Port Commissioners' Resolution No. 19-1199 – Continued

3. The Port shall be authorized to contract with nonprofit, academic, private, and public entities to operate economic development programs, including training systems as defined in RCW 28C.18.010 (or as subsequently amended) and those that promote workforce diversity.

4. Economic development programs may include the types of programs identified in RCW 53.08.245(2)(a) (or as subsequently amended).

5. The Port shall ensure any economic development programs it supports align with the agency's economic development goals.

6. The Port shall, as a contract condition, require any entity that operates programs, which are the focus of RCW 53.08.245 and this resolution, to submit annually quantitative information on program outcomes including: the number of workers trained, recruited, placed in jobs, and retained; the types of jobs and range of compensation; the number and types of businesses that are served; and any other tangible benefits realized by the port, the workers, businesses, and the public.

ADOPTED by the Port Commission for the Port of Port Angeles at a regular meeting thereof held this 13th day of August 2019.

PORT OF PORT ANGELES
BOARD OF COMMISSIONERS

Connie L. Beauvais, President

Steven D. Burke, Vice President

Colleen M. McAleer, Secretary

Port Limited English Proficiency Plan

PORT of Port Angeles

Policy & Procedure: LEP Plan

Approval Required (check box)	Approved By:	Approval Reference (if applicable)
☐ Commissioners (Policy) ☒ Executive Director ☒ Director	Karen Goschen, Executive Director John Nutter, Deputy Executive Director	Effective Date: January 1, 2021

I. PURPOSE

This Limited English Proficiency Plan has been prepared to address the Port of Port Angeles' responsibilities as a recipient of federal financial assistance as they relate to the needs of individuals with limited English language skills. The plan has been prepared in accordance with both RCW 74.04.025 and Title VI of the Civil Rights Act of 1964, 42 U.S.C. 2000d, et seq, and its implementing regulations, which state that no person shall be subjected to discrimination on the basis of race, color or national origin.

Executive Order 13166, titled Improving Access to Services for Persons with Limited English Proficiency, indicates that differing treatment based upon a person's inability to speak, read, write or understand English is a type of national origin discrimination. It directs each agency to publish guidance for its respective recipients clarifying their obligation to ensure that such discrimination does not take place. This order applies to all state and local agencies which receive federal funds.

II. POLICY

The Port of Port Angeles (Port) is responsible for ensuring that equal access to services, programs, and activities is provided to persons with Limited English Proficiency (LEP). It does not apply to Port employees who, in order to perform their duties, must be fluent in the English language. The Port will take reasonable steps to ensure that LEP persons have meaningful access and an equal opportunity to participate in the Ports services and access to industrial facilities to foster business and facilitate job creation. The responsibility to reduce language barriers encompasses the Port's obligation to translate vital documents as needed and provide oral interpretation of critical information. Vital documents are defined as written material that contains information that is critical for accessing Port facilities or that is required by law, such as consent forms, applications, and notices of rights. The Port will provide oral interpretation services to convey information necessary to assist potential and current customers and tenants. To ensure that the Port's workforce fully understands the Port's LEP policy, the Port has developed a LEP plan.

Port Limited English Proficiency Plan – Continued

PORT of Port Angeles

Policy & Procedure: LEP Plan

III. PROCEDURE

PLAN SUMMARY

The Port has developed this *Limited English Proficiency Plan* to help identify reasonable steps for providing language assistance to persons with Limited English Proficiency (LEP) who wish to access services provided. As defined Executive Order 13166, LEP persons are those who do not speak English as their primary language and have limited ability to read, speak, write or understand English. This plan outlines how to identify a person who may need language assistance, the ways in which assistance may be provided, staff training that may be required, and how to notify LEP persons that assistance is available.

In order to prepare this plan, the system used the four-factor LEP analysis which considers the following factors:

Port Limited English Proficiency Plan – Continued

1. The number or proportion of LEP persons in the service area who may be served by the Port of Port Angeles
2. The frequency with which LEP persons come in contact with the Port's services.
3. The nature and importance of services provided by the Port to the LEP population.
4. The interpretation services available to the Port and overall cost to provide LEP assistance. A summary of the results of the four-factor analysis is in the following section.

FOUR-FACTOR ANALYSIS

1. The number or proportion of LEP persons in the service area who may be served or are likely to require the Port of Port Angeles' services.

    a. The Port of Port Angeles staff reviewed the U.S. Census Report and determined that of the 77,331 persons in Clallam County, Washington, 7% of the population speak a language other than English. Of those 77,331 persons, 5.3% have limited English proficiency; that is, they speak English "not well" or "not at all", this is only a 5.3% of the overall population in the Clallam County. In Clallam County of those persons with limited English proficiency, 2.3% speak Spanish, 2% speak Asian/Islander and 1% speak another language. The Port of Port Angeles service area is primarily Clallam County.

2. The frequency with which LEP persons come in contact with the Port of Port Angeles' services.

    a. The Port staff reviewed the frequency with which the Port Commission and office staff have, or could have, contact with LEP persons. This includes documenting phone inquiries or office visits. To date, the Port of Port Angeles has had no requests for interpreters and no requests for translated program documents. The Port Commission and office staff have had none if not very little contact with LEP persons.

3. The nature and importance of services provided by the Port of Port Angeles to the LEP population.

    a. There is no large geographic concentration of any type of LEP individuals in the service area for the Port of Port Angeles, of the majority of the population of Clallam County, 93% speak only English.

Port Limited English Proficiency Plan – Continued

As a result, there are few social, service, professional and leadership organizations within the Port of Port Angeles service area that focus on outreach to LEP individuals. The Port Commission and staff are most likely to encounter LEP individuals through office visits, phone conversations, notifications from public works staff of impacts on services and attendance at Port Commission meetings.

4. The resources available to the Port of Port Angeles and overall costs to provide LEP assistance.

    a. The Port of Port Angeles reviewed its available resources that could be used for providing LEP assistance, which of its documents would be most valuable to be translated if the need should arise and contacted local citizens that would be willing to provide voluntary Spanish translation if needed within a reasonable time period. Other language translation if needed would be provided through a telephone/internet interpreter for which the Port would pay a fee.

LANGUAGE ASSISTANCE

A person who does not speak English as their primary language and who has a limited ability to read, write, speak or understand English may be a Limited English Proficient person and may be entitled to language assistance with respect to the Port of Port Angeles services. Language assistance can include interpretation, which means oral or spoken transfer of a message from one language into another language and/or translation, which means the written transfer of a message from one language into another language.

1. Identifying a LEP person who needs language assistance:
    1. Post notice of LEP Plan and the availability of interpretation or translation services free of charge in languages LEP persons would understand at initial points of contact. These notices and HUD's language Identification ("I SPEAK") cards will be available in the Port's main lobby and reception areas and also available in all offices that may deal with the public such as marinas, guard shacks, marine terminal, and airport terminals.
    2. Port Commission and office staff will also be provided with "I Speak" cards to assist in identifying the language interpretation needed if the occasion arises.
    3. Translation may not be able to be provided at every event but can easily be identified for the need for future events.

Port Limited English Proficiency Plan – Continued

PORT of Port Angeles

Policy & Procedure: LEP Plan

2. Language Assistance Measures-Although there is a very low percentage in Clallam County of LEP individuals, that is, persons who speak English "not well" or "not at all", it will strive to offer the following measures:
    1. Port staff will take reasonable steps to provide assistance to potential and current LEP customers and tenants who have difficulty communicating English.
    2. The following resources will be available to accommodate LEP persons:
        i. Volunteer interpreters for the Spanish language may be available and could be provided within a reasonable time period. If not, assistance will be provided through a telephone interpretation service/internet.
        ii. Language interpretation will be accessed for all other languages through a telephone interpretation service/internet.

STAFF TRAINING

The following training will be provided to all staff:

- Information on the Title VI Policy and LEP responsibilities; annually and upon hire
- Description of language assistance services offered to the public; in person and telephone
- Use of the "I Speak" cards
- Documentation of language assistance requests

TRANSLATION OF DOCUMENTS

1. The Port of Port Angeles evaluated the cost and benefits of translating documents for potential LEP groups. Considering the expense of translating the documents, the likelihood of frequent changes in documents and other relevant factors, at this time it is an unnecessary burden to have any documents translated.

2. Due to the very small local LEP population, the Port of Port Angeles does not have a formal outreach procedure in place. However, when and if the need arises for LEP outreach, the Port will consider the following options:

LEP Plan Page 5 of 7

Port Limited English Proficiency Plan – Continued

- When staff prepares a document, advertisement or schedules a meeting, for which the target audience is expected to include LEP individuals, then documents, meeting notices, flyers, and agendas will be printed in an alternative language based on the known LEP population.

DISSEMINATION OF PORT OF PORT ANGELES LEP PLAN

1. Post signs in the Port's main lobby and reception areas and in all offices that may deal with the public such as marinas, guard shacks, marine terminal, and airport terminals, notifying LEP persons of the LEP Plan and how to access language services.

IV. CONTROL

Responsible Department – The Port's Administrative Department will be responsible for developing, maintaining and ensuring compliance with the LEP plan.

Monitoring and Updating the LEP Plan – The Port will update the LEP Plan as required. At a minimum, the plan will be reviewed annually and updated when data from the U.S. Census is available; or updated when a higher concentration of LEP individuals has been identified in the Port's service area.

Annual review will include:

- The number of documented LEP person contacts experienced annually.
- Determine whether the Port of Port Angeles fully complies with the goals of this LEP Plan.

Updates will include:

- Determination of the current LEP population in the service area.
- The number of documented LEP person contacts experienced annually.
- How the needs of LEP persons have been addressed.
- Determination as to whether the need for translation services has changed.
- Determine whether local language assistance programs have been effective and sufficient to meet the need.
- Determine whether the Port of Port Angeles' financial resources are sufficient to fund language assistance resources needed.
- Determine whether the Port of Port Angeles fully complies with the goals of this LEP Plan.

Port Limited English Proficiency Plan – Continued

PORT of Port Angeles

Policy & Procedure: LEP Plan

V **REFERENCES**

1. RCW 74.04.025 Bilingual services for non-English-speaking applicants and recipients
2. Title VI of the Civil Rights Act of 1964 Prohibition against exclusion from participation in, denial of benefits of, and discrimination under federally assisted programs on ground of race, color or national origin.
3. 42 U.S.C. 2000d Prohibition against exclusion from participation in, denial of benefits of, and discrimination under federally assisted programs on ground of race, color, or national origin

LEP Plan Page 7 of 7

Port of Port Angeles

Port Angeles, Washington

Commissioner's Resolution No. 22-1258

A RESOLUTION OF THE BOARD OF COMMISSIONERS OF THE PORT OF PORT ANGELES WASHINGTON, COMMITTING MATCHING FUNDS AND AUTHORIZING THE EXECUTIVE DIRECTOR TO APPLY FOR A FEDERAL MARITIME ADMINISTRATION GRANT FOR IMPROVEMENTS AT THE INTERMODAL HANDLING AND TRANSFER FACILITY.

WHEREAS, the Maritime Administration (MARAD) of the U.S. Department of Transportation administers the Port Infrastructure Development Program, which makes grant funds available for projects that will improve safety, efficiency, or reliability of the movement of goods into, out of, around, or within a port; and

WHEREAS, the Port of Port Angeles has the ability and opportunity to make needed improvements to its Intermodal Handling and Transfer Facility with the assistance of federal funding; and

WHEREAS, for decades, the Port's timber handling and distribution centers have been the nexus of Clallam County's Forest Products industry. The facility provides a vital transportation hub allowing for movement of forest products to move on and off the Olympic Peninsula to serve domestic customers in Washington State and along the West Coast; and

WHEREAS, the proposed improvements at the Port's Intermodal Handling and Transfer Facility will have positive environmental impacts by improving water quality and reducing transportation related greenhouse gas emissions; and

WHEREAS, the proposed funding application will leverage a previously awarded Washington State Capital Grant of $855,000 or 8% of the total project cost; and

WHEREAS, the Port of Port Angeles matching funds of $1,297,000, or 12% of the total project, is available and dedicated for this use and will be detailed in the Port's 2023 Budget; and

WHEREAS, the Port of Port Angeles finds that an application should be submitted for consideration by MARAD, and that such submission will promote the movement of goods in the region while minimizing the impact to the environment.

NOW THEREFORE, BE IT RESOLVED by the Board of Commissioners of the Port of Port Angeles Washington, as follows:

1. That the Executive Director, is hereby authorized to apply to the MARAD, for and on behalf of the Port of Port Angeles for PIDP funding in the approximate amount of $8,608,000, or 80% of the total project cost, for improvements to the Intermodal Handling and Transfer Facility; and

Port of Port Angeles

Port Angeles, Washington

Commissioner's Resolution No. 22-1258 Continued

2. That the Executive Director is hereby further authorized to provide such additional information as may be necessary to secure approval of such application; and

3. That, in the event such application is approved, the Executive Director is authorized to enter into an agreement for such funding; and

4. That this Resolution shall be effective upon passage and signatures listed below in accordance with the law.

ADOPTED by the Board of Commissioners of the Port of Port Angeles at a regular meeting thereof held this 10th day of May 2022.

PORT OF PORT ANGELES
BOARD OF COMMISSIONERS

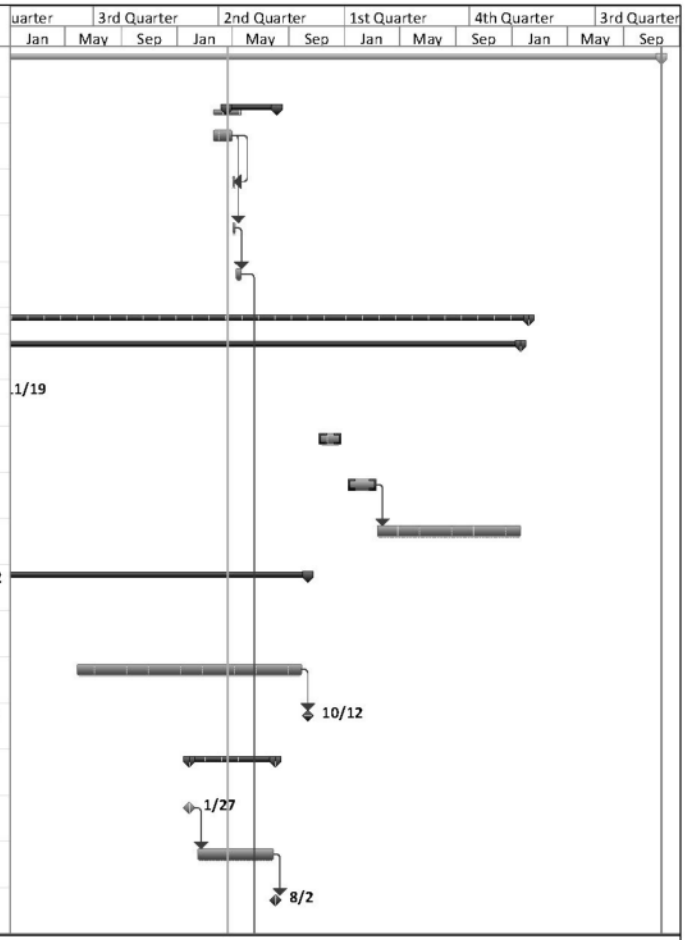
Connie L. Beauvais, President

Colleen M. McAleer, Vice-President

Steven D. Burke, Secretary

Project Schedule (3 Sheets)

ID	Task Mode	Task Name	Duration	Start	Finish
0		**Intermodal Handling & Transfer Facility Improvements**	**1112 days?**	**Thu 8/20/20**	**Fri 11/22/24**
1		**90% Design Drawings**	**80 days**	**Mon 4/18/22**	**Fri 8/5/22**
2		Engineer to prepare drawings	30 days	Mon 3/21/22	Fri 4/29/22
3		Review / update cost estimate	4 days	Mon 5/2/22	Thu 5/5/22
4		Port review - minor revisions	5 days	Mon 5/2/22	Fri 5/6/22
5		Drawing Revisions	10 days	Mon 5/9/22	Fri 5/20/22
6		**Project Permitting**	**904 days**	**Thu 8/20/20**	**Tue 2/6/24**
7		**NEPA / SEPA**	**827 days**	**Thu 11/19/20**	**Fri 1/19/24**
8		Cofferdam - SEPA Exemption	0 days	Thu 11/19/20	Thu 11/19/20
9		NEPA Categorical Exclusion (if appropriate)	35 days	Mon 11/7/22	Fri 12/23/22
10		Prepare ESA - FONSI (if needed)	45 days	Mon 1/9/23	Fri 3/10/23
11		NEPA / SEPA Determination (if needed)	225 days	Mon 3/13/23	Fri 1/19/24
12		**USACE Nationwide Permit 3 - Cofferdam**	**560 days**	**Thu 8/20/20**	**Wed 10/12/22**
13		Innitial App. Submitted	0 days	Thu 8/20/20	Thu 8/20/20
14		Section 7 ESA consultation	350 days	Thu 5/27/21	Wed 9/28/22
15		USACE Permit Approval	0 days	Wed 10/12/22	Wed 10/12/22
16		**Building Permit - Cofferdam**	**134 days**	**Thu 1/27/22**	**Tue 8/2/22**
17		Submit Building Permit Application	0 days	Thu 1/27/22	Thu 1/27/22
18		City of PA review	120 days	Mon 2/14/22	Fri 7/29/22
19		City issuance of permit	0 days	Tue 8/2/22	Tue 8/2/22



Project: Intermodal Handling & Tr
Date: Thu 4/21/22

Task	External Tasks	Manual Task	Finish-only
Split	External Milestone	Duration-only	Deadline
Milestone	Inactive Task	Manual Summary Rollup	Progress
Summary	Inactive Milestone	Manual Summary	
Project Summary	Inactive Summary	Start-only	

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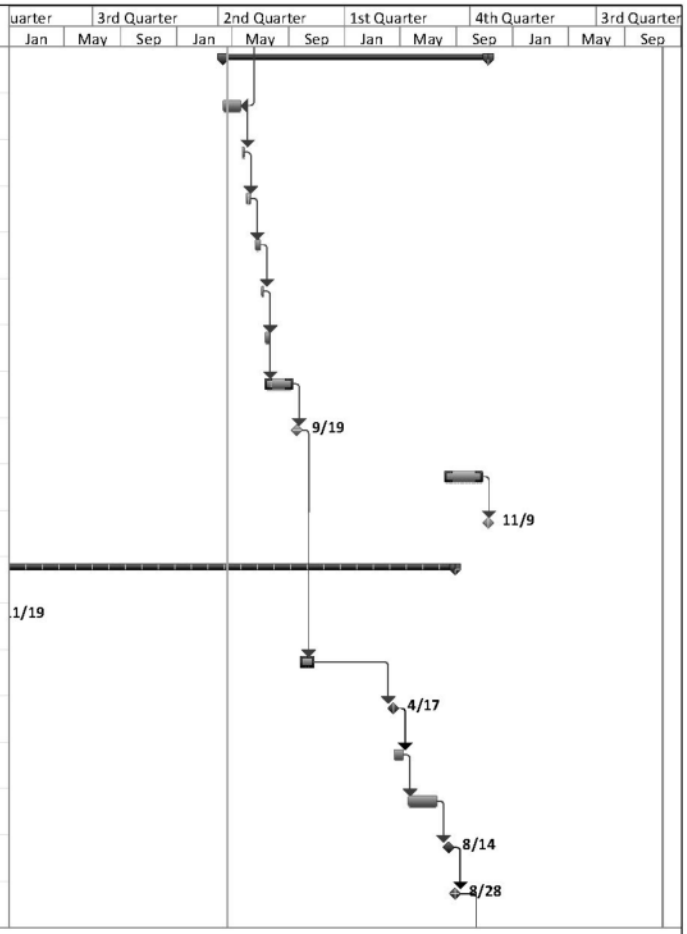
Project Schedule – Continued

ID	Task Mode	Task Name	Duration	Start	Finish
20		**Section 106 Review**	**413 days**	**Mon 4/11/22**	**Thu 11/9/23**
21		Draft DAHP Site Alteration Permit App	30 days	Mon 4/11/22	Fri 5/20/22
22		Port Review	5 days	Mon 5/23/22	Fri 5/27/22
23		Revise Permit Application	8 days	Wed 6/1/22	Fri 6/10/22
24		Review w/ Lower Elwha Klallam Tribe	10 days	Mon 6/20/22	Fri 7/1/22
25		Finalize Permit App. - Submit	5 days	Mon 7/4/22	Fri 7/8/22
26		DAHP Review for completeness	10 days	Mon 7/11/22	Fri 7/22/22
27		Tribal Consult - Public Comment	45 days	Mon 7/11/22	Fri 9/9/22
28		DAHP Issuance of permit	0 days	Mon 9/19/22	Mon 9/19/22
29		USDOT consult w/ SHPO & LEKT	60 days	Mon 8/7/23	Fri 10/27/23
30		Section 106 Approval	0 days	Thu 11/9/23	Thu 11/9/23
31		**Shoreline Substantial Development**	**723 days**	**Thu 11/19/20**	**Mon 8/28/23**
32		Cofferdam Exemption Received	0 days	Thu 11/19/20	Thu 11/19/20
33		Prepare Phase 1 Site Improvements Permit Documents	22 days	Mon 9/26/22	Tue 10/25/22
34		Submit permit documents	0 days	Mon 4/17/23	Mon 4/17/23
35		City Review	15 days	Tue 4/18/23	Mon 5/8/23
36		Tribal Consultation & Public Comment	45 days	Fri 5/19/23	Thu 7/20/23
37		Hearing Examiner Determination	0 days	Mon 8/14/23	Mon 8/14/23
38		Permit issued	0 days	Mon 8/28/23	Mon 8/28/23



Project: Intermodal Handling & Tr
Date: Thu 4/21/22

Task	External Tasks	Manual Task	Finish-only
Split	External Milestone	Duration-only	Deadline
Milestone	Inactive Task	Manual Summary Rollup	Progress
Summary	Inactive Milestone	Manual Summary	
Project Summary	Inactive Summary	Start-only	

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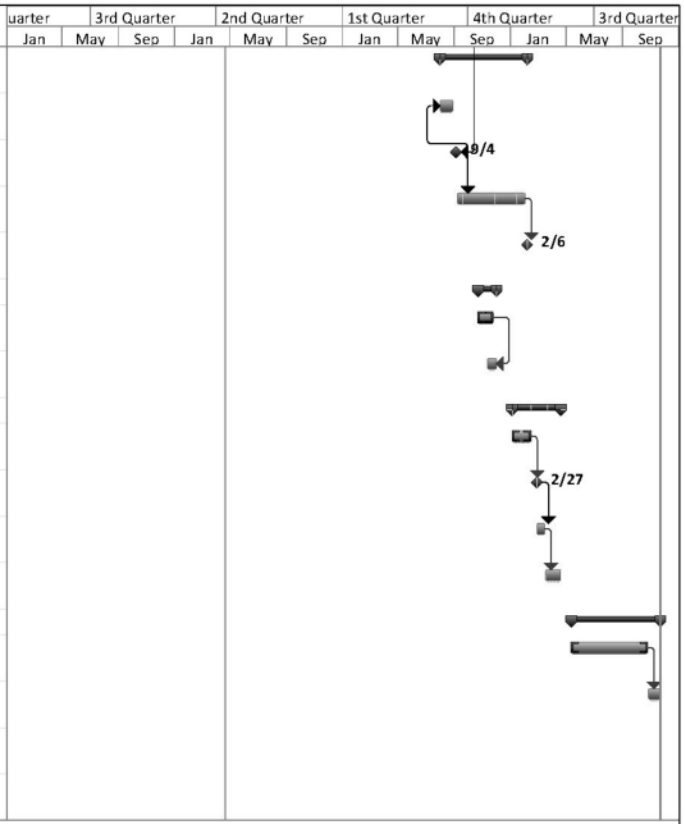
Project Schedule – Continued

ID	Task Mode	Task Name	Duration	Start	Finish
39		**Building / Clearing & Grading / Stormwater Permits**	**136 days**	**Tue 8/1/23**	**Tue 2/6/24**
40		Prepare Building permit App. w/ SW report	20 days	Tue 8/1/23	Mon 8/28/23
41		Submit Permits to City	0 days	Mon 9/4/23	Mon 9/4/23
42		City Review	105 days	Fri 9/8/23	Thu 2/1/24
43		Permit Issued	0 days	Tue 2/6/24	Tue 2/6/24
44		**Bid Documents**	**30 days**	**Mon 10/23/23**	**Fri 12/1/23**
45		Engineer to Finalize dwgs & tech specs	25 days	Mon 10/23/23	Fri 11/24/23
46		Port to complete Div 00 & 01 specs	15 days	Mon 11/13/23	Fri 12/1/23
47		**Bidding**	**76 days**	**Fri 1/5/24**	**Fri 4/19/24**
48		Advertise for Bids	29 days	Fri 1/5/24	Wed 2/14/24
49		Commission Approval - Award	0 days	Tue 2/27/24	Tue 2/27/24
50		Insurance, Bonds, Execute Agreement	13 days	Wed 2/28/24	Fri 3/15/24
51		Pre-construction submittals	25 days	Mon 3/18/24	Fri 4/19/24
52		**Construction**	**140 days?**	**Mon 5/13/24**	**Fri 11/22/24**
53		Construction	120 days	Mon 5/13/24	Fri 10/25/24
54		Punch List - Close out	20 days	Mon 10/28/24	Fri 11/22/24
55					
56					



Project: Intermodal Handling & Tr
Date: Thu 4/21/22

Task	External Tasks	Manual Task	Finish-only
Split	External Milestone	Duration-only	Deadline
Milestone	Inactive Task	Manual Summary Rollup	Progress
Summary	Inactive Milestone	Manual Summary	
Project Summary	Inactive Summary	Start-only	

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ATTACHMENTS FORM

Instructions: On this form, you will attach the various files that make up your grant application. Please consult with the appropriate Agency Guidelines for more information about each needed file. Please remember that any files you attach must be in the document format and named as specified in the Guidelines.

Important: Please attach your files in the proper sequence. See the appropriate Agency Guidelines for details.

1) Please attach Attachment 1	1234-Project Narrative_Port o	Add Attachment	Delete Attachment	View Attachment
2) Please attach Attachment 2	1235-Attachment A_PoPA LY - A	Add Attachment	Delete Attachment	View Attachment
3) Please attach Attachment 3	1236-Attachment B_ IHTF Techn	Add Attachment	Delete Attachment	View Attachment
4) Please attach Attachment 4	1237-Attachment C - Letters o	Add Attachment	Delete Attachment	View Attachment
5) Please attach Attachment 5	1238-Attachment D - Policies	Add Attachment	Delete Attachment	View Attachment
6) Please attach Attachment 6	1239-Attachment E - Port Reso	Add Attachment	Delete Attachment	View Attachment
7) Please attach Attachment 7	1240-Attachment F - Project $	Add Attachment	Delete Attachment	View Attachment
8) Please attach Attachment 8		Add Attachment	Delete Attachment	View Attachment
9) Please attach Attachment 9		Add Attachment	Delete Attachment	View Attachment
10) Please attach Attachment 10		Add Attachment	Delete Attachment	View Attachment
11) Please attach Attachment 11		Add Attachment	Delete Attachment	View Attachment
12) Please attach Attachment 12		Add Attachment	Delete Attachment	View Attachment
13) Please attach Attachment 13		Add Attachment	Delete Attachment	View Attachment
14) Please attach Attachment 14		Add Attachment	Delete Attachment	View Attachment
15) Please attach Attachment 15		Add Attachment	Delete Attachment	View Attachment

OMB Number: 4040-0004
Expiration Date: 12/31/2022

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: 05/13/2022

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier: WA

8. APPLICANT INFORMATION:

* a. Legal Name: Port of Port Angeles

* b. Employer/Taxpayer Identification Number (EIN/TIN): (b)(4)

* c. UEI: (b)(4)

d. Address:

* Street1: 338 W First Street
Street2:
* City: Port Angeles
County/Parish: Clallam
* State: WA: Washington
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 98362-0251

e. Organizational Unit:

Department Name: Engineering

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:
* First Name: Chris
Middle Name:
* Last Name: Hartman
Suffix:

Title: Director of Engineering

Organizational Affiliation: Port of Port Angeles

* Telephone Number: 3604173422
Fax Number:

* Email: chrish@portofpa.com

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

D: Special District Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Maritime Administration

11. Catalog of Federal Domestic Assistance Number:

20.823

CFDA Title:

Port Infrastructure Development Program

*** 12. Funding Opportunity Number:**

MA-PID-22-001

* Title:

2022 Port Infrastructure Development Program Grants

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Intermodal Handling and Transfer Facility Improvements. This project will (1) rehabilitate and improve the Cofferdam Dock and (2) regrade and pave 10 acres of upland that supports cargo handling.

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: WA-006 * b. Program/Project: WA-006

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 05/13/2024 * b. End Date: 11/22/2024

18. Estimated Funding ($):

* a. Federal	8,608,000.00
* b. Applicant	1,297,000.00
* c. State	855,000.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	10,760,000.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name: Geoff

Middle Name:

* Last Name: James

Suffix:

* Title: Executive Director

* Telephone Number: 3604173360 Fax Number:

* Email: geoffj@portofpa.com

* Signature of Authorized Representative: Geoff James * Date Signed: 05/13/2022

OMB Number: 4040-0008
Expiration Date: 02/28/2025

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$ 88,480.00	$ 0.00	$ 88,480.00
2. Land, structures, rights-of-way, appraisals, etc.	$	$	$
3. Relocation expenses and payments	$	$	$
4. Architectural and engineering fees	$ 70,000.00	$ 0.00	$ 70,000.00
5. Other architectural and engineering fees	$ 132,720.00	$ 0.00	$ 132,720.00
6. Project inspection fees	$ 221,200.00	$ 0.00	$ 221,200.00
7. Site work	$ 1,164,160.00	$ 0.00	$ 1,164,160.00
8. Demolition and removal	$ 87,040.00	$ 0.00	$ 87,040.00
9. Construction	$ 6,707,520.00	$ 0.00	$ 6,707,520.00
10. Equipment	$ 0.00	$ 0.00	$ 0.00
11. Miscellaneous	$ 239,360.00	$ 0.00	$ 239,360.00
12. SUBTOTAL *(sum of lines 1-11)*	$ 8,710,480.00	$ 0.00	$ 8,710,480.00
13. Contingencies	$ 2,049,520.00	$	$ 2,049,520.00
14. SUBTOTAL	$ 10,760,000.00	$ 0.00	$ 10,760,000.00
15. Project (program) income	$ 0.00	$ 0.00	$ 0.00
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$ 10,760,000.00	$ 0.00	$ 10,760,000.00

FEDERAL FUNDING		
17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X 80 %	$ 8,608,000.00

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

OMB Number: 4040-0013
Expiration Date: 02/28/2025

1. * Type of Federal Action:
- [ ] a. contract
- [x] b. grant
- [ ] c. cooperative agreement
- [ ] d. loan
- [ ] e. loan guarantee
- [ ] f. loan insurance

2. * Status of Federal Action:
- [ ] a. bid/offer/application
- [x] b. initial award
- [ ] c. post-award

3. * Report Type:
- [x] a. initial filing
- [ ] b. material change

4. Name and Address of Reporting Entity:

[x] Prime [ ] SubAwardee

* Name: Port of Port Angeles

* Street 1: 338 W First Street Street 2:

* City: Port Angeles State: WA: Washington Zip: 98362

Congressional District, if known: WA-006

5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:

6. * Federal Department/Agency:

MARITIME ADMINISTRATION

7. * Federal Program Name/Description:

Port Infrastructure Development Program

CFDA Number, *if applicable:* 20.823

8. Federal Action Number, *if known:*

9. Award Amount, *if known:*

$

10. a. Name and Address of Lobbying Registrant:

Prefix: Mr. * First Name: Ray Middle Name:

* Last Name: Bucheger Suffix:

* Street 1: 1120 G Street NW, Suite 1020 Street 2:

* City: Washington DC State: Zip: 20005

b. Individual Performing Services (including address if different from No. 10a)

Prefix: Mr. * First Name: Ray Middle Name:

* Last Name: Bucheger Suffix:

* Street 1: 1120 G Street NW, Suite 1020 Street 2:

* City: Washington DC State: Zip: 20005

11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

*** Signature:** Geoff James

***Name:** Prefix: Mr. * First Name: Geoff Middle Name:

* Last Name: James Suffix:

Title: Executive Director **Telephone No.:** (360) 417-3360 **Date:** 05/13/2022

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