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Rail Traffic and Safety Technical Study

July 2023

Port of Grays Harbor Terminal 4 Expansion and Redevelopment Project

Rail Traffic and Safety Technical Study

Prepared for Port of Grays Harbor and Ag Processing, Inc.



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1. Introduction

The Port of Grays Harbor (Port) is proposing the Terminal 4 (T4) Expansion and Redevelopment Project to increase rail and shipping capacity at T4 at the Port located in the cities of Hoquiam and Aberdeen, Washington, to accommodate growth of dry bulk, breakbulk, and roll-on/roll-off (RORO) cargos. This includes rail upgrades and site improvements, the Terminal 4A (T4A) cargo yard relocation and expansion, and the T4 dock fender and stormwater upgrades. These project elements would be constructed by the Port and are referred to as the *Port Project*. It also includes a new export terminal by Ag Processing, Inc. (AGP), at T4. This project element is referred to as the *AGP Project*. Together, the Port Project and AGP Project are referred to as the *Proposed Project*.

The purpose of this technical study is to describe the affected environment and potential impacts of the Proposed Project on rail traffic and safety. It will be used to support environmental review of the Proposed Project by the state and federal agencies with a funding, jurisdictional, or permitting authority over the Project. This includes compliance with the Washington State Environmental Policy Act (SEPA) and the National Environmental Policy Act (NEPA). This analysis will also be used as supporting documentation for permitting efforts.

2. Location and Regional Setting

Figure 1 shows the location and regional setting of the Port. The Port was founded in 1911 and is located on the Pacific coast of Washington state in the cities of Hoquiam and Aberdeen in Grays Harbor County. The Port is located near where the Chehalis River enters Grays Harbor, approximately 15 miles east from the Pacific Ocean. The Port is the westernmost port in Washington. The Pacific Ocean is accessed from the Port via the Grays Harbor deep-draft federal navigation channel within Grays Harbor. The Proposed Project does not include expanding or deepening the Grays Harbor federal navigation channel. Rennie Island is just south of the Port and is within Grays Harbor. Bowerman Airport is approximately 4 miles west-northwest of the Port.

3. Project Area

The Project Area consists of the area where the proposed facilities would be located, called the On-Site Project Area, and the existing off-site transportation corridors, called the Off-Site Project Area. The On-Site Project Area includes the area that will be directly affected by construction and operation of the Proposed Project (Figure 2). Local road access to the On-Site Project Area is provided via Port Industrial Road. Further access to the Project Area is provided by Heron Street, East Terminal Road, and West Terminal Way. Both East Terminal Road and West Terminal Way intersect with Port Industrial Road. These roads used for access can be found in Figure 2. Regional highway connections include U.S. Route 12 and U.S. Route 101.

The Off-Site Project Area includes off-site transportation corridors used for rail and vessel transportation (Figure 1). This includes the Puget Sound and Pacific Railroad (PSAP) line from the Port

property to the connection with the BNSF Railway and Union Pacific Railroad mainline in Centralia, Washington, and the Chehalis River and Grays Harbor federal navigation channel from the Port property, through Grays Harbor, to the Pacific Ocean and up to 3 nautical miles from the southern mouth of Grays Harbor. The Proposed Project will likely include rail construction on property owned by others (PSAP or other private owners) along the PSAP rail corridor east of West Heron Street. It has not been established whether that rail will be built and owned by the PSAP to serve the site, built and owned by the Port, or some other combination of ownership and leasing. Specific study areas for the analysis of potential impacts of the Proposed Project is defined in Section 7 of this technical study.

Railroads provide transportation services for passengers and commercial goods and support regional economic activity. Rail traffic in the study area consists of commercial goods, industrial products, agricultural commodities, and garbage. Similar to other forms of transportation, rail traffic is subject to various regulatory requirements governing maintenance of infrastructure standards, allowable speed limits, and methods and types of goods and services that can be transported.

Figure 1. Project Area Location and Regional Setting



Figure 2. Existing Conditions



4. Proposed Project and Alternatives

Two alternatives are evaluated in this study: the Proposed Project and a No Action Alternative. Additional details about these alternatives are documented in the *Project Description Technical Report* (Anchor QEA 2023). The alternatives include the following:

- **Alternative 1 (Proposed Project).** As noted in Section 1 and as further described in the *Project Description Technical Report* (Anchor QEA, 2023), the Proposed Project consists of the Port Project and the AGP Project. The Port Project includes the following: 1) rail upgrades and site improvements; 2) Terminal 4 dock, fender, and stormwater upgrades; and 3) cargo yard relocation and expansion. In addition to these proposed upgrades at Terminal 4, AGP, an existing tenant of the Port, intends to upgrade Terminal 4B to include improved rail receiving facilities, a new shiploader, and a soybean meal storage structure (referred to as a surge silo). The primary elements of the Proposed Project are shown in Figure 3 and could be constructed in phases.
- **No Action Alternative.** The No Action Alternative represents the conditions anticipated without construction and operation of the Proposed Project over the course of the construction analysis period of 2024 to 2025 and the operations analysis period from 2025 to 2045. Although the Port would not complete the proposed infrastructure enhancements or redevelop the Terminal 4 cargo yard under the No Action Alternative, it is anticipated that the Port would pursue growth opportunities within the existing Port footprint. It is also assumed that AGP would not complete the proposed infrastructure enhancements at Terminal 4B, but AGP would maximize its operations at the existing Terminal 2 facility. However, under the No Action Alternative, the Port would continue to operate and maintain T4 as it exists under existing conditions and would continue to seek out new business. Because activity under the No Action Alternative would be limited to current port infrastructure and terminal capacity limits, the No Action alternative is anticipated to result in operations similar to existing conditions.

Figure 3. Project Elements



5. Information Sources

Research and analysis for rail traffic and safety entailed visiting the project site, and collecting and reviewing data. Existing rail information was collected from state and federal agencies, and the Port of Grays Harbor (Port). Compiled data included the following items.

- Count of railcars traffic at the Port from 2017 to 2021
- PSAP rail line crossing data (referred to as grade crossings)

Recently prepared agency studies with relevant data include:

- Washington State Rail Plan, 2019-2040 (Washington State Department of Transportation 2019)
- Washington State Freight and Goods Transportation System (FGTS) 2021 Update (Washington State Department of Transportation 2021)
- City of Hoquiam and Washington State Department of Ecology, 2016. Westway Expansion Project Final Environmental Impact Statement. September 2016. Available at: <https://apps.ecology.wa.gov/publications/SummaryPages/1706012.html>.

6. Regulatory Context

Federal Laws and Regulations

Interstate Commerce Commission Termination Act (49 U.S.C. 101)	Re-establishes the Surface Transportation Board and upholds the common carrier obligations of railroads; requires railroads to provide service upon reasonable request.
Federal Railroad Administration Regulations (49 CFR 200-299)	Establishes railroad regulations, including safety requirements related to track, operations, and cars. For example, Part 237 establishes requirements for bridge management programs, including personnel qualifications and responsibilities, determining bridge load capacities, protecting bridges from overweight loads, inspection, repair, modification, recordkeeping, and audits.

State Laws and Regulations

Title 81, Transportation- Railroads, Crossings (RCW 81.53)	Establishes requirements and process for railroad construction and extensions that would cross any existing railroad or highway at grade. Includes approval from the commission.
WSDOT Local Agency Guidelines M 36-63.28, June 2015, Chapter 32, Railroad/Highway Crossing Program	Focuses on adding protection that improves safety and efficiency of railroad highway crossings. Provides a process for investigating alternatives for improving grade-crossing safety. Alternatives include closure,

	consolidation, and installation of warning devices.
WSDOT Design Manual M 22.01.10, July 2013, Chapter 1350, Railroad Grade Crossings	Provides specific guidance for the design of at-grade railroad crossings.
Rail Companies-Operation (WAC 480-62)	Establishes operating procedures for railroad companies operating in Washington State. Includes general and procedural rules, safety rules, safety standards at private crossings through which trains pass, reporting requirement rules, and the establishment and distribution of a grade-crossing protective fund.

Local Laws and Regulations

- No local laws or regulations apply to rail traffic and safety.

7. Affected Environment

The study area for rail traffic and safety consists of the Puget Sound & Pacific Railroad (PSAP) rail line, including the PSAP rail line junction with the BNSF Railway (BNSF main line in Centralia that could be affected during routine rail transport, and the network of rail infrastructure on Port property and in the immediate vicinity of the Port.

Rail Service between Centralia and Hoquiam

The PSAP rail line is the sole rail connection at the project site. The rail line extends from Hoquiam to Centralia, where it connects with the BNSF main line. As a common carrier, PSAP is regulated by the federal government.

The PSAP rail line between Centralia and Hoquiam was constructed from 1889 through 1896. The original segment was constructed by the Puget Sound & Grays Harbor Railroad, then purchased and completed between Centralia and Hoquiam by Northern Pacific Railway. Headquartered in Connecticut, Genesee & Wyoming, Inc., is the current owner of PSAP (City of Hoquiam and Washington State Department of Ecology, 2016).

As defined by the Surface Transportation Board, PSAP is considered a Class III railroad based on its annual revenue of less than \$34.7 million. PSAP is also categorized as a short-line railroad, as defined by the Association of American Railroads because it is less than 350 miles long with an annual revenue under \$40 million.

PSAP Subdivisions

The PSAP rail line serves 30 industries, including current activities at the project site. It provides a connection to the Naval Base Kitsap, brings unit trains of soybean meal to Grays Harbor for export on ships, and removes municipal solid waste from Kitsap County twice per week. PSAP owns and

operates the line between Centralia and Hoquiam (Elma Subdivision) and the line between Elma and Shelton (Shelton Subdivision). PSAP also operates the U.S. Navy-owned line between Shelton and the Bangor Base (Bangor Subdivision) with a short segment between Bremerton Junction and Bremerton (Bremerton Subdivision). This portion of the line is designated as part of the Strategic Rail Corridor Network and, as such, must be maintained at levels dictated by the U.S. military to support current and potential defense mobilization demands (City of Hoquiam and Washington State Department of Ecology, 2016).

Table 1 provides an overview of PSAP subdivisions, areas it serves, and commodities and products it transports.

Table 1: PSAP Subdivisions

Subdivision	PSAP Mileposts	Length (miles)	Location	Description
Elma	0.0 to 75.2	59	Centralia (Blakeslee Junction) to Hoquiam	Main line owned and operated by PSAP, serves the industries of the Port and the project site. Commodities include grain, soybean meal, soda ash, automobiles, garbage, military trains, and bulk liquids.
Shelton	48.7 to 25.2	26	Elma to Shelton	Owned and operated by PSAP, commodities include lumber, garbage, and propane gas.
Bangor	25.2 to 42.8	48	Shelton to Bangor Base	Owned by the U.S. Navy, operated by PSAP. Same commodities as Shelton Subdivision plus military and other U.S. Government traffic from Naval Base Kitsap in Bremerton and Bangor Base.
Bremerton	0.0Z to 4.6Z	5	Bremerton Junction to Bremerton	Owned by the U.S. Navy, operated by PSAP. U.S. Government traffic from Naval Base Kitsap in Bremerton, and Bangor Base.

Source: City of Hoquiam and Washington State Department of Ecology, 2016

Rail Within the Port and In the Immediate Vicinity

Rail service to the Port is currently provided primarily via the PSAP (Figure 4). The PSAP mainline begins in Centralia where the railroad offers interchange service with Union Pacific Railroad (UPRR) and BNSF Railway (BNSF). From Centralia, the PSAP mainline extends northwest to Elma, Washington, and

continues west from Elma through Aberdeen to Hoquiam. At Elma, there is a second branch of the PSAP which also extends north through Shelton, Bremerton and Bangor. Generally, the route of the PSAP between Centralia and Hoquiam follows the route of U.S. Highway 12.

Figure 4. Puget Sound and Pacific Railroad



Source: Genesee & Wyoming Inc., 2023

Passing through Aberdeen from east to west, the PSAP mainline crosses nine roads at-grade, including Junction City Road, S. Fleet Street, Tyler Street, S. Chehalis Street, S. Newell Street, E. Heron Street, S. Washington Street, S. Monroe Street, W. Heron Street, and S. Division Street. Approximately 300 feet west of S. Division Street, two turnouts from the PSAP mainline lead to storage and working tracks within the Port at Terminals 2 and 4. From this point, the PSAP mainline continues northwest, crossing five additional public roads at-grade, including W. Wishkah Street, W. 1st Street, N. Maple Street, Myrtle Street, and Port Industrial Road, before reaching a turnout which leads to storage and working tracks on the west end of the Port.

Within the Port, tracks for storage and movement of railcars at rail served terminals and facilities connect with the PSAP at the east end and west end of the Port.

The Port's internal track system is constrained, and current rail operations require multiple switching, maneuvering, and shunting operations. These constraints result in inefficiencies that include idling, excess switching movements, and increased rail traffic congestion within the Port and on local PSAP tracks as the Port rail system backs up.

Existing Rail Operations and Volumes

The Port has two rail loops that run through the existing marine terminals complex. Both of these rail loops serve T2, which does not have on-dock rail. One of the rail loops provides on-dock rail access at T4.

The Port is served by a Critical Rural Freight Corridor (designated as a T2 State Highway and an R2 Rail Freight Corridor). Rail service to the marine terminals provides direct access to both Class 1 railroads (BNSF and UPRR) via the PSAP short line railroad. The PSAP short line railroad forms the northern boundary of the Port-owned industrial area.

From the Port to the east, all trains travel along the Elma subdivision of the PSAP. The Elma subdivision covers a distance of approximately 60 miles and generally parallels U.S. 12 between Centralia and Aberdeen and U.S. 101 in Hoquiam. At Centralia, the PSAP short line railroad terminates where it connects to the BNSF Railway and the Union Pacific Railroad mainlines.

The Port receives manifest trains and unit trains. Manifest trains typically include one locomotive and between 20 and 60 railcars. The Port records manifest trains in terms of the number of railcars, so the number of round trips varies depending on the length of each manifest train. Unit trains typically include 100 to 110 railcars and two to three locomotives.

According to the Westway Expansion Project Final Environmental Impact Statement (City of Hoquiam and Washington State Department of Ecology, 2016), indicated that PSAP was typically operating 3.1 daily train trips operating between Elma and Aberdeen at the time of the report. That number included 2.0 daily manifest train movements, 0.5 daily auto train movements, and 0.6 daily soybean

meal unit train trips. The number of unit train movements occurring in 2016 would transport approximately 1.34 million tons per year.

Port railcar data indicates that in 2017 there were 17,459 cars carrying soybean meal, which would require approximately 175 loaded unit trains and 175 empty unit trains, or about 0.96 unit train trips per day. The peak volume for soybean meal cars occurred in 2020 when 27,187 loaded cars were delivered to the Port, the equivalent of approximately 3.03 million tons. Movement of these cars would require approximately 272 round-trip unit trains, or 1.49 unit train trips per day (0.74 loaded and 0.74 empty).

Based on Port railcar data from 2017 to 2021, the number of annual manifest train round trips at the Port during this period could have been as low as 70 but could have reached as high as 235 in 2020. For the purposes of subsequent environmental analysis, the baseline for comparison is 2.0 daily manifest train movements and 1.49 daily unit train movements, totaling 3.49 daily train movements.

8. Environmental Consequences

This section describes the environmental consequences of the No Action Alternative and the Proposed Project. This analysis is based on the assumptions in the *Project Description Technical Report* (Anchor QEA, 2023). The analysis considers the effects of constructing the complete Project; however, the Port and AGP may construct project elements in phases. Any major differences in the Proposed Project would be re-evaluated as appropriate.

This study evaluated the potential direct, indirect, and cumulative impacts of the alternatives that would be different from existing conditions. Existing conditions include those present at the time the analysis was completed in 2023. When informative, the study also includes a comparison of the operational impacts of the Proposed Project to the No Action Alternative. This was done to provide additional information about whether the project impacts may be different later in the analysis period.

Cumulative impacts are caused by the incremental impact of the alternatives when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor, but collectively significant actions, which take place over time (40 Code of Federal Regulations 1508.7). The list of cumulative projects is presented in the *Project Description Technical Report* (Anchor QEA, 2023). The following approach was developed based on guidance from the Council of Environmental Quality (CEQ, 1997):

- Determine the cumulative impacts study area for each environmental resource. The study area used to evaluate cumulative impacts is the same as described in Section 7.

- Assess the existing condition of each resource as it has been affected by past actions. This is based on information provided in the corresponding Affected Environment section of this study, which includes the effects of past actions.
- Evaluate the cumulative impacts of all past, present, and reasonably foreseeable future actions on each resource in the study area, which is described in Section 9.
- Assess how Alternative 1 would contribute to cumulative impacts, which is also described in Section 9.

No Action Alternative

The No Action Alternative refers to the continuation of existing conditions without the implementation of the Proposed Project as it is described in Section 5 of the Project Description Technical Report (Anchor QEA, 2023). Under the No Action Alternative, the infrastructure proposed by the Port and AGP would not be built and brought online, and potential beneficial or adverse environmental impacts of the Proposed Project would not occur. Additionally, the purpose of the Proposed Project would not be satisfied under the No Action Alternative.

Under the No Action Alternative, it is anticipated that AGP would maximize its operations at the existing T2 facility, although the T2 facility cannot accommodate the increased volume of export cargo intended to flow through T4, if redeveloped. Thus, the No Action Alternative may not have the capacity to meet the purpose and need of the Proposed Project.

The Port would continue to provide economic benefits to the region as a working port; however, economic activity is assumed to be limited to current port infrastructure and terminal capacity limits. Therefore, potential impacts to rail traffic are expected to remain low, similar to existing conditions. Although cumulative projects described in the Project Description Technical Report (Anchor QEA 2023) could be implemented, the analysis assumes that on-site and off-site operations would not change substantially from existing conditions.

Proposed Project

In comparison to 2020 rail traffic levels at the Port, this project is expected to increase bulk transport of soy products by 3.1 million tons per year. Soy products will be transported to the Port in unit trains composed of 110 rail cars, which are each 62 feet long. With locomotives, each of these trains will be approximately 7,000 to 7,300 feet long.

To achieve the anticipated increase in bulk transport, there will be an increase of approximately 300 loaded unit trains per year. Each unit train will arrive at the Port loaded and depart from the Port empty creating 600 additional annual unit train movements in and out of the port, the equivalent of 1.64 additional daily train movements.

Proposed Project Rail Upgrades and Site Improvements

The rail upgrades will increase the efficiency of the movement of goods through the Port. The rail upgrades will increase efficiency of unit train offloading, railcar storage, and unit train assembly. The rail upgrades will increase capacity for all port users and will ensure that each terminal could operate unimpeded by unit trains on neighboring loops. The proposed rail upgrades are shown in Figures 5, 6, and 7 and are described in greater detail in the following sections.

The rail upgrades involve construction of up to 50,245 linear feet of new rail at the Port's existing loop track facility. The upgrades include the following:

- **New Lead Track Through Terminal:** A new Port-owned rail loop route through the site would be built, consisting of sections of single and double track with connections to the PSAP.
- **New Storage Tracks:** Four new storage tracks will be constructed with connections to the Port-owned lead tracks and the PSAP.
- **Modification of Existing Storage Tracks:** Nine existing storage tracks will be extended and aligned with the four new storage tracks, with connections to both Port- and PSAP-owned lead tracks.
- **New Fencing and Security Guard Station:** A new fence will be installed along the northern boundary of the Project site to separate the PSAP mainline from Port property and tracks. A security guard station will be built at the easternmost point of entry.
- **Rail bridge:** A new rail bridge will be installed at Fry Creek that accommodates a third track over the creek to replace an existing culvert.
- **Rail crossing modifications:** There would be five at-grade crossings modified as part of the Port Project. The locations of the proposed rail crossing modifications are depicted in Figures 5, 6, and 7 and are described in the following sections.
- **Access roads and secure site access:** Unpaved access roads will be paved. Secured site access and roadway improvements will be constructed for the safe, secure, and efficient flow of vehicles into and through the project site.
- **Stormwater improvements:** Stormwater drainage systems will be constructed to accommodate rail upgrades and new construction.

Figure 5. Proposed Rail Upgrades and Site Improvements

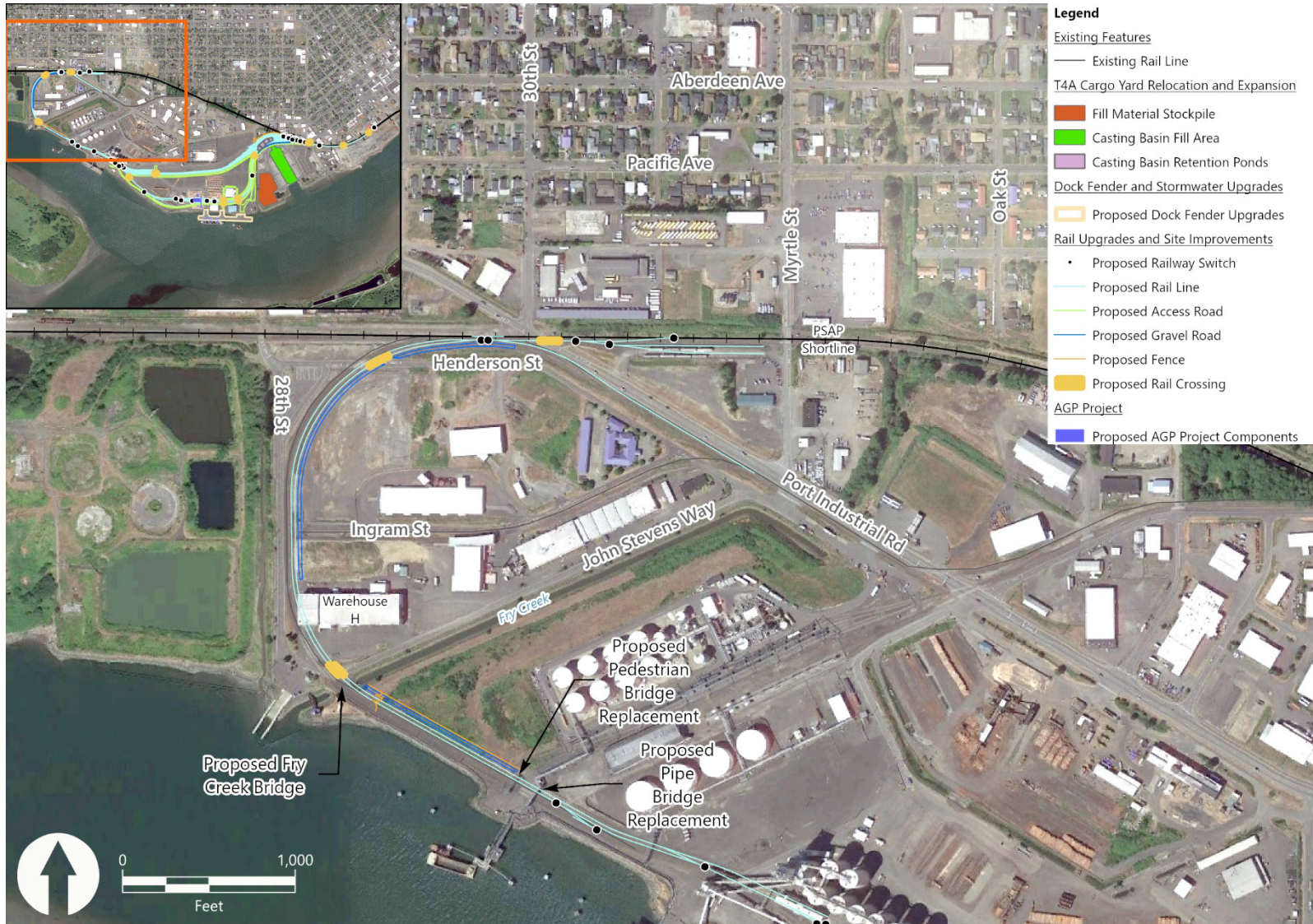


Figure 6. Proposed Rail Upgrades and Site Improvements

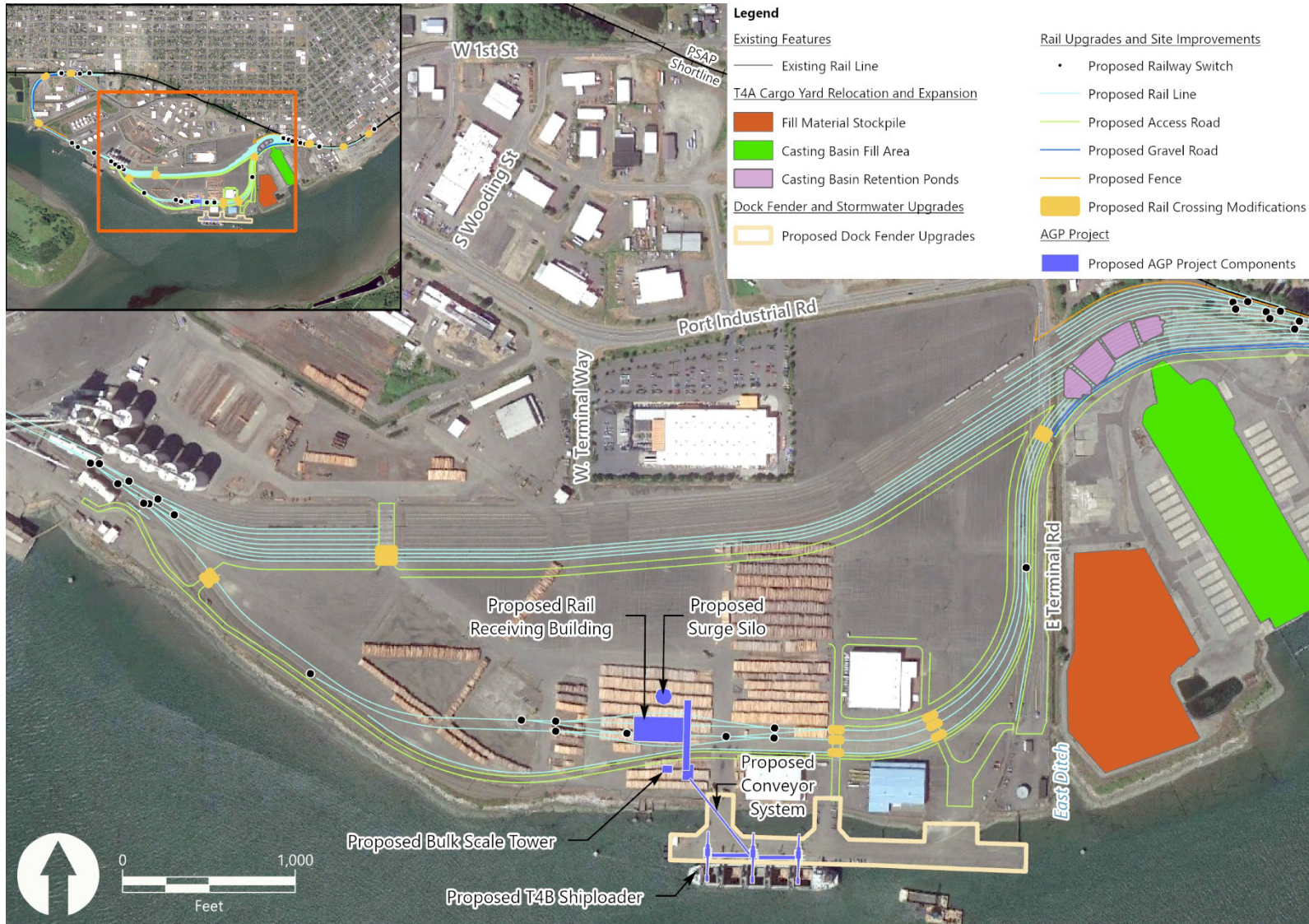
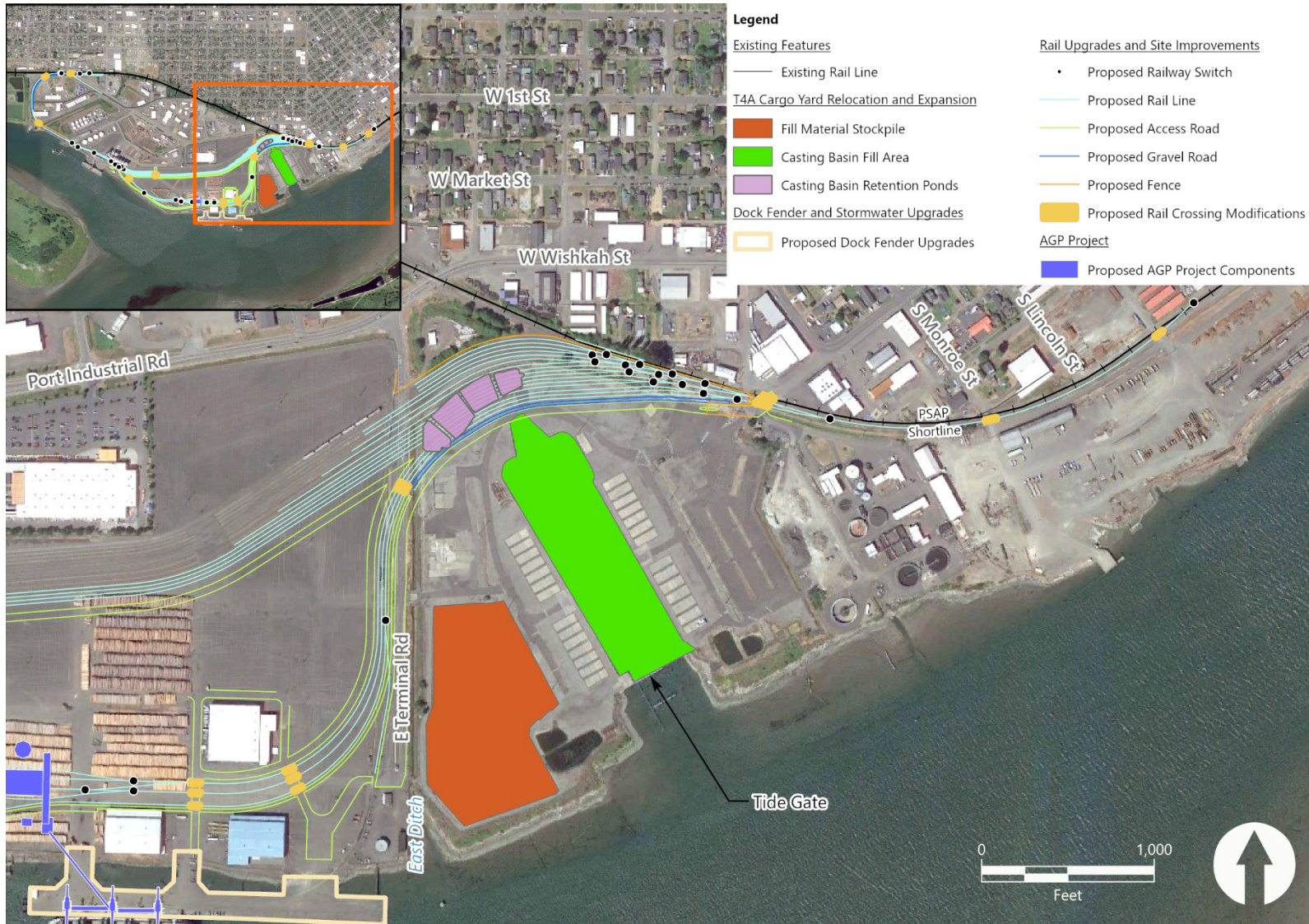


Figure 7. Proposed Rail Upgrades and Site Improvements



The rail upgrades will allow for the sequenced throughput of an inbound unit train from the time the loaded train arrives to the Port until the time that the empty train departs the Port. This will improve the operational efficiency of rail operations at the Port. The model unit train for purposes of design and planning is one 110-car train, which would be broken into two 55-car strings upon arrival at the Port to complete the unloading operations proposed by AGP at the new T4B facility. These operations are described in greater detail later in this Section.

Work associated with the new rail upgrades includes a new rail bridge at Fry Creek that will replace an existing culvert, road-rail crossing signal updates, and the extension of three existing culverts within the ditch that is parallel to the East Terminal Way, known as East Ditch. The rail upgrades and improvements at Fry Creek will include the addition of a third track. Further, the existing inner track will be realigned, and the track will be raised 1.5 feet at the proposed bridge crossing. The Fry Creek modifications will be designed to maintain adequate vehicle clearance to allow operational and maintenance access to the area.

The culverts within East Ditch would be extended approximately 350 feet in length to a total length of 500 feet. The addition in this area will result in additional land coverage by new tracks. The culverts will be extended to maintain the flow of water through the ditch as necessary.

There are two signalized at-grade crossings near the Project Area where existing roads cross the PSAP mainline located at PIR and West Heron Street. The rail upgrades and improvements will include adding additional tracks across the roadway at the West Heron Street crossing and relocating the railroad crossing signal equipment. Additional signal components will be added within the signal house to accommodate the additional tracks. There will also be improvements made at several unsignalized rail crossings of Henderson Street, John Stevens Way, South Division Street, South Monroe Street and South Washington Street where new track will be added. The improvements at these intersections would include laying additional track adjacent to the existing track.

Additional railroad crossing modifications will occur internally within Port property. However, these crossing modifications are not accessible to the public. These internal railroad crossing modifications are depicted in Figure 6.

An internal, private access road will be built starting at the point where the public portion of West Heron Street terminates. This access road will extend beyond the existing and proposed tracks intersection with West Heron Street and will lead into the expanded T4A site. This access road will roughly parallel the proposed rail tracks through the expanded T4A site. Upon implementation of the rail upgrades, East Terminal Road will be shortened to end at the storage tracks at East Terminal Road.

Vehicle access between T4A and T4B will be maintained, with potential pavement upgrades, and will not be impeded by the rail line. Redundant internal circulation routes will provide multiple routes of ingress and egress at T4. Routes will lead to either the existing T2 security checkpoint or a new T4

security checkpoint located on the east side of the Project Area at West Heron Street. If a route is blocked, alternative routes will be available.

The site will be improved to enhance multimodal transportation flow between T4A and the expanded cargo laydown area. Port entry access points on the eastern border of the site will be relocated and secured. Changes to access points and security measures related to site access will be implemented in accordance with Department of Homeland Security requirements and will be documented in the Homeland Security Port Security Plan.

Proposed Project Operations

The Proposed Project will result in an anticipated doubling of the annual throughput of soybean meal through the Port, with increases in rail and vessel traffic. Throughput would increase to approximately 6,000,000 metric tons (MT), an increase of approximately 3,250,000 MT over the throughput which occurred in 2020. Each rail car can transport approximately 111.5 tons, or 101 MT. Transport of this increased throughput will require an increase of approximately 300 loaded unit trains per year at the Port. The process by which the new rail traffic would be handled at the Port using the rail upgrades included in the Proposed Project is described below.

A unit train shipped by a Class I railroad is typically 110 railcars. To unload a unit train in a time efficient manner, the train should be handled as one unit or broken in half. Once the rail upgrades are operational, loaded trains will enter T4 from the east or west, and may either be put onto storage tracks for later unloading or staged at the new rail receiving building for immediate unloading. The corresponding operational scenarios can generally be described as follows. The specific operational scenario used for an inbound train will depend on multiple factors such as vessel schedule, inbound train arrival time, and operations inside of the new rail receiving building.

Inbound to Storage for Later Unloading, Entering from West. A 110-car unit train enters the Port from the PSAP rail line on the west side of the Port's marine terminals and industrial properties area near PIR and 30th Street. The train travels along the Port's internal loop route towards the storage track area. The train enters an empty storage track heading east. The rear 55 cars from the train are parked and the remaining 55 cars are pulled east to clear the storage track switches on the east end of the Project Area. In order to clear the switches, the head of the train with 55 cars must pull into PSAP's Poyner Rail Yard before reversing and pushing these 55 cars into place onto an open storage track. The train then backs into an empty storage track and the remaining 55 cars are parked.

Inbound to Storage for Later Unloading, Entering from East. A 110-car unit train enters the Port from the PSAP short line railroad on the east side of the Port's marine terminals and industrial properties area near West Heron Street. The train travels west into an empty storage track until the rear of the train clears the storage track switches. The rear 55 cars from the train are parked and the remaining 55 cars are pulled west to clear the storage track switches near T2. In order to clear the switches, the

head of the train with 55 cars must pull up near Henderson Street on Port property. The train then backs into an empty storage track and the remaining 55 cars are parked.

Inbound for Immediate Unloading Entering from West. A 110-car unit train enters the Port from the PSAP short line railroad on the west side of the Port's marine terminals and industrial properties area near PIR and 30th Street. The train travels along the Port's internal loop route towards the new rail receiving building. The train travels eastward either through or around the rail receiving building. The rear 55 cars from the train are staged on one of two parallel tracks running through the rail receiving building. The remaining 55 cars are pulled east to clear the loop track switches on the east end of the Project Area. In order to clear the switches, the head of the train with 55 cars must pull into the PSAP's Poyner Rail Yard. The train then backs into the second of two parallel tracking running through the rail receiving building, and the remaining 55 cars are staged for unloading.

Inbound for Immediate Unloading Entering from East. A 110-car unit train enters the Port from the PSAP short line railroad on the east side of the Port's marine terminals and industrial properties area near West Heron Street. The train travels west along the Port's internal loop route towards the new rail receiving building. The rear 55 cars from the train are staged at the east side of the rail receiving building on one of two parallel tracks running through the building. The remaining 55 cars are pulled west to clear a switch on the west side of the rail receiving building, then is backed east onto the second of two parallel tracks running through the rail receiving building and is staged for unloading.

In order to move loaded 55-car strings from storage to the new rail receiving building, a locomotive will connect to the west side of the 55-car string and travel west until the rear of the train is clear of the switches near T2. To clear the switches, the head of the train with 55 cars would be on Port property near Henderson Street. The train would then be backed east along the Port's internal loop route to be staged on the east side of the rail receiving building. Once a unit train is staged for unloading at the new rail receiving building, railcar indexers, locomotives, or trackmobiles could move the two 55-car strings through the rail receiving building from east to west during the unloading process. Once unloading is complete, the head end of each string will extend just past T2 to the west.

After unloading is complete from east to west, the 55-car strings are located on the west side of the rail receiving building on parallel tracks. A locomotive will couple to the first string of empty cars and place them in storage tracks on Port property. After positioning the first string, the locomotive will move to the second empty string and position it in an empty storage track. These movements will not require locomotives to leave Port property or cross a public roadway. The locomotives will be staged in a designated location for PSAP crews.

To move empty 55-car strings out of storage for outbound travel away from the Port, one of the "inbound to storage" scenarios described above will be reversed.

Off-Site Consequences

The additional trains associated with the Proposed Project will increase daily train movements on the PSAP between Centralia and Aberdeen from approximately 3.49 daily train trips to 5.13 daily train trips. Mainline capacity on the PSAP between Centralia and Aberdeen has been estimated as 12 trips per day (City of Hoquiam and Washington State Department of Ecology, 2016). The PSAP mainline provides adequate available capacity for movement of the trains associated with the Proposed Project, therefore the Proposed Project would result in low impacts on rail traffic along the PSAP mainline.

Each train arriving or departing the Port will cross the at-grade road crossings through Aberdeen. Train speeds could be as low as 7-8 mph while crossing some of the at-grade crossings near the port. Typical train speeds east of the Port are likely to be 15 to 20 mph.

At crossings near the port, crossing by an arriving or departing bulk transport train would block traffic at road crossings for 10 to 20 minutes. Further east in Aberdeen, each road crossing would be blocked for shorter durations. Additional analysis of the potential for Proposed Project-related trains to result in impacts on vehicle traffic are described in the *Vehicle Traffic and Safety Technical Study* (Fehr & Peers, 2023)

On-Site Consequences

Simulation analysis performed in 2016 indicated that yard and terminal capacity at each end of the PSAP mainline creates limitations on train movements (City of Hoquiam and Washington State Department of Ecology, 2016), including:

- Westbound trains sometimes wait between Centralia and Aberdeen for accommodation at Aberdeen.
- Some trains leave en route cars that cannot be accommodated at the destination to be picked up by a subsequent train.
- Eastbound trains going through Centralia on the BNSF main line sometimes wait west of Centralia until the BNSF crew arrives or for an opening in the flow of the BNSF and Amtrak traffic at Centralia, so that roadways are not blocked in Centralia while the train is waiting.
- Eastbound trains that terminate at the yards in Centralia sometimes wait west of Centralia for accommodation.

One of the key objectives of the Proposed Project is to improve the fluidity and efficiency of rail operations and train movements in the vicinity of the Port of Grays Harbor. New tracks within the Port will be configured to allow bi-directional arrival and departure of trains with access to the PSAP mainline at the east and west ends of the Port. This flexibility improves the ability to efficiently move

trains into and out of the Port and reduces the frequency of trains idling or holding outside the Port on tracks in the surrounding community.

The Proposed Project will increase the length of storage tracks at Terminal 4 and add storage tracks. The increases in track length and quantity will allow unit trains to arrive and depart at the Port without requiring them to be broken into smaller strings and will reduce switching movements and decrease or eliminate the need to store these shorter strings within the Port or at the nearby PSAP railyard, which will lessen the frequency of movements across surrounding at-grade crossings and the delay impact these movements put on local vehicle traffic.

Nearly all new tracks included as part of the Proposed Project will be constructed adjacent to existing Port and PSAP tracks. At all locations, the construction contractor will be responsible for providing proper notice to the Port and railroad and implementing safety measures and procedures for all rail operational interruptions or when existing tracks are fouled.

At the east end of the Port, the Proposed Project will add a new access road which begins east of the proposed storage tracks and leads to the existing Port gate facility on East Terminal Road. The access road will improve emergency vehicle and workforce vehicle access to the waterfront by eliminating the existing seven track at-grade crossing on East Terminal Road. The access road will begin at West Heron Street where it will cross the PSAP mainline and two lead tracks that provide access the east end of the Port. The road will then run parallel to storage tracks toward the southwest before rejoining the alignment of East Terminal Road. This configuration will prevent the access road from being blocked by stored trains, and by reducing the number of track crossings it will also reduce the frequency of blockage by moving trains.

The rail upgrades would allow the Proposed Project to accommodate the increase in rail traffic without a deterioration in the capacity to handle existing rail traffic in the On-Site project area. As such, the impacts of the Proposed Project on On-Site rail traffic and safety would be low.

9. Cumulative Effects

Cumulative impacts are effects that would result from the incremental addition of the Proposed Project to the impacts from past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor, but collectively significant, actions that occur over time. The purpose of the cumulative impacts analysis is to ensure that decision-makers consider the full range of consequences for the Proposed Project under expected future conditions.

The cumulative impacts analysis was prepared in accordance with SEPA requirements (Washington Administrative Code [WAC] 197.11.060) and also considered the federal Council on Environmental Quality approach for analyzing cumulative impacts. The following steps were used:

- Identify the resources that could be adversely affected by the Proposed Project (Section 7).
- Consider other actions in the same geographic study area for each resource.
- Consider other actions with effects during the same time period as effects from the Proposed Project, during both construction and operation.
- Analyze cumulative impacts using the best available data.

Current conditions are a result of past and present actions. These current conditions in the study area were used as the baseline existing environmental condition for the resource analyses in this report and are described in Section 7. Therefore, the cumulative effects of past actions were assumed to be captured in the analysis of project impacts and were not separately called out in the analysis of cumulative impacts.

Table 1 and Figure 4 in the *Project Description Technical Report* (Anchor QEA, 2023) outline the cumulative projects and actions occurring in the relevant geographic study areas and time frames. Twelve projects are currently in progress or are expected to occur in the foreseeable future, regardless of whether the Proposed Project proceeds. The impacts of these projects may have the potential to contribute to a cumulative impact on resources when combined with the impacts of the Proposed Project. As such, these projects are referred to as cumulative projects. Only the actions that could impact resources considered in this report were included in this analysis. Cumulative projects would be required to complete separate, project-specific SEPA environmental reviews and permitting, as appropriate.

The City of Aberdeen (City), in collaboration with the Port of Grays Harbor (Port), Grays Harbor County (County), and with the support of the Washington State Department of Transportation (WSDOT), is advancing the Aberdeen US 12 Highway-Rail Separation Project through final design and right of way acquisition. This project is fully funded through the construction phase. This project will build a multimodal grade separation with active transportation pathways at the intersection of Chehalis Street and US12/Wishkah Street. The proposed grade separation project will allow unrestricted multimodal access into and out of the commercial area that is currently accessed by five at-grade crossings at S. Fleet Street, Tyler Street, S. Chehalis Street, S. Newell Street, E. Heron Street. In addition, the new overcrossing of the PSAP rail line will eliminate vehicle delays on US 12 caused by trains that block access between US 12 and the commercial area. The US 12 Highway-Rail Separation Project will provide beneficial impacts to rail traffic and safety by creating a separated road-rail crossing.

Four projects are planned as part of PSAP Railroad Annual Maintenance and Improvements which will add tracks to increase capacity in specific segments of the railroad, mitigate crossing blockages,

and improve efficiency of rail movements. The South Elma Rail Siding project will add a 5,000-foot siding near Elma which will reduce crossing blockages. The Blakeslee Junction #1 and #2 Expansion project will extend tracks at Blakeslee to increase capacity of the railroad and mitigate crossing blockages. The Blakeslee Junction Track #4 project will add up to 7,000 feet of track at Blakeslee Junction to improve the efficiency of train movements west of Centralia where the railroad currently experiences congestion. The Cedar Creek Siding #2 project will add up to 8,000 feet of additional siding capacity to improve the efficiency of trains meeting and passing. The projects planned by PSAP will provide beneficial impacts to rail traffic and safety by increasing capacity and efficiency of train movements on the railroad, and reducing crossing blockages.

10. Mitigation

The Proposed Project would not result in substantial impacts to rail traffic or safety. No mitigation is needed.

11. References

1. Anchor QEA (Anchor QEA, LLC), 2023. *Project Description Technical Report*. Port of Grays Harbor Terminal 4 Expansion and Redevelopment. Prepared for Port of Grays Harbor and Ag Processing, Inc. May 2023.
2. CEQ (Council on Environmental Quality), 1997. *Considering Cumulative Effects Under the National Environmental Policy Act*. January 1997.
3. City of Hoquiam and Washington State Department of Ecology, 2016. *Westway Expansion Project Final Environmental Impact Statement*. September 2016. Available at: <https://apps.ecology.wa.gov/publications/SummaryPages/1706012.html>.
4. Fehr & Peers, 2023. *Vehicle Traffic and Safety Technical Study*. Port of Grays Harbor Terminal 4 Expansion and Redevelopment. Prepared for Port of Grays Harbor and Ag Processing, Inc. May 2023.
5. Genesee & Wyoming Inc., 2023. *Puget Sound & Pacific Railroad (PSAP)*. Available online at: <https://www.gwrr.com/psap/>. Accessed May 15, 2023.
6. Washington State Rail Plan, 2019-2040 (Washington State Department of Transportation 2019).
7. Washington State Freight and Goods Transportation System (FGTS) 2021 Update (Washington State Department of Transportation 2021).