

Appendix D

**Coal Export Terminal Stages of  
Construction and Operations**

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**Millennium Bulk Terminals—Longview  
Coal Export Terminal Stages of Construction and Operations**

**TABLE 1**

**Stage of Construction/Operations:** Stage 1a Construction

**Description:** Start of Stage 1 Construction

**Timing:** 0–1.5 years (18 months) from the start of construction

**Approximate Years:**<sup>1</sup> 2018–2020

**Throughput Capacity:** 0 MMTPY<sup>2</sup>

Stage 1a Construction	
Project Component	Activity
Number of Construction Workers	<ul style="list-style-type: none"> <li>• 1,350 construction workers (combined number of workers for all construction activities associated with Stage 1 and Stage 2)</li> </ul>
Construction Trips	<ul style="list-style-type: none"> <li>• Total construction trips are dependent on how material is imported during preloading activities (numbers below are combined for preloading activities during Stage 1 and Stage 2):               <ul style="list-style-type: none"> <li>○ If all material is imported by truck: approximately 88,000 loaded truck trips over an approximate 5-year period with the majority of the truck trips occurring during the first 1 to 2 years (Stage 1).</li> <li>○ If all material is imported by rail: approximately 35,000 loaded railcars over an approximate 5-year period with the majority of the railcars received during the first 1 to 2 years (Stage 1).</li> <li>○ If all material is imported by barge: approximately 1,130 barge trips over an approximate 5-year period with the majority of the barge trips occurring during the first 1 to 2 years (Stage 1)</li> </ul> </li> </ul>
Construction Staging	<ul style="list-style-type: none"> <li>• Demolish existing structures</li> <li>• Prepare site area and make ground improvements/grading</li> <li>• Stockpile area, including preloading for stockpile pads (2 out of 4 stockpile pads would be preloaded during Stage 1 construction).</li> <li>• Coal export terminal start-up facilities               <ul style="list-style-type: none"> <li>○ One shiploader and related conveyors on Dock 2</li> <li>○ Rail car unloading facilities (rapid unloader, bottom dumper)</li> <li>○ Associated facilities and infrastructure (i.e., conveyors, etc.)</li> </ul> </li> <li>• Construct rail loop               <ul style="list-style-type: none"> <li>○ Complete berm for rail tracks</li> <li>○ Install up to 8 rail storage tracks for train parking</li> <li>○ Install 1 operating track</li> </ul> </li> <li>• Conduct dredging in the Columbia River</li> <li>• Construct 2 docks (Docks 2 and 3) and trestle</li> </ul>
Demolition of Existing Structures	<ul style="list-style-type: none"> <li>• Demolish existing cable plant building (approximately 270,000 ft<sup>2</sup>)</li> <li>• Demolish existing potline buildings (approximately 600,000 ft<sup>2</sup>) and some smaller ancillary structures</li> <li>• Duration of approximately 6 months</li> </ul>
Site Preparation	<ul style="list-style-type: none"> <li>• Clearing of vegetation</li> </ul>

<sup>1</sup> Assumes that construction begins 2018

<sup>2</sup> MMTPY = million metric tons per year

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**Approximate Years:**<sup>1</sup> 2018–2020

**Throughput Capacity:** 0 MMTPY<sup>2</sup>

Stage 1a Construction	
Project Component	Activity
	<ul style="list-style-type: none"> <li>• Grading</li> <li>• Earthmoving</li> <li>• Earthworks</li> <li>• Construction of erosion control facilities (including settlement ponds)</li> <li>• Duration of approximately 3 months</li> </ul>
Preloading	<ul style="list-style-type: none"> <li>• Initiation of rolling preload: up to 7 years total for entire stockpile areas (continues through construction of both Stage 1 and Stage 2)</li> <li>• Preloading would commence on 2 of the 4 stockpiling areas</li> <li>• Existing soil conditions would be strengthened to improve load-bearing capacity</li> <li>• Preload material would be imported and wick drains would be installed for ground improvement for the stockyard area</li> <li>• Preload material would be placed in a pile approximately 35 feet high covering the area of the berm and adjacent stockpile pad(s)</li> <li>• Process would be repeated at each berm and stockpile location until soil consolidation is achieved across the complete stockyard</li> <li>• Groundwater expelled through the wick drains would be collected, treated, and discharged to the Columbia River</li> <li>• Excess preload material would be used on site, stockpiled, or removed from the area</li> <li>• Approximately 2.1 million cubic yards of preload material would be imported (Stage 1 and Stage 2)</li> <li>• Approximately 2.5 million cubic yards of material would be moved around the project area (Stage 1 and Stage 2)</li> </ul>
Construction/Installation of Coal Export Terminal Equipment	<ul style="list-style-type: none"> <li>• Coal would not be stockpiled during any stage of construction</li> <li>• Installation of plant and equipment for start-up operations would include:               <ul style="list-style-type: none"> <li>○ One operating track</li> <li>○ Up to 8 rail storage tracks for train parking/staging</li> <li>○ One rapid discharge (bottom) tandem railcar unloader to unload coal for transfer by conveyor to the dock for shiploading; the rail car unloader would be capable of unloading 2 railcars at once.</li> <li>○ Conveyors, buffer bin, and transfer towers, including approximately 4,300 lineal feet of conveyors, of which approximately 1,000 lineal feet would be open conveyors and approximately 3,300 lineal feet would be enclosed</li> <li>○ Dock 2 and Dock 3</li> <li>○ One shiploader on Dock 2</li> <li>○ Support structures, electrical transformers, switchgear and equipment, process control systems, buildings, etc.</li> </ul> </li> </ul>
Rail Loop Construction	<ul style="list-style-type: none"> <li>• Importing and placing of approximately 130,000 cubic yards of ballast rock for the rail foundations</li> <li>• Placement of railroad ties</li> <li>• Laying of steel rail lines</li> </ul>

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**Stage of Construction/Operations:** Stage 1a Construction

**Description:** Start of Stage 1 Construction

**Timing:** 0–1.5 years (18 months) from the start of construction

**Approximate Years:**<sup>1</sup> 2018–2020

**Throughput Capacity:** 0 MMTPY<sup>2</sup>

Stage 1a Construction	
Project Component	Activity
	<ul style="list-style-type: none"> <li>• Installation of signaling</li> <li>• Installation of switching equipment</li> <li>• Installation of track lighting</li> <li>• Installation of 1 rapid discharge (bottom) tandem railcar unloader</li> </ul>
Dredging, Trestle, and Dock Construction	<ul style="list-style-type: none"> <li>• Dredging would occur as part of the construction of Docks 2 and 3 (simultaneous with site prep and preload; may require 2 fish windows to complete)</li> <li>• Dredging would remove approximately 500,000 cubic yards of material over a 48-acre area and to a depth of -43 feet Columbia River Datum</li> <li>• Dredging would be required from the river side face of the dock out to the Columbia River navigation channel; the riverbed would be sloped from the dock to the riverbank with a 3H:1V slope</li> <li>• Dock and trestle construction would include pile driving of approximately 630 36-inch-diameter steel pipe piles, 610 of which would be installed in aquatic areas below ordinary high water</li> <li>• Piling would be installed from approximately 140 to 165 feet below the mudline</li> <li>• Dredge spoils will be disposed of adjacent to the navigation channel between approximately river mile 60 and 66</li> <li>• Approximately 225 linear feet (125 feet and 100 feet, respectively) of the existing west and east pile dikes would be removed</li> </ul>

## Millennium Bulk Terminals—Longview Coal Export Terminal Stages of Construction and Operations

**TABLE 2**

**Stage of Construction/Operations:** Stage 1b Construction and Start-Up Operations

**Description:** Continuation of Stage 1 construction through completion of Stage 1 construction and start-up operations

**Timing:** 0–3 years from the start of construction

**Approximate Years<sup>1</sup>:** 2018–2021

**Throughput Capacity:** 5 to 10 MMTPY<sup>2</sup>

Stage 1b Construction		Start-Up Operations	
Project Component	Activity	Project Component	Activity
N/A	N/A	Number of Trains	Arrival of coal by rail: <ul style="list-style-type: none"> <li>Up to 10 MMTPY throughput capacity</li> <li>Up to 60 unit trains arriving and departing monthly</li> </ul>
N/A	N/A	Number of Vessels	Transfer of coal to ship: <ul style="list-style-type: none"> <li>Up to 10 MMTPY throughout capacity</li> <li>Up to 15 ships loaded monthly (80% Panamax, 20% Handymax)</li> </ul>
Number of Construction Workers	<ul style="list-style-type: none"> <li>1,350 construction workers (combined number of workers for all construction activities associated with Stage 1 and Stage 2)</li> </ul>	Number of Employees	<ul style="list-style-type: none"> <li>60 employees required</li> </ul>
Construction Trips	<ul style="list-style-type: none"> <li>Construction trips are dependent on how material is imported during preloading activities (numbers below are combined for preloading activities during Stage 1 and Stage 2): <ul style="list-style-type: none"> <li>If all material is imported by truck: approximately 88,000 loaded truck trips over an approximate 5-year period with the majority of the truck trips occurring during the first 1 to 2 years (Stage 1)</li> <li>If all material is imported by rail: approximately 35,000 loaded railcars over an approximate 5-year period with the majority of the railcars received during the first 1 to 2 years (Stage 1)</li> <li>If all material is imported by barge: approximately 1,130 barge trips over an approximate 5-year period with the majority of the barge trips occurring during the first 1 to 2 years (Stage 1)</li> </ul> </li> </ul>	N/A	—
Construction/Installation of Coal Export Terminal	Coal would not be stockpiled during any stage of construction. Would include the installation of additional facilities and	Rail Cars/Trains	<ul style="list-style-type: none"> <li>Inbound and outbound trains would be staged on site on up to eight available storage tracks</li> </ul>

<sup>1</sup> Assumes that construction begins 2018

<sup>2</sup> MMTPY = million metric tons per year

**Millennium Bulk Terminals—Longview  
Coal Export Terminal Stages of Construction and Operations**

**TABLE 2**

**Stage of Construction/Operations:** Stage 1b Construction and Start-Up Operations

**Description:** Continuation of Stage 1 construction through completion of Stage 1 construction and start-up operations

**Timing:** 0–3 years from the start of construction

**Approximate Years<sup>1</sup>:** 2018–2021

**Throughput Capacity:** 5 to 10 MMTPY<sup>2</sup>

Stage 1b Construction		Start-Up Operations	
Project Component	Activity	Project Component	Activity
Equipment	equipment not installed during the start of Stage 1a construction: <ul style="list-style-type: none"> <li>• Tandem rotary unloading facility (capable of unloading 2 rail cars)</li> <li>• Three berms (for stackers and reclaimers)</li> <li>• Water management facilities</li> <li>• Two stackers</li> <li>• Two reclaimers</li> <li>• Conveyors, buffer bin, and transfer towers, including approximately 16,100 lineal feet of conveyors, of which approximately 11,200 lineal feet would be open conveyors and approximately 4,900 lineal feet would be enclosed.</li> <li>• Support structures, electrical transformers, switchgear and equipment, process control systems, buildings, etc.</li> </ul> Completion of Stage 1 construction would result in a nominal throughput capacity of up to 25 MMTPY		<ul style="list-style-type: none"> <li>• Rail car unloading operations would use the operating track and the rapid discharge (bottom) unloaders</li> <li>• Up to 60 unit trains would arrive and depart monthly</li> </ul>
		Rail Car Unloading	<ul style="list-style-type: none"> <li>• No stockpiling of coal; coal would be delivered directly from the rail cars to the shiploader by way of a rapid discharge unloading facility and interconnecting conveyors</li> </ul>
		Water Management Facilities	<ul style="list-style-type: none"> <li>• Water collection, conveyance, treatment, reuse, or discharge</li> </ul>
—	—	Shiploading	<ul style="list-style-type: none"> <li>• Ship loading would be performed using a single electrical-powered traveling shiploader installed on Dock 2</li> <li>• The shiploader would have an average capacity of 6,500 metric tons per hour</li> </ul>
		Shipping	<ul style="list-style-type: none"> <li>• Up to 15 ships per month (80% Panamax, 20% Handymax) would be loaded</li> </ul>
		Ship Bunkering Crew Supplies	<ul style="list-style-type: none"> <li>• These activities would not be allowed or provided for at the dock</li> </ul>

**Millennium Bulk Terminals—Longview  
Coal Export Terminal Stages of Construction and Operations**

**TABLE 2**

**Stage of Construction/Operations:** Stage 1b Construction and Start-Up Operations

**Description:** Continuation of Stage 1 construction through completion of Stage 1 construction and start-up operations

**Timing:** 0–3 years from the start of construction

**Approximate Years<sup>1</sup>:** 2018–2021

**Throughput Capacity:** 5 to 10 MMTPY<sup>2</sup>

Stage 1b Construction		Start-Up Operations	
<u>Project Component</u>	<u>Activity</u>	<u>Project Component</u>	<u>Activity</u>
		Equipment	<ul style="list-style-type: none"> <li>• Equipment needed to maintain the terminal would include               <ul style="list-style-type: none"> <li>○ wheel loaders</li> <li>○ cranes</li> <li>○ forklifts</li> <li>○ trucks</li> <li>○ welders</li> <li>○ pumps and other similar equipment</li> </ul> </li> </ul>

## Millennium Bulk Terminals—Longview Coal Export Terminal Stages of Construction and Operations

<b>TABLE 3</b> <b>Stage of Construction/Operations:</b> Stage 2 Construction/Increased Operations <b>Description:</b> Stage 2 Construction and increased operations through completion of Stage 2 construction <b>Timing:</b> 4–6 years from the start of construction <b>Approximate Years<sup>1</sup>:</b> 2022–2024 <b>Throughput Capacity:</b> Up to 25 MMTPY <sup>2</sup>			
Stage 2 Construction		Increased Operations	
Project Component	Activity	Project Component	Activity
N/A	N/A	Number of Trains	Arrival of coal by rail: <ul style="list-style-type: none"> <li>Up to 25 MMTPY throughput capacity</li> <li>An average of 150 unit trains arriving and departing monthly</li> </ul>
N/A	N/A	Number of Vessels	Transfer of coal to ship: <ul style="list-style-type: none"> <li>Up to 25 MMTPY throughput capacity</li> <li>Total average of 40 ships loaded monthly (80% Panamax, 20% Handymax)</li> </ul>
Number of Construction Workers	<ul style="list-style-type: none"> <li>1,350 construction workers (combined number of workers for all construction activities associated with Stage 1 and Stage 2)</li> </ul>	Number of Employees	<ul style="list-style-type: none"> <li>115 employees required</li> </ul>
Construction Trips	<ul style="list-style-type: none"> <li>Construction trips are dependent on how material is imported during preloading activities (numbers below are combined for preloading activities during Stage 1 and Stage 2 Construction):               <ul style="list-style-type: none"> <li>If all material is imported by truck: approximately 88,000 loaded truck trips over an approximate 5-year period with the majority of the truck trips occurring during the first 1 to 2 years (Stage 1)</li> <li>If all material is imported by rail: approximately 35,000 loaded railcars over an approximate 5-year period with the majority of the railcars received during the first 1 to 2 years (Stage 1)</li> <li>If all material is imported by barge: approximately 1,130 barge trips over an approximate 5-year period with the majority of the barge trips occurring during the first 1 to 2 years (Stage 1)</li> </ul> </li> </ul>	N/A	—
Construction Staging	<ul style="list-style-type: none"> <li>Associated stockpile pads (preloading for remaining 2 of 4 berms/stockpile pads)</li> <li>Any of the remaining eight rail storage tracks for train parking that were not constructed as part of Stage 1</li> <li>Two additional stackers</li> <li>Two additional reclaimers</li> <li>Conveyors</li> </ul>	Rail Cars/Trains	<ul style="list-style-type: none"> <li>Inbound and outbound trains would be stored on site on up to eight available storage tracks</li> <li>Rail car unloading operations would use the operating track and rail cars would be unloaded using the tandem rotary unloader</li> <li>An average of 150 unit trains would arrive and depart monthly</li> </ul>

<sup>1</sup> Assumes that construction begins 2018

<sup>2</sup> MMTPY = million metric tons per year

**Millennium Bulk Terminals—Longview  
Coal Export Terminal Stages of Construction and Operations**

**TABLE 3**

**Stage of Construction/Operations:** Stage 2 Construction/Increased Operations

**Description:** Stage 2 Construction and increased operations through completion of Stage 2 construction

**Timing:** 4–6 years from the start of construction

**Approximate Years<sup>1</sup>:** 2022–2024

**Throughput Capacity:** Up to 25 MMTPY<sup>2</sup>

Stage 2 Construction		Increased Operations	
<u>Project Component</u>	<u>Activity</u>	<u>Project Component</u>	<u>Activity</u>
	<ul style="list-style-type: none"> <li>• One additional shiploader on Dock 3</li> <li>• Equipment necessary to add 19 MMTPY and bring the nominal total throughput up to 44 MMTPY</li> </ul>		
Preloading	<ul style="list-style-type: none"> <li>• Remaining 2 of 4 berms/stockpile areas would be preloaded during Stage 2 construction</li> <li>• Existing soil conditions would be strengthened to improve load bearing capacity</li> <li>• Preload material would be imported and wick drains would be installed for ground improvement for the stockyard area</li> <li>• Preload material would be placed in a pile approximately 35 feet high covering the area of the berm and adjacent stockpile pad(s)</li> <li>• The preload process would be repeated at each berm and stockpile location until soil consolidation is achieved across the complete stockyard</li> <li>• Excess preload material would be used on site, stockpiled, or removed from the site</li> <li>• Approximately 2.1 million cubic yards of preload material would be imported (Stage 1 and 2)</li> <li>• Approximately 2.5 million cubic yards of material would be moved around the project area (Stage 1 and 2)</li> </ul>	Rail Car Unloading	<ul style="list-style-type: none"> <li>• Rail cars would be unloaded by an electrical-powered tandem rotary unloader</li> <li>• The terminal would include a mechanical positioner to index the unit into the rotary unloader</li> <li>• Coal would be transferred to the stackers via conveyors</li> </ul>

## Millennium Bulk Terminals—Longview Coal Export Terminal Stages of Construction and Operations

**TABLE 3**  
**Stage of Construction/Operations:** Stage 2 Construction/Increased Operations  
**Description:** Stage 2 Construction and increased operations through completion of Stage 2 construction  
**Timing:** 4–6 years from the start of construction  
**Approximate Years<sup>1</sup>:** 2022–2024  
**Throughput Capacity:** Up to 25 MMTPY<sup>2</sup>

Stage 2 Construction		Increased Operations	
Project Component	Activity	Project Component	Activity
Construction/ Installation of Coal Export Terminal Equipment	Coal would not be stockpiled during any stage of construction. Would include the installation of additional facilities and equipment not installed during Stage 1 construction: <ul style="list-style-type: none"> <li>The remaining rail storage tracks (total of eight rail storage tracks)</li> <li>The remaining 2 berms for stackers and reclaimers (total of 5 berms after Stages 1 and 2 construction is complete)</li> <li>Two stackers (total of up to 4 stackers after Stages 1 and 2 of construction are complete)</li> <li>Two reclaimers (total of up to 4 reclaimers after Stages 1 and 2 construction is complete)</li> <li>Conveyors, buffer bin, and transfer towers, including approximately 26,200 lineal feet of conveyors, of which approximately 17,900 lineal feet would be open conveyors and approximately 8,300 lineal feet would be enclosed</li> <li>One shiploader on Dock 3</li> <li>Support structures, electrical transformers, switchgear and equipment, buildings, process control equipment, etc.</li> </ul>	Conveyor Systems	<ul style="list-style-type: none"> <li>Conveyors would transport coal from rail unloading to the stockyard and from the stockyard to the shiploader</li> <li>Conveyors would be enclosed except where required to feed onto or reclaim from stockpiles or onto the shiploaders</li> <li>Rail car unloading and shiplading would at times occur both independently and simultaneously</li> <li>Conveyors would operate for approximately 45% of the available time</li> <li>Conveyor drives are electrically powered</li> </ul>
		Stockpiling	<ul style="list-style-type: none"> <li>Two electrical-powered traveling stackers would stockpile coal at an average rate of 7,500 metric tons per hour onto 2 longitudinal stockpiles with an estimated total storage capacity of 750,000 metric tons</li> </ul>
		Reclaiming	<ul style="list-style-type: none"> <li>Two electrical-powered traveling bucket wheel reclaimers, each with an average rate of 6,500 metric tons per hour, would transfer coal from the stockpile to the shiplading system</li> </ul>
		Shiplading	<ul style="list-style-type: none"> <li>Would use the shiploader installed for startup operations on Dock 2 only</li> </ul>
		Shipping	<ul style="list-style-type: none"> <li>Total average of 40 ships per month (80% Panamax, 20% Handymax) would be loaded</li> </ul>
		Mobile Equipment	<ul style="list-style-type: none"> <li>Equipment needed to maintain the terminal would include: <ul style="list-style-type: none"> <li>wheel loaders</li> </ul> </li> </ul>

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Coal Export Terminal Stages of Construction and Operations**

**TABLE 3**  
**Stage of Construction/Operations:** Stage 2 Construction/Increased Operations  
**Description:** Stage 2 Construction and increased operations through completion of Stage 2 construction  
**Timing:** 4–6 years from the start of construction  
**Approximate Years<sup>1</sup>:** 2022–2024  
**Throughput Capacity:** Up to 25 MMTPY<sup>2</sup>

Stage 2 Construction		Increased Operations	
<u>Project Component</u>	<u>Activity</u>	<u>Project Component</u>	<u>Activity</u>
			<ul style="list-style-type: none"> <li>○ dozers</li> <li>○ cranes</li> <li>○ forklifts</li> <li>○ trucks</li> <li>○ welders</li> <li>○ pumps and other similar equipment</li> </ul>

## Millennium Bulk Terminals—Longview Coal Export Terminal Stages of Construction and Operations

<b>TABLE 4</b> <b>Stage of Construction/Operations:</b> Full Build-Out Operations <b>Description:</b> Construction complete and full build-out operations <b>Timing:</b> 6+ years from the start of construction <b>Approximate Years<sup>1</sup>:</b> 2024+ <b>Throughput Capacity:</b> Up to 44 MMTPY <sup>2</sup>			
		<b>Full Build-Out Operations</b>	
		<u>Project Component</u>	<u>Activity</u>
—	—	Number of Trains	Arrival of coal by rail: <ul style="list-style-type: none"> <li>• Up to 44 MMTPY throughput capacity</li> <li>• Average of 240 unit trains arriving and departing monthly</li> </ul>
—	—	Number of Vessels	Transfer of coal to ship: <ul style="list-style-type: none"> <li>• Up to 44 MMTPY throughput capacity</li> <li>• Total average of 70 ships loaded monthly (80% Panamax, 20% Handymax)</li> </ul>
—	—	Number of Employees	<ul style="list-style-type: none"> <li>• 135 employees</li> </ul>
—	—	Rail Loop	<ul style="list-style-type: none"> <li>• Arrival and departure tracks, with 1 operating turnaround track</li> <li>• Eight storage tracks would allow trains to travel directly onto the site from the Reynolds Lead</li> <li>• Two rail cars at unloading station inside an enclosed facility; both would be rotated at the same time for discharge of material</li> <li>• Hopper to feed coal onto conveyor 2 at a nominal rate of 7,500 metric tons per hour</li> </ul>
—	—	Stockyard	<ul style="list-style-type: none"> <li>• Four parallel stockpile pads (hold approximately 1,500,000 metric tons of coal) and 5 berms, located inside the rail loop</li> <li>• Stockyard would cover an area of approximately 75 acres</li> <li>• Served by up to 4 rail-mounted stackers and up to 4 bucket wheel reclaimers, each with associated conveyors</li> <li>• Pads would vary in length from 2,200 feet to 2,500 feet and hold from 360,000 metric tons to 400,000 metric tons each</li> <li>• Coal would be stacked up to a height of approximately 85 feet above the pads</li> </ul>

<sup>1</sup> Assumes that construction begins 2018

<sup>2</sup> MMTPY = million metric tons per year

**Millennium Bulk Terminals—Longview  
Coal Export Terminal Stages of Construction and Operations**

<b>TABLE 4</b>			
<b>Stage of Construction/Operations:</b> Full Build-Out Operations			
<b>Description:</b> Construction complete and full build-out operations			
<b>Timing:</b> 6+ years from the start of construction			
<b>Approximate Years<sup>1</sup>:</b> 2024+			
<b>Throughput Capacity:</b> Up to 44 MMTPY <sup>2</sup>			
		<b>Full Build-Out Operations</b>	
		<u>Project Component</u>	<u>Activity</u>
			<ul style="list-style-type: none"> <li>Stockyard would be graded to allow water to drain and be collected for treatment and reuse</li> </ul>
—	—	Conveyors, Transfer Towers, and Buffer Bins	<ul style="list-style-type: none"> <li>Conveyors would transport coal from railcar unloading to the stockpile and stockpile to the shiploader</li> <li>Conveyors would be enclosed except where required to feed to or receive from stacking, reclaiming, or shiploading equipment</li> <li>Stockyard and ship loading conveyors would be open</li> <li>Buffer bins would provide storage capacity during the shiploading process</li> <li>Once unloaded, coal would be stockpiled or loaded directly onto ships</li> <li>Stockpiled coal would be reclaimed for shiploading</li> </ul>
—	—	Dock 2	<ul style="list-style-type: none"> <li>1,400 feet long and varying in width from approximately 100 feet up to 130 feet</li> <li>Dredging required to provide berthing access</li> </ul>
—	—	Dock 3	<ul style="list-style-type: none"> <li>900 feet long, with a width of approximately 100 feet</li> <li>Dredging would be required to provide berthing access</li> </ul>
—	—	Trestle	<ul style="list-style-type: none"> <li>Access to Docks 2 and 3 would be provided by a single trestle approximately 800 feet long and varying in width from approximately 35 feet on the northern end and up to 60 feet on the southern end</li> </ul>

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**TABLE 4**  
**Stage of Construction/Operations:** Full Build-Out Operations  
**Description:** Construction complete and full build-out operations  
**Timing:** 6+ years from the start of construction  
**Approximate Years<sup>1</sup>:** 2024+  
**Throughput Capacity:** Up to 44 MMTPY<sup>2</sup>

		<b>Full Build-Out Operations</b>	
		<u>Project Component</u>	<u>Activity</u>
—	—	Shiploaders	<ul style="list-style-type: none"> <li>Each dock would be served by its own shiploader to load ships at the 2 docks</li> </ul>
—	—	Rail Cars/Trains	<ul style="list-style-type: none"> <li>Total of 8 storage tracks and 1 operating track</li> <li>The 1 operating track installed as part of start-up operations would service full build-out operations</li> <li>90 additional unit trains per month, increasing the overall number of trains to an average of 240 unit trains arriving and departing monthly</li> </ul>
—	—	Rail Car Unloading	<ul style="list-style-type: none"> <li>The Stage 1 tandem rotary unloader would service full build-out operations</li> <li>No additional unloading equipment would be required</li> <li>The rapid discharge (bottom) tandem railcar unloader installed for Stage 1 Start-Up Operations would remain operable and be used during maintenance of the tandem rotary unloader</li> </ul>

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<b>TABLE 4</b> <b>Stage of Construction/Operations:</b> Full Build-Out Operations <b>Description:</b> Construction complete and full build-out operations <b>Timing:</b> 6+ years from the start of construction <b>Approximate Years<sup>1</sup>:</b> 2024+ <b>Throughput Capacity:</b> Up to 44 MMTPY <sup>2</sup>			
		<b>Full Build-Out Operations</b>	
		<u>Project Component</u>	<u>Activity</u>
—	—	Conveyor Systems	<ul style="list-style-type: none"> <li>• Conveyors would transport coal from railcar unloading area to the stockyard, and from the stockyard to the shiploader</li> <li>• Conveyors would be enclosed except where required to feed onto or reclaim from stockpiles or onto the shiploaders</li> <li>• When unloading rail cars, the conveyors from rail car unloading to the stockyard would operate</li> <li>• When loading ships, the conveyors from the stockyard to the shiploaders would operate</li> <li>• Rail car unloading and ship loading would at times occur both independently and simultaneously</li> <li>• Conveyors would operate approximately 80% of the time</li> </ul>
—	—	Stockpiling	<ul style="list-style-type: none"> <li>• Total of up to 4 stackers</li> <li>• Each stacker would stockpile coal at an average rate of 7,500 metric tons per hour onto 2 additional longitudinal stockpiles with a total storage capacity of up to 1.5 million metric tons</li> </ul>
—	—	Reclaiming	<ul style="list-style-type: none"> <li>• Total of up to 4 reclaimers</li> <li>• Each would reclaim coal from the stockpile to the shiploading system, with an average capacity of 6,500 metric tons per hour</li> </ul>
—	—	Shiploading (Docks 2 and 3)	<ul style="list-style-type: none"> <li>• Total of 2 traveling shiploaders, 1 on each dock</li> <li>• Each shiploader would have an average rated capacity of 6,500 metric tons per hour</li> </ul>

**Millennium Bulk Terminals—Longview  
Coal Export Terminal Stages of Construction and Operations**

**TABLE 4**  
**Stage of Construction/Operations:** Full Build-Out Operations  
**Description:** Construction complete and full build-out operations  
**Timing:** 6+ years from the start of construction  
**Approximate Years<sup>1</sup>:** 2024+  
**Throughput Capacity:** Up to 44 MMTPY<sup>2</sup>

		<b>Full Build-Out Operations</b>	
		<u>Project Component</u>	<u>Activity</u>
—	—	Shipping	<ul style="list-style-type: none"> <li>• Up to 30 additional ships, for a total average of 70 ships per month (80% Panamax, 20% Handymax) would be loaded</li> </ul>
—	—	Ship Bunkering and Crew Supplies	<ul style="list-style-type: none"> <li>• These activities would not be allowed or provided for at the dock</li> </ul>
—	—	Mobile Equipment	<ul style="list-style-type: none"> <li>• Equipment needed to maintain the terminal would include:               <ul style="list-style-type: none"> <li>○ wheel loaders</li> <li>○ dozers</li> <li>○ cranes</li> <li>○ forklifts</li> <li>○ trucks</li> <li>○ welders</li> <li>○ pumps and other similar equipment</li> </ul> </li> </ul>