November 4, 2020

TO: HOLDERS LIST

SUBJECT: Blair Terminal Fender Systems Upgrade
CONTRACT NO. 071403

ADDENDUM NUMBER # 01

This addendum is issued to add, remove, clarify and amend the following:

DIVISION 31 - EARTHWORK

SECTION 31 62 19 – TIMBER PILES

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1.01 DESCRIPTION OF WORK.

A. The extent and location of the "piling" work is indicated on the drawings. The work includes furnishing materials, labor and equipment for installing timber piles in accordance with the drawings and this specification. All piles are to be installed by driving with an impact or vibratory hammer."

PART 3 – EXECUTION

3.01 GENERAL

1. The piles shall be driven with a steam, air, or diesel hammer capable of delivering a minimum 15,000 foot-pounds of energy. Alternatively, a vibratory hammer may be used for timber pile installation. The intent is to drive all piles to a tip elevation of -60.0 feet Mean Lower Low Water. Prior to cutting off any pile that fails to achieve the designated tip elevation or the refusal criteria, the Contractor shall notify the Engineer for direction. Refusal is defined as two (2) consecutive feet of driving at 75 blows per foot at the minimum hammer energy of 15,000 foot-pounds. Any pile damaged in the driving, improperly driven, of driven at the wrong location shall be removed by the Contractor and another pile shall be driven in its place at no additional cost to the Port.

F. Daily Pile Driving Records: For each pile driven, submit a pile driving record form. Each initial driving record and re-strike record shall be submitted daily,and shall show the information below. However, report damaged piles to the Engineer immediately.

1. Date, time, and weather
2. Pile location, length, type and size of pile
3. Hammer used, rated hammer energy, pile cushion type and thickness
4. Blows per foot of penetration and blows per minute
5. Hammer stroke near the end of driving if impact hammer is used

DIVISION 01 – GENERAL REQUIREMENTS

SECTION 01 20 00 – PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.07 MEASUREMENT AND PAYMENT

D. Item #4: Remove Existing Timber Fender Pile

1. Item Description: The Work of Remove Existing Timber Fender Pile includes labor, materials, tools, equipment and incidentals required to extract, remove, and dispose of the existing fender piles without damage to the remaining existing structure, as shown in the drawings and defined in the specifications. The associated costs for marine mammal monitoring shall be included in this item.

Item #5: Raise and Fresh Head Existing Timber Fender Pile

1. Item Description: The Work of Raise and Fresh Head Existing Timber Fender Pile includes the cost of labor, materials, tools, equipment and incidentals required to raise an existing treated timber fender pile approximately 2-feet, fresh head, dispose of the cutoff, and apply field treatment. All work associated with the item shall be done without damage to the remaining existing structure, as shown in the drawings and defined in the specifications. The associated costs for marine mammal monitoring shall be included in this item.

Item #6: Install New Timber Fender Pile

1. Item Description: The Work of Install new Timber Fender Pile shall include the cost of labor, materials, tools, equipment, handling and incidentals required to drive, and cut-off the Port provided pile to grade, apply field treatment, and dispose of the cut-off portion of the timber pile. The Work of this item shall include furnishing and installing HDPE or UHMW pile facings and connection hardware. All work associated with this item shall be done as shown in the drawings and defined in the specifications. The associated costs for marine mammal monitoring shall be included in this item.

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

A. The extent and location of the "piling" work is indicated on the drawings. The work includes furnishing materials, labor and equipment for installing timber piles in accordance with the drawings and this specification. All piles are to be installed by driving with an impact or vibratory hammer.

1.02 JOB CONDITIONS

A. Existing Facilities: The Contractor shall be aware of the existing Blair Terminal structures and conditions. The Contractor shall drive piles at the designated locations and shall be prepared to encounter existing riprap and/or other subsurface obstructions.

B. Subsurface Conditions: Subsurface conditions have not been explored for this Contract, and the Contractor shall make its own determinations and conclusions regarding the methods and procedures to be used in performing the work. Jetting will not be allowed for any pile driving. The use of a spud to displace riprap or other debris may be required at some locations.

C. Equipment Restrictions: Piles may be driven from either a floating pile driver or a land-based pile driver. The Contractor shall determine the adequacy of the existing structures to support its equipment and shall take into account the age and conditions of the structures. The use of construction equipment on the structures shall be entirely at the Contractor's discretion and the Port shall not be liable for any loss or damage ensuing from such use. The Contractor shall coordinate and schedule, with the Port, access to the site in advance, and shall acknowledge that terminal and shipping operations take precedence over construction activities.

D. Driving Restrictions: Comply with City of Tacoma noise ordinances. Pile driving shall also be performed in accordance with applicable provisions of environmental permits covering this work. Applicable permits are appended to these specifications.

1.03 QUALITY ASSURANCE

A. Provide at least one qualified person who shall have a minimum of five (5) years' experience with marine conditions, all piling types, piling lengths, and installation methods to be used on the project, and who shall supervise and direct all work performed under this section.

B. Provide at least one qualified person who shall have a minimum of five (5) years' of experience in marine piling inspection and who shall keep detailed driving records and logs of for each pile from the time the pile is picked until the installation is complete and accepted. A sample pile driving log is provided at the end of this section.

C. Retain independent assistance, if directed by the Engineer, for observation of pile installation activities.

D. Tolerance in Driving:

1. Maximum permissible tolerance in driving shall be as follows for timber piles.

a. Plumb Piles: Deviation from vertical shall not be more than ¼ inch per foot of pile length except as noted on the drawings or as approved by the Engineer.

b. Pile Location: Top of pile shall be within two (2) inches of the removed pile plan location.

2. Manipulation of piles to force the piles into position under fender system wale will be allowed provided the forces induced for the manipulations do not damage the integrity of the piles. Maximum lateral load to pull and position top of pile shall be 500 pounds. Piles that deviate more than the tolerance specified due to conditions beyond the Contractor's control may be accepted by the Engineer on a pile-by-pile basis. The intent is to drive the piles as close to the original driven position as possible.

E. The Port reserves the right to inspect the above-water and underwater portions of all piling after installation, and the Contractor shall make available the site, or portions thereof, to meet the Port's inspection schedule. Any reports including underwater photographs or video prepared will be made available for the Contractor's review. All observed damage or defects shall be repaired at the Contractor's expense using damage-specific or defect-specific products specified by the Engineer.

1.04 SUBMITTALS

A. The Contractor shall submit for approval, in accordance with Section 01 33 00, Submittals, the following:

1. List of equipment and intended installation procedures to be used for all pile driving.

2. Pile-driving logs within 24 hours from when the pile is driven (example included at the end of this section).

3. Documentation demonstrating the qualifications and experience of the individuals supervising pile driving and individuals keeping driving logs, as described above.

4. Pile surveys, as prescribed within this section.

5. Pile inspection reports, as prescribed herein.

6. Water Quality forms on a weekly basis during in-water work.

PART 2 – PRODUCTS

2.01 TIMBER PILES

A. Furnished by the Port, 80-foot length.

2.02 PILE RUB STRIP

A. Provide fourteen (14) high-density polyethylene (HDPE) pile facings. One for the pulled-up and fresh headed existing fender pile at Bent 15.5 and one for each of the thirteen (13) new replacement piles. HDPE pile facing shall be new HDPE pipe meeting the following requirements:

1. Dimension Ratio (DR) 11.0 per ASTM F 714

2. 2-inch nominal/minimum wall thickness

3. 24-inch nominal IPS pipe diameter

PART 3 – EXECUTION

3.01 GENERAL

A. HDPE pile facing shall be installed after the wale units have been installed on the fender piles.

B. Driving:

1. Timber piles shall be fresh cut on the butt end just before placing in the leads for driving. Caps, collars, or bands shall be placed on the butt end of the pile when the pile is being driven in hard material to avoid crushing or brooming the head of the pile. When the area of the head of any timber pile is greater than that of the face of the hammer, the pile shall be snipped or chamfered to a size to fit the hammer. The heads of all treated piles shall be snipped or chamfered to at least the depth of the sapwood to avoid splitting of the sapwood from the body of the pile during driving.

2. The piles shall be driven with a steam, air, or diesel hammer capable of delivering a minimum 15,000 foot-pounds of energy. Alternatively, a vibratory hammer may be used for timber pile installation. The intent is to drive all piles to a tip elevation of -60.0 feet Mean Lower Low Water. Prior to cutting off any pile that fails to achieve the designated tip elevation or the refusal criteria, the Contractor shall notify the Engineer for direction. Refusal is defined as two (2) consecutive feet of driving at 75 blows per foot at the minimum hammer energy of 15,000 foot-pounds. Any pile damaged in the driving, improperly driven, of driven at the wrong location shall be removed by the Contractor and another pile shall be driven in its place at no additional cost to the Port.

C. Cutoff:

1. Timber fender piles shall be cut off level and true and fit tight beneath the wale to provide full bearing of the wale on the pile. Pile cut offs shall not be allowed to fall into the waterway. Saw tailings shall be captured so the tailings do not fall into the waterway.

D. Treatment: Pile heads, notching, and bolt holes for all timber piles, after being cut to the correct elevation and profile to fit the wale, shall be given three brush coats of copper naphthenate.

E. Pile Installation Acceptance Criteria:

1. The Engineer shall reject a pile if any of the following conditions exist.

   a. A pile damaged in handling or driving, indicated by break or cracks.

   b. Driven location of a pile and plumbness deviating by more than the specified tolerance limits.

2. Rejected piles shall be fully removed and replaced with a new pile.

F. Daily Pile Driving Records: For each pile driven, submit a pile driving record form. Each initial driving record and re-strike record shall be submitted daily, and shall show the information below. However, report damaged piles to the Engineer immediately.

1. Date, time, and weather

2. Pile location, length, type and size of pile

3. Hammer used, rated hammer energy, pile cushion type and thickness

4. Blows per foot of penetration and blows per minute

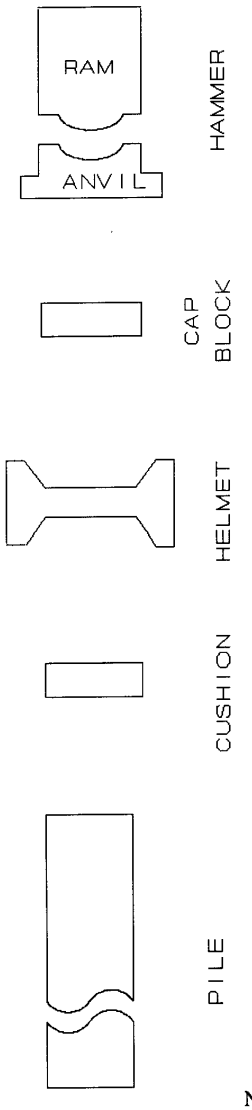
5. Hammer stroke near the end of driving if impact hammer is used

6. Damage, obstructions, or any unusual occurrences during driving, and all other data on the sample pile driving form.

END OF SECTION

HAMMER DATA SHEET

Contract No.:	Structure Name and/or No.:
Project:	
Pile Driving CONTRACTOR or Subcontractor:	
County:	Piles Driven By:



Manufacturer:	Model:
Type:	Serial No.
Rated Energy: @	Length of Stroke
Modifications:	
Material:	
Thickness:	Area:
Modulus of Elasticity - E	(psi)
Coefficient of Restitution - e	
ALL COMPONENTS	Weight:
Cushion Material:	
Thickness:	Area:
Modulus of Elasticity - E	(psi)
Coefficient of Restitution - e	
Pile Type:	Weight/ft
Length in Leads:	
Wall Thickness:	Taper:
Design Pile Capacity:	(Tons)
Description of Splice:	
Tip Treatment Description:	

NOTE: If mandrel is used to drive pile, attach separate manufacturer's detail sheet(s), including weight and dimensions.

Submitted By:_____ Date:_____

PILE-DRIVING RECORD _____ PILE NO. _____ **PAGE NO. ___ OF ___**

JOB NO. _____ NAME _____ **DATE _____**
JOB LOCATION _____ **JOB ENGINEER _____**
PILE LOCATION _____ **DATUM _____**
DRIVING CONTRACTOR _____ **SUPT _____**

Pile: Type* _____
Length _____ Weight (lb) _____
Penetration: _____
Ground Elev. before Driving _____
Ground Elev. after Driving _____
Tip Elev. after Driving _____
Butt Elev. after Driving Group _____

Hammer: Make and Model _____
Stroke: Rated _____ Meas. _____**
Weight of Ram _____lb _____
Strokes per Minute _____
Steam Pressure at Boiler _____
Driving Cap, Anvil, Helmet, etc. _____
Weight _____lb Description _____
_____
(Make sketch on back)

Time: Start Driving _____ Finish Driving _____ Driving Time _____ Minutes

ft	No. of Blows	ft	No. of Blows	ft	No. of Blows	ft	No. of Blows	ft	No. of Blows	ft	No. of Blows	ft	No. of Blows	ft	No. of Blows
0		0		0		0		0		0		0		0	
1		1		1		1		1		1		1		1	
2		2		2		2		2		2		2		2	
3		3		3		3		3		3		3		3	
4		4		4		4		4		4		4		4	
5		5		5		5		5		5		5		5	
6		6		6		6		6		6		6		6	
7		7		7		7		7		7		7		7	
8		8		8		8		8		8		8		8	
9		9		9		9		9		9		9		9	

DRIVING RESISTANCE LAST FOOT

1"_____ 2"_____ 3"_____ 4"_____ 5"_____ 6"_____ 7"_____ 8"_____ 9"_____ 10"_____ 11"_____ 12"_____

Remarks* _____
_____
_____
_____
_____
_____
_____
_____
USE BACK OF SHEET

*** If wood, state kind, seasoning, and treatment. If concrete, state mix and age. If steel, state weight per foot.**
**** Note any falling off in rated speed and stroke during driving.**
***** Jetting, cause and duration of delays in driving, boulders, bark, condition of cushions, types and thickness of cushions, plumbness, twisting, banding, damage, driving shoe, wetting of pile surface, etc.**

PART 1 - GENERAL

1.01 SUMMARY

A. Procedures for preparation and submittal of applications for progress payments.

1.02 PAYMENT PROCEDURES

A. Monthly pay estimates shall clearly identify the work performed for the given time period based on the approved Schedule of Values.

1. At the Pre-construction meeting, the Engineer and the Contractor shall agree upon a date each month when payment applications shall be submitted.

B. For each pay estimate the Contractor shall submit the following:

1. Completed Contractor invoice and updated Schedule of Values tracking sheet as required by Division 01 or as established by the Engineer.

2. Baseline Project Schedule and narrative updated as required by Section 01 32 16 of the Project Manual.

3. Completed “Amounts Paid to Subcontracts and Suppliers” showing total contract amount, amount paid this estimate, total paid to date, and balance owing.

4. Completed “Conditional Release and Waiver of Liens and Claims.”

5. An estimated cashflow statement projecting the Contractor’s monthly billings on the project shall be submitted with each payment application.

C. Prior to submitting a payment application, the Contractor and Engineer shall meet each month to review the work accomplished to determine the actual quantities including labor, materials and equipment charges to be billed.

1. Prior to the payment application meeting, the Contractor shall submit to the Engineer all measurement documentation as referenced in these contract documents; to include all measurement by weight, volume or field.

2. For all change work being done on a force account basis, the Contractor shall submit prior to meeting with Engineer all Force Account back-up documentation as required to process the payment application where Force Account work is being billed. The Engineer and the Contractor shall review the documentation at the payment application meeting to verify quantities and review the work accomplished.

3. The Contractor shall bring a copy of all documentation to the pay application meeting with the Engineer.

4. The Contractor shall submit the updated baseline project schedule for review prior to submitting the payment application to ensure the payment processing is not held up due to necessary schedule revisions.

D. Following the Engineers’ review, the Contractor shall submit the agreed upon pay estimate electronically, with complete supporting documentation, using e-Builder®.

1.03 PAYMENT PRICING

A. Pricing for the various lump sum or unit prices in the Bid Form, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to

the items of work being described, as necessary to complete the various items of the work in accordance with the requirements of the Contract Documents.

B. Pricing also includes all costs of compliance with the regulations of public agencies having jurisdiction, including safety and health requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA).

C. No separate payment will be made for any item that is not specifically set forth in the Bid Form, and all costs therefore shall be included in the prices named in the Bid Form for the various appurtenant items of work.

D. All other work not specifically mentioned in the measurement and payment sections identified below shall be considered incidental to the work performed and merged into the various unit and lump sum prices bid. Payment for work under one item will not be paid for under any other item.

E. The Port of Tacoma reserves the right to make changes should unforeseen conditions necessitate such changes. Where work is on a unit price basis, the actual quantities occasioned by such changes shall govern the compensation.

1.04 LUMP SUM MEASUREMENT

A. Lump sum measurement will be for the entire item, unit of Work, structure, or combination thereof, as specified and as indicated in the Contractor's submitted bid.

1. If the Contractor requests progress payments for lump sum items, such progress payments will be made in accordance with an approved Schedule of Values. The quantity for payment for completed work shall be an estimated percentage of the lump sum amount, agreed to between the Engineer and Contractor, payable in monthly progress payments in increments proportional to the work performed in amounts as agreed between the Engineer and the Contractor.

1.05 MEASUREMENT OF QUANTITIES FOR UNIT PRICES

A. Measurement Standards:

1. All Work to be paid for at a contract price per unit measurement, as indicated in the Contractor's submitted bid, will be measured by the Engineer in accordance with United States Standard Measures.

B. Linear Measurement: Linear measurement will be by the linear dimension listed or indicated in the Contractor's submitted bid. Unless otherwise indicated, items, components, or Work to be measured on a linear basis will be measured at the centerline of the item in place.

C. Field Measurement for Payment:

1. The Contractor shall take all measurements by providing equipment, workers, and survey crews as required to measure quantities in accordance with the provisions for measurement specified herein. No allowance will be made for specified tolerances.

2. The Engineer will verify all quantities of Work performed by the Contractor on a unit-price basis, for progress payment purposes.

1.06 REJECTED, EXCESS, OR WASTED MATERIALS

A. Quantities of material wasted or disposed of in a manner not called for under the Contract; rejected loads of material, including material rejected after it has been placed by reasons of the failure of the Contractor to conform to the provisions of the Contract; material not unloaded from

the transporting vehicle; material placed outside the lines indicated on the Contract Drawings or established by the Engineer; or material remaining on hand after completion of the Work, will not be paid for, and such quantities shall not be included in the final total quantities. No additional compensation will be permitted for loading, hauling, and disposing of rejected material.

1.07 MEASUREMENT AND PAYMENT

A. Item #1: Mobilization and Demobilization

1. Payment for Mobilization And Demobilization shall be for preparatory work and operations performed by the Contractor including, but not limited to, those necessary for the movement of its personnel, equipment, supplies and incidentals to and from the project site; temporary facilities and controls; for the establishment and removal of its offices, buildings and other facilities necessary for work on the project; for other work and operations which it must perform or costs it must incur before beginning production work on the various items on the project site, and for removal of personnel, equipment, supplies, offices, building facilities, sheds, fencing, and other incidentals from the site. Mobilization and Demobilization shall include costs associated with inspecting, receiving and transporting Port provided products from the Blair Terminal Storage area as indicated on the Drawings.

2. Mobilization and Demobilization shall be paid at the lump sum price listed in the Contractor’s submitted bid. Incremental payment shall be made for each location as follows:

a. 40% after completion of 5% of the total contract amount of other bid items have been earned.

b. 40% after completion of 20% of the total contract amount of other bid items have been earned.

c. 20% after completion of all work on the project has been completed, including cleanup and acceptance of the project by the Port.

B. Item #2: Project Administration

1. Item Description: The Work of Project Administration includes all administrative costs associated with administering and supervising the project including, but not limited to supervision of personnel, coordination of all work activities, coordination of subcontractors and/or suppliers, preparation and transmittal of submittals, permit acquisitions, for premiums on bonds and insurance for the project, and project overhead.

2. Measurement: This item will be measured based on a percentage complete for the overall lump sum amount.

3. Payment: This item will be paid for at the Contract lump sum price as specified in the Contractor’s submitted bid, in accordance with the approved Schedule of Values.

C. Item #3: Remove Existing Timber Wale and Chock System

1. Item Description: The Work of Remove Existing Timber Wale and Chock System includes the cost of labor, materials, tools, equipment and incidentals required to extract, remove, and dispose of the existing fender wales, chock, rubber fenders and hardware without damage to the remaining structure, as shown in the drawings and defined in the specifications.

2. Measurement: This item will be measured on a per linear foot of system basis.

3. Payment: This item will be paid for at the unit price indicated on the bid form and on actual quantities removed for the period being billed.

D. Item #4: Remove Existing Timber Fender Pile

1. Item Description: The Work of Remove Existing Timber Fender Pile includes labor, materials, tools, equipment and incidentals required to extract, remove, and dispose of the existing fender piles without damage to the remaining existing structure, as shown in the drawings and defined in the specifications. The associated costs for marine mammal monitoring shall be included in this item.

2. Payment: This item will be paid for at the unit price indicated on the bid form and on actual quantities removed for the period being billed.

3. Payment: This item will be paid for based on actual quantities for the period being billed.

E. Item #5: Raise and Fresh Head Existing Timber Fender Pile

1. Item Description: The Work of Raise and Fresh Head Existing Timber Fender Pile includes the cost of labor, materials, tools, equipment and incidentals required to raise an existing treated timber fender pile approximately 2-feet, fresh head, dispose of the cutoff, and apply field treatment. All work associated with the item shall be done without damage to the remaining existing structure, as shown in the drawings and defined in the specifications. The associated costs for marine mammal monitoring shall be included in this item.

2. Measurement: This item will be measured on a per each unit basis.

3. Payment: This item will be paid for based on actual quantities for the period being billed.

F. Item #6: Install New Timber Fender Pile

1. Item Description: The Work of Install new Timber Fender Pile shall include the cost of labor, materials, tools, equipment, handling and incidentals required to drive, and cut-off the Port provided pile to grade, apply field treatment, and dispose of the cut-off portion of the timber pile. The Work of this item shall include furnishing and installing HDPE or UHMW pile facings and connection hardware. All work associated with this item shall be done as shown in the drawings and defined in the specifications. The associated costs for marine mammal monitoring shall be included in this item.

2. Measurement: This item will be measured on a per each unit basis.

3. Payment: This item will be paid for at the unit price indicated on the bid form and on actual quantities installed for the period being billed.

G. Item #7: Install Steel Wale Unit

1. Item Description: The Work of Install Steel Wale Unit includes the cost of labor, materials, tools, equipment and incidentals required to trim and field treat the pile tops, install the new Port provided steel wale unit (with rubber fender), attach Port provided stay chains, and install associated Port provided hardware. The Work of this item shall include drilling and fastening of Port provided Stay Chains to the concrete wharf. The Work shall also include removal and disposal of potential asbestos containing end-grain mastics at the tops of existing fender piles. All work associated with the item shall be done as shown in the drawings and defined in the specifications.

2. Measurement: This item will be measured on a per each unit basis.

3. Payment: This item will be paid for at the unit price indicated on the bid form based on actual quantities for the period being billed.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXEUCTION - NOT USED

END OF SECTION