

**PORT OF TACOMA
TACOMA, WASHINGTON
WASHINGTON UNITED TERMINAL FENDER SYSTEM
REPLACEMENT**

**PROJECT NO. 201107.01
CONTRACT NO. 071421**


**Thais Howard, PE
Director, Engineering**

**Elly Bulega, PE
Project Manager**

END OF SECTION

The undersigned Engineer of Record hereby certifies that the Technical Specifications for the following portions of this project were written by me, or under my direct supervision, and that I am duly registered under the laws of the State of Washington, and hereby affix my Professional Seal and signature.

Those Sections prepared under my direct supervision and being certified by my seal and signature below are as follows:

<u>SEAL & SIGNATURE</u>	<u>SECTION(S)</u>
	02 41 00 Demolition 02 90 00 Fugitive and Silica Dust Control Procedures 03 20 00 Concrete Reinforcing 03 30 00 Cast-in-Place Concrete 03 60 00 Grouting 05 50 00 Metal Fabrications 09 96 00 High Performance Coatings 32 12 16 Asphalt Paving 35 59 13 Marine Fenders

END OF SECTION

PROCUREMENT AND CONTRACTING REQUIREMENTS

DIVISION 00 -- PROCUREMENT AND CONTRACTING REQUIREMENTS

- 00 01 01 - Project Title Page
- 00 01 07 - Seals Page
- 00 01 10 - Table of Contents
- 00 01 15 - List of Drawing Sheets
- 00 11 13 - Advertisement for Bids
- 00 21 00 - Instructions to Bidders
- 00 26 00 - Substitution Procedures
- 00 31 00 - Available Project Information
- 00 31 26 - Existing Hazardous Material Information
- 00 41 00 - Bid Form
- 00 43 13 - Bid Security Form
- 00 45 13 - Responsibility Detail Form
- 00 52 00 - Agreement Form
- 00 61 13.13 - Performance Bond
- 00 61 13.16 - Payment Bond
- 00 61 23 - Retainage Bond
- 00 61 23.13 - Retainage Escrow Agreement
- 00 72 00 - General Conditions
- 00 73 16 - Insurance Requirements
- 00 73 46 - Washington State Prevailing Wage Rates
- 00 73 63 - Security Requirements

SPECIFICATIONS

DIVISION 01 -- GENERAL REQUIREMENTS

- 01 10 00 - Summary
- 01 14 00 - Work Restrictions
- 01 20 00 - Price and Payment Procedures
- 01 26 00 - Change Management Procedures
- 01 29 73 - Schedule of Values
- 01 30 00 - Administrative Requirements
- 01 31 23 - Web-based Construction Management
- 01 32 16 - Construction Progress Schedule
- 01 33 00 - Submittal Procedures

- 01 35 29 - Health, Safety, and Emergency Response Procedures
- 01 35 43.13 - Hazardous Materials Handling Procedure
- 01 35 47 - Air and Noise Control Procedures
- 01 41 00 - Regulatory Requirements
- 01 42 19 - Reference Standards
- 01 45 00 - Quality Control
- 01 50 00 - Temporary Facilities and Controls
- 01 55 00 - Vehicular Access and Parking
- 01 57 13 - TESC and Project SWPPP
- 01 60 00 - Product Requirements
- 01 71 00 - Examination and Preparation
- 01 74 13 - Construction Cleaning
- 01 74 19 - Construction Waste Management and Disposal
- 01 77 00 - Closeout Procedures
- DIVISION 02 -- EXISTING CONDITIONS
 - 02 41 00 - Demolition
 - 02 90 00 - Fugitive and Silica Dust Control Procedures
- DIVISION 03 -- CONCRETE
 - 03 20 00 - Concrete Reinforcing
 - 03 30 00 - Cast-in-Place Concrete
 - 03 60 00 - Grouting
- DIVISION 05 -- METALS
 - 05 50 00 - Metal Fabrications
- DIVISION 09 -- FINISHES
 - 09 96 00 - High Performance Coatings
- DIVISION 32 -- EXTERIOR IMPROVEMENTS
 - 32 12 16 - Asphalt Paving
- DIVISION 35 -- WATERWAY AND MARINE CONSTRUCTION
 - 35 59 13 - Marine Fenders
- APPENDICES
 - Appendix A - Corps of Engineers Permit
 - Appendix B - Hydraulic Project Approval Permit
 - Appendix C - Shoreline Substantial Development Permit Exemption
 - Appendix D - SEPA Exemption

Appendix E - Department of Ecology Water Quality Certification

Appendix F - Port of Tacoma Construction SWPPP Short Form

Appendix G - Water Quality Monitoring And Protection Plan (WQMPP)

Appendix H - EPA Region 10 BMP for Piling Removal and Replacement in Washington
State

Appendix I - Marine Mammal Monitoring Plan

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. Contract Drawings: The following drawings are a part of the Contract Documents:

Sheet No.	Drawing Title
1	Cover Sheet
2	Symbols, Abbreviations and General Notes
3	Construction Access, Phasing and Sequencing Plan
4	Demolition Plan – Sheet 1
5	Demolition Plan – Sheet 2
6	Demolition Plan – Sheet 3
7	Demolition Plan – Sheet 4
8	Demolition Plan – Sheet 5
9	Demolition Sections and Details – Sheet 1
10	Demolition Sections and Details – Sheet 2
11	Structural Notes
12	Fender Plan – Sheet 1
13	Fender Plan – Sheet 2
14	Fender Plan – Sheet 3
15	Fender Plan – Sheet 4
16	Fender Plan – Sheet 5
17	Fender System Details – Sheet 1
18	Fender System Details – Sheet 2
19	Fender System Details – Sheet 3
20	Bullrail Repair Details (Alternate #1)
21	Water Vault Repair Details (Alternate #1)
22	Repair Notes (Alternate #1)

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

WASHINGTON UNITED TERMINAL FENDER SYSTEM REPLACEMENT

PROJECT NO. 201107.01 | CONTRACT NO. 071421

- Scope of Work:** The Work required for this Project includes but is not limited to:
Demolition of the existing fender systems including the precast concrete fender piles, steel walers, chains, cables, and arch fenders. Installation of new fender systems that include cone fenders, UHMW-PE faced steel fender panels, chains, and anchorages. Repairing damaged concrete bullrail and water vault.
- Bid Estimate:** Estimated cost range is \$2,200,000 to \$2,500,000, plus Washington State Sales Tax (WSST).
- In accordance with RCW 39.04.320, fifteen (15) percent apprenticeship participation is required for certain projects estimated to cost one million (\$1,000,000) dollars or more. Bidders may contact the Department of Labor and Industries, Specialty Compliance Services Division, Apprenticeship Section, P.O. Box 44530, Olympia, WA 98504-4530, by phone (360) 902-5320, or e-mail at Apprentice@lni.wa.gov, to obtain information on available apprenticeship programs.
- Sealed Bid Date/Time/Location:** Bids will be received at the Front Reception Desk, Port Administration Office, One Sitcum Plaza, Tacoma, Washington 98421 until **2:00 P.M. on December 17, 2020**, at which time they will be publicly opened and read aloud and the apparent low bid will be determined.
- Pre-Bid Conference and Site Tour:** A Pre-Bid conference and site visit have been set for December 01, 2020 at 11:30 A.M. The site visit will convene at the Port's Administrative building, located at One Sitcum Plaza. The following Personal Protective Equipment is required for the site visit: a life vest, sturdy shoes, reflective vest, and hardhat.
- Due to the current COVID-19 concerns, there will be no carpooling personnel in Port vehicles during the site visit. Contractors will be escorted in their own vehicles on the terminal. Everyone attending must bring identification and those with TWIC cards are encouraged to bring them.
- Attendees will be required to sign a Release and Acceptance of Responsibility and Acknowledgement of Risks Form prior to entering the site and shall provide their own Personal Protection Equipment (PPE) as required above.
- Bid Security:** Each Bid must be accompanied by a Bid security in an amount equal to five (5) percent of the Base Bid in a form allowed by the Instructions to Bidders.

**Contact
Information:**

Any questions to the Port may be emailed to procurement@portoftacoma.com. No oral responses will be binding by the Port.

Questions will not be accepted after seven (7) days prior to the Bid Date.

**Bidding
Documents:**

Plans, Specifications, Addenda, and Plan Holders List for this Project are available on-line through The Port of Tacoma's Website www.portoftacoma.com. Click on "Contracts," "Procurement," and then the Procurement Number 071421. Bidders must subscribe to the Holder's List on the right hand side of the screen in order to receive automatic email notification of future addenda and to be placed on the Holder's List.

Contact procurement@portoftacoma.com with questions. Holder's Lists will be updated regularly. Additional Instructions available in Section 00 21 00 - Instructions to Bidders.

**Public Works
Training
Requirements:**

Effective July 1, 2019, all businesses are required to have training before bidding on public works projects and prevailing wage under RCW 39.04.359 and RCW 39.12, or is on the list of exempt businesses maintained by the Department of Labor and Industries. The bidder must designate a person or persons to be trained on these requirements. The training will be provided by the Department of Labor and Industries or by a training provider whose curriculum is approved by the Department of Labor and Industries.

Please refer to Labor and Industries' web site (https://www.lni.wa.gov/TradesLicensing/PrevWage/Contractors/Training.asp?utm_medium=email&utm_source=govdelivery) for more information and training dates, requirements, and exemptions. Failure to attend this training could result in a determination of "not responsible" and the bidder not being awarded a public works contract.

END OF SECTION

PART 1 - SUMMARY

1.01 DEFINITIONS

All definitions set forth in the Agreement, the General Conditions of the Contract for Construction, and in other Contract Documents are applicable to the Bidding Documents.

- A. "Addenda" are written or graphic instruments issued prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections. The contents of an Addendum are issued in no particular order and therefore should be carefully and completely reviewed.
- B. An "Alternate Bid" (or "Alternate") is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.
- C. An "Apprentice" is a worker for whom an apprenticeship agreement has been registered and approved by the Washington State Apprenticeship and Training Council (RCW 49.04 and WAC 296-05).
- D. "Award" means the formal decision by the Port of Tacoma ("Port") notifying a Responsible Bidder with the lowest responsive Bid of the Port's acceptance of their Bid and intent to enter into a Contract with the Bidder.
- E. The "Award Requirements" include the statutory requirements as a condition precedent to Award.
- F. The "Base Bid" is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.
- G. A "Bid" is a complete and properly signed proposal to do the Work, submitted in accordance with the Bidding Documents, for the sums therein stipulated and supported by any data called for by the Bidding Documents.
- H. The "Bid Date" is the day and hour specified in the Bidding Documents, as may be changed through an Addendum, by which Bidders are required to submit Bids to the Port.
- I. The "Bid Form" is the form(s) included with the Bidding Documents, with Specification Section 00 41 00, through which a Bidder submits a Bid.
- J. A "Bidder" is a person or entity who submits a Bid.
- K. The "Bidding Documents" include the Advertisement or Invitation to Bid, Instructions to Bidders, the Bid Form, any other sample bidding and contract forms, including those provided by reference, the Bid security, and the proposed Contract Documents, including any Addenda issued prior to the Bid Date.
- L. The "Contract Documents" proposed for the Work consist of the Agreement, the General Conditions of the Contract (as well as any Supplemental, Special, or other conditions included in the Project Manual), the Drawings, the Specifications, and all Addenda issued prior to, and all modifications issued after, execution of the Contract.
- M. The "Schedule of Unit Prices" is a separate schedule on the Bid Form for Unit Pricing as an all-inclusive price per unit of measurement for materials, equipment, or services as described in the Bidding Documents or in the proposed Contract Documents for the optional use of the Port. Quantities are not predictions of amounts anticipated. The Port may, but is not obligated to, accept a Schedule of Unit Price if it accepts the Base Bid. The Schedule of Unit Prices are not factored into the evaluation of determining the low bid amount and are not included as part of

the bid award amount.

- N. A "Sub-Bidder" is a person or entity of any tier who submits a bid or proposal to or through the Bidder for materials, equipment or labor for a portion of the Work.

1.02 BIDDER'S REPRESENTATIONS

By making its Bid, each Bidder represents that:

- A. **BIDDING DOCUMENTS.** The Bidder has read and understands the Bidding Documents, and its Bid is made in accordance with them.
- B. **PRE-BID MEETING.** The Bidder has attended pre-Bid meeting(s) required by the Bidding Documents. Attendance at a mandatory meeting or training session means that, in the sole opinion of the Port, a Project representative of a Bidder has attended all or substantially all of such meeting or session.
- C. **BASIS.** Its Bid is based upon the materials, systems, services, and equipment required by the Bidding Documents, and is made without exception.
- D. **EXAMINATION.** The Bidder has carefully examined and understands the Bidding Documents, the Contract Documents including, but not limited to, any liquidated damages, insurance provisions, and the Project site, including any existing buildings, it has familiarized itself with the local conditions under which the Work is to be performed, has correlated its observations with the requirements of the proposed Contract Documents, and it has satisfied itself as to the nature, location, character, quality, and quantity of the Work, the labor, materials, equipment, goods, supplies, work, services, and other items to be furnished, and all other requirements of the Contract Documents. The Bidder has also satisfied itself as to the conditions and other matters that may be encountered at the Project site or that may affect performance of the Work or the cost or difficulty thereof, including, but not limited to, those conditions and matters affecting transportation, access, disposal, handling and storage of materials, equipment and other items; availability and quality of labor, water, electric power, and utilities; availability and condition of roads; climatic conditions and seasons; physical conditions at the Project site and the surrounding locality; topography and ground surface conditions; and equipment and facilities needed preliminary to, and at all times during, the performance of the Work. The failure of the Bidder to fully acquaint itself with any applicable condition or matter shall not in any way relieve the Bidder from the responsibility for performing the Work in accordance with, and for the Contract Sum and within the Contract Time provided for in, the Contract Documents.
- E. **PROJECT MANUAL.** The Bidder has checked its copies of the Project Manual (if any) with the table of contents bound therein to ensure the Project Manual is complete.
- F. **SEPARATE WORK.** The Bidder has examined and coordinated all Drawings, Contract Documents, and Specifications with any other contracts to be awarded separately from, but in connection with, the Work being Bid upon, so that the Bidder is fully informed as to conditions affecting the Work under the Contract being Bid upon.
- G. **LICENSE REQUIREMENTS.** The Bidders and Sub-Bidders are registered and hold all licenses required by the laws of Washington, including a certificate of registration in compliance with RCW 18.27, for the performance of the Work specified in the Contract Documents.
- H. **CERTIFICATION.** The Bidder verifies under penalty of perjury that the Bidder has not have been determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of Chapters 49.46, 49.48, or 49.52 RCW within the three (3) year period immediately preceding the Bid Date.

- I. NO EXCEPTIONS. Bids must be based upon the materials, systems, and equipment described and required by the Bidding Documents, without exception.

1.03 BIDDING DOCUMENTS

A. COPIES

1. Bidders may obtain complete sets of the Bidding Documents from The Port of Tacoma's Website www.portoftacoma.com. Click on "Contracts" then "Procurement."
2. Complete Sets. Bidders shall use complete sets of Bidding Documents in preparing Bids and are solely responsible for obtaining updated information. The Port does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete and/or superseded sets of Bidding Documents.
3. Conditions. The Port makes copies of the Bidding Documents available only for the purpose of obtaining Bids on the Work and does not confer a license or grant permission for any other use.
4. Legible Documents. To the extent any Drawings, Specifications, or other Bidding Documents are not legible, it is the Bidder's responsibility to obtain legible documents.

B. INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

1. Format. The Contract Documents are divided into parts, divisions, and sections for convenient organization and reference. Generally, there has been no attempt to divide the Specification sections into Work performed by the various building trades, any Work by separate contractors, or any Work required for separate facilities in, or phases of the Project.
2. Duty to Notify. Bidders shall promptly notify the Port in writing of any ambiguity, inconsistency, or error that they may discover upon examination of the Bidding Documents or of the site and local conditions.
3. Products and Installation. All Bidders shall thoroughly familiarize themselves with specified products and installation procedures and submit to the Port any objections (in writing) no later than seven (7) days prior to the Bid Date. The submittal of the Bid constitutes acceptance of products and procedures specified as sufficient, adequate, and satisfactory for completion of the Contract.
4. Written Request. Bidders requiring clarification or interpretation of the Bidding Documents shall make a written email request to procurement@portoftacoma.com at least seven (7) days prior to the Bid Date.
5. Request to Modify Responsibility Criteria. No later than seven (7) days prior to the Bid Date, a potential Bidder may request in writing that the Port modify the Responsibility Criteria. The Port will evaluate the information submitted by the potential Bidder and respond before the Bid Date. If the evaluation results in a change of the Criteria, the Port will issue an Addendum identifying the new Criteria.
6. Addenda. The Bidder shall not rely on oral information provided at any pre-Bid meetings or during site visits. Verbal statements made by representatives of the Port are for informational purposes only. Any interpretation, correction, or change of the Bidding Documents will be made solely by written Addendum. Interpretations, corrections, or changes of the Bidding Documents made in any manner other than by written Addendum, including but not limited to, oral statements will not be binding, and Bidders shall not rely upon such statements, interpretations, corrections, or changes. The Port is not responsible for explanations or interpretations of the Bidding Documents other than in a written

Addendum.

7. Site Visits. Any site visits are provided as a courtesy to potential Bidders to assist them in becoming familiar with the Project site conditions. However, only the Bidding Documents, including any issued Addenda, may be relied upon by Bidders.
8. Singular References. Reference in the singular to an article, device, or piece of equipment shall include as many of such articles, devices, or pieces as are indicated in the Contract Documents or as are required to complete the installation.
9. Utilities and Runs. The Bidder should assume that the exact locations of any underground or hidden utilities, underground fuel tanks, and plumbing and electrical runs may be somewhat different from any location indicated in the surveys or Contract Documents.

C. SUBSTITUTIONS

1. For substitutions during bidding, refer to Section 00 26 00 – Substitution Procedures.

D. ADDENDA

1. Distribution. All Addenda will be written and will be made available on the Port's website or any other source specified by the Port for the Project.
2. Copies. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.
3. Verification and Acknowledgment of Receipt. Prior to submitting a Bid, each Bidder shall ascertain that it has received all Addenda issued. Each Bidder shall acknowledge its receipt and consideration of all Addenda in its Bid.

1.04 BIDDING PROCEDURE

A. FORM AND STYLE OF BIDS

1. Form. Bids (including required attachments) shall be submitted on forms identical to the Bid Form included with the Bidding Documents. No oral, email, or telephonic responses or modifications will be considered.
2. Entries on the Bid Form. All blanks on the Bid Form shall be filled in by typewriter, printer, or manually in ink.
3. Figures. All sums shall be expressed in figures, not words. Portions of the Bid Form may require the addition or multiplication of component bids to a total or the identification of component amounts within a total. In case of discrepancy between unit prices listed and their sum(s), the unit prices listed shall govern (rather than the sum).
4. Initial Changes. Any interlineation, alteration, or erasure shall be initialed by an authorized representative of the Bidder.
5. Bid Breakdown. The Bid Form may contain, for the Port's accounting purposes only, a breakdown of some or all of the components included in the Base Bid.
 - a. For lump-sum Bids, the total Contract Sum shall be submitted.
 - b. For unit-price Bids, a price shall be submitted for each item of the Work, an extension thereof, and, if requested, the total Contract Sum.
6. Alternates. All Alternates should be Bid. The Port reserves the right, but is not obligated, to reject any Bid on which all requested Alternates are not Bid. If no change in the Base Bid is required for an Alternate, enter "Zero" or "0." If there is no entry, the Bidder will be presumed to have made no offer to perform the Alternate. If it is not otherwise clear from

the Bid or the nature of the Alternate, it will be presumed that the amount listed for an Alternate is additive rather than deductive.

7. Schedule of Unit Prices. All Unit Prices under this schedule shall be bid. The Port reserves the right, but is not obligated, to reject any Bid on which all requested Schedule of Unit Prices are not Bid.
8. No Conditions. The Bidder shall make no conditions or stipulations on the Bid Form, nor qualify its Bid in any manner.
9. Identity of Bidder. The Bidder shall include in the specified location on the Bid Form, the legal name of the Bidder and, if requested, a description of the Bidder as a sole proprietor, a partnership, a joint venture, a corporation, or another described form of legal entity. The Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. The Port verifies signature authority on the Labor and Industries website <https://fortress.wa.gov/lni/bbip/Search.aspx> under the contractor registration business owner information. If the business owner information is not current, the Bidder shall show proof of authority to sign at the request of the Port. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.
10. Bid Amounts Do Not Include Sales Tax. The Work to be performed constitutes a "retail sale" as this term is defined in RCW 82.04.050. Thus, the Base Bid amount shall include in the sum stated all taxes imposed by law, EXCEPT WASHINGTON STATE AND LOCAL SALES TAX due on the Base Bid. The engaged Contractor will pay retail sales tax on all consumables used during the performance of the Work and on all items that are not incorporated into the final Work; this tax shall be included in the Base Bid price and in any other prices set forth on the Bid Form. The Port will pay state and local retail sales tax due on each progress payment and final payment to the engaged Contractor for transmittal by the Contractor to the Washington State Department of Revenue or to the applicable local government.

B. POTENTIAL LISTING OF SUB-BIDDERS (SUBCONTRACTORS)

1. Procedure. On projects equal to or greater than \$1,000,000, the Bid Form includes a requirement that certain Sub-Bidders be listed, in which case the Bidder must complete the required list. In these circumstances, and regardless of the anticipated cost of the Project, the Bidder must name the Sub-Bidder or Sub-Bidders with whom the Bidder, if awarded the Contract, will subcontract directly (i.e., not lower-tier Sub-Bidders) for performance of the Work of:
 - a. HVAC (heating, ventilation, and air conditioning) Work;
 - b. Plumbing Work as described in RCW 18.106;
 - c. Electrical Work as described in RCW 19.28; and
 - d. Any other categories of Work listed on the Sub-Bidder listing form and/or Bid Form.
2. Self-Performance. If the Bidder intends to self-perform any of these categories of Work, it must name itself for each such category of Work.
3. Multiple Entries. The Bidder shall not list more than one (1) entity for a particular category of Work identified, unless a Sub-Bidder will vary based on an Alternate Bid, in which case the Bidder shall identify the Sub-Bidder to be used for the Alternate and the affected portion of the Work.
4. Failure to Submit. In accordance with RCW 39.30.060, failure of a Bidder to submit, as part of the Bid, the names of such proposed HVAC, plumbing, and electrical Sub-Bidders, or to

name itself to perform such Work, or the naming of two (2) or more Sub-Bidders to perform the same Work, shall render the Bidder's Bid non-responsive and; therefore, void.

5. Requirement to Subcontract. The Bidder, if Awarded the Contract, will subcontract with the listed Sub-Bidders for performance of the portion of the Work designated on the Bid Form, subject to the provisions of the Contract for Construction and RCW 39.30.060. The Bidder shall not substitute a listed Sub-Bidder in furtherance of bid shopping or bid peddling.
6. Sub-Bidder Qualification. Listed Sub-Bidders may be required to provide evidence of their qualifications, including a statement of experience and references, prior to Award, or at any time during the Contract Time. Such information shall be provided within twenty-four (24) hours of request. This evidence shall demonstrate that the Sub-Bidder meets or exceeds all requirements for experience, qualifications, manufacturer's certifications, or any other requirements specified in any of the technical sections of the Contract Documents for which the Sub-Bidder proposes to perform Work.
7. Replacement. If a listed Sub-Bidder fails to provide adequate evidence of qualifications, is unable to comply with any bonding requirements of the Bidding Documents or with other requirements of the Contract or Bidding Documents, is not properly licensed, or fails to meet the Responsibility Criteria of the Bidding Documents, the Port may require the Bidder to replace the Sub-Bidder with another subcontractor reasonably acceptable to the Port at no change in the Contract Sum or Contract Time.
8. Sub-Bidder Standards. Sub-Bidders shall meet contractual and technical qualification standards, and provide specialized certification, licensing, and/or payment and performance bonding, if required.
9. MWBE, Veteran-owned, and small business participation encouraged. The Port's policy is to encourage the Contractor to solicit and document participation, and to provide and promote the maximum lawful, practicable opportunity for increased participation, by MWBE firms certified by the Office of Minority and Women's Business Enterprises (OMWBE), Veteran-owned businesses (defined in RCW 43.60.010, and Small, Mini and Micro business enterprises (defined in RCW 39.26.010).

C. BID SECURITY

1. Purpose and Procedure. Each Bid shall be accompanied by Bid security payable to the Port in the form required by the Bidding Documents and equal to five (5) percent of the Base Bid only (i.e., not including any Alternates or Unit Prices). The Bid security constitutes a pledge by the Bidder to the Port that the Bidder will enter into the Contract with the Port in the form provided, in a timely manner, and on the terms stated in its Bid, and will furnish in a timely manner, the payment and performance bonds, certificates of insurance, and all other documents required in the Contract Documents. Should the Bidder fail or refuse to enter into the Contract or fail to furnish such documents, the amount of the Bid security shall be forfeited to the Port as liquidated damages, not as a penalty. By submitting a Bid, each Bidder represents and agrees that the Bid security, if forfeited, is a reasonable prediction on the Bid Date of future damages to the Port. Failure of the Bidder to provide Bid Security as required shall render the bid non-responsive.
2. Form. The Bid security shall be in the form of a certified or bank cashier's check payable to the Port or a Bid bond executed by a bonding company reasonably acceptable to the Port, licensed in the State of Washington, registered with the Washington State Insurance Commissioner, possess an A.M. Best rating of "A-," Fiscal Size Category (FSC) six (6) or better, and be authorized by the U.S. Department of the Treasury. The Bid security shall be signed by the person or persons legally authorized to bind the Bidder. Bid bonds shall be submitted using the form included with the Bidding Documents.

3. Retaining Bid Security. The Port will have the right to retain the Bid security of Bidders to whom an Award is being considered until the earliest of either: (a) mutual execution of the Contract, and the Port's receipt of payment and performance bonds, (b) the specified time has elapsed so that Bids may be withdrawn, or (c) when all Bids have been rejected.
4. Return of Bid Security. Within sixty (60) days after the Bid Date, the Port will release or return Bid securities to Bidders whose Bids are not to be further considered in awarding the Contract. Bid securities of the three apparent low Bidders will be held until the Contract has been finally executed, after which all un-forfeited Bid securities will be returned. Bid security may be returned in the form provided or by separate payment.

D. SUBMISSION OF BIDS

1. Procedure. The Bid, the Bid security, and other documents required to be submitted with the Bid, shall be enclosed in a sealed envelope identified with the Project name and number and the Bidder's name and address. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face of the mailing envelope.
 - a. If a Bid is mailed, it shall be addressed to the Port of Tacoma, Contracts Department, 1 Sitcum Plaza, Tacoma, WA 98421.
 - b. If a Bid is delivered, it shall be delivered to the Front Reception Desk, Port of Tacoma, 1 Sitcum Plaza, Tacoma, WA 98421.
 - c. The time stamp clock at the Front Reception Desk at 1 Sitcum Plaza is the Port's official clock.
2. Deposit. Bids shall be deposited at the designated location prior to the Bid Date indicated in the Advertisement or Invitation to Bid, or any extension thereof made by Addendum. Bids received after the Bid Date and time specified shall be returned without consideration at the discretion of the Port, or rejected at the time of receipt.
3. Delivery. The Bidder assumes full responsibility for timely delivery at the location designated for receipt of Bids.
4. Form. Oral, facsimile, telephonic, electronic, or email Bids are invalid and will not be considered.

E. MODIFICATION OR WITHDRAWAL OF BID

1. After the Bid Date. A Bid may not be modified, withdrawn, or canceled by the Bidder during a ninety (90) day period following the Bid Date, and each Bidder so agrees by virtue of submitting its Bid.
2. Before the Bid Date. Prior to the Bid Date, any Bid submitted may be modified or withdrawn only by notice to the party receiving Bids at the place designated for receipt of Bids. The notice shall be in writing, with the signature of the Bidder, and shall be worded so as not to reveal the amount of the original Bid. Email notice will not be accepted. It shall be the Bidder's sole responsibility to verify that the notice has been received by the Port in time to be withdrawn before the Bid opening.
3. Resubmittal. Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids, provided that they are then fully in conformance with these Instructions to Bidders.
4. Bid Security with Resubmission. Bid security shall be in an amount sufficient for the Bid as modified or resubmitted.

F. COMMUNICATIONS

1. Communications from a Bidder related to these Instructions to Bidders must be in writing to procurement@portoftacoma.com. Communications, including but not limited to, notices and requests by Sub-Bidders shall be made through the Bidder and not directly by a Sub-Bidder to the Port.

1.05 CONSIDERATION OF BIDS

- A. **OPENING OF BIDS.** Unless stated otherwise in the Advertisement or Invitation to Bid or an Addendum, the properly identified Bids received on time will be opened publicly and will be read aloud. An abstract of the Base Bids and any Alternate Bids will promptly (and generally within twenty-four (24) hours) be made available to Bidders and other interested parties.
- B. **REJECTION OF BIDS.** The Port shall have the right, but not the obligation, to reject any or all Bids for any reason, or for no reason, to reject a Bid not accompanied by the required Bid security, or to reject a Bid which is in any way incomplete or irregular.
- C. **BIDDING MISTAKES.** The Port will not be obligated to consider notice of claimed Bid mistakes received more than twenty-four (24) hours after the Bid Date. In accordance with Washington law, a low Bidder that claims error and fails to enter into the Contract is prohibited from Bidding on the Project if a subsequent call for Bids is made for the Project.
- D. **ACCEPTANCE OF BID (AWARD)**
 1. **Intent to Accept.** The Port intends, but is not bound, to Award a Contract to the Responsible Bidder with the lowest responsive Bid, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Port has the right to waive any informality or irregularity in any Bid(s) received and to accept the Bid which, in its judgment, is in its own best interests.
 2. **Alternates.** The Port shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Contract or Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and the Alternates (if any) accepted. Failure to submit Bids on all Alternates may be cause for rejecting the Bidder's entire Bid. The Port retains the right to accept Alternate Bid items at the price Bid within ninety (90) days after the Contract is executed.
 3. **Requirements for Award.** Before the Award, the lowest responsive Bidder must be deemed Responsible by the Port and must satisfy all Award Requirements.

E. BID PROTEST PROCEDURES

1. **Procedure.** A Bidder protesting, for any reason, the Bidding Documents, a Bidding procedure, the Port's objection to a Bidder or a person or entity proposed by the Bidder, including but not limited to, a finding of non-Responsibility, the Award of the Contract or any other aspect arising from, or relating in any way to, the Bidding, shall cause a written protest to be filed with the Port within two (2) business days of the event giving rise to the protest. (Intermediate Saturdays, Sundays, and legal holidays are not counted as business days.) The written protest shall include the name of the protesting Bidder, the bid solicitation number and title under which the protest is submitted, a detailed description of the specific factual and legal grounds for the protest, copies of all supporting documents, evidence that the apparent low bidder has been given notice of the protest, and the specific relief requested. The written protest shall be sent by email to procurement@portoftacoma.com.
2. **Consideration.** Upon receipt of the written protest, the Port will consider the protest. The Port may, within three (3) business days of the Port's receipt of the protest, provide any other affected Bidder(s) the opportunity to respond in writing to the protest. If the protest is

not resolved by mutual agreement of the protesting Bidder and the Port, the Contracts Director of the Port, or his or her designee, will review the issues and promptly furnish a final and binding written decision to the protesting Bidder, and any other affected Bidder(s), within six (6) business days of the Port's receipt of the protest. (If more than one (1) protest is filed, the Port's decision will be provided within six (6) business days of the Port's receipt of the last protest.) If no reply is received from the Port during the six (6) business-day period, the protest will be deemed rejected.

3. Waiver. Failure to comply with these protest procedures will render a protest waived.
4. Condition Precedent. Timely and proper compliance with, and exhaustion of, these protest procedures shall be a condition precedent to any otherwise permissible judicial consideration of a protest.

1.06 POST BID INFORMATION

A. THE LOWEST RESPONSIVE BIDDER SHALL:

1. Responsibility Detail Form. Within 24 hours of the Low Responsive Bidder Selection Notification, the apparent low Bidder shall submit to the Port the Responsibility Detail Form and other required documents (Section 00 45 13) executed by an authorized company officer. As requested from the Port, the low responsive Bidder shall provide written confirmation that the person signing the Bid on behalf of the Bidder was duly authorized at the time of bid, a detailed breakdown of the Bid in a form acceptable to the Port, and other information required by the Port.
2. The apparent low Bidder shall submit to the Port upon request:
 - a. Additional information regarding the use of the Bidder's own forces and the use of subcontractors and suppliers;
 - b. The names of the persons or entities (including a designation of the Work to be performed with the Bidder's own forces, and the names of those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work (i.e., either a listed Sub-Bidder or a Sub-Bidder performing Work valued at least ten (10) percent of the Base Bid), consistent with the listing required with the Bid; and
 - c. The proprietary names and the suppliers of the principal items or systems of materials and equipment proposed for the Work.
3. Failure to provide any of the above information in a timely manner will constitute an event of breach permitting forfeiture of the Bid security.
4. Bidder Responsibility. The Bidder will be required to establish, to the satisfaction of the Port, the reliability and responsibility of itself and the persons or entities proposed to furnish and perform the Work described in the Bidding Documents. If requested, the Bidder shall meet with the Port to discuss the Bid, including any pricing, the Bid components, and any assumptions made by the Bidder.
5. Sub-Bidder Responsibility. The Responsibility of the Bidder may be judged in part by the Responsibility of Sub-Bidders. Bidders must verify the Responsibility Criteria for each first-tier Sub-Bidder. A Sub-Bidder of any tier that hires other Sub-Bidders must verify Responsibility Criteria for each of its lower-tier Sub-Bidders. The verification shall include a representation that each Sub-Bidder, at the time of subcontract execution, is Responsible and possesses required licenses.

6. Objection. Prior to an Award of the Contract, the Port will notify the Bidder in writing if the Port, after due investigation, has reasonable objection to the Bidder or a person or entity proposed by the Bidder. Upon receiving such objection, the Bidder may, at Bidder's option: (a) withdraw their Bid, (b) submit an acceptable substitute person or entity with no change in the Contract Time and no adjustment in the Base Bid or any Alternate Bid, even if there is a cost to the Bidder occasioned by such substitution, or (c) file a protest in accordance with the Bidding Documents.
7. Change. Persons and entities proposed by the Bidder to whom the Port has made no reasonable objection must be used on the Work for which they were proposed and shall not be changed, except with the written consent of the Port.
8. Right to Terminate. The Bidder's representations concerning its qualifications will be construed as a covenant under the Contract. If a Bidder makes a material misrepresentation on a Qualification Statement, the Port has the right to terminate the Contract for cause and may then pursue any remedies that exist under the Contract or that are otherwise available.

- B. INFORMATION FROM OTHER BIDDERS: All other Bidders designated by the Port as under consideration for Award of a Contract shall also provide a properly executed Qualification Statement, if so requested by the Port.

1.07 PERFORMANCE BOND, LABOR AND MATERIAL PAYMENT BOND, AND INSURANCE

- A. BOND REQUIREMENTS. Within ten (15) days after the Port's Notice of Award of the Contract, the successful Bidder shall obtain and furnish statutory bonds pursuant to RCW 39.08 covering the faithful performance of the Contract and the payment of all obligations arising thereunder in the form and amount prescribed in the Contract Documents. Bonds shall be written for one hundred (100) percent of the contract award amount, plus Washington State Sales Tax and Change Orders. The cost of such bonds shall be included in the Base Bid.
- B. TIME OF DELIVERY AND FORM OF BONDS. The successful Bidder shall deliver an original copy of the required bonds to the Port, 1 Sitcum Plaza, Tacoma, WA 98421, within the time specified in the Contract Documents.
- C. INSURANCE. The successful Bidder shall deliver a certificate of insurance from the Bidder's insurance company that meets or exceeds all requirements of the Contract Documents.
- D. GOVERNMENTAL REQUIREMENTS. Notwithstanding anything in the Bidding or Contract Documents to the contrary, the Bidder shall provide all bonding, insurance, and permit documentation as required by governmental authorities having jurisdiction for any portions of the Project.

1.08 FORM OF AGREEMENT

- A. FORM TO BE USED. The Contract for the Work will be written on the form(s) contained in the Bidding Documents, including any General, Supplemental, or Special Conditions, and the other Contract Documents included with the project manual.
- B. CONFLICTS. In case of conflict between the provisions of these Instructions and any other Bidding Document, these Instructions shall govern. In case of conflict between the provisions of the Bidding Documents and the Contract Documents, the Contract Documents shall govern.
- C. CONTRACT DELIVERY. Within ten (15) days after Notice of Award, the Bidder shall submit a signed Contract to the Port in the form tendered to the Bidder and without modification.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes administrative and procedural requirements for substitutions.

1.02 DEFINITIONS/CLARIFICATIONS

- A. Substitutions. Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- B. The Contract Documents include performance specifications for products and equipment which meet Project requirements. In those cases where a representative item or manufacturer is named in the specification, it is provided for the sole purpose of identifying a product meeting the required functional performance, and where the words "or equal" are used, a substitution request as further described, is not required.
- C. Where non-competitive or sole source products or manufacturers are explicitly specified with the words "or approved equal," or "Engineer approved equal," or "as approved by the Engineer" are used, they shall be taken to mean "or approved equal." In these cases a substitution request as further described in this Section, is required.

1.03 SUBMITTALS

- A. Substitution Request Form. Use copy of form located at the end of this Section.
- B. Pre-Bid Substitution Requests. Submit one (1) PDF of the Substitution Request Form along with all supporting documentation for consideration of each request. Identify product, fabrication, or installation method to be replaced. Include Drawing numbers and titles. Substitution requests prior to the Bid Date may originate directly from a prime Bidder, or from a prospective Sub-Bidder.
 - 1. Documentation. Show compliance with requirements for substitutions with the following, as applicable:
 - a. Statement indicating why specified product, fabrication, or installation cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work that will be necessary to accommodate proposed substitution.
 - c. Product Data, including drawings and descriptions of products, fabrication, and installation procedures.
 - d. Samples, where applicable or requested.
 - e. Certificates and qualification data, where applicable or requested.
 - f. Research reports evidencing compliance with building code in effect for the Project.
 - 2. Engineer's Action. Engineer will review substitution requests if received electronically to procurement@portoftacoma.com at least seven (7) days prior to the Bid Date. Substitution requests received after this time will not be reviewed.
 - a. Forms of Acceptance. Substitution requests will be formally accepted via written addendum prior to the Bid Date. Bidders shall not rely upon approvals made in any other manner.
 - b. Use product originally specified if Engineer does not issue a decision on use of a proposed substitution within time allocated.

- c. The Port's decision of approval or disapproval of a proposed substitution shall be final.
- C. Post-Award Substitution Requests must be submitted by the Contractor and not a Subcontractor nor Supplier.
 - 1. Documentation. Show compliance with requirements for substitutions with the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable specification Section. Significant qualities may include, but are not limited to, attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses. Also provide names and addresses of the applicable architect, engineer, and owner.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for the Project.
 - j. Comparison of the approved Baseline Project Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
 - 2. Engineer's Action. If necessary, Engineer will request additional information or documentation for evaluation within seven (7) calendar days of receipt of a request for substitution. Engineer will notify Contractor through Port of acceptance or rejection of proposed substitution within fifteen (15) calendar days of receipt of request, or seven (7) calendar days of receipt of additional information or documentation, whichever is later.
 - a. Forms of Acceptance. Change Order or Minor Change in Work.

- b. Use product originally specified if Engineer does not issue a decision on use of a proposed substitution within time allocated.
- 3. Substitutions for Cause. Submit requests for substitution immediately upon discovery of need for change, but not later than fourteen (14) days prior to date required for preparation and review of related submittals.
 - a. Conditions. Engineer will consider Contractor's request for substitution when the following conditions are satisfied:
 - 1) Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - 2) Requested substitution will not adversely affect the Baseline Project Schedule.
 - 3) Requested substitution has received necessary approvals of authorities having jurisdiction.
 - 4) Requested substitution is compatible with other portions of the Work.
 - 5) Requested substitution has been coordinated with other portions of the Work.
 - 6) Requested substitution provides specified warranty.
 - 7) If requested substitution involves more than one (1) contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- 4. Substitutions for Convenience. Engineer will consider Contractor's requests for substitution if received within fourteen (14) days after the Notice of Award.
 - a. Conditions. Engineer will consider Contractor's request for substitution when the following conditions are satisfied:
 - 1) Requested substitution offers Port a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Port must assume. Port's additional responsibilities may include compensation to Engineer for redesign and evaluation services, increased cost of other construction by Port, and similar considerations.
 - 2) Requested substitution does not require extensive revisions to the Contract Documents.
 - 3) Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - 4) Requested substitution will not adversely affect the Baseline Project Schedule.
 - 5) Requested substitution has received necessary approvals of authorities having jurisdiction.
 - 6) Requested substitution is compatible with other portions of the Work.
 - 7) Requested substitution has been coordinated with other portions of the Work.
 - 8) Requested substitution provides specified warranty.
 - 9) If requested substitution involves more than one (1) contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors

involved.

D. Substitutions will not be considered when:

1. Indicated or implied on shop drawings or product data submittals without formal request submitted in accordance with this Section.
2. Acceptance will require substantial revision of Contract Documents or other items of the Work.
3. Submittal for substitution request does not include point-by-point comparison of proposed substitution with specified product.

1.04 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

PROJECT TITLE: Washington United Terminal Fender System Replacement
NO.: 201107.01

PROJECT

SUBMITTED BY: _____ CONTRACT NO.: 071421
PRIME/SUB/SUPPLIER: _____ DATE: _____

Specification Title: _____ Section No.: _____
Description: _____ Paragraph: _____
Page No.: _____

Proposed Substitution: _____
Trade Name: _____ Model No.: _____
Manufacturer: _____
Address: _____ Phone No.: _____
Installer: _____
Address: _____ Phone No.: _____
Differences between proposed substitution and specified product: _____

☐ Point-by-Point comparative data attached - REQUIRED

Reason for not providing specified item: _____

Similar Installation:
Project: _____ A/E: _____
Address: _____
Owner: _____ Date Installed: _____
Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

Supporting Data Attached:

☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Other: _____

Applicable to Substitution Requests During Construction:

Proposed to Port for accepting substitution: \$ _____

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____ # days.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.

- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay Baseline Project Schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted By: _____
Signed By: _____ Firm: _____
Address: _____

Telephone: _____ Email: _____
Attachments: _____

A/E's REVIEW AND RECOMMENDATION

- ☐ Approved Substitution
- ☐ Approved Substitution as Noted
- ☐ Reject Substitution - Use specified materials.
- ☐ Substitution Request received too late - Use specified materials.

Signed by: _____ Date: _____

ENGINEER'S REVIEW AND ACTION

- ☐ Substitution Approved - Make submittals in accordance with this Specification Section. If during construction, prepare Change Order.
- ☐ Substitution Approved as Noted - Make submittals in accordance with this Specification Section. If during construction, prepare Change Order.
- ☐ Substitution Rejected - Use specified materials.
- ☐ Substitution Request received too late - Use specified materials.

Signed by: _____ Date: _____

END OF SECTION

PART 1 - GENERAL

1.01 EXISTING CONDITIONS

- A. Certain information relating to existing surface and subsurface conditions and structures is available to Bidders online at www.portoftacoma.com, but will not be part of the Contract Documents, as follows:
 - 1. Drawings Entitled: Hyundai Merchant Marine Terminal, Contract No. 978038, dated January 4, 1999.

1.02 AVAILABILITY

- A. Reference Documents are available online through the Port of Tacoma's Website www.portoftacoma.com. Click on "Contracts," "Procurement," and then the Procurement Number.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section provides the notification required for disclosure of asbestos, lead-containing or other hazardous materials.

1.02 HAZARDOUS MATERIALS NOTICE

- A. The Port is reasonably certain that asbestos and lead will not be disturbed by the project. If the Contractor encounters material suspected of containing lead or asbestos which will interfere with the execution of the work, the Contractor shall stop work and notify the Engineer.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

B. PORT BLOCK MASTER

BIDDER'S NAME: _____

PROJECT TITLE: WASHINGTON UNITED TERMINAL FENDER SYSTEM REPLACEMENT

The undersigned Bidder declares that it has read the Contract Documents (including documents provided by reference), understands the conditions under which the Work will be performed, has examined the Project site, and has determined for itself all situations affecting the Work herein Bid upon. Bidder proposes and agrees, if this Bid is accepted, to provide at Bidder's own expense, all labor, machinery, tools, materials, etc., including all Work incidental to, or described or implied as incidental to such items, according to the Contract Documents, and that the Bidder will complete the Work within the time stated, and that Bidder will accept in full the lump sum or unit price(s) set forth below:

ITEM NO.	DESCRIPTION OF ITEM	QTY	UOM	UNIT PRICE	EXTENDED PRICE (QTY. x UNIT PRICE)
1	Mobilization and Demobilization	1	LS		
2	Project Administration	1	LS		
3	Demolition and Removal of Existing Fender Systems and Appurtenances	27	EA		
4	Installation of New Fender Systems with Pile Cap Supplements	25	EA		
5	Installation of New Fender Systems without Pile Cap Supplements	16	EA		
6	Furnish Spare Cone Fender System	1	EA		
7	Relocation of Existing Ladders	5	EA		
8	Unforeseen Condition Allowance	1	LS	\$20,000.00	
TAXABLE BASE BID SUBTOTAL					

ADDITIVE ALTERNATE BID ITEMS

ITEM NO.	DESCRIPTION OF ITEM	QTY	UOM	UNIT PRICE	EXTENDED PRICE (QTY. x UNIT PRICE)
1	Bullrail and Water Vault Repairs	1	LS		
TAXABLE ADDITIVE ALTERNATE BID SUBTOTAL					

BASE AND ADDITIVE ALTERNATE BID SUBTOTAL AMOUNT	
10.2% WASHINGTON STATE SALES TAX (WSST) ON BASE AND ADDITIVE ALTERNATE BID SUBTOTAL	
BID TOTAL (WITH WSST)	

Note: Show prices in figures only.

Evaluation of Bids. In accordance with the provisions of the Contract Documents, Bids will be evaluated to determine the lowest Base Bid Subtotal offered by a responsible Bidder submitting a responsive Bid.

The apparent low bid shall be the lowest sum of the base bid and additive alternates. The Port reserves the right to award the contract with or without additive alternates. Additive alternates not immediately awarded may be awarded within 60 days after bid opening.

Bidders shall provide a unit price for each base and additive alternate item above. Failure to provide a unit price for any bid item may render the bid nonresponsive. The Port reserves the right to accept or reject the unit price proposed.

Principal Subcontractors/Suppliers. For Bids greater than one million (\$1,000,000) dollars, the Bidder shall list below the name of each subcontractor or supplier to whom the Bidder proposes to subcontract the portions of the work listed below, or name itself for the work.

Work to be Performed	Name of Firm
HVAC (Heating, Ventilation and Air Conditioning) Work	
Plumbing Work as described in RCW 18.106	
Electrical Work as described in RCW 19.28	

Non-Collusion Representation. The Bidder declares under penalty of perjury that the Bid submitted is genuine and not a sham or collusive bid, or made in the interest or on behalf of any person or firm not therein named; and further represents that the Bidder has not directly or indirectly induced or solicited any other bidder to submit a sham bid, or encouraged any other person or corporation to refrain from bidding; and that the Bidder has not in any manner sought by collusion to secure to the Bidder an advantage over any other bidder or bidders.

RCW 39.04.350 Certification. The Bidder represents and certifies, under penalty of perjury, that within the three- (3-) year period immediately preceding the Bid Date, the Bidder has not been determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries, nor through a civil judgment entered by a court of limited or general jurisdiction, to have willfully violated, as defined in RCW 49.48.082, any provision of Chapters 49.46, 49.48, nor 49.52 RCW.

Addenda. Bidder acknowledges receipt and acceptance of all Addenda through No. ____ (Identify Last Addenda By Number)

Bid Security. A certified check, cashier's check, or other obligation of a bank, or a bid bond in substantially the form set forth in Section 00 43 13, Bid Security Form for at least five (5) percent of the Base Bid Subtotal, shall be submitted with this Bid.

Apprenticeship Requirements. For Bids greater than one million (\$1,000,000) dollars, the apprentice labor hours required for this project are fifteen (15) percent of the total labor hours. The Bidder agrees to utilize this level of apprentice participation.

Name of Firm

Date

Signature

By Title

Mailing Address

City, State Zip Code

Telephone Number

Email Address

WA State Contractor's License No.

Employment Security Department No.

Identification of Bidder as a sole proprietor, a partnership, a joint venture, a corporation, or another described form of legal entity

END OF SECTION

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as Principal, and
_____, as Surety, are held and firmly bound unto
the PORT OF TACOMA as Obligee, in the penal sum of _____
Dollars, for the payment of which the Principal and Surety bind themselves, their heirs, executors,
administrators, successors and assigned, jointly and severally, by these present.

The condition of this obligation is such that if the Obligee shall make any award to the Principal for
_____, according to the terms of the proposal or bid
made by the Principal therefor, and the Principal shall duly make and enter into a contract with the
Obligee in accordance with the terms of said proposal or bid and award and shall give bond for the
faithful performance thereof, with Surety or Sureties approved by the Obligee; or, if the principal shall, in
case of failure to do so, pay and forfeit to the Obligee the penal amount of the deposit specified in the
call for bids, then this obligation shall be null and void; otherwise it shall be and remain in full force and
effect and the Surety shall forthwith pay and forfeit to the Obligee, as penalty and liquidated damages,
the amount of this bond.

SIGNED, SEALED AND DATED THIS _____ DAY OF _____, 20____

BY _____
PRINCIPAL

BY _____
SURETY

AGENT AND ADDRESS

Note: Bidder may submit Surety's bid bond form, provided it is similar in substance, made out in the
name of the Port of Tacoma, and that the agent's name and address appear as specified. Bonds
containing riders limiting responsibility for toxic waste or limiting the term of responsibility will be rejected.

END OF SECTION

THIS IS NOT TO BE SUBMITTED WITH A BID.

THE LOW RESPONSIVE BIDDER SHALL BE REQUIRED TO COMPLETE THIS RESPONSIBILITY DETAIL FORM AS SPECIFIED IN SECTION 00 21 00 - INSTRUCTIONS TO BIDDERS. **THIS COMPLETED RESPONSIBILITY DETAIL FORM SHALL BE SUBMITTED ELECTRONICALLY (PDF) VIA EMAIL TO THE CONTACT(S) IDENTIFIED IN THE LOW RESPONSIVE BIDDER SELECTION NOTIFICATION.**

BIDDER'S COMPANY NAME: _____

For the below Mandatory Bidder Responsibility Criteria, please mark the appropriate choice.

1.01 MANDATORY BIDDER RESPONSIBILITY CRITERIA

- A. The Bidder shall meet the following mandatory responsibility criteria as described in RCW 39.04.350(1). The Bidder shall be rejected as not responsible if any answer to questions 1 through 5 is "No" or any answer to questions 6 through 8 is "Yes."
1. Does the Bidder have a Certificate of Registration in compliance with RCW 18.27?
☐ Yes ☐ No
 2. Does the Bidder have a current Washington State Unified Business Identifier number?
☐ Yes ☐ No
 3. Does the Bidder have Industrial Insurance Coverage for the Bidder's employees working in Washington State as required in RCW 51?
☐ Yes ☐ No
 4. Does the Bidder have an Employment Security Department number as required in RCW 50?

**Attach letter dated within six (6) months of Bid Date.*

**Request a letter electronically by clicking on the following link
<https://fortress.wa.gov/esd/twt/pwcinternet/> or by emailing a request to
publicworks@esd.wa.gov.*

☐ Yes ☐ No
 5. Does the Bidder have a Washington State Excise Tax Registration number as required in RCW 82?

☐ Yes ☐ No
 6. Has the Bidder been disqualified from bidding on any public works project under RCW 39.06.010 or 39.12.065(3)?

☐ Yes ☐ No
 7. Has the Bidder violated RCW 39.04.370 more than one (1) time as determined by the Washington State Department of Labor and Industries?

☐ Yes ☐ No

8. Has the Bidder ever been found to be out of compliance with Apprenticeship Utilization requirements of RCW 39.04.320?
- ☐ Yes ☐ No
9. Has the Bidder ever been found to have willfully violated, as defined in RCW 49.48.082, any provision of Chapters 49.46, 49.48, or 49.52 RCW within the three- (3-) year period immediately preceding the date of this bid solicitation?
- ☐ Yes ☐ No
10. Has the Bidder completed the training required by RCW 39.04.350, or is the Bidder on the list of exempt businesses maintained by the Department of Labor and Industries?
- ☐ Yes ☐ No

If any answer to questions 1 through 5 is "No" or any answer to questions 6 through 8 is "Yes" - **STOP HERE** and contact the Contract Administrator. The Bidder is not responsible for this Work. Otherwise proceed to 1.02. **Provide attached to this completed form documentation to confirm responsibility criteria.**

For remaining criteria below, check or fill-out the appropriate item. Based upon the answer provided by the Bidder, the Port may request additional information or seek further explanation. As needed, provide backup documentation for any explanations listed below.

1.02 CONTRACT AND REGULATORY HISTORY

- A. The Port will evaluate whether the Bidder's contract and regulatory history demonstrates an acceptable record of past project performance and consistent responsibility. The Bidder shall answer the following questions. The Bidder may be rejected as not responsible if any answer to questions 1 through 5 below is "Yes."

1. Has the Bidder had a contract terminated for cause or default in the last five (5) years?
- ☐ Yes, **If YES, explain below.** ☐ No
-
2. Has the Bidder required a Surety to take over all, or a portion of, a project to cure or respond to an asserted default or material breach of contract on the part of the Bidder on any public works project in the last five (5) years?
- ☐ Yes, **If YES, explain below.** ☐ No
-
3. Have the Bidder and major Sub-Bidders been in bankruptcy, reorganization, and/or receivership on any public works project in the last five (5) years?
- ☐ Yes, **If YES, explain below.** ☐ No
-

4. Have the Bidder and major Sub-Bidders been disqualified by any state or local agency from being awarded and/or participating on any public works project in the last five (5) years?

☐ Yes, **If YES, explain below.** ☐ No

5. Are the Bidder and major Sub-Bidders currently a party to a formal dispute resolution process with the Port (i.e., a pending mediation, arbitration, or litigation)?

☐ Yes, **If YES, explain below.** ☐ No

1.03 ACCIDENT/INJURY EXPERIENCE

- A. The Port will evaluate the Bidder's accident/injury Experience Modification Factor ("EMF") from the Washington State Department of Labor and Industries to assess whether the Bidder has an acceptable safety record preventing personal injuries on projects.
- B. List the Bidder's accident/injury EMF for the last five (5) years. An experience factor is calculated annually by the Washington State Department of Labor and Industries.

Year	Effective Year	Experience Factor
1		
2		
3		
4		
5		

If the Bidder has received an EMF of greater than 1.0 for any year, explain the cause(s) of the designation and what remedial steps were taken to correct the EMF. The Bidder may be rejected as not responsible if the Bidder's EMF is greater than 1.0 and sufficient remedial steps have not been implemented.

1.04 WORK PERFORMED BY BIDDER

- A. The Bidder shall state the amount of the Work, as an equivalent to the Base Bid, excluding taxes, insurance, and bonding, the Bidder will execute with its own forces.

_____ %

1.05 ADDITIONAL CONTRACTOR INFORMATION

- A. As part of completing this Responsibility Detail Form, **submit the following information with the completed Responsibility Detail Form:**
- Bidder's recent job resume, including a list of similar projects performed and contact information for the similar project owner(s), a brief description of work, start and end dates, and contract amount.
 - Resumes of Bidder's proposed project manager and job superintendent.
- B. The Bidder's failure to provide the required project information may result in a determination of the Bidder being declared non-responsible by the Port.
-

- C. The Bidder shall submit this completed, **SIGNED** Responsibility Detail Form electronically (PDF), with all requested backup documentation, via email to the contact(s) noted on the Low Responsive Bidder Selection Notification.
- D. The Bidder and its subcontractors to verify that its subcontractors at each tier meet the responsibility criteria as required by RCW 39.06.020 and 39.04.350.
 - 1. Bidder shall verify major subcontractors meet the responsibility criteria required. Fill out one Port of Tacoma Public Works Project Bidder Evaluation Checklist for Subcontractors for each major subcontractor and submit to the Port with this form. Backup documentation is not required to be submitted.

PROJECT: Washington United Terminal Fender System Replacement

PROJECT NO.: 201107.01

CONTRACT NO.: 071421

Responsibility Certification Form

The Low responsive Bidder shall complete the Responsibility Detail Form, attach all documentation, and submit to the Port within twenty-four (24) hours following receipt of the Low Responsive Bidder Selection Notification. All forms shall be submitted electronically (PDF) via email to the contact(s) listed on the Selection Notice. Note, the same project may be used to demonstrate experience across multiple categories if applicable.

By completing and signing this Responsibility Detail Form, the Bidder is certifying that the information contained within the Form, the backup documentation, and any additional information requested by the Port is true and complete. The Bidder's failure to disclose the required information or the submittal of false or misleading information may result in the rejection of the Bidder's Bid, revocation of award, or contract termination.

The information provided herein is true and complete.

Signature of Authorized Representative

Date

Print Name and Title

**PORT OF TACOMA PUBLIC WORKS PROJECT BIDDER EVALUATION CHECKLIST FOR
SUBCONTRACTORS**

PROJECT TITLE: Washington United Terminal Fender System Replacement

BIDDER: _____

CONTRACT AND PROJECT NUMBER: 071421 / 201107.01

This checklist shall be completed by the Bidder and its subcontractors to verify that its subcontractors at each tier meet the responsibility criteria as required by RCW 39.06.020 and RCW 39.04.350.

This checklist should be submitted to the Port of Tacoma Contracts Administrator within twenty-four (24) hours of request.

Document verification information or backup data is not to be submitted to the Port, this information should remain on file with the Contractor and be presented to the Port if requested at a later date.

Item No.	Item	Initials/Comments
1.	At the time of Bid submittal, have a certificate of registration in compliance with RCW 18.27: Check the L&I site https://fortress.wa.gov/lni/bbip/ . Verify that a subcontractor has an electrical contractor license, if required by RCW 19.28, or an elevator contractor license, if required by RCW 70.87.	
2.	While reviewing registration information above, also check contractor's Employer Liability Certificate to verify workers' comp (industrial insurance) premium status – current account. Complete a "Submit Contractor Tracking Request" to be notified if the contractor fails to pay workers' comp premiums or renew their contractor registration or if their electrical contractor license is suspended or revoked within one year.	
3.	State excise tax registration number (Department of Revenue). (contractor's Washington State Unified Business Identifier and tax registration number) http://dor.wa.gov/content/doingbusiness/registermybusiness/brd/ .	
4.	Not disqualified from bidding on any public works contract under RCW 39.06.010 or RCW 39.12.065(3). Check the Department of Labor and Industries http://www.lni.wa.gov/TradesLicensing/PrevWage/AwardingAgencies/DebarredContractors/ .	
5.	Verify subcontractors are registered with the Washington State Employment Security Department (ESD) and have an account number. Request a letter to be sent from the subcontractor electronically by clicking on the following link https://fortress.wa.gov/esd/twt/pwcinternet/ or by emailing a request to publicworks@esd.wa.gov . Include ESD#, UBI#, and business name in the email. Certificate of Coverage letter issued/dated within the last six (6) months.	

Item No.	Item	Initials/ Comments
	Document if subcontractor confirms in writing, under penalty of perjury, that it has no employees and this requirement does not apply.	

END OF SECTION

THIS AGREEMENT is made and entered into by and between the PORT OF TACOMA, a State of Washington municipal corporation, hereinafter designated as the "Port," and:

The "Contractor" is: _____ (Legal Name)

_____ (Address)

_____ (Address 2)

_____ (Phone No.)

The "Project" is: Washington United Terminal Fender System Replacement (Title)

201107.01 | 071421 (Project/Contract No.)

1815 Port of Tacoma Rd, Tacoma, WA 98421 (Project Address)

The "Engineer" is: Thais Howard, PE (Engineer)

Director of Engineering (Title)

thoward@portoftacoma.com (Email)

(253) 888 - 4718 (Phone No.)

The "Contractor's Representative" is: _____ (Representative)

_____ (Title)

_____ (Email)

_____ (Phone No.)

BACKGROUND AND REPRESENTATIONS:

The Port publicly solicited bids on the Contract Documents. The Contractor submitted a Bid to the Port on the _____ day of _____, 20____ to perform the Work.

The Contractor represents that it has the personnel, experience, qualifications, capabilities, and means to accomplish the Work in strict accordance with the Contract Documents, within the Contract Time and for the Contract Price, and that it and its Subcontractors satisfy the responsibility criteria set forth in the Contract Documents, including any supplemental responsibility criteria.

The Contractor further represents that it has carefully examined, and is fully familiar with, all provisions of the Contract Documents, including any Addenda, that it has fully satisfied itself as to the nature, location, difficulty, character, quality, and quantity of the Work required by the Contract Documents and the conditions and other matters that may be encountered at or near the Project site(s), or that may affect performance of the Work or the cost or difficulty thereof, including all applicable safety and site responsibilities, and that it understands and can satisfy all scheduling and coordination requirements and interim milestones.

AGREEMENT:

The Port and the Contractor agree as follows:

1.0 CONTRACTOR TO FULLY PERFORM THE WORK

The Contractor shall fully execute and complete the entire Work for the Project described in the Contract Documents, except to the extent specifically indicated in the Agreement, the General Conditions of the Contract (as well as any Supplemental, Special, or other conditions included in the Project Manual), the Drawings, the Specifications, and all Addenda issued prior to, and all modifications issued after, execution of the Contract.

2.0 DATE OF COMMENCEMENT

The date of commencement of the Work, which is the date from which the Contract Time is measured, shall be fixed as the date of execution of the Contract.

3.0 CONTRACT TIME AND LIQUIDATED DAMAGES

The Contractor shall achieve all interim milestones as set forth in the Contract Documents and Substantial Completion of the entire Work not later than **274** calendar days from execution of the Contract, subject to adjustments of this Contract Time as provided in the Contract Documents. The Contractor shall achieve Final Completion of the entire Work within **30** calendar days of the date on which Substantial Completion is achieved.

Provisions for liquidated damages as a reasonable estimate of future loss, as of the date of this Agreement, are included in the Contract Documents. The parties agree that the stated liquidated damages are reasonable and not penalties individually nor cumulatively.

The liquidated damages for failure to achieve Substantial Completion by the required date shall be **\$700** per calendar day. After the required Final Completion date, the liquidated damages for failure to achieve Final Completion shall be **\$70** per calendar day.

Liquidated damages assessed by the Port will be deducted from monies due to the Contractor, or from monies that will become due to the Contractor. The liquidated damages, as specified and calculated herein, shall be levied, cumulatively if applicable, for each and every calendar day that Substantial Completion and/or Final Completion of the Work is delayed beyond the required completion dates, or the completion dates modified by the Port for extensions of the Contract Time.

4.0 CONTRACT PRICE

In accordance with the Contractor's Bid dated _____, the Port shall pay the Contractor in current funds for the Contractor's performance of the Contract, the Contract Price of _____ Dollars (\$_____), subject to additions and

deductions as provided in the Contract Documents. State and local sales tax is not included in the Contract Price, but will be due and paid by the Port with each progress payment.

5.0 ALTERNATES

6.0 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in the Contract Documents.

This Agreement is entered into as of the day and year first written above:

CONTRACTOR

PORT OF TACOMA

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Execution _____
Date: _____

END OF SECTION

PERFORMANCE BOND # _____

CONTRACTOR (NAME AND ADDRESS)

SURETY (NAME AND PRINCIPLE PLACE OF BUSINESS)

OWNER (NAME AND ADDRESS)

PORT OF TACOMA
P.O. BOX 1837
TACOMA, WA 98401-1837

AGENT OR BROKER (FOR INFORMATION ONLY)

KNOW ALL MEN BY THESE PRESENTS:

That _____ as Principal, hereinafter called Contractor, and _____ as Surety, hereinafter called Surety, are held and firmly bound unto the Port of Tacoma as Obligee, hereinafter called the Port, in the amount of _____ Dollars (\$ _____) for the payment whereof Contractor and Surety bind themselves, their executors, administrators, legal representatives, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS:

Contractor shall execute an agreement with the Port for Washington United Terminal Fender System Replacement, Project No. 201107.01/Contract No. 071421, a copy of which Contract is by reference made a part hereof (the term "Contract" as used herein to include the aforesaid agreement together with all the Contract Documents, addenda, modifications, all alterations, additions thereto, deletions therefrom, and any other document or provision incorporated into the Contract) and is hereinafter referred to as the Contract.

This bond is executed and issued pursuant to the provisions of RCW 39.08.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

FURTHER:

- A. Surety hereby waives notice of any alterations, change orders, modifications, or extensions of time made by the Port.
- B. Surety recognizes that the Contract includes provisions for additions, deletions, and modifications to the Work and/or Contract Time and the amounts payable to the Contractor. Subject to the limitations contained in (A) above, Surety agrees that no such addition, deletion, or modification, or any combination thereof, shall avoid or impair Surety's obligation hereunder.
- C. Whenever Contractor has been declared by the Port to be in default, and the Port has given Surety notice of the Port's determination of such default, Surety shall promptly (in no event more than fifteen (15) days following receipt of such notice) advise the Port of its intended action to:
 1. Remedy the default within fifteen (15) days following its advice to the Port as set forth above, or
 2. Assume within fifteen (15) days, following its advice to the Port as set forth above, completion of the Contract in accordance with the Contract Documents and become

- entitled to payment of the balance of the Contract Sum, or
3. Pay the Port upon completion of the Contract, in cash, the cost of completion together with all other reasonable costs and expenses incurred by the Port as a result of the Contractor's default, including but not limited to, those reasonable costs and expenses incurred by the Port in its efforts to mitigate its losses, which may include, but are not limited to, attorney's fees and efforts to complete the Work prior to the Surety exercising the options available to it as set forth herein.
- D. If the Port shall commence suit and obtain judgment against the Surety for recovery hereunder, then the Surety, in addition to such judgment, shall pay all costs and attorney's fees incurred by the Port in enforcement of its rights hereunder. Venue for any action arising out of, or in connection with, this bond shall be in Pierce County, Washington.
- E. No right or action shall accrue on this bond to, or for the use of, any person or corporation other than the Port of Tacoma.

Signed and Sealed the _____ day of _____, 20____.

IMPORTANT: Surety companies executing bonds must have an A.M. Best Rating of "A-, FSC (6)" or higher, have an underwriting limitation of not less than the Contract Sum, and be authorized to transact business in the State of Washington.

SURETY

CONTRACTOR

Signature

Signature

Printed Name and Title

Printed Name and Title

Power of Attorney attached.

END OF SECTION

LABOR AND MATERIAL PAYMENT BOND # _____

CONTRACTOR (NAME AND ADDRESS)

SURETY (NAME AND PRINCIPLE PLACE OF BUSINESS)

OWNER (NAME AND ADDRESS)

PORT OF TACOMA
P.O. BOX 1837
TACOMA, WA 98401-1837

AGENT OR BROKER (FOR INFORMATION ONLY)

KNOW ALL MEN BY THESE PRESENTS:

That _____ as Principal, hereinafter called Contractor, and _____ as Surety, hereinafter called Surety, are held and firmly bound unto the Port of Tacoma as Oblige, hereinafter called the Port, and all others entitled to recovery hereunder, in the amount of _____ Dollars (\$ _____) for the payment whereof Contractor and Surety bind themselves, their executors, administrators, legal representatives, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS:

Contractor shall execute an agreement with the Port for Washington United Terminal Fender System Replacement, Project No. 201107.01/Contract No. 071421, a copy of which Contract is by reference made a part hereof (the term "Contract" as used herein to include the aforesaid agreement together with all the Contract Documents, addenda, modifications, alterations, additions thereto, deletions therefrom, and any other document or provision incorporated into the Contract) and is hereinafter referred to as the Contract.

This bond is executed pursuant to the provisions of RCW 39.08.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Contractor shall promptly make payment to all claimants, as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract and shall indemnify and save the Port harmless from all cost and damage by reason of Contractor's default, then this obligation shall be null and void; otherwise, it shall remain in full force and effect, subject to the following conditions.

- A. Surety hereby waives notice of any alterations, change orders, modifications, or extensions of time made by the Port.
- B. Surety recognizes that the Contract includes provisions for additions, deletions, and modifications to the Work and/or Contract Time and the amounts payable to the Contractor. Subject to the limitations contained in (A) above, Surety agrees that no such addition, deletion, or modification, or any combination thereof, shall avoid or impair Surety's obligation hereunder.
- C. Surety hereby agrees that every person protected under the provisions of RCW 39.08.010 who has not been paid as provided under the Contract, and pursuant to RCW 39.08.010, less any amounts withheld pursuant to statute, and less retainage withheld pursuant to RCW 60.28, after the expiration of a period of thirty (30) days after the date on which the completion of the Contract in accordance with RCW 39.08, may sue on this bond, prosecute the suit to final judgment as may be due claimant, and have execution thereon including recovery of reasonable costs and attorney's fees as provided by RCW 39.08. The Port shall not be liable for

the payment of any costs or expenses of any such suit.

- D. No suit or action shall be commenced hereunder by any claimant unless claimant shall have given the written notices to the Port, and where required, the Contractor, in accordance with RCW 39.08.030.
- E. The amount of this bond shall be reduced by, and to the extent of, any payment or payments made in good faith hereunder, inclusive of the payment by Surety of claims which may be properly filed in accordance with RCW 39.08 whether or not suit is commenced under and against this bond.
- F. If any Claimant shall commence suit and obtain judgment against the Surety for recovery hereunder, then the Surety, in addition to such judgment and attorney fees as provided by RCW 39.08.030, shall also pay such costs and attorney fees as may be incurred by the Port as a result of such suit. Venue for any action arising out of, or in connection with, this bond shall be in Pierce County, Washington.

Signed and Sealed the _____ day of _____, 20____.

IMPORTANT: Surety companies executing bonds must have an A.M. Best Rating of "A-, FSC (6)" or higher, have an underwriting limitation of not less than the Contract Sum, and be authorized to transact business in the State of Washington.

SURETY

CONTRACTOR

Signature

Signature

Printed Name and Title

Printed Name and Title

Power of Attorney attached.

END OF SECTION

BOND NO.: _____

PROJECT TITLE: Washington United Terminal Fender
System Replacement

PROJECT NO.: 201107.01

CONTRACT NO.: 071421

KNOW ALL MEN BY THESE PRESENTS: That we, _____
_____ a corporation existing under and by virtue of the laws of the State of
Washington and authorized to do business in the State of Washington, as Principal, and
_____, a corporation organized and existing under the
laws of the State of _____ and authorized to transact the business of
surety in the State of Washington, as Surety, are jointly and severally held and bound unto the PORT OF
TACOMA, hereinafter called Port, as Obligee, and are similarly held and bound unto the beneficiaries of
the trust fund created by RCW 60.28 as their heirs, executors, administrators, successors, and assigns in
the penal sum of _____ (\$_____) plus five (5) percent of any increases in the Contract Price that have occurred or may occur, due to
change orders, increases in the quantities, or the addition of any new item of work.

WHEREAS, on the _____ day of _____, the said Principal herein executed Contract
No. 071421 with the Port for Washington United Terminal Fender System Replacement, Project No.
201107.01.

WHEREAS, said Contract and RCW 60.28 require the Port to withhold from the Principal the sum of five
(5) percent from monies earned by the Principal on estimates during the progress of the work, hereinafter
referred to as earned retained funds.

WHEREAS, the Principal has requested that the Port accept a bond in lieu of earned retained funds as
allowed under RCW 60.28.

NOW THEREFORE, this obligation is such that the Surety, its successors, and assigns are held and
bound unto the Port and unto all beneficiaries of the trust fund created by RCW 60.28.011(1) in the
aforesaid sum. This bond, including any proceeds therefrom, is subject to all claims and liens and in the
same manner and priority as set forth for retained percentages in RCW 60.28. The condition of this
obligation is also that if the Principal shall satisfy all payment obligations to persons who may lawfully
claim under the trust fund created pursuant to RCW 60.28, to the Port, and indemnify and hold the Port
harmless from any and all loss, costs, and damages that the Port may sustain by release of said
retainage to Principal, then this obligation shall be null and void, provided the Surety is notified by the
Port that the requirements of RCW 60.28.021 have been satisfied and the obligation is duly released by
the Port.

IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable under this obligation as
Principal. The Surety will not be discharged or released from liability for any act, omission, or defenses of
any kind or nature that would not also discharge the Principal.

IT IS HEREBY FURTHER DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of the Principal, the Surety, the Port, the beneficiaries of the trust fund created by RCW 60.28 and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, said Principal and said Surety have caused these presents to be duly signed and sealed this _____ day of _____, 20____.

By: _____
Principal

Address: _____

City/ST/Zip: _____

Phone: _____

Surety Name: _____

By: _____
Attorney-In-Fact

Address: _____

City/ST/Zip: _____

Phone: _____

IMPORTANT: Surety companies executing bonds must have an A.M. Best Rating of "A-, FSC (6)" or higher, and be authorized to transact business in the State of Washington.

END OF SECTION

To: Bank Name, Address, Phone _____ Escrow Account No.: _____

_____ Contract No.: 071421
_____ Project No.: 201107.01
_____ Project Title: Washington United Terminal Fender System

Replacement

Agency: Port of Tacoma
PO Box 1837
Tacoma, WA 98401-1837

This Retainage Escrow Agreement (the "Agreement") is made and entered into as of _____, 20____, by and among _____ ("Contractor"), with an address of _____, the Port of Tacoma (the "Port") and _____ ("Bank").

Contractor has directed the Port to deliver to Bank its retainage warrants or checks, which shall be payable to Bank and the Contractor jointly. Such warrants or checks are to be held in a restricted deposit account as described above (the "Pledged Account") and disbursed by Bank only in accordance with this Agreement and Chapter 60.28 RCW, and upon the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the parties hereto agree as follows:

1. The Port shall deliver to Bank from time to time checks or warrants payable jointly to Bank and the Contractor. Bank is hereby authorized by the Contractor to endorse in the Contractor's name any such check or warrant so that Bank may receive the proceeds thereof and invest the same and deposit such proceeds into the Pledged Account. The power of endorsement hereby granted to Bank by the Contractor shall be deemed a power coupled with an interest and shall be irrevocable during the term of this Agreement. Although Bank may be a payee named in such warrants or checks as shall be delivered to Bank, Bank's duties and responsibilities with respect to the same shall be only those duties and responsibilities that a depository bank would have pursuant to a control agreement among the Bank, the Port, and Contractor, as such agreement may exist in a form satisfactory to the Port and Article 4 of the Uniform Commercial Code of the State of Washington, as amended, for an item deposited with Bank for collection. For the purpose of each such purchase, Bank may follow the last written direction received by Bank from the Contractor, provided such direction otherwise conforms with the restrictions on investments recited herein. Below is a list of such bonds and other securities approved by the Port (the "Securities"). Other securities, except stocks, may be selected by the Contractor, subject to the express prior written approval of the Port, in its sole and absolute discretion. Purchase of such Securities shall be in a form which shall allow the Bank alone to reconvert such Securities into money if Bank is required to do so by the Administrator as provided in Paragraph 5 of this Agreement. The investments selected by the Contractor, as approved by the Port and purchased by Bank, must mature on or prior to the completion date of the contract between the Contractor and the Port, including extensions thereof (the "Contract").
2. As security for the completion of the Project and satisfaction of the Contract, Contractor hereby pledges, assigns, hypothecates, and transfers to the Port, the Pledged Assets (as defined below) and

grants to the Port a security interest under the Uniform Commercial Code of the State of Washington, as amended, in and to the Pledged Assets. This Agreement creates and grants a valid, perfected first priority lien on the Pledged Assets, enforceable as such against all creditors of Contractor. Contractor covenants and agrees with the Port that it will not (a) sell, assign, transfer, exchange, or otherwise dispose of, or grant any option with respect to, the Pledged Assets, (b) create, incur, or permit to exist any lien or option in favor of, or any claim of any person with respect to, any of the Pledged Assets, or any interest therein, except for the lien provided for by this Agreement, (c) withdraw any money, securities or property from the Pledged Account, except as provided herein, or (d) attempt to modify or terminate Contractor's the agreement under which the Pledged Account was established.

Contractor will defend the right, title, and security interest of the Port in and to the Pledged Assets against the claims and demands of all persons. "Pledged Assets" means the Pledged Account, now or hereafter constituted, including (i) all credit balances or other money now or hereafter credited to the Pledged Account; (ii) all money, certificated and uncertificated securities, commodities contracts, instruments, documents, general intangibles, financial assets or other investment property now or hereafter in, or distributed from, the Pledged Account; (iii) all income, products and proceeds of the sale, exchange, redemption or exercise of the foregoing, whenever occurring, whether as dividends, interest payments or other distributions of cash or property, including, without limitation, proceeds in the nature of accounts, general intangibles, and insurance proceeds; (iv) any rights incidental to the ownership of the foregoing, such as voting, conversion and registration rights and rights of recovery for securities violations; and (v) all books and records pertaining to the foregoing.

3. When an interest on the Securities accrues and is paid, Bank shall collect such interest and forward it to the Contractor at the address designated below unless otherwise directed in writing by the Contractor.
4. Bank is not authorized to deliver to the Contractor all or any part of the Securities (or any monies derived from the sale of such Securities, or the negotiation of the Port's warrants or checks) except in accordance with Chapter 60.28 RCW based on written instructions from the Senior Contract Administrator for the Port (the "Administrator"). The Administrator shall inform the Bank and keep the Bank informed in writing of the name of the person or persons with authority to give the Bank such written instructions. Compliance with such instructions shall relieve Bank of any further liability related thereto. The estimated completion date on the Contract underlying this Agreement is _____. Upon request by Bank, the Port shall advise Bank in writing of any material change in the estimated Contract completion date. If such estimated completion date is changed, Bank is authorized to reinvest the monies held hereunder in accordance with the new estimated completion date.
5. In the event the Administrator orders Bank to do so in writing, and notwithstanding any other provisions of this Agreement, Bank shall, within ten (10) days of receipt of such order, reconvert into money the Securities and return such money together with any other monies, including accrued interest on such Securities to the Port. Consent of Contractor shall not be required for payment to the Port hereunder, and objection or other communication from Contractor shall not prevent, delay, or otherwise affect payment to the Port forthwith in accordance with the Port's order and this Agreement.
6. The Contractor agrees to pay Bank as compensation for Bank's services hereunder as follows:

Payment of all fees shall be the sole responsibility of the Contractor and shall not be deducted from any checks, moneys, Securities, or other property placed with Bank or held by Bank pursuant to this

Agreement until and unless the Port directs the release thereof to the Contractor, whereupon Bank shall be granted a first lien upon such property released and shall be entitled to reimburse Bank from such property for the entire amount of Bank's fees as provided for hereinabove. In the event that Bank is made a party to any litigation with respect to the checks, moneys, Securities, or other property held by Bank hereunder, or in the event that the conditions of this escrow are not promptly fulfilled or that Bank is required to render any service not provided for in these instructions, or that there is any assignment of the interests of this escrow or any modification hereof, Bank shall be entitled to reasonable compensation for such extraordinary services from the Contractor and reimbursement from the Contractor for all costs and expenses, including reasonable attorney fees occasioned by such default, delay, controversy, or litigation.

7. Should Bank at any time and for any reason desire to be relieved of Bank's obligation as escrow holder hereunder, Bank shall give written notice to the Port and the Contractor. The Port and Contractor shall, within twenty (20) days of the receipt of such notice, jointly appoint a successor escrow holder and instruct Bank to deliver all securities and funds held hereunder to said successor. If Bank is not notified of the appointment of the successor escrow holder within twenty (20) days, Bank may return the subject matter hereof to the Port, and upon so doing, it absolves Bank from all further charges and obligations in connection with this Agreement.
8. Any one or more of the following events constitutes an Event of Default ("Event of Default") under this Agreement: (i) Contractor breaches the Contract; (ii) Contractor fails to perform any covenant or obligation under this Agreement; (iii) Contractor shall file a voluntary petition in bankruptcy or such a petition shall be filed against Contractor; and (iv) a court of competent jurisdiction shall enter an order, judgment or decree approving a petition filed against Contractor seeking any reorganization, dissolution or similar relief under any present or future federal, state or other statute, law or regulation relating to bankruptcy, insolvency or other relief for debtors.
9. Upon the occurrence of an Event of Default, the Port may exercise, in addition to all other rights and remedies granted in this Agreement, all rights and remedies of a secured party under the Uniform Commercial Code of the State of Washington, as amended. Without limiting the generality of the foregoing, the Port, without demand of performance or other demand, presentment, protest, advertisement, or notice of any kind (except any notice required by law, this Agreement) to or upon Contractor or any other person (all and each of which demands, defenses, advertisements and notices are hereby waived to the extent not prohibited by law), may, upon the occurrence of an Event of Default, collect, receive, appropriate, and realize upon the Pledged Assets, or any part thereof, and/or may forthwith withdraw from the Pledged Account, sell, assign, give option or options to purchase or otherwise dispose of and deliver the Pledged Assets or any part thereof (or contract to do any of the foregoing).
10. This Agreement shall not be binding until executed by the Contractor and the Port and accepted by Bank.
11. This instrument contains the entire agreement between Bank, the Contractor, and the Port with respect to this Agreement and Bank is not a party to nor bound by any instrument or agreement other than this; Bank shall not be required to take notice or demand nor be required to take any action whatever, except as herein expressly provided; Bank shall not be liable for any loss or damage not caused by Bank's own negligence or willful misconduct.

12. The foregoing provisions shall be binding upon the assigns, successors, personal representatives and heirs of the parties hereto.
13. This Agreement is subject to the laws of the State of Washington and is to be construed in accordance therewith.
14. Any legal action or proceeding with respect to this Agreement may be brought in the courts of the State of Washington or in the courts of the United States for the Western District of Washington, and by execution and delivery of this Agreement, Contractor consents, for itself and in respect of its property, to the nonexclusive jurisdiction of those courts. Contractor irrevocably waives any objection, including any objection to the laying of venue or based on the grounds of forum non conveniens, which it may now or hereafter have to the bringing of any action or proceeding in such jurisdiction in respect of this Agreement or any document related hereto.
15. The Contractor's Federal Income Tax Identification number is _____.

The undersigned have read and hereby approve this Agreement on the date first set forth above.

Contractor:

Port of Tacoma:

Signature

Signature

Name/Title

Name/Port Treasurer or Deputy Treasurer

Date

Date

The above escrow instructions received and accepted this ____ day of _____, 20____.

Bank: By: _____ Name: _____
(Signature of Authorized Bank Officer) Title: _____

SECURITIES AUTHORIZED BY THE PORT:

1. FDIC insured time deposits and time deposits in commercial banks authorized by the Washington State Public Deposit Protection Commission;
2. Savings account deposits in commercial banks authorized by the Washington State Public Deposit Protection Commission;
3. Bills, certificates, notes, or bonds of the United States;
4. Other obligations of the United States or its agencies; and
5. Obligation of any corporation wholly-owned by the government of the United States.

INSTRUCTIONS FOR RETAINAGE ESCROW AGREEMENTS:

Whenever possible, use the Port approved Escrow Agreement. The Port, at its discretion, may or may not accept an agreement form from another source.

Please return all three (3) originals of the Agreement, with completed contractor and bank information and signatures, and the escrow account number. The Port will review and sign the Agreement and distribute copies. One (1) original will go directly to the Bank, one (1) original will be returned to the Contractor.

Fill in the following on the Escrow Agreement:

1. Page 1 – Escrow Account Number
2. Page 1 – Name, address, and phone number of the Bank
3. Page 4 – Signature, typed/printed name, date, and the title of the Contractor Signatory
4. Page 4 – Signature, typed/printed name, date, and the title of the Authorized Bank Officer signatory

Do not fill in the date in the introductory paragraph. The Port will fill in this date once the document has been fully executed by the Port.

END OF SECTION

TABLE OF CONTENTS		PAGE
ARTICLE 1 - THE CONTRACT DOCUMENTS		3
1.01	GENERAL	3
1.02	DEFINITIONS	3
1.03	INTENT OF THE CONTRACT DOCUMENTS	4
1.04	CORRELATION OF THE CONTRACT DOCUMENTS	4
1.05	OWNERSHIP OF THE CONTRACT DOCUMENTS	5
ARTICLE 2 - PORT OF TACOMA		5
2.01	AUTHORITY OF THE ENGINEER	5
2.02	ADMINISTRATION OF THE CONTRACT	5
2.03	INFORMATION PROVIDED BY THE PORT	6
2.04	CONTRACTOR REVIEW OF PROJECT INFORMATION	6
2.05	PORT'S RIGHT TO REJECT, STOP, AND/OR CARRY-OUT THE WORK	7
2.06	SEPARATE CONTRACTORS	7
2.07	OFFICERS AND EMPLOYEES OF THE PORT	7
ARTICLE 3 - CONTRACTOR'S RESPONSIBILITIES		7
3.01	DUTY TO PERFORM THE ENTIRE WORK	7
3.02	OBSERVED ERRORS, INCONSISTENCIES, OMISSIONS OR VARIANCES IN THE CONTRACT DOCUMENTS	7
3.03	SUPERVISION AND RESPONSIBILITY FOR SUBCONTRACTORS	8
3.04	MATERIALS AND EQUIPMENT	8
3.05	CONTRACTOR WARRANTIES	8
3.06	REQUIRED WAGES	9
3.07	STATE AND LOCAL TAXES	9
3.08	PERMITS, LICENSES, FEES, AND ROYALTIES	10
3.09	SAFETY	10
3.10	CORRECTION OF WORK	10
3.11	UNCOVERING OF WORK	11
3.12	RELOCATION OF UTILITIES	11
3.13	LABOR	12
3.14	INDEMNIFICATION	12
3.15	WAIVER OF CONSEQUENTIAL DAMAGES	13
ARTICLE 4 - SUBCONTRACTORS AND SUPPLIERS		13
4.01	RESPONSIBILITY FOR ACTIONS OF SUBCONTRACTORS AND SUPPLIERS	13
4.02	AWARD OF CONTRACTS TO SUBCONTRACTORS AND SUPPLIERS	13
4.03	SUBCONTRACTOR AND SUPPLIER RELATIONS	14
ARTICLE 5 - WORKFORCE AND NON-DISCRIMINATION REQUIREMENTS		15
5.01	COMPLIANCE WITH NON-DISCRIMINATION LAWS	15
5.02	MWBE, VETERAN-OWNED, AND SMALL BUSINESS ENTERPRISE PARTICIPATION	15
5.03	APPRENTICESHIP PARTICIPATION	15
ARTICLE 6 - CONTRACT TIME AND COMPLETION		16
6.01	CONTRACT TIME	16
6.02	PROGRESS AND COMPLETION	16
6.03	SUBSTANTIAL COMPLETION	17
6.04	COMPLETION OF PUNCH LIST	17

6.05	FINAL COMPLETION	17
6.06	FINAL ACCEPTANCE	18
6.07	PORT'S RIGHT TO USE THE PREMISES	18
ARTICLE 7 - PAYMENT		18
7.01	ALL PAYMENTS SUBJECT TO APPLICABLE LAWS AND SCHEDULE OF VALUES.....	18
7.02	APPLICATIONS FOR PAYMENT	19
7.03	PROGRESS PAYMENTS	19
7.04	PAYMENT BY CONTRACTOR TO SUBCONTRACTORS	19
7.05	FINAL PAYMENT	19
7.06	RETAINAGE	20
7.07	DISPUTED AMOUNTS	21
7.08	EFFECT OF PAYMENT	21
7.09	LIENS	21
ARTICLE 8 - CHANGES IN THE WORK		21
8.01	CHANGES IN THE WORK	21
8.02	CHANGES IN THE CONTRACT SUM	23
8.03	CHANGES IN THE CONTRACT TIME	26
8.04	RESERVATION OF RIGHTS	27
8.05	UNIT PRICES	27
ARTICLE 9 - SUSPENSION AND TERMINATION OF CONTRACT		27
9.01	PORT'S RIGHT TO SUSPEND WORK	27
9.02	TERMINATION OF CONTRACT FOR CAUSE BY THE PORT	28
9.03	TERMINATION OF CONTRACT FOR CONVENIENCE BY THE PORT	28
9.04	TERMINATION OF CONTRACT BY THE CONTRACTOR	28
9.05	SUBCONTRACT ASSIGNMENT UPON TERMINATION	29
ARTICLE 10 - BONDS		29
10.01	CONTRACTOR PERFORMANCE AND PAYMENT BONDS	29
ARTICLE 11 - DISPUTE RESOLUTION		30
11.01	NOTICE OF PROTEST AND CLAIM	30
11.02	MEDIATION	31
11.03	LITIGATION	32
ARTICLE 12 - MISCELLANEOUS		32
12.01	GENERAL	32
12.02	WAIVER	32
12.03	GOVERNING LAW	33
12.04	COMPLIANCE WITH LAW	33
12.05	ASSIGNMENT	33
12.06	TIME LIMIT ON CAUSES OF ACTION	33
12.07	SERVICE OF NOTICE	33
12.08	RECORDS	34
12.09	STATUTES	34

ARTICLE 1 - THE CONTRACT DOCUMENTS

1.01 GENERAL

- A. Contract Documents form the Contract. The Contract Documents are enumerated in the Agreement between the Port and Contractor ("Agreement"). Together, the Contract Documents form the Contract. The Contract represents the entire integrated agreement between the parties and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only in writing and only as set forth in the Contract Documents.
- B. Headings only for convenience. The titles or headings of the sections, divisions, parts, articles, paragraphs, and subparagraphs of the Contract Documents are intended only for convenience.

1.02 DEFINITIONS

- A. "Contract Documents" proposed for the Work consist of the Agreement, the General Conditions of the Contract (as well as any Supplemental, Special, or other conditions included in the Project Manual), the Drawings, the Specifications, and all Addenda issued prior to, and all modifications issued after, execution of the Contract.
- B. "Contractor" means the person or entity contracting to perform the Work under these Contract Documents. The term Contractor includes the Contractor's authorized representative for purposes of identifying obligations and responsibilities under the Contract Documents, including the ability to receive notice and direction from the Port.
- C. "Day" means a calendar day unless otherwise specifically designated.
- D. "Drawings" are the graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work, including plans, elevations, sections, details, and diagrams.
- E. "Engineer" is the Port employee generally tasked with administering the Project on the Port's behalf and the person with overall responsibility for managing, for the Port, the Project scope, budget, and schedule. To the extent empowered, the Engineer may delegate to others at the Port (such as a Project Manager or Inspector) the responsibility for performing delegated responsibilities of the Engineer's under this Contract.
- F. "Port" means the Port of Tacoma. The Port will designate in writing a representative (usually the Engineer) who shall have the authority to act on the Port's behalf related to the Project. The "Port" does not include staff, maintenance, or safety workers, or other Port employees or consultants that may contact the Contractor or be present at the Project site.
- G. "Project" is identified in the Agreement and is the total construction to be performed by or through the Port, of which the Work performed under the Contract Documents may be only a part.
- H. "Specifications" are those portions of the Contract Documents that specify the written requirements for materials, equipment, systems, standards, and workmanship for the Work and for the performance of related services.
- I. "Subcontractor" means a person or entity that contracts directly with the Contractor to perform any Work under the Contract Documents. "Subcontractor of any tier" includes Subcontractors as well as any other person or entity, including suppliers, that contracts with a Subcontractor or a lower-tier Subcontractor (also referred to as "Sub-subcontractors") to perform any of the Work.
- J. "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all labor, tools, equipment, materials, services,

and incidentals necessary to complete all obligations under the Contract Documents. The Work may constitute only a part of the Project, and may interface and need to be coordinated with the work of others.

1.03 INTENT OF THE CONTRACT DOCUMENTS

- A. Intent of Contract Documents. The intent of the Contract Documents is to describe the complete Work and to include all items and information necessary for the proper execution and completion of the Work by the Contractor.
- B. Contract Documents are complementary. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor is required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.
- C. No third party contract rights. The Contract Documents shall not create a contractual relationship of any kind (1) between the Port and a Subcontractor of any tier (although the Port does not waive any third-party beneficiary rights it may otherwise have as to Subcontractors of any tier), (2) between the Contractor and the Engineer or other Port employees or consultants, or (3) between any persons or entities other than the Port and Contractor.

1.04 CORRELATION OF THE CONTRACT DOCUMENTS

- A. Precedence. In the event of a conflict or discrepancy between or among the Contract Documents, the conflict or discrepancy will be resolved by the following order of precedence: with an addendum or Change Order having precedence over an earlier document, and computed dimensions having precedence over scaled dimensions, and large scale drawings take precedence over small scale drawings:
 - 1. The signed Agreement
 - a. Supplemental Conditions
 - b. Division 00 General Conditions
 - c. Division 01 General Requirements of Specifications
 - d. All other Specifications, including all remaining divisions, material and system schedules and attachments, and Drawings
 - e. All other sections in Division 00 not specifically identified herein by Section
- B. Inconsistency between or among Contract Documents. If there is any inconsistency between the Drawings, schedules, or Specifications, or any attachments, the Contractor will make an inquiry to the Engineer to determine how to proceed, and, unless otherwise directed, the Contractor will provide the better quality or greater quantity of any work or materials, as reasonably interpreted by the Port, at no change in the Contract Sum or Contract Time. Thus, if Work is shown on Drawings, but not contained in Specifications or schedules, or contained in Specifications or schedules, but not shown on the Drawings, the Work as shown or contained will be provided at no change in the Contract Sum or Contract Time, according to Specifications or Drawings to be issued by the Port.
- C. Inconsistency with law. In the event of a conflict between the Contract Documents and applicable laws, codes, ordinances, regulations, or orders of governmental authorities having jurisdiction over the Work, or in the event of any conflict between such laws, the most stringent requirements govern.
- D. Organization of Contract Documents. The organization of the Specifications and Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the

extent of the Work to be performed. The Port assumes no responsibility for the division and proper coordination of Work between particular Subcontractors.

- E. Bid quantities are estimates only. Any "bid quantities" set forth in the Contract Documents are estimates only. The Port does not warrant that the actual amount of Work will correspond to any estimates. The basis of payment will be the actual quantities performed in accordance with the Contract Documents.

1.05 OWNERSHIP OF THE CONTRACT DOCUMENTS

- A. Port owns all Contract Documents. All Drawings, Specifications, and other Contract Documents furnished to the Contractor are Port property, and the Port retains all intellectual property rights, including copyrights. The Contract Documents are to be used only with respect to the Project.

ARTICLE 2 - PORT OF TACOMA

2.01 AUTHORITY OF THE ENGINEER

- A. Engineer will be Port's representative. The Engineer or the Engineer's designee will be the Port's representative during the Project and will administer the Project on the Port's behalf.
- B. Engineer may enforce all obligations. The Engineer has the authority to enforce all requirements imposed on the Contractor by the Contract Documents.
- C. Only Engineer is agent of Port. Other than the Engineer, no other Port employee or consultant is an agent of the Port, and none are authorized to agree on behalf of the Port to changes in the Contract Sum or Contract Time, nor to waive provisions of the Contract Documents, nor to direct the Contractor to take actions that change the Contract Sum or Contract Time, nor to accept notice of protests or claims on behalf of the Port.

2.02 ADMINISTRATION OF THE CONTRACT

- A. Port will administer Contract. The Port will provide administration of the Contract through the Engineer or the Engineer's designee. All communications with the Port or its consultants related to the Contract will be through the designated representative.
- B. Port not responsible for means and methods. The Port is not responsible for, and will have no control or charge of, the means, methods, techniques, sequences, or procedures of construction, or for safety precautions or programs incidental thereto, because these are the sole responsibility of the Contractor. If the Port makes any suggestion of means, methods, techniques, sequences, or procedures, the Contractor will exercise its independent judgment in deciding whether to adopt the suggestion, except as otherwise provided in the Contract Documents.
- C. Port not responsible for acts or omissions of Contractor or Subcontractors. The Port is not responsible for, and will have no control or charge of, the acts or omissions of the Contractor, Subcontractors of any tier, suppliers, or any of their agents or employees, or any other persons performing a portion of the Work.
- D. Port not responsible for the Work. The Port is not responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The presence of the Engineer or others at the Project site at any time does not relieve the Contractor from its responsibility for non-conforming Work.
- E. Port will have access to the Work. The Port and its representatives will at all times have access to the Work in progress, and the Contractor will provide proper facilities for such access and for inspection.

2.03 INFORMATION PROVIDED BY THE PORT

- A. Port to furnish information with reasonable promptness. The Port shall furnish information and services required of the Port by the Contract Documents with reasonable promptness.
- B. Subsurface investigation. The Port may have undertaken a limited investigation of the soil and other subsurface conditions at the Project site for design purposes only. The results of these investigations will be available for the convenience of the Contractor, but they are not Contract Documents. There is no warranty or guarantee, express or implied, that the conditions indicated are representative of those existing at the site or that unforeseen developments may not occur. The Contractor is solely responsible for interpreting the information.

2.04 CONTRACTOR REVIEW OF PROJECT INFORMATION

- A. Contractor to familiarize itself with site and conditions of Work. Prior to executing the Contract, the Contractor shall visit the site, become generally familiar with local conditions under which the Work is to be performed, and correlate personal observations with the requirements of the Contract Documents and all information provided with the Bid Documents. By signing the Contract, the Contractor confirms that the Contract Sum is reasonable compensation for the Work; that the Contract Time is adequate; that it has carefully examined the Contract Documents and the Project site; and that it has satisfied itself as to the nature, location, and character of the Work, the labor, materials, equipment, and other items required and all other requirements of the Contract Documents. The Contractor's failure fully to acquaint itself with any such condition does not relieve the Contractor from the responsibility for performing the Work in accordance with the Contract Documents, within the Contract Time, and for the Contract Sum.
- B. Contractor to review Contract Documents. Because the Contract Documents are complementary, the Contractor will, before starting each portion of the Work, carefully study and compare the various Drawings, Specifications, and other Contract Documents, as well as all information furnished by the Port.
- C. Contractor to confirm field conditions. Before starting each portion of the Work, the Contractor shall take field measurements of and verify any existing conditions, including all Work in place, and all general reference points; shall observe any conditions at the site affecting the Contractor; and shall carefully compare field measurements, conditions and other information known to the Contractor with the Contract Documents.

2.05 PORT'S RIGHT TO REJECT, STOP, AND/OR CARRY-OUT THE WORK

- A. Port may reject Work. The Port has the authority, but not the obligation, to reject work, materials, and equipment that is defective or that otherwise does not conform to the Contract Documents, and to decide questions concerning the Contract Documents. However, the failure to so reject, or the presence of the Port at the site, shall not be construed as assurance that the Work is acceptable or being completed in compliance with the Contract Documents.
- B. Port may stop Work. If the Contractor fails to correct Work that does not comply with the requirements of the Contract Documents, or repeatedly or materially fails to properly carry out the Work, the Port may issue an order to stop all or a portion of the Work until the cause for the order has been eliminated. The Port's right to stop the Work shall not impose a duty on the Port to exercise this right for the benefit of the Contractor or any third party.
- C. Port may carry-out Work. If the Contractor fails to perform the Work properly, fails to perform any provision of this Contract, or fails to maintain the Baseline Project Schedule, or if the Port reasonably concludes that the Work will not be completed in the specified manner or within the Contract Time, then the Port may, after three (3) days' written notice to the Contractor and without prejudice to any other remedy the Port may have, perform itself or have performed any

or all of the Work and may deduct the cost thereof from any payment then or later due the Contractor.

2.06 SEPARATE CONTRACTORS

- A. Port may engage separate contractors or perform work with its own forces. The Port may contract with other contractors ("Separate Contractor") in connection with the Project or perform work with its own forces. The Contractor shall coordinate and cooperate with any Port forces or Separate Contractors, as applicable. The Contractor shall provide reasonable opportunity for the introduction and storage of materials and the execution of work by others.
- B. Contractor to inspect work of others. If any part of the Contractor's Work depends on the work of the Port or any Separate Contractor, the Contractor shall inspect and promptly report to the Port, in writing, any defects that impact the Contractor. Failure of the Contractor to so inspect and report defects in writing shall constitute an acceptance by Contractor of the work of the Port or Separate Contractor.
- C. Contractor to resolve claims of others. Should the Contractor, or any of its Subcontractors of any tier, cause damage of any kind, including but not limited to delay, to any Separate Contractor, the Contractor shall promptly, and using its best efforts, settle or otherwise resolve the dispute with the Separate Contractor. The Contractor shall also promptly remedy damage caused to completed or partially completed construction.

2.07 OFFICERS AND EMPLOYEES OF THE PORT

- A. No personal liability. Officers, employees, and representatives of the Port, including the Commissioners, acting within the scope of their employment, shall not be personally liable to Contractor for any acts or omissions arising out of the Project.

ARTICLE 3 - CONTRACTOR'S RESPONSIBILITIES

3.01 DUTY TO PERFORM THE ENTIRE WORK

- A. Contractor must perform entire Work in accordance with Contract Documents. The Contractor shall perform the entire Work required by the Contract in accordance with the Contract Documents. Unless otherwise specifically provided, the Contractor shall provide and pay for all labor, tools, equipment, materials, electricity, power, water, other utilities, transportation, and other facilities necessary for the execution and completion of the Work.
- B. Contractor shall be independent contractor. The Contractor shall be, and operate as, an independent contractor in the performance of the Work. The Contractor is not authorized to enter into any agreements or undertakings for, or on behalf of, the Port and is not an agent or employee of the Port.

3.02 OBSERVED ERRORS, INCONSISTENCIES, OMISSIONS, OR VARIANCES IN THE CONTRACT DOCUMENTS

- A. Contractor to notify Port of any discrepancy. The Contractor's obligations to review and carefully study the Contract Documents and field conditions are for the purpose of facilitating coordination and construction. If the Contractor at any time observes that the Contract Documents, including Drawings and Specifications, vary from the conditions of the Project site, are in error, or omit any necessary detail, the Contractor shall promptly notify the Engineer in writing through a Request for Information. Any Work done after such observation, until authorized by the Engineer, shall be at Contractor's risk. The Contractor shall also promptly report to the Engineer any observed error, inconsistency, omission, or variance with applicable laws through a Request for Information. If the Contractor fails either to carefully study and compare the Contract Documents, or to promptly report any observed error, inconsistency, omission, or variance, the Contractor shall assume full responsibility and shall bear all costs,

liabilities, and damages attributable to the error, inconsistency, omission, or variance.

- B. Requests for Information. The Contractor shall submit Requests for Information concerning the Contract Documents by following the procedure and using such form as the Port may require. The Contractor shall minimize Requests for Information by thoroughly studying the Contract Documents and reviewing all Subcontractor requests. The Contractor shall allow adequate time in its planning and scheduling for a response from the Port to a Request for Information.
- C. Port may provide information to supplement Drawings and Specifications. Minor items of work or detail that are omitted from the Drawings and Specifications, but inferable from the information presented and normally provided by accepted good practice, shall be provided and/or performed by the Contractor as part of the Contract Sum and within the Contract Time. Similarly, the Engineer may furnish to the Contractor additional Drawings and clarifications, consistent with the Contract Documents, as necessary to detail and illustrate the Work. The Contractor shall conform its Work to such additional Drawings and clarifications at no increase in the Contract Sum or Contract Time.

3.03 SUPERVISION AND RESPONSIBILITY FOR SUBCONTRACTORS

- A. Contractor responsible for Work and workers. The Contractor shall have complete control of the means, methods, techniques, sequences, or procedures related to the Work, and for all safety precautions or programs. The Contractor shall have complete control over, and responsibility for, all personnel performing the Work. The Contractor is also responsible for the acts and omissions of the Contractor's principals, employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors of any tier.
- B. Contractor to supervise the Work. The Contractor shall continuously supervise and direct the Work using competent and skilled personnel and the Contractor's best skill and attention.
- C. Contractor to enforce discipline and good order. The Contractor shall enforce strict discipline and good order among all workers on the Project, and shall not employ any unfit person or anyone not skilled in the work to which they are assigned. Incompetent, careless, or negligent workers shall immediately be removed from the Work. The Port may, but is not obligated to, require the Contractor to remove from the Work, at no change in the Contract Sum or Contract Time, anyone whom the Port considers objectionable.

3.04 MATERIALS AND EQUIPMENT

- A. Material and equipment to be new. All materials and equipment to be incorporated into the Work shall be new, unless specifically provided otherwise in the Contract Documents. The Contractor shall, if required in writing by the Port, furnish satisfactory evidence regarding the kind and quality of any materials, identify the source, and warrant compliance with the Contract Documents. The Contractor shall ensure that all materials and equipment are protected, kept dry, and stored under cover in a manner to protect such materials and equipment.
- B. Material and equipment shall conform to manufacturer instructions. All materials and equipment shall conform, and shall be applied, installed, used, maintained, and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, or processor, unless otherwise specifically provided by the Engineer.

3.05 CONTRACTOR WARRANTIES

- A. Work will be of good quality and performed in workmanlike manner. In addition to any specific warranties set forth in the Contract Documents, the Contractor warrants that the Work, including all materials and equipment furnished under the Contract, will be of good quality and new, will be performed in a skillful and workmanlike manner, and will conform to the requirements of the Contract Documents. Any Work not conforming to this warranty, including unapproved or

unauthorized substitutions, shall be considered defective.

- B. Work will be free from defects. The Contractor warrants that the Work will be free from defects for a period of one (1) year from the date of Substantial Completion of the Project.
- C. Contractor to collect and deliver warranties to Port. The Contractor shall collect and deliver to the Port any written warranties required by the Contract Documents. These warranties shall be obtained and enforced by the Contractor for the benefit of the Port without the necessity of separate assignment. These warranties shall extend to the Port all rights, claims, benefits, and interests that the Contractor may have under express or implied warranties or guarantees against a Subcontractor of any tier, supplier, or manufacturer for defective or non-conforming Work. Warranty provisions that purport to limit or alter the Port's rights under the Contract Documents, or the laws of the State of Washington, are null and void.
- D. General requirements. The Contractor is not relieved of its general warranty obligations by the specification of a particular product or procedure in the Contract Documents. Warranties in the Contract Documents shall survive completion, acceptance, and final payment.

3.06 REQUIRED WAGES

- A. Contractor will pay required wages. The Contractor shall pay (and shall ensure that all Subcontractors of any tier pay) all prevailing wages and other wages (such as Davis-Bacon Act wages) applicable to the Project. See Specification Section 00 73 46.
- B. The Contractor shall defend (at Contractor's sole cost, with legal counsel approved by Port), indemnify, and hold the Port harmless from all liabilities, obligations, claims, demands, damages, disbursements, lawsuits, losses, fines, penalties, costs, and expenses, whether direct or indirect, and including, but not limited to, attorneys' fees and consultants' fees and other costs and expenses of litigation, from any violation or alleged violation by the Contractor or any Subcontractor of any tier of RCW 39.12 ("Prevailing Wages on Public Works") or Chapter 51 RCW ("Industrial Insurance").

3.07 STATE AND LOCAL TAXES

- A. Contractor will pay taxes on consumables. The Contractor will pay the retail sales tax on all consumables used during performance of the Work and on all items that are not incorporated into the final Work; this tax shall be included in the Contract Sum.
- B. Port will pay taxes on the Contract Sum. The Port will pay state and local retail sales tax on the Contract Sum with each progress payment, and on final payment, for transmittal by the Contractor to the Washington State Department of Revenue or to the applicable local taxing authority. Rule 170: WAC 458-20-170.
- C. Direct all tax questions to the Department of Revenue. The Contractor should direct all questions concerning taxes on any portion of the Work to the State of Washington Department of Revenue or to the local taxing authority.
- D. State Sales Tax - Rule 171: WAC 458-20-171. For work performed related to building, repairing, or improving streets, roads, etc., which are owned by a municipal corporation, or political subdivision of the state, or by the United States, and which are used, primarily, for foot or vehicular traffic, the Contractor shall include Washington State Retail Sales Taxes in the various schedule prices, or other contract amounts, including those that the Contractor pays on the purchase of materials, equipment, or supplies used or consumed in doing the Work.
 - 1. The bid form will indicate which bid items are subject to Rule 171. Any such identification by the Port is not binding upon the Department of Revenue.

3.08 PERMITS, LICENSES, FEES, AND ROYALTIES

- A. Contractor to provide and pay for permits unless otherwise specified. Unless otherwise specified, the Contractor shall procure and pay for all permits, licenses, and governmental inspection fees necessary or incidental to the performance of the Work. All costs related to these permits, licenses, and inspections shall be included in the Contract Sum. Any action taken by the Port to assist the Contractor in obtaining permits or licenses shall not relieve the Contractor of its sole responsibility to obtain and pay for permits, licenses, and inspections as part of the Contract Sum.
- B. Contractor's obligations when permit must be in Port's name. When applicable law or agency requires a permit to be issued to a public agency, the Port will support the Contractor's request for the permit and accept the permit in the Port's name, if:
 - 1. The Contractor takes all necessary steps required for the permit to be issued;
 - 2. The permit applies to Work performed in connection with the Project; and
 - 3. The Contractor agrees in writing to abide by all requirements of the permit and to defend and hold harmless the Port from any liability in connection with the permit.
- C. Contractor to pay royalties. The Contractor shall pay all royalties and license fees required for the Work unless otherwise specified in the Contract Documents.

3.09 SAFETY

- A. Contractor solely responsible for safety. The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work and the performance of the Contract.
- B. Port not responsible for safety. The Port may identify safety concerns to the Contractor; however, no action or inaction of the Port or any third party relating to safety will: (1) relieve the Contractor of its sole and complete responsibility for safety and sole liability for any consequences, (2) impose any obligation on the Port or a third party to inspect or review the Contractor's safety program or precautions, (3) impose any continuing obligation on the Port or a third party to ensure the Contractor performs the Work safely, or (4) affect the Contractor's responsibility for the protection of property, workers, and the general public.
- C. Contractor to maintain a safe Work site. The Project site may be occupied during performance of the Work. The safety of these site occupants is of paramount importance to the Port. The Contractor shall maintain the Work site and perform the Work in a safe manner and in accordance with the Washington Industrial Safety and Health Act (WISHA) and all other applicable safety laws, rules, and regulations. This requirement shall apply continuously and not be limited to working hours.
- D. Contractor to protect Work site and adjacent property until Final Completion. The Contractor shall continuously protect the Work and adjacent property from damage. At all times until Final Completion, the Contractor shall be responsible for, and protect from damage, weather, deterioration, theft, and vandalism, the Work and all materials, equipment, tools, and other items incorporated or to be incorporated in the Work, and shall repair any damage, injury, or loss.

3.10 CORRECTION OF WORK

- A. Contractor to correct defective Work. The Contractor shall, at no cost to the Port, promptly correct Work that is defective or that otherwise fails to conform to the requirements of the Contract Documents. Such Work shall be corrected, whether before or after Substantial Completion, and even if it was previously inspected or observed by the Port.

- B. One-year correction period. The Contractor shall correct all defects in the Work appearing within one (1) year of Substantial Completion or within any longer period prescribed by law or by the Contract Documents. The Contractor shall initiate remedial action within fourteen (14) days of receipt of notice from the Port and shall complete remedial work within a reasonable time. Work corrected by the Contractor shall be subject to the provisions of this Section 3.10 for an additional one-year period following the Port's acceptance of the corrected Work.
- C. Contractor responsible for defects and failures to correct. The Contractor shall be responsible for any expenses incurred by the Port resulting from defects in the Work. If the Contractor refuses or neglects to correct the defects, or does not timely accomplish corrections, the Port may correct the Work and charge the Contractor the cost of the corrections. If damage or loss of service may result from a delay in correction, the corrections may be made by the Port and reimbursed by the Contractor.
- D. Port may accept defective work. The Port may, at its sole option, elect to retain defective or nonconforming Work. In such a case, the Port shall reduce the Contract Sum by a reasonable amount to account for the defect or non-conformance.
- E. No period of limitation established. Nothing contained in this Section 3.10 establishes a period of limitation with respect to any obligations under the Contract Documents or law. The establishment of the one (1) year correction period relates only to the specific obligation of the Contractor to correct defective or non-conforming Work.

3.11 UNCOVERING OF WORK

- A. Contractor to uncover work covered prior to inspection. If any portion of the Work is covered prior to inspection and approval, the Contractor shall, at its expense, uncover or remove the Work for inspection by the Port or others, and replace the Work to the standard required by the Contract Documents.
- B. Contractor to uncover work at Port's request. After initial inspection and observation, the Port may order a reexamination of Work, and the Work must be uncovered by the Contractor. If the uncovered Work complies with the Contract Documents, the Port shall pay the cost of reexamination and replacement. If the Work is found not to comply with the Contract Documents, the Contractor shall pay the cost of replacement, unless the Contractor demonstrates that it did not cause the defect in the Work.

3.12 RELOCATION OF UTILITIES

- A. Contractor should assume underground utilities are in approximate locations. The Contractor should assume that the locations of any underground or hidden utilities, underground tanks, and plumbing or electrical runs indicated in surveys or the Contract Documents are shown in approximate locations. The accuracy of this information is not guaranteed by the Port and shall be verified by the Contractor. The Contractor shall comply with RCW 19.122.030 and utilize a utility locator service to locate utilities on Port property. The Contractor shall bear the risk of loss if any of its Work directly or indirectly damages or interrupts any utility service or causes or contributes to damages of any nature.
- B. Utility relocation or removal. Where relocation or removal of utilities is necessary or required, it shall be performed at the Contractor's sole expense, unless the Contract Documents specify otherwise. If a utility owner is identified as being responsible for relocating or removing utilities, the work will be accomplished at the utility owner's convenience, either during, or in advance of, construction. Unless otherwise specified, it shall be the Contractor's sole responsibility to coordinate, schedule, and pay for work performed by a utility owner.

- C. Contractor to notify Port of unknown utilities. If the Contractor discovers the presence of any unknown utilities, it shall immediately notify the Engineer in writing.

3.13 LABOR

- A. Contractor responsible for labor peace. The Contractor is responsible for labor peace relating to the Work and shall cooperate in maintaining Project-wide labor harmony. The Contractor shall use its best efforts as an experienced contractor to adopt and implement policies and practices designed to avoid work stoppages, slowdowns, disputes, or strikes.
- B. Contractor to minimize impact of labor disputes. The Contractor will take all necessary steps to prevent labor disputes from disrupting or otherwise interfering with access to Port property. If a labor dispute disrupts the progress of the Work or interferes with access, the Contractor shall promptly and expeditiously take all necessary action to eliminate or minimize the disruption or interference.

3.14 INDEMNIFICATION

- A. Duty to defend, indemnify, and hold harmless. To the fullest extent permitted by law and subject to this Section 3.14, the Contractor shall defend (at the Contractor's sole cost, with legal counsel approved by Port), indemnify, and hold harmless the Port and the Northwest Seaport Alliance, including their respective Commissions, officers, managers, and employees, the Engineer, any consultants, and the agents and employees, successors and assigns of any of them (the "Indemnified Parties") from and against claims, damages, lawsuits, losses (including loss of use), disbursements, liabilities, obligations, fines, penalties, costs, and expenses, whether direct and indirect or consequential, including but not limited to, consultants' fees, and attorneys' fees incurred on such claims and in proving the right to indemnification ("Claims"), arising out of, or resulting from, the acts or omissions of the Contractor, a Subcontractor of any tier, their agents, and anyone directly or indirectly employed by any of them or anyone for whose acts they may be liable (individually and collectively, the "Indemnitor").
- B. Duty to defend, indemnify, and hold harmless for sole negligence. The Contractor will fully defend, indemnify, and hold harmless the Indemnified Parties for the sole negligence or willful misconduct of the Indemnitor.
- C. Duty to defend, indemnify, and hold harmless for concurrent negligence. Where Claims arise from the concurrent negligence of (1) the Port; and (2) the Indemnitor, the Contractor's obligations to indemnify and defend the Indemnified Parties under this Section 3.14 shall be effective only to the extent of the Indemnitor's negligence.
- D. Duty to indemnify not limited by workers' compensation or similar employee benefit acts. In claims against any of the Indemnified Parties by an employee of the Contractor, a Subcontractor of any tier, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under this Section 3.14 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable under workers' compensation acts, disability benefit acts, or other employee benefit acts. After mutual negotiation of the parties, the Contractor waives immunity as to the Indemnified Parties under Title 51 RCW, "Industrial Insurance."
- E. Intellectual property indemnification. The Contractor will be liable for and shall defend (at the Contractor's sole cost, with legal counsel approved by Port), indemnify, and hold the Indemnified Parties harmless for Claims for infringement by the Contractor of copyrights or patent rights arising out of, or relating to, the Project.
- F. Labor peace indemnification. If the Contractor fails to satisfy its labor peace obligations under the Contract, the Contractor will be liable for and shall defend (at the Contractor's sole cost, with

legal counsel approved by Port), indemnify, and hold harmless the Indemnified Parties for Claims brought against the Port by third parties (including but not limited to lessees, tenants, contractors, customers, licensees, and invitees of the Port) for injunctive relief or monetary loss.

- G. Cyber risk indemnification. Contractor shall defend, indemnify, and hold harmless the Indemnified Parties from and against any liability, expense, fines, penalties, cost, demand, or other obligation, resulting from or out of any cyber-related risk that includes theft, loss or misuse of data, release of private information as result of a network breach, penetration, compromise, or loss of IT systems control.
- H. Joinder. The Contractor agrees to being added by the Port as a party to any arbitration or litigation with third parties in which the Port alleges indemnification or seeks contribution from the Indemnitor. The Contractor shall cause each of its Subcontractors of any tier to similarly stipulate in their subcontracts; in the event any does not, the Contractor shall be liable in place of such Subcontractor(s) of any tier.
- I. Other. To the extent that any portion of this Section 3.14 is stricken by a court or arbitrator for any reason, all remaining provisions shall retain their vitality and effect. The obligations of the Contractor under this Section 3.14 shall not be construed to negate, abridge, or otherwise reduce any other right or obligations of indemnity which would otherwise exist. To the extent the wording of this Section 3.14 would reduce or eliminate an available insurance coverage, it shall be considered modified to the extent necessary so that the insurance coverage is not affected. This Section 3.14 shall survive completion, acceptance, final payment, and termination of the Contract.

3.15 WAIVER OF CONSEQUENTIAL DAMAGES

- A. Mutual waiver of consequential damages. The Contractor and Port waive claims against each other for consequential damages arising out of, or relating to, this Contract. This mutual waiver includes, but is not limited to: (1) damages incurred by the Port for rental expenses, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons, and (2) damages incurred by the Contractor for principal and home office overhead and expenses including, but not limited to, the compensation of personnel stationed there, for losses of financing, business, and reputation, for losses on other projects, for loss of profit, and for interest or financing costs. This mutual waiver includes, but is not limited to, all consequential damages due to either party's termination.
- B. Limitation. Nothing contained in this Section 3.15; however, shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents, to preclude damages specified in the Agreement, or to affect the Contractor's obligation to indemnify the Port for direct, indirect, or consequential damages alleged by a third party.

ARTICLE 4 - SUBCONTRACTORS AND SUPPLIERS

4.01 RESPONSIBILITY FOR ACTIONS OF SUBCONTRACTORS AND SUPPLIERS.

- A. Contractor responsible for Subcontractors. The Contractor is fully responsible to the Port for the acts and omissions of its Subcontractors of any tier and all persons either directly or indirectly employed by the Contractor or its Subcontractors.

4.02 AWARD OF CONTRACTS TO SUBCONTRACTORS AND SUPPLIERS

- A. Contractor to provide proposed Subcontractor information. The Contractor, within ten (10) days after the Port's notice of award of the Contract, shall provide the Engineer with the names of the persons or entities proposed to perform each of the principal portions of the Work (i.e., either a Subcontractor listed in a bid or proposal or a Subcontractor performing Work valued at least ten

percent (10%) of the Contract Sum) and the proprietary names, and the suppliers of, the principal items or systems of materials and equipment proposed for the Work. No progress payment will become due until after this information has been furnished.

- B. Port to respond promptly with objections. The Port may respond promptly to the Contractor in writing stating: (1) whether the Port has reasonable objection to any proposed person or entity, or (2) whether the Port requires additional time for review. If the Port makes a reasonable objection, the Contractor shall replace the Subcontractor with no increase to the Contract Sum or Contract Time. Such a replacement shall not relieve the Contractor of its responsibility for the performance of the Work and compliance with all of the requirements of the Contract within the Contract Sum and Contract Time.
- C. Reasonable objection defined. "Reasonable objection" as used in this Section 4.02 includes, but is not limited to: (1) a proposed Subcontractor of any tier different from the entity listed with the bid, (2) lack of "responsibility" of the proposed Subcontractor, as defined by Washington law and the Bidding Documents, or lack of qualification or responsibility of the proposed Subcontractor based on the Contract or Bidding Documents, or (3) failure of the Subcontractor to perform satisfactorily in the Port's opinion (such as causing a material delay or submitting a claim that the Port considers inappropriate) on one or more projects for the Port within five (5) years of the bid date.
- D. No substitution allowed without permission. The Contractor shall not substitute a Subcontractor, person, or organization without the Engineer's written consent.

4.03 SUBCONTRACTOR AND SUPPLIER RELATIONS

- A. Contractor to schedule, supervise, and coordinate Subcontractors. The Contractor shall schedule, supervise, and coordinate the operations of all Subcontractors of any tier, including suppliers. The Contractor shall ensure that appropriate Subcontractors coordinate the Work of lower-tier Subcontractors.
- B. Subcontractors to be bound to Contract Documents. By appropriate agreement, the Contractor shall require each Subcontractor and supplier to be bound to the terms of the Contract Documents and to assume toward the Contractor, to the extent of their Work, all of the obligations that the Contractor assumes toward the Port under the Contract Documents. Each subcontract shall preserve and protect the rights of the Port and shall allow to the Subcontractor, unless specifically provided in the subcontract, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Port. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with lower-tier Subcontractors.
- C. Contractor to correct deficiencies in Subcontractor performance. When a portion of the Work subcontracted by the Contractor is not being prosecuted in accordance with the Contract Documents, or if such subcontracted Work is otherwise being performed in an unsatisfactory manner in the Port's opinion, the Contractor shall, on its own initiative or upon the written request of the Port, take immediate steps to correct the deficiency or remove the non-performing party from the Project. The Contractor shall replace inadequately performing Subcontractors upon request of the Port at no change in the Contract Sum or Contract Time.
- D. Contractor to provide subcontracts. Upon request, the Contractor will provide the Port copies of written agreements between the Contractor and any Subcontractor.

ARTICLE 5 - WORKFORCE AND NON-DISCRIMINATION REQUIREMENTS

5.01 COMPLIANCE WITH NON-DISCRIMINATION LAWS

- A. Contractor to comply with non-discrimination laws. The Contractor shall fully comply with all applicable laws, regulations, and ordinances pertaining to non-discrimination.

5.02 MWBE, VETERAN-OWNED, AND SMALL BUSINESS ENTERPRISE PARTICIPATION.

- A. In accordance with the legislative findings and policies set forth in RCW 39.19, the Port encourages participation in all of its contracts by MWBE firms certified by the Office of Minority and Women's Business Enterprises (OMWBE). Participation may be either on a direct basis in response to this invitation or as a subcontractor to a Bidder. However, unless required by federal statutes, regulations, grants, or contract terms referenced in the Contract Documents, no preference will be included in the evaluation of Bids, no minimum level of MWBE participation shall be required as a condition for receiving an award, and Bids will not be rejected or considered non-responsive on that basis. Any affirmative action requirements set forth in federal regulations or statutes included or referenced in the Contract Documents will apply.

The Port encourages participation in all of its contracts by Veteran-owned businesses (defined in RCW 43.60.010) and located at <http://www.dva.wa.gov/program/certified-veteran--and-servicemember-owned-businesses> and Small, Mini, and Micro businesses (defined in RCW 39.26.010)

5.03 APPRENTICESHIP PARTICIPATION

- A. In accordance with RCW 39.04.320, fifteen (15) percent Apprenticeship Participation is required for all projects estimated to cost one million (\$1,000,000) dollars or more.
- B. Apprentice participation, under this contract, may be counted towards the required percentage (%) only if the apprentices are from an apprenticeship program registered and approved by the Washington State Apprenticeship and Training Council (RCW 49.04 and WAC 296-05).
- C. Bidders may contact the Department of Labor and Industries, Specialty Compliance Services Division, Apprenticeship Section, P.O. Box 44530, Olympia, WA 98504-4530 by phone at (360) 902-5320, or e-mail at Apprentice@lni.wa.gov, to obtain information on available apprenticeship programs.
- D. For each project that has apprentice requirements, the contractor shall submit a "Statement of Apprentice and Journeyman Participation" on forms provided by the Port of Tacoma, with every request for project payment. The Contractor shall submit consolidated and cumulative data collected by the Contractor and collected from all subcontractors by the Contractor. The data to be collected and submitted includes the following:
 - 1. Contractor name and address
 - 2. Contract number
 - 3. Project name
 - 4. Contract value
 - 5. Reporting period "Beginning Date" through "End Date"
 - 6. Name and registration number of each apprentice by contractor
 - 7. Total number of apprentices and labor hours worked by them, categorized by trade or craft.
 - 8. Total number of journeymen and labor hours worked by them, categorized by trade or craft

- 9. Cumulative combined total of apprentice and journeymen labor hours
- 10. Total percentage of apprentice hours worked
- E. No changes to the required percentage (%) of apprentice participation shall be allowed without written approval of the Port. In any request for the change, the Contractor shall clearly demonstrate a good faith effort to comply with the requirements for apprentice participation.

ARTICLE 6 - CONTRACT TIME AND COMPLETION

6.01 CONTRACT TIME

- A. Contract Time is measured from Contract execution. Unless otherwise provided in the Agreement, the Contract Time is the period of time, including authorized adjustments, specified in the Contract Documents from the date the Contract is executed to the date Substantial Completion of the Work is achieved.
- B. Commencement of the Work. The Contractor shall begin Work in accordance with the notice of award and the notice to proceed and shall complete all Work within the Contract Time. When the Contractor's signed Agreement, required insurance certificate with endorsements, bonds, and other submittals required by the notice of award have been accepted by the Port, the Port will execute the Contract and, following receipt of other required pre-work submittals, will issue a notice to proceed to allow the Contractor to mobilize and commence physical Work at the Project site, as further described in these contract documents. No Work at the Project site may commence until the Port issues a notice to proceed.
- C. Contractor shall achieve specified completion dates. The Contractor shall achieve Substantial Completion within the Contract Time and shall achieve Final Completion within the time period thereafter stated in the Contract Documents.
- D. Time is of the essence. Time limits stated in the Contract Documents, including any interim milestones, are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

6.02 PROGRESS AND COMPLETION

- A. Contractor to maintain schedule. The Contractor's sequence and method of operations, application of effort, and work force shall at all times be created and implemented to ensure the orderly, expeditious, and timely completion of the Work and performance of the Contract. The Contractor shall furnish sufficient forces and shall work such hours, including extra shifts, overtime operations, and weekend and holiday work as may be necessary to ensure completion of the Work within the Contract Time and the approved Baseline Project Schedule.
- B. Contractor to take necessary steps to meet schedule. If the Contractor fails substantially to perform in a timely manner in accordance with the Contract Documents and, through the fault of the Contractor or Subcontractor(s) of any tier, fails to meet the Baseline Project Schedule, the Contractor shall take such steps as may be necessary to immediately improve its progress by increasing the number of workers, shifts, overtime operations, or days of work, or by other means and methods, all without additional cost to the Port. If the Contractor believes that any action or inaction of the Port constitutes acceleration, the Contractor shall immediately notify the Port in writing and shall not accelerate the Work until the Port either directs the acceleration in writing or denies the constructive acceleration.
- C. Liquidated damages not exclusive. Any provisions in the Contract Documents for liquidated damages shall not preclude other damages due to breaches of Contract of the Contractor.

6.03 SUBSTANTIAL COMPLETION

- A. Substantial Completion defined. Substantial Completion is the stage in the progress of the Work, or portion or phase thereof, when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Port can fully occupy or utilize the Work, or the designated portion thereof, for its intended use, all requirements in the Contract Documents for Substantial Completion have been achieved, and all required documentation has been properly submitted to the Port in accordance with the Contract Documents. All Work, other than incidental corrective or punch list Work and final cleaning, must be completed. The fact that the Port may occupy the Work or a designated portion thereof does not indicate that Substantial Completion has occurred or that the Work is acceptable in whole or in part.
- B. Work not Substantially Complete unless Final Completion attainable. The Work is not Substantially Complete unless the Port reasonably judges that the Work can achieve Final Completion within the period of time specified in the Contract Documents.
- C. Notice of Substantial Completion. When the Work or designated portion has achieved Substantial Completion, the Port will provide a notice to establish the date of Substantial Completion. The notice shall establish responsibilities of the Port and Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the Contractor shall finish all remaining Work. If the notice of Substantial Completion does not so state, all responsibility for the foregoing items shall remain with the Contractor until Final Completion.

6.04 COMPLETION OF PUNCH LIST

- A. Contractor shall complete punch list items prior to Final Completion. The Contractor shall cause punch list items to be completed prior to Final Completion. If, after Substantial Completion, the Contractor does not expeditiously proceed to correct punch list items or if the Port considers that the punch list items, are unlikely to be completed prior to the date established for Final Completion (or such other period of time as is specified in the Contract Documents), the Port may, upon seven (7) days' written notice to the Contractor, take over and perform some or all of the punch list items. The Port may also take over and complete any portion of the Work at any time following Substantial Completion and deduct the actual cost of performing the Work (including direct and indirect costs) from the Contract Sum. The Port's rights under this Section 6.04 are not obligations and shall not relieve the Contractor of its responsibilities under any other provisions of the Contract Documents.

6.05 FINAL COMPLETION

- A. Final Completion. Upon receipt of written notice from the Contractor that all punch list items and other Contract requirements are completed, the Contractor will notify the Port, and the Port will perform a final inspection. If the Port determines that some or all of the punch list items have not been addressed, the Contractor shall be responsible to the Port for all costs, including re-inspection fees, for any subsequent reviews to determine completion of the punch list. When the Port determines that all punch list items have been satisfactorily addressed, that the Work is acceptable under the Contract Documents, and that the Work has fully been performed, the Port will promptly notify the Contractor of Final Completion.
- B. Contractor responsible for costs if Final Completion is not timely achieved. In addition to any liquidated damages, the Contractor is liable for, and the Port may deduct from any amounts due the Contractor, all costs incurred by the Port for services performed after the contractual date of Final Completion, whether or not those services would have been performed prior to that date had Final Completion been timely achieved.

- C. Final Completion submittals. The Port is not obligated to accept the Project as complete until the Contractor has submitted all required submittals to the Port.
- D. Contractor responsible for the Work until Final Completion. The Contractor shall assume the sole risk of loss and responsibility for all Work under the Contract, and all materials to be incorporated in the Work, whether in storage or at the Project site, until Final Completion. Damage from any cause to either permanent or temporary Work, utilities, materials, equipment, existing structures, the site, or other property owned by the Port or others, shall be repaired by the Contractor to the reasonable satisfaction of the Port at no change in the Contract Sum.

6.06 FINAL ACCEPTANCE

- A. Final Acceptance. Final Acceptance is the formal action of the Port accepting the Project as complete. Public notification of Final Acceptance will be posted on the Port's external website (<http://www.portoftacoma.com/final-acceptance>).
- B. Final Acceptance not an acceptance of defective Work. Final Acceptance shall not constitute acceptance by the Port of unauthorized or defective Work, and the Port shall not be prevented from requiring the Contractor to remove, replace, repair, or dispose of unauthorized or defective Work or recovering damages due to the same.
- C. Completion of Work under RCW 60.28. Pursuant to RCW 60.28, "Lien for Labor, Materials, Taxes on Public Works," completion of the Contract Work shall occur upon Final Acceptance.

6.07 PORT'S RIGHT TO USE THE PREMISES

- A. Port has right to use and occupy Work. The Port reserves the right to occupy or use any part of the Work before or after Substantial Completion of some or all of the Work without relieving the Contractor of any of its obligations under the Contract. Such occupancy or use shall not constitute acceptance by the Port of any of the Work, and shall not cause any insurance to be canceled or lapse.
- B. No compensation due if Port elects to use and occupy Work. No additional compensation shall be due to the Contractor as a result of the Port's use or occupancy of the Work or a designated portion.

ARTICLE 7 - PAYMENT

7.01 ALL PAYMENTS SUBJECT TO APPLICABLE LAWS AND SCHEDULE OF VALUES

- A. Payment of the Contract Sum. The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Port to the Contractor for performance of the Work under the Contract Documents. Payments made to the Contractor are subject to all laws applicable to the Port and the Contractor. Payment of the Contract Sum constitutes full compensation to the Contractor for performance of the Work, including all risk, loss, damages, or expense of whatever character arising out of the nature or prosecution of the Work. The Port is not obligated to pay for extra work or materials furnished without prior written approval of the Port.
- B. Schedule of Values. All payments will be based upon an approved Schedule of Values. Prior to submitting its first Application for Payment, the Contractor shall submit a Schedule of Values to the Port allocating the entire Contract Sum to the various portions of the Work. The Schedule of Values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Port may require. This schedule, unless objected to by the Port, shall be used as a basis for reviewing the Contractor's applications for payment.

7.02 APPLICATIONS FOR PAYMENT

- A. Applications for Payment. Progress payments will be made monthly for Work duly certified, approved by the Engineer, and performed (based on the Schedule of Values and actual quantities of Work performed) during the calendar month preceding the Application for Payment. These amounts are paid in trust to the Contractor for distribution to Subcontractors to the extent, and in accordance with, the approved Application for Payment.

7.03 PROGRESS PAYMENTS

- A. Progress payments. Following receipt of a complete Application for Payment, the Engineer will either authorize payment or indicate in writing to the Contractor the specific reasons why the payment request is being denied, in whole or in part, and the remedial action the Contractor must take to receive the withheld amount. After a complete Application for Payment has been received and approved by the Port, payment will be made within thirty (30) days. Any payments made by, or through, or following receipt of, payment from third parties will be made in accordance with the third party's policies and procedures.
- B. Port may withhold payment. The Port may withhold payment in whole or in part as provided in the Contract Documents or to the extent reasonably necessary to protect the Port from loss or potential loss for which the Contractor is responsible, including loss resulting from the Contractor's acts and omissions.

7.04 PAYMENT BY CONTRACTOR TO SUBCONTRACTORS

- A. Payment to Subcontractors. With each Application for Payment, the Contractor shall provide a list of Subcontractors to be paid by the Contractor. No payment request shall include amounts the Contractor does not intend to pay to a Subcontractor because of a dispute or other reason. If, however, after submitting an Application for Payment, but before paying a Subcontractor, the Contractor discovers that part or all of a payment otherwise due to the Subcontractor is subject to withholding from the Subcontractor under the subcontract (such as for unsatisfactory performance or non-payment of lower-tier Subcontractors), the Contractor may withhold the amount as allowed under the subcontract, but it shall give the Subcontractor and the Port written notice of the remedial actions that must be taken and pay the Subcontractor within eight (8) working days after the Subcontractor satisfactorily completes the remedial action identified in the notice.
- B. Payment certification to be provided upon request. The Contractor shall provide, with each Application for Payment, a certification signed by Contractor attesting that all payments by the Contractor to Subcontractors from the last Application for Payment were made within ten (10) days of the Contractor's receipt of payment. The certification will also attest that the Contractor will make payment to Subcontractors for the current Application for Payment within ten (10) days of receipt of payment from the Port.

7.05 FINAL PAYMENT

- A. Final payment. Final applications for payment are due within seven (7) days following Final Completion. Final payment of the unpaid balance of the Contract Sum, except retainage, will be made following Final Completion and within thirty (30) days of the Contractor's submission of an approved final Application for Payment.
- B. Releases required for final payment. The final payment shall not become due until the Contractor delivers to the Port a complete release of all liens arising out of the Contract, as well as an affidavit stating that, to the best of Contractor's knowledge, its release includes all labor and materials for which a lien could be filed. If a Subcontractor of any tier refuses to furnish a release or waiver required by the Port, the Port may (a) retain in the fund, account, or escrow funds in such amount as to defray the cost of foreclosing the liens of such claims and to pay

attorneys' fees, the total of which shall be no less than 150% of the claimed amount, or (b) accept a bond from the Contractor, satisfactory to the Port, to indemnify the Port against the lien. If any such lien remains unsatisfied after all payments from the retainage are made, the Contractor shall refund to the Port all moneys that the Port may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

- C. Contractor to hold Port harmless from liens. The Contractor shall defend (at the Contractor's sole cost, with legal counsel approved by Port), indemnify, and hold harmless the Port from any liens, claims, demands, lawsuits, losses, damages, disbursements, liabilities, obligations, fines, penalties, costs, and expenses, whether direct or indirect, including but not limited to, attorneys' fees and consultants' fees and other costs and expenses, except to the extent a lien has been filed because of the failure of the Port to make a contractually required payment.

7.06 RETAINAGE

- A. Retainage to be withheld. In accordance with RCW 60.28, a sum equal to five percent (5%) of each approved Application for Payment shall be retained. Prior to submitting its first Application for Payment, the Contractor shall exercise one of the options listed below:
1. Retained percentages will be retained by the Port in a fund; or
 2. Deposited by the Port in an interest-bearing account or escrow account in a bank, mutual savings bank, or savings and loan association designated by the Contractor, not subject to withdrawal until after the final acceptance of said improvement or work as completed, or until agreed to by both parties; provided that interest on such account shall be paid to the Contractor. Contractor to complete and submit Port provided Retainage Escrow Agreement (Section 00 61 23.13); or
 3. If the Contractor provides a bond in place of retainage, it shall be in an amount equal to 5% of the Contract Sum plus Change Orders. The retainage bond shall be based on the form furnished in Section 00 61 23 or otherwise acceptable to the Port and duly completed and signed by a licensed surety or sureties registered with the Washington State Insurance Commissioner and on the currently authorized insurance list published by the Washington State Insurance Commissioner. The surety or sureties must be rated at least "A-, FSC(6)" or higher by A.M. Best Rating Guide and be authorized by the Federal Department of the Treasury. Attorneys-in-fact who sign the retainage bond must file with each bond a certified and effective Power of Attorney statement.
- B. Contractor may withhold retainage from Subcontractors. The Contractor or a Subcontractor may withhold not more than five percent (5%) retainage from the monies earned by any Subcontractor or lower-tier Subcontractor, provided that the Contractor pays interest to the Subcontractor at the same interest rate it receives from its reserved funds. If requested by the Port, the Contractor shall specify the amount of retainage and interest due a Subcontractor.
- C. Release of retainage. Retainage will be withheld and applied by the Port in a manner required by RCW 60.28 and released in accordance with the Contract Documents and statutory requirements. Release of the retainage will be processed in the ordinary course of business within sixty (60) days following Final Acceptance of the Work by the Port provided that no notice of lien has been given as provided in RCW 60.28, that no claims have been brought to the attention of the Port, that the Port has no claims under this Contract, and that release of retention has been duly authorized by the State. The following items must also be obtained prior to release of retainage: pursuant to RCW 60.28, a certificate from the Department of Revenue; pursuant to RCW 50.24, a certificate from the Department of Employment Security; and appropriate information from the Department of Labor and Industries including approved affidavits of wages paid for the Contractor and each subcontractor.

7.07 DISPUTED AMOUNTS

- A. Disputed amounts. If the Contractor believes it is entitled to payment for Work performed during the prior calendar month in addition to the agreed-upon amount, the Contractor may submit to the Port, along with the approved Application for Payment, a separate written payment request specifying the exact additional amount claimed to be due, the category in the Schedule of Values to which the payment would apply, the specific Work for which additional payment is sought, and an explanation of why the Contractor believes additional payment is due.

7.08 EFFECT OF PAYMENT

- A. Payment does not relieve Contractor of obligations. Payment to the Contractor of progress payments or final payment does not relieve the Contractor from its responsibility for the Work or its responsibility to repair, replace, or otherwise make good defective Work, materials, or equipment. Likewise, the making of a payment does not constitute a waiver of the Port's right to reject defective or non-conforming Work, materials, or equipment (even though they are covered by the payment), nor is it a waiver of any other rights of the Port.
- B. Acceptance of final payment waives claims. Acceptance of final payment by the Contractor, a Subcontractor of any tier, or a supplier shall constitute a waiver of claims except those previously made in writing and identified as unsettled in Contractor's final Application for Payment.
- C. Execution of Change Order waives claims. The execution of a Change Order shall constitute a waiver of claims by the Contractor arising out of the Work to be performed or deleted pursuant to the Change Order, except as specifically described in the Change Order.

7.09 LIENS

- A. Contractor to discharge liens. The Contractor shall promptly pay (and secure the discharge of any liens asserted by) all persons properly furnishing labor, equipment, materials, or other items in connection with the performance of the Work including, but not limited to, any Subcontractors of any tier.

ARTICLE 8 - CHANGES IN THE WORK

8.01 CHANGES IN THE WORK

- A. Changes in the Work authorized. Without invalidating the Contract and without notice to the Contractor's surety, the Port may authorize changes in the Work after execution of the Contract, including changes in the Contract Sum or Contract Time. Changes shall occur solely by Change Order, Unilateral Change Directive, or Minor Change in Work. All changes in the Work are effective immediately, and the Contractor shall proceed promptly to perform the change, unless otherwise provided in the Change Order or Directive.
- B. Changes in the Work Defined.
 - 1. A Change Order is a written instrument signed by the Port and Contractor stating their agreement to a change in the Work and the adjustment, if any, in the Contract Sum and/or Contract Time.
 - 2. A Unilateral Change Directive is a written instrument issued by the Port to transmit new or revised Drawings, issue additions or modifications to the Contract, furnish other direction and documents adjustment, if any, to the Contract Sum and/or Contract Time. A Unilateral Change Directive is signed only by the Port, without requiring the consent or signature of the Contractor.

3. A Minor Change in the Work is a written order from the Port directing a change that does not involve an adjustment to the Contract Sum or the Contract Time.
- C. Request for Proposal: At any time, the Port may issue a Proposal Request directing the Contractor to propose a change to the Contract Sum and/or Contract Time, if any, based on a proposed change in the Work. The Contractor shall submit a responsive Change Order proposal as soon as possible, and no later than fourteen (14) days after receipt, in which the Contractor specifies in good faith the extent to which the Contract Sum and/or Contract Time would change. All cost components shall be limited to the manner described in Section 8.02(B). If the Contractor fails to timely respond to a Proposal Request, the Port may issue the change as a Unilateral Change Directive.
1. Fixed price method is default for Contractor Change Order proposal. When the Port has requested that the Contractor submit a Change Order proposal, the Port may specify the basis on which the Contract Sum will be adjusted by the Contractor. The Engineer's preference, unless otherwise indicated, is for changes in the Work to be priced using Lump Sums or Unit Prices or on a time and material (Force Account) basis if unit pricing or lump sums cannot be negotiated or determined. In all instances, however, proposed changes shall include a not-to-exceed price for the change and shall be itemized for evaluation purposes in accordance with Section 8.02(B), as requested by the Engineer.
 2. The Port may accept or reject the Contractor's Change Order proposal, request further documentation, or negotiate acceptable terms with the Contractor. If The Port and Contractor reach agreement on the terms of any change in the Work, including any adjustment in the Contract Sum or Contract Time, such agreement shall be incorporated in a Change Order.
 3. The Change Order shall constitute full payment and final settlement of all claims for time and for direct, indirect, and consequential costs, including costs of delays, inconvenience, disruption of schedule, or loss of efficiency or productivity, related to any Work either covered or affected by the Change Order, or related to the events giving rise to the request for equitable adjustment. The Port may reject a proposal, in which case the Port may either not effectuate the change or issue a Unilateral Change Directive. The Port will not make payment to the Contractor for any work until that work has been incorporated into an executed Change Order.
- D. Unforeseen Conditions: If the Contractor encounters conditions at the site that are: (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or any soils reports made available by the Port to the Contractor, or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall immediately provide oral notice to the Engineer before conditions are disturbed, followed within 24 hours by an initial written notice. The Contractor shall submit a detailed proposal no later than seven (7) days following discovery of differing site conditions. The Engineer will promptly investigate these conditions and, if the Engineer determines that they differ materially and cause an increase or decrease in the Contractor's cost or time required for performance of any part of the Work, will establish a change in the Contract Sum or Contract Time, or both, consistent with the requirements of the Contract Documents. If the Contractor disputes the Engineer's determination, the Contractor may proceed as provided in the dispute resolution procedure (Article 11). No increase to the Contract Sum or the Contract Time shall be allowed if the Contractor does not comply with the contractual requirements or if the Contractor knew, or reasonably should have known, of the concealed conditions prior to executing the Contract.

- E. Proceed Immediately: Pending agreement on the terms of the Change Order or upon determination of a differing site condition as defined in 8.01(D), the Engineer may direct Contractor to proceed immediately with the change in the Work. Contractor shall not proceed with any change in the Work until it has obtained the Engineer's written approval and documentation of the following:
1. The scope of work
 2. An agreed upon maximum not-to-exceed amount
 3. The method of final cost determination
 4. Estimated time to complete the changed work
 5. As a change in the Work is performed, unless the parties have signed a written Change Order to establish the cost of the change, the Contractor shall maintain an itemized accounting of all costs related to the change based on the categories in Section 8.02(B) and provide such data to the Port upon request. This includes, without limitation, invoices, including freight and express bills, and other support for all material, equipment, Subcontractor, and other charges related to the change and, for material furnished from the Contractor's own inventory, a sworn affidavit certifying the actual cost of such material. Failure to provide data to the Port within seven (7) days of a request constitutes a waiver of any claim. The Port may furnish any material or equipment to the Contractor that it deems advisable, and the Contractor shall have no claim for any costs or fee on such material or equipment.
- F. Procedure for Unilateral Change Directive. Whether or not the Port has rejected a Contractor's proposal, the Port may issue a Unilateral Change Directive and the Contractor shall promptly proceed with the specified Work. If the Contractor disagrees with a Unilateral Change Directive, the Contractor shall advise the Port in writing through a Change Order proposal within seven (7) days of receipt. The Contractor's Change Order proposal shall reasonably specify the reasons for any disagreement and the adjustment it proposes. Without this timely Change Order proposal, the Contractor shall conclusively be deemed to have accepted the Port's proposal.
- G. Payment pending final determination of Force Account work. Pending final determination of the total cost of Force Account Work, and provided that the Work to be performed under Force Account is complete and any reservations of rights have been signed by the Port, the Contractor may request payment for amounts not in dispute in the next Application for Payment accompanied by documentation indicating the parties' agreement. Work done on a Force Account basis must be approved in writing on a daily basis by the Engineer or the Engineer's designee and invoices shall be submitted with an Application for Payment within sixty (60) days of performance of the Work.

8.02 CHANGES IN THE CONTRACT SUM

- A. Port to Decide How Changes are Measured. The Port may elect, in its sole discretion, how changes in the Work will be measured for payment. Change in the Work may be priced on a lump sum basis, through Unit Prices, as Force Account, or by another method documented in the executed Change Order, Unilateral Change Directive, or Minor Change in the Work.
- B. Determination of Cost of Change. The total cost of any change in the Work, including a claim under Article 11, shall not exceed the prevailing cost for the Work in the locality of the Project. In all circumstances, the change in the Work shall be limited to the reasonable, actual cost of the following components:
1. Direct labor costs: These are the actual labor costs determined by the number of additional craft hours at their normal hourly rate necessary to perform a change in the Work. The

hourly cost of labor will be based upon the following:

- a. Basic wages and fringe benefits: The hourly wage (without markup or labor burden) and fringe benefits paid by the Contractor as established by the Washington Department of Labor and Industries or contributed to labor trust funds as itemized fringe benefits, whichever is applicable, not to exceed that specified in the applicable "Intent to Pay Prevailing Wage," for the laborers, apprentices, journeymen, and foremen performing or directly supervising the change in the Work on site. These wages do not include the cost of Contractor's project manager or superintendent or above, and the premium portion of overtime wages is not included unless pre-approved in writing by the Port. Costs paid or incurred by the Contractor for vacations, per diem, subsistence, housing, travel, bonuses, stock options, or discretionary payments to employees are not separately reimbursable. The Contractor shall provide to the Port copies of payroll records, including certified payroll statements for itself and Subcontractors of any tier, upon the Port's request.
 - b. Workers' insurance: Direct contributions to the State of Washington as industrial insurance; medical aid; and supplemental pension by class and rates established by the Washington Department of Labor and Industries.
 - c. Federal insurance: Direct contributions required by the Federal Insurance Compensation Act (FICA); Federal Unemployment Tax Act (FUTA); and State Unemployment Compensation Act (SUCA).
2. Direct material costs: This is an itemization, including material invoices, of the quantity and actual cost of additional materials necessary to perform the change in the Work. The cost will be the net cost after all discounts or rebates, freight costs, express charges, or special delivery costs, when applicable. No lump sum costs will be allowed unless approved in advance by the Port.
 3. Construction equipment usage costs: This is an itemization of the actual length of time that construction equipment necessary and appropriate for the Work is used solely on the changed Work times the applicable rental cost as established by the lower of the local prevailing rates published in www.equipmentwatch.com, as modified by the AGC/WSDOT agreement, or the actual rate paid to an unrelated third party. If more than one rate is applicable, the lowest available rate will be utilized. Rates and quantities of equipment rented that exceed the local fair market rental costs shall be subject to the Port's prior written approval. Total rental charges for equipment or tools shall not exceed 75% of the fair market purchase value of the equipment or the tool. Actual, reasonable mobilization costs are permitted if the equipment is brought to the site solely for the change in the Work. Mobilization and standby costs shall not be charged for equipment already present on the site.

The rates in effect at the time of the performance of the changed Work are the maximum rates allowable for equipment of modern design, and in good working condition, and include full compensation for furnishing all fuel, oil, lubrication, repairs, maintenance, and insurance. No gas surcharges are payable. Equipment not of modern design and/or not in good working condition will have lower rates. Hourly, weekly, and/or monthly rates, as appropriate, will be applied to yield the lowest total cost.
 4. Subcontractor costs: These are payments the Contractor makes to Subcontractors for changed Work performed by Subcontractors. The Subcontractors' cost of changed Work shall be determined in the same manner as prescribed in this Section 8.02 and, among other things, shall not include consultant costs, attorneys' fees, or claim preparation expenses.

5. Service provider costs: These are payments the Contractor makes to service providers for changed Work performed by service providers. The service providers' cost of changed Work shall be determined in the same manner as prescribed in this Section 8.02.
6. Markup: This is the maximum total amount for overhead, profit, and other costs, including office, home office and site overhead (including purchasing, project manager, superintendent, project engineer, estimator, and their vehicles and clerical assistants), taxes (except for sales tax on the Contract Sum), warranty, safety costs, printing and copying, layout and control, quality control/assurance, small or hand tools (a tool that costs \$500 or less and is normally furnished by the performing contractor), preparation of as-built drawings, impact on unchanged Work, Change Order and/or claim preparation, and delay and impact costs of any kind (cumulative, ripple, or otherwise), added to the total cost to the Port of any Change Order work. No markup shall be due, however, for direct settlements of Subcontractor claims by the Port after Substantial Completion. The markup shall be limited in all cases to the following schedule:
 - a. Direct labor costs -- 20% markup on the direct cost of labor for the party (Contractor or Subcontractor) providing labor related to the change in the Work;
 - b. Direct material costs -- 20% markup on the direct cost of material for the party (Contractor or Subcontractor) providing material related to the change in the Work;
 - c. Construction equipment usage costs -- 10% markup on the direct cost of equipment for the party (Contractor or Subcontractor) providing equipment related to the change in the Work;
 - d. Contractor markup on Subcontractor costs -- 10% markup for the Contractor on the direct cost (excluding markup) of a change in the Work performed by Subcontractors (and for Subcontractors, for a change in the Work performed by lower-tier Subcontractors); and
 - e. Service provider costs -- 5% markup for the Contractor on the direct cost (excluding markup) of a change in the Work performed by service providers.

The total summed markup of the Contractor and all Subcontractors of any tier shall not exceed 30% of the direct costs of the change in the Work. If the markup would otherwise exceed 30%, the Contractor shall proportionately reduce the markup for the Contractor and all Subcontractors of any tier.
7. Cost of change in insurance or bond premium. This is defined as:
 - a. Contractor's liability insurance: The actual cost (expressed as a percentage submitted with the certificate of insurance provided under the Contract Documents and subject to audit) of the Contractor's liability insurance arising directly from the changed Work; and
 - b. Public works bond: The actual cost (expressed as a percentage submitted under the Contract Documents and subject to audit) of the Contractor's performance and payment bond arising directly from the changed Work.

Upon request, the Contractor shall provide the Port with supporting documentation from its insurer or surety of any associated cost incurred. The cost of the insurance or bond premium together shall not exceed 2.0% of the cost of the changed Work.
8. Unit Prices. If Unit Prices are specified in the Contract Documents or established by agreement of the parties for certain Work, the Port may apply them to the changed Work. Unit Prices shall include pre-agreed rates for material quantities and shall include reimbursement for all direct and indirect costs of the Work, including overhead, profit,

bond, and insurance costs arising out of, or related to, the Unit Priced item. Quantities must be supported by field measurement statements signed by the Port, and the Port shall have access as necessary for quantity measurement. The Port shall not be responsible for not-to-exceed limit(s) without its prior written approval.

8.03 CHANGES IN THE CONTRACT TIME

- A. Extension of the Contract Time. If the Contractor is delayed at any time in the commencement or progress of the Work by events for which the Port is responsible, by unanticipated abnormal weather (subject to Section 8.03(E) below), or by other causes not the fault or responsibility of the Contractor that the Port determines may justify a delay in the Contract Time, then the Contract Time shall be extended by Change Order for such reasonable time as the Port may determine. In no event, however, shall the Contractor be entitled to any extension of time absent proof of: (1) delay to an activity on the critical path of the Project, or (2) delay transforming an activity to the critical path, so as to actually delay the anticipated date of Substantial Completion.
- B. Allocation of responsibility for delay not caused by Port or Contractor. If a delay was not caused by the Port, the Contractor, or anyone acting on behalf of any of them, the Contractor is entitled only to an increase in the Contract Time but not an increase in the Contract Sum.
- C. Allocation of responsibility for delay caused by Port. If a delay was caused by the Port or someone acting on behalf of the Port and affected the critical path, the Contractor shall be entitled to a change in the Contract Time and Contract Sum in accordance with Section 8.02. The Contractor shall not recover damages, an equitable adjustment, or an increase in the Contract Sum or Contract Time from the Port; however, where the Contractor could reasonably have avoided the delay. The Port is not obligated directly or indirectly for damages for any delay suffered by a Subcontractor of any tier that does not increase the Contract Time.
- D. Allocation of responsibility for delay caused by Contractor. If a delay was caused by the Contractor, a Subcontractor of any tier, or anyone acting on behalf of any of them, the Contractor is not entitled to an increase in the Contract Time or in the Contract Sum.
- E. Adverse weather. If adverse weather is identified as the basis for a claim for additional time, the claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not reasonably have been anticipated and had an adverse effect on the critical path of construction, and that the Work was on schedule (or not behind schedule through the fault of the Contractor) at the time the adverse weather conditions occurred. Neither the Contract Time nor the Contract Sum will be adjusted for normal inclement weather. For a claim based on adverse weather, the Contractor shall be eligible only for a change in the Contract Time (but not a change in the Contract Sum) if the Contractor can substantiate that there was significantly greater than normal inclement weather considering the full term of the Contract Time.
- F. Damages for delay. In the event the Contractor (including any Subcontractors of any tier) is held to be entitled to damages from the Port for delay beyond the amount permitted in Section 8.02(B), the total combined damages to the Contractor and any Subcontractors of any tier for each day of delay shall be limited to the reasonable, actual costs of the delay for which the Port is wholly responsible. The limitation on damages set forth in this Section does not apply to any damages arising exclusively from delay to which the Contractor is entitled to recover under Section 8.03(F).
- G. Limitation on damages. The Contractor shall not be entitled to damages arising out of loss of efficiency; morale, fatigue, attitude, or labor rhythm; constructive acceleration; home office overhead; expectant under run; trade stacking; reassignment of workers; rescheduling of Work, concurrent operations; dilution of supervision; learning curve; beneficial or joint occupancy;

logistics; ripple; season change; extended or increased overhead or general conditions; profit upon damages for delay; impact damages including cumulative impacts; or similar damages. Any effect that such alleged costs may have upon the Contractor or its Subcontractors of any tier is fully compensated through the markup on Change Orders paid through Section 8.02(B).

8.04 RESERVATION OF RIGHTS

- A. Reservations of rights void unless signed by Port. Reservations of rights will be deemed waived and are void unless any reserved rights are described in detail and are signed by the Contractor and the Port.
- B. Procedure for unsigned reservations of rights. If the Contractor adds a reservation of rights not signed by the Port to any Change Order, Unilateral Change Directive, Change Order proposal, Application for Payment, or any other document, all amounts and all Work therein shall be considered disputed and not payable until costs are re-negotiated or the reservation is withdrawn or changed in a manner satisfactory to, and signed by, the Port. If the Port makes payment based on a document that contains a reservation of rights not signed by the Port, and if the Contractor cashes such payment, then the reservation of rights shall be deemed waived, withdrawn, and of no effect.

8.05 UNIT PRICES

- A. Adjustment to Unit Prices. If Unit Prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed (less than eighty percent (80%) or more than one hundred and twenty percent (120%) of the quantity estimated) so that application of a Unit Price would be substantially unfair, the applicable Unit Price but not the Contract Time, shall be adjusted if the Port prospectively approves a Change Order revising the Unit Price.
- B. Procedure to change Unit Prices. The Contractor or Port may request a Change Order revising a Unit Price by submitting information to support the change. A proposed change to a Unit Price will be evaluated by the Port based on the change in cost resulting solely from the change in quantity, any change in production rate or method as compared to the original plan, and the share, if any, of fixed expenses properly chargeable to the item. If the Port and Contractor agree on the change, a Change Order will be executed. If the parties cannot agree, the Contractor shall comply with the dispute resolution procedures (Article 11).

ARTICLE 9 - SUSPENSION AND TERMINATION OF CONTRACT

9.01 PORT'S RIGHT TO SUSPEND WORK

- A. Port may suspend the Work. The Port may at any time suspend the Work, or any part thereof, by giving notice to the Contractor. The Work shall be resumed by the Contractor as soon as possible, but no later than fourteen (14) days after the date fixed in a notice to resume the Work. The Port shall reimburse the Contractor for appropriate and reasonable expenses consistent with Section 8.02 incurred by the Contractor as a result of the suspension, except where a suspension is the result of the Contractor repeatedly or materially failing to carry out or correct the Work in accordance with the Contract Documents, and the Contractor shall take all necessary steps to minimize expenses.
- B. Contractor obligations. During any suspension of Work, the Contractor shall take every precaution to prevent damage to, or deterioration of, the Work. The Contractor shall be responsible for all damage or deterioration to the Work during the period of suspension and shall, at its sole expense, correct or restore the Work to a condition acceptable to the Port prior to resuming Work.

9.02 TERMINATION OF CONTRACT FOR CAUSE BY THE PORT

- A. Port may terminate for cause. If the Contractor is adjudged bankrupt or makes a general assignment for the benefit of the Contractor's creditors, if a receiver is appointed due to the Contractor's insolvency, or if the Contractor, in the opinion of the Port, persistently or materially refuses or fails to supply enough properly skilled workmen or materials for proper completion of the Contract, fails to make prompt payment to Subcontractors or suppliers for material or labor, disregards laws, ordinances, or the instructions of the Port, fails to prosecute the Work continuously with promptness and diligence, or otherwise materially violates any provision of the Contract, then the Port, without prejudice to any other right or remedy, may terminate the Contractor after giving the Contractor seven (7) days' written notice (during which period the Contractor shall have the right to cure).
- B. Procedure following termination for cause. Following a termination for cause, the Port may take possession of the Project site and all materials and equipment, and utilize such materials and equipment to finish the Work. The Port may also exclude the Contractor from the Project site(s). If the Port elects to complete all or a portion of the Work, it may do so as it sees fit. The Port shall not be required to accept the lowest bid for completion of the Work and may choose to complete all or a portion of the Work using its own work force. If the Port elects to complete all or a portion of the Work, the Contractor shall not be entitled to any further payment until the Work is finished. If the expense of finishing the Work, including compensation for additional managerial and administrative services of the Port, exceeds the unpaid balance of the Contract Sum, the excess shall be paid by the Contractor.
- C. Port's remedies following termination for cause. The Port may exercise any rights, claims, or demands that the Contractor may have against third persons in connection with the Contract, and for this purpose the Contractor assigns and transfers to the Port all such rights, claims, and demands.
- D. Inadequate termination for cause converted to termination for convenience. If, after the Contractor has been terminated for cause, it is determined that inadequate "cause" for such termination exists, then the termination shall be considered a termination for convenience pursuant to Section 9.03.

9.03 TERMINATION OF CONTRACT FOR CONVENIENCE BY THE PORT

- A. Port may terminate for convenience. The Port may, at any time (without prejudice to any right or remedy of the Port), terminate all, or any portion of, the Contract for the Port's convenience and without cause. The Contractor shall be entitled to receive payment consistent with the Contract Documents only for Work properly executed through the date of termination, and costs necessarily incurred by reason of the termination (such as the cost of settling and paying claims arising out of the termination under subcontracts or orders), along with a fee of one percent (1%) of the Contract Sum not yet earned on the whole or part of the Work. The total amount to be paid to the Contractor shall not exceed the Contract Sum as reduced by the amount of payments otherwise made. The Port shall have title to all Work performed through the date of termination.

9.04 TERMINATION OF CONTRACT BY THE CONTRACTOR

- A. Contractor may terminate for cause. The Contractor may terminate the Contract if the Work is stopped for a period of sixty (60) consecutive days through no act or fault of the Contractor or a Subcontractor of any tier, for either of the following reasons:
 - 1. Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped; or

2. An act of government, such as a declaration of national emergency, that requires all Work to be stopped.
- B. Procedure for Contractor termination. If one of the reasons described in Section 9.04A exists, the Contractor may, upon seven (7) days' written notice to the Port (during which period the Port has the opportunity to cure), terminate the Contract and recover from the Port payment for Work executed through the date of termination in accordance with the Contract Documents and for proven loss with respect to materials, equipment, tools, and construction equipment and machinery, including reasonable overhead and profit on Work executed and direct costs incurred by reason of such termination. The total recovery of the Contractor shall not exceed the unpaid balance of the Contract Sum.
- C. Contractor may stop the Work for failure of Port to pay undisputed amounts. The Contractor may stop Work under the Contract if the Port does not pay undisputed amounts due and owing to the Contractor within fifteen (15) days of the date established in the Contract Documents. If the Port fails to pay undisputed amounts, the Contractor may, upon fifteen (15) additional days' written notice to the Port, during which the Port can cure, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately, and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay, and start-up.

9.05 SUBCONTRACT ASSIGNMENT UPON TERMINATION

- A. Subcontracts assigned upon termination. Each subcontract is hereby assigned by the Contractor to the Port provided that:
 1. The Port requests that the subcontract be assigned.
 2. The assignment is effective only after termination by the Port and only for those subcontracts that the Port accepts in writing.
 3. The assignment is subject to the prior rights of the surety, if any, under any bond issued in accordance with the Contract Documents.

When the Port accepts the assignment of a subcontract, the Port assumes the Contractor's rights and obligations under the subcontract, but only for events and payment obligations that arise after the date of the assignment.

ARTICLE 10 - BONDS

10.01 CONTRACTOR PERFORMANCE AND PAYMENT BONDS

- A. Contractor to furnish performance and payment bonds. Within ten (15) days following its receipt of a notice of award, and as part of the Contract Sum, the Contractor shall secure and furnish duly executed performance and payment bonds using the forms furnished by the Port. The bonds shall be executed by a surety (or sureties) reasonably acceptable to the Port, admitted and licensed in the State of Washington, registered with the Washington State Insurance Commissioner, and possessing an A.M. Best rating of "A-, FSC (6)" or better and be authorized by the U.S. Department of the Treasury. Pursuant to RCW 39.08, the bonds shall be in an amount equal to the Contract Sum, and shall be conditioned only upon the faithful performance of the Contract by the Contractor within the Contract Time and upon the payment by the Contractor of all taxes, fees, and penalties to the State of Washington and all laborers, Subcontractors, and suppliers, and others who supply provisions, equipment, or supplies for the performance of the Work covered by this Contract. The bonds shall be signed by the person or persons legally authorized to bind the Contractor.

- B. On contracts of one hundred fifty thousand dollars or less, at the option of the contractor as defined in RCW 39.10.210, the Port may, in lieu of the bond, retain ten percent of the contract amount for a period of thirty days after date of final acceptance, or until receipt of all necessary releases from the department of revenue, the Employment Security Department, and the Department of Labor and Industries and settlement of any liens filed under chapter 60.28 RCW, whichever is later. The recovery of unpaid wages and benefits must be the first priority for any actions filed against retainage held by a state agency or authorized local government.

For contracts of one hundred fifty thousand dollars or less, the Port may accept a full payment and performance bond from an individual surety or sureties.

- C. Port may notify surety. If the Port makes or receives a claim against the Contractor, the Port may, but is not obligated to, notify the Contractor's surety of the nature and amount of the claim. If the claim relates to a possibility of a Contractor's default, the Port may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

ARTICLE 11 - DISPUTE RESOLUTION

11.01 NOTICE OF PROTEST AND CLAIM

- A. Dispute resolution procedure mandatory. All claims, direct or indirect, arising out of, or relating to, the Contract Documents or the breach thereof, shall be decided exclusively by the following alternative dispute resolution procedure, unless the parties mutually agree otherwise. If the Port and Contractor agree to a partnering process to assist in the resolution of disputes, the partnering process shall occur prior to, and not be in place of, the mandatory dispute resolution procedures set forth below.
- B. Notice of protest defined. Except for claims requiring notice before proceeding with the affected Work as otherwise described in the Contract Documents, the Contractor shall provide immediate oral notice of protest to the Engineer prior to performing any disputed Work and shall submit a written notice of protest to the Port within seven (7) days of the occurrence of the event giving rise to the protest that includes a clear description of the event(s). The protest shall identify any point of disagreement, those portions of the Contract Documents believed to be applicable, and an estimate of quantities and costs involved. When a protest relates to cost, the Contractor shall keep full and complete records and shall permit the Port to have access to those records at any time as requested by the Port.
- C. Claim defined. A claim is a demand by one of the parties seeking adjustment or interpretation of the Contract terms, payment of money, extension of time, or other relief with respect to the terms of the Contract Documents. The term "claim" also includes all disputes and matters in question between the Port and Contractor arising out of, or relating to, the Contract Documents. Claims must be initiated in writing and include a detailed factual statement and clear description of the claim providing all necessary dates, locations, and items of Work, the date or dates on which the events occurred that give rise to the claim, the names of employees or representatives knowledgeable about the claim, the specific provisions of the Contract Documents that support the claim, any documents or oral communications that support the claim, any proposed change in the Contract Sum (showing all components and calculations) and/or Contract Time (showing cause and analysis of the resultant delay in the critical path), and all other data supporting the claim. Claims shall also be submitted with a statement certifying, under penalty of perjury, that the claim as submitted is made in good faith, that the supporting cost and pricing data are true and accurate to the best of Contractor's knowledge and belief, that the claim is fully supported, and that the amount requested accurately reflects the adjustment in the Contract Sum or Contract Time for which Contractor believes the Port is liable. A claim shall be deemed to include all changes, direct and indirect, in cost and in time to which the Contractor and Subcontractors of any tier are entitled and may not contain

reservations of rights without the Port's written approval; any unapproved reservations of rights shall be without effect.

- D. Claim procedure. The Contractor shall submit a written claim within thirty (30) days of providing written notice of protest. The Contractor may delay submitting supporting data by an additional thirty (30) days if it notifies the Port in its claim that substantial data must be assembled. Any claim of a Subcontractor of any tier may be brought only through, and after review by and concurrence of, the Contractor.
- E. Failure to comply with notice of protest and claim requirements waives claims. Any notice of protest by the Contractor and any claim of the Contractor, whether under the Contract or otherwise, must be made pursuant to, and in strict accordance with, the applicable provisions of the Contract. Failure to properly and timely submit a notice of protest or to timely submit a claim shall waive the claim. No act, omission, or knowledge, actual or constructive, of the Port shall waive the requirement for timely written notice of protest and a timely written claim, unless the Port and the Contractor sign an explicit, unequivocal written waiver approved by the Port. The Contractor expressly acknowledges and agrees that the Contractor's failure to timely submit required notices of protest and/or timely submit claims has a substantial impact upon, and prejudices, the Port. For the purpose of calculating time periods, an "event giving rise to a claim," among other things, is not a Request for Information, but rather is a response that the Contractor believes would change the Contract Sum and/or Contract Time.
- F. False claims. The Contractor shall not make any fraudulent misrepresentations, concealments, errors, omissions, or inducements to the Port in the formation or performance of the Contract. If the Contractor or a Subcontractor of any tier submits a false or frivolous claim to the Port, which for purposes of this Section 11.01(F) is defined as a claim based in whole or in part on a materially incorrect fact, statement, representation, assertion, or record, the Port shall be entitled to collect from the Contractor by offset or otherwise (without prejudice to any right or remedy of the Port) any and all costs and expenses, including investigation and consultant costs, incurred by the Port in investigating, responding to, and defending against the false or frivolous claim.
- G. Compliance with lien and retainage statutes required. If a claim relates to, or is the subject of, a lien or retainage claim, the party asserting the claim may proceed in accordance with applicable law to comply with the notice and filing deadlines prior to resolution of the claim by mediation or by litigation.
- H. Performance required pending claim resolution. Pending final resolution of a claim, the Contractor shall continue to perform the Contract and maintain the Baseline Project Schedule, and the Port shall continue to make payments of undisputed amounts due in accordance with the Contract Documents.

11.02 MEDIATION

- A. Claims must be subject to mediation. At any time following the Port's receipt of a written claim, the Port may require that an officer of the Contractor and the Port's designee (all with authority to settle) meet, confer, and attempt to resolve a claim. If the claim is not resolved during this meeting, the claim shall be subject to mandatory mediation as a condition precedent to the initiation of litigation. This requirement can be waived only by an explicit, written waiver signed by the Port and the Contractor.
- B. Mediation procedure. A request for mediation shall be filed in writing with the other party to the Contract, and the parties shall promptly attempt to agree upon a mediator. If the parties have not reached agreement within thirty (30) days of the request, either party may file the request with the American Arbitration Association, or such other alternative dispute resolution service to which the parties mutually agree, with a copy to the other party, and the mediation shall be

administered by the American Arbitration Association (or other agreed service). The parties to the mediation shall share the mediator's fee and any filing fees equally. The mediation shall be held in Pierce County, Washington, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof. Unless the Port and the Contractor mutually agree in writing otherwise, all claims shall be considered at a mediation session that shall occur prior to Final Completion.

11.03 LITIGATION

- A. Claims not resolved by mediation are subject to litigation. Claims not resolved through mediation shall be resolved by litigation, unless the parties mutually agree otherwise. The venue for any litigation shall be Pierce County, Washington. The Contractor may bring no litigation on claims, unless such claims have been properly raised and considered in the procedures of this Article 11. The Contractor must demonstrate in any litigation that it complied with all requirements of this Article.
- B. Litigation must be commenced promptly. All unresolved claims of the Contractor shall be waived and released, unless the Contractor has complied with the requirements of the Contract Documents, and litigation is served and filed within 180 days of the date of Substantial Completion approved in writing by the Port or termination of the Contract. The pendency of mediation (the time period between receipt by the non-requesting party of a written mediation request and the date of mediation) shall toll these deadlines until the earlier of the mediator providing written notice to the parties of impasse, or thirty (30) days after the date of the mediation session.
- C. Port not responsible for attorneys' fees. Neither the Contractor nor a Subcontractor of any tier, whether claiming under a bond or lien statute or otherwise, shall be entitled to attorneys' fees directly or indirectly from the Port (but may recover attorneys' fees from the bond or statutory retainage fund itself to the extent allowable under law).
- D. Port may join Contractor in dispute. The Port may join the Contractor as a party to any litigation or arbitration involving the alleged fault, responsibility, or breach of contract of the Contractor or Subcontractor of any tier.

ARTICLE 12 - MISCELLANEOUS

12.01 GENERAL

- A. Rights and remedies are cumulative. The rights and remedies of the Port set forth in the Contract Documents are cumulative, and in addition to and not in limitation of, any rights and remedies otherwise available to the Port. The pursuit of any remedy by the Port shall not be construed to bar the Port from the pursuit of any other remedy in the event of similar, different, or subsequent breaches of this Contract. All such rights of the Port shall survive completion of the Project or termination of the Contractor.
- B. Reserved rights do not give rise to duty. The rights reserved or possessed by the Port to take any action shall not give rise to a duty for the Port to exercise any such right.

12.02 WAIVER

- A. Waiver must be in writing and authorized by Port. Waiver of any provisions of the Contract Documents must be in writing and authorized by the Port. No other waiver is valid on behalf of the Port.
- B. Inaction or delay not a waiver. No action, delay in acting, or failure to act by the Port shall constitute a waiver of any right or remedy of the Port, or constitute an approval or acquiescence of any breach or defect in the Work, nor shall any delay or failure of the Port to act waive or

otherwise prejudice the right of the Port to enforce a right or remedy at any subsequent time.

- C. Claim negotiation not a waiver. The fact that the Port and the Contractor may consider, discuss, or negotiate a claim that has or may have been defective or untimely under the Contract, shall not constitute a waiver of the provisions of the Contract Documents, unless the Port and the Contractor sign an explicit, unequivocal waiver.

12.03 GOVERNING LAW

- A. Washington law governs. This Contract and the rights and duties of the parties hereunder shall be governed by the internal laws of the State of Washington, without regard to its conflict of law principles.

12.04 COMPLIANCE WITH LAW

- A. Contractor to comply with applicable laws. The Contractor shall at all times comply with all applicable Federal, State and local laws, ordinances, and regulations. This compliance shall include, but is not limited to, the payment of all applicable taxes, royalties, license fees, penalties, and duties.
- B. Contractor to provide required notices. The Contractor shall give notices required by all applicable Federal, State and local laws, ordinances, and regulations bearing on the Work.
- C. Contractor to confine operations at site to permitted areas. The Contractor shall confine operations at the Project site to areas permitted by applicable laws, ordinances, permits, rules and regulations, and lawful orders of public authorities and the Contract Documents.

12.05 ASSIGNMENT

- A. Assignment. The Port and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to the other party and to the partners, successors, assigns, and legal representatives of such other party. The Contractor may not assign, transfer, or novate all or any portion of the Contract, including but not limited to, any claim or right to the Contract Sum, without the Port's prior written consent. If the Contractor attempts to make an assignment, transfer, or novation without the Port's consent, the assignment shall be of no effect, and Contractor shall nevertheless remain legally responsible for all obligations under the Contract. The Contractor also shall not assign or transfer, to any third party, any claims it may have against the Port arising under the Contract or otherwise related to the Project.

12.06 TIME LIMIT ON CAUSES OF ACTION

- A. Time limit on causes of action. The Port and Contractor shall commence all causes of action, whether in contract, tort, breach of warranty, or otherwise, against the other arising out of, or related to, the Contract in accordance with the requirements of the dispute resolution procedure set forth in Article 11 of these General Conditions, within the time period specified by applicable law, and within the time limits identified in the Contract Documents. The Contractor waives all claims and causes of action not commenced in accordance with this Section 12.06.

12.07 SERVICE OF NOTICE

- A. Notice. Written notice under the Contract Documents by either the Contractor or Port may be served on the other party by personal service, electronic or facsimile transmission, or delivery service to the last address provided in writing to the other party. For the purpose of measuring time, notice shall be deemed to be received by the other party on the next business day following the sender's electronic or facsimile transmittal or delivery by delivery service.

12.08 RECORDS

- A. Contractor and Subcontractors to maintain records and cooperate with Port audit. The Contractor and Subcontractors of any tier shall maintain books, ledgers, records, documents, estimates, bids, correspondence, logs, schedules, emails, and other tangible and electronic data and evidence relating or pertaining to costs and/or performance of the Contract ("records") to such extent, and in such detail, as will properly reflect and fully support compliance with the Contract Documents and with all costs, charges, and other amounts of whatever nature. The Contractor shall preserve these records for a period of six (6) years following the date of Final Acceptance under the Contract. Within seven (7) days of the Port's request, both during the Project and for six (6) years following Final Acceptance, the Contractor and Subcontractors of any tier shall make available, at their office during normal business hours, all records for inspection, audit, and reproduction (including electronic reproduction) by the Port or its representatives; failure to fully comply with this requirement shall constitute a material breach of contract and a waiver of all claims by the Contractor and Subcontractors of any tier.
- B. Rights under RCW 42.56. The Contractor agrees, on behalf of itself and Subcontractors of any tier, that any rights under Chapter 42.56 RCW will commence at Final Acceptance, and that the invocation of such rights at any time by the Contractor or a Subcontractor of any tier, or their respective representatives, shall initiate an equivalent right to disclosures from the Contractor and Subcontractors of any tier for the benefit of the Port.

12.09 STATUTES

- A. Contractor to comply with Washington statutes. The Contractor shall abide by the provisions of all applicable statutes, regulations, and other laws. Although a number of statutes are referenced in the Contract Documents, these references are not meant to be, and are not, a complete list.
 - 1. Pursuant to RCW 39.06, "Registration, Licensing of Contractors," the Contractor shall be registered and licensed as required by the laws of the State of Washington, including but not limited to RCW 18.27, "Registration of Contractors," and shall satisfy all State of Washington bonding and insurance requirements. The Contractor shall also have a current state Unified Business Identifier number; have industrial insurance coverage for the Contractor's employees working in Washington as required by Title 51 RCW; have an Employment Security Department number as required by Title 50 RCW; have a state excise tax registration number as required in Title 82 RCW; and not be disqualified from bidding on any public works contract under RCW 39.06.010 (unregistered or unlicensed contractors) or RCW 39.12.065(3) (prevailing wage violations).
 - 2. The Contractor shall comply with all applicable provisions of RCW 49.28, "Hours of Labor."
 - 3. The Contractor shall comply with pertinent statutory provisions relating to public works of RCW 49.60, "Discrimination."
 - 4. The Contractor shall comply with pertinent statutory provisions relating to public works of RCW 70.92, "Provisions in Buildings for Aged and Handicapped Persons," and the Americans with Disabilities Act.
 - 5. Pursuant to RCW 50.24, "Contributions by Employers," in general, and RCW 50.24.130 in particular, the Contractor shall pay contributions for wages for personal services performed under this Contract or arrange for an acceptable bond.
 - 6. The Contractor shall comply with pertinent provisions of RCW 49.17, "Washington Industrial Safety and Health Act," and Chapter 296-155 WAC, "Safety Standards for Construction Work."

7. Pursuant to RCW 49.70, "Worker and Community Right to Know Act," and WAC 296-62-054 et seq., the Contractor shall provide to the Port, and have copies available at the Project site, a workplace survey or material safety data sheets for all "hazardous" chemicals under the control or use of Contractor or any Subcontractor of any tier.
8. All products and materials incorporated into the Project as part of the Work shall be certified as "asbestos-free" and "lead-free" by United States standards, and shall also be free of all hazardous materials or substances. At the completion of the Project, the Contractor shall submit certifications of asbestos-free and of lead-free materials certifying that all materials and products incorporated into the Work meet the requirements of this Section, and shall also certify that materials and products incorporated into the Work are free of hazardous materials and substances.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes requirements for the Contractor's insurance.

1.02 SUBMITTAL REQUIREMENTS

- A. Evidence of the required insurance within ten (10) days of the issued Notice of Award to the Contractor.
- B. Updated evidence of insurance as required until final completion.

1.03 COMMERCIAL GENERAL LIABILITY (CGL) INSURANCE

- A. The Contractor shall secure and maintain until Final Completion, at its sole cost and expense, the following insurance in carriers reasonably acceptable to the Port, licensed in the State of Washington, registered with the Washington State Insurance Commissioner, and possessing an A.M. Best rating of "A-, FSC six (6)" or better.
- B. The Port of Tacoma (Port) and the Northwest Seaport Alliance (NWSA) will be included as additional insureds for both ongoing and completed operations by endorsement to the policy using ISO Form CG 20 10 11 85 or forms CG 20 10 04 13 and CG 20 37 04 13 (or equivalent coverage endorsements). The inclusion of the Port and the NWSA as additional insureds shall not create premium liability for either the Port nor the NWSA.

Also, by endorsement to the policy, there shall be:

- 1. An express waiver of subrogation in favor of the Port;
 - 2. A cross liabilities clause; and
 - 3. An endorsement stating that the Contractor's policy is primary and not contributory with any insurance carried by the Port.
- C. If the Contractor, Supplier, or Subcontractors will perform any work requiring the use of a licensed professional, per RCW 18, the Contractor shall provide evidence to the Port of professional liability insurance in amounts not less than \$1,000,000.
 - D. This insurance shall cover all of the Contractor's operations, of whatever nature, connected in any way with the Contract, including any operations performed by the Contractor's Subcontractors of any tier. **It is the obligation of the Contractor to ensure that all Subcontractors (at whatever level) carry a similar program that provides the identified types of coverage, limits of liability, inclusion of the Port and the NWSA as additional insured(s), waiver of subrogation and cross liabilities clause.** The Port reserves the right to reject any insurance policy as to company, form, or substance. Contractor's failure to provide, or the Port's acceptance of, the Contractor's certificate of insurance does not waive the Contractor's obligation to comply with the insurance requirements of the Contract as specifically described below:
 - 1. Marine General Liability Insurance on an Occurrence Form Basis including, but not limited to:
 - a. Bodily Injury Liability;
 - b. Property Damage Liability;
 - c. Contractual Liability;
 - d. Products - Completed Operations Liability;

- e. Personal Injury Liability;
- f. Marine coverages as appropriate for the scope of work.

Alternatively, a Commercial General Liability (CGL) policy is acceptable if all of the above coverages are incorporated in the policy and there are no marine exclusions that will remove coverage for either vessels or work done by or above or around the water.

2. Marine Protection and Indemnity/Vessel Pollution Liability: Contractor shall obtain, at Contractor's expense and keep in effect during the term of the Contract, Marine Protection and Indemnity insurance which shall include Collision Liability and Jones Act coverages, including coverage for all masters, crew, and passengers. The limit of liability shall not be less than \$5,000,000. If Collision Liability is part of the Hull and Machinery coverage for the vessel, evidence of Hull and Machinery coverage in amounts not less than the actual cash value of the vessel shall also be provided.
 - a. Vessel Pollution Liability: Contractor shall obtain, at Contractor's expense and keep in effect during the term of the Contract, Vessel Pollution Liability on all vessels used under this Contract. Vessel Pollution Liability limits shall be the same as the Protection and Indemnity (P&I) limits called for in Section 2.
3. Comprehensive Automobile Liability including, but not limited to:
 - a. Bodily Injury Liability;
 - b. Property Damage Liability;
 - c. Personal Injury Liability;
 - d. Owned and Non-Owned Automobile Liability; and
 - e. Hired and Borrowed Automobile Liability.
4. Contractor's Pollution Liability (CPL) covering claims for bodily injury, property damage and cleanup costs, and environmental damages from pollution conditions arising from the performance of covered operations.
 - a. If the Work involves remediation or abatement of regulated waste to include, but not limited to asbestos containing materials, lead containing products, mercury, PCB, underground storage tanks, or other hazardous materials or substances, the CPL policy shall not exclude such coverage, or a specific policy covering such exposure shall be required from the Contractor and all Subcontractors performing such Work.
 - b. If the Work involves transporting regulated materials or substances or waste, a separate policy or endorsement to the CPL policy specifically providing coverage for liability and cleanup arising from an upset or collision during transportation of hazardous materials or substances shall be required from the Contractor and all Subcontractors performing such Work.
 - c. It is preferred that CPL insurance shall be on a true occurrence form without a sunset clause. However, if CPL insurance is provided on a Claims Made basis, the policy shall have a retroactive date prior to the start of this project, and this insurance shall be kept in force for at least three years after the final completion of this project. Alternatively, the contractor, at its option, may provide evidence of extended reporting period of not less than three (3) years in its place. The Contractor shall be responsible for providing the Port with certificates of insurance each year evidencing this coverage.
 - d. The Port and the NWSA shall be named as an additional insured(s) on the CPL policy.

5. Technology Professional Liability Errors and Omissions Insurance appropriate to the Consultant's profession and work hereunder, with limits not less than \$2,000,000 per occurrence. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by the Vendor in this agreement and shall include, but not be limited to, claims involving infringement of intellectual property, copyright, trademark, invasion of privacy violations, information theft, release of private information, extortion and network security. The policy shall provide coverage for breach response costs as well as regulatory fines and penalties as well as credit monitoring expenses with limits sufficient to respond to these obligations.

The policy shall include, or be endorsed to include, **property damage liability coverage** for damage to, alteration of, loss of, or destruction of electronic data and/or information "property" of the Agency in the care, custody, or control of the Vendor.

- E. Except where indicated above, the limits of all insurance required to be provided by the Contractor shall be not less than \$2,000,000 for each occurrence. If the coverage is aggregated, the coverage shall be no less than two times the per occurrence or per claim limit. However, coverage in the amounts of these minimum limits shall not be construed as to relieve the Contractor from liability in excess of such limits. Any additional insured endorsement shall NOT be limited to the amounts specified by this Contract, unless expressly waived in writing by the Port.
- F. Contractor shall certify that its operations are covered by the Washington State Worker's Compensation Fund. The Contractor shall provide its Account Number or, if self-insured, its Certificate of Qualification Number. The Contractor shall also provide evidence of Stop-Gap Employers' Liability Insurance.
- G. The Contractor shall furnish, within ten (10) days following issuance of the Notice of Award, a certificate of insurance satisfactory to the Port evidencing that insurance in the types and minimum amounts required by the Contract Documents has been secured. The Certificate of Insurance shall be signed by an authorized representative of the insurer together with a copy of the endorsement, which shows that the Port and the NWSA are named as additional insured(s).
- H. Contractor shall provide at least forty-five (45) days prior written notice to the Port of any termination or material change, or ten (10) day's-notice in the case of non-payment of premium(s).
- I. If the Contractor is required to make corrections to the Work after Final Completion, the Contractor shall obtain at its own expense, prior to the commencement of any corrective work, insurance coverage as required by the Contract Documents, which coverage shall be maintained until the corrections to the Work have been completed and accepted by the Port.

1.04 BUILDER'S RISK INSURANCE

- A. Until Final Completion of the Work, the construction Work is at the risk of the Contractor and no partial payment shall constitute acceptance of the Work or relieve the Contractor of responsibility of completing the Work under the Contract.
- B. To the extent the Work provided under this Contract does not include the construction, rehabilitation or repair of any dam, road or bridge, and whenever the estimated cost of the Work is less than \$25,000,000, the Port and Contractor acknowledge that the Port will purchase, or has purchased, from a company or companies lawfully authorized and admitted to do business in Washington, property insurance written on a Builder's Risk "all-risk" (including Earthquake and Flood with applicable sub-limits) or equivalent policy form to cover the course of construction in the amount of the full insurable value thereof. This property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in

writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the Port has an insurable interest in the property, whichever is later. Without further endorsement, the coverage afforded by this insurance includes the interests of the Port, the Contractor, and Subcontractors of any tier on the Project. Coverage for materials intended to be installed in the facility will be covered by the Builder's Risk policy. Losses up to the deductible amount, and payment of any deductible amount, shall be the responsibility of the Contractor. All tools and equipment not intended as part of the construction or installation (including but not limited to Contractor's equipment and tools) will NOT be covered by the policy.

To the extent the Work provided under this Contract involves any dam, roadway or bridge, the value of which exceeds \$250,000, or whenever the estimated cost of the Work is equal to or greater than \$25,000,000, Contractor will purchase from a company or companies lawfully authorized and admitted to do business in Washington, property insurance written on a Builder's Risk "all-risk" (excluding Earthquake and Flood with applicable sub-limits) or equivalent policy form to cover the course of construction in the amount of the full insurable value thereof. This Builder's Risk insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the Port has an insurable interest in the property, whichever is later. Contractor shall provide evidence satisfactory to the Port confirming the coverage afforded by this insurance shall include the interests of the Port, the Contractor, and Subcontractors of any tier on the Project. Coverage for materials intended to be installed in the facility will be covered by the Builder's Risk policy purchased by the Contractor. Losses up to the deductible amount, and payment of any deductible amount, shall be the responsibility of the Contractor.

In all instances, the Contractor shall obtain property insurance for all Contractor-owned equipment and tools and, in the event of loss, payment of any deductible amount shall be the responsibility of the Contractor.

PART 2 - PRODUCTS - NOT USED

PART 3 - PRODUCTS - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 PREVAILING AND OTHER REQUIRED WAGES

- A. The Contractor shall pay (and shall ensure that all Subcontractors of any tier pay) all prevailing wages and other wages (such as Davis-Bacon Act wages) applicable to the Project.
- B. Pursuant to RCW 39.12, "Prevailing Wages on Public Works," no worker, laborer, or mechanic employed in the performance of any part of the Work shall be paid less than the "prevailing rate of wage" in effect as of the date that bids are due.
 - 1. Based on the Bid Date, the applicable effective date for prevailing wages for this Project is December 17, 2020.
- C. The State of Washington prevailing wage rates applicable for this public works Project, which is located in Pierce County, may be found at the following website address of the Department of Labor and Industries:

<https://fortress.wa.gov/lni/wagelookup/prvWagelookup.aspx>
- D. The schedule of the prevailing wage rates is made a part of the Contract Documents by reference as though fully set forth herein, and a printed copy of the applicable prevailing wage rates are also available for viewing at the Port Administration Building, located at 1 Sitcum Plaza, Tacoma, WA 98421 (253-383-5841). Upon request to the Procurement Department at procurement@portoftacoma.com, the Port will email or mail a hard copy of the applicable Journey Level prevailing wages for this Project.
- E. Questions relating to prevailing wage data should be addressed to the Industrial Statistician.

Mailing Address: Washington State Department of Labor and Industries
Prevailing Wage Office
P.O. Box 44540
Olympia, WA 98504

Telephone: (360) 902-5335

Facsimile: (360) 902-5300

 - 1. If there is any discrepancy between the provided schedule of prevailing wage rates and the published rates applicable under WAC 296-127-011, the applicable published rates shall apply with no increase in the Contract Sum. It is the Contractor's responsibility to ensure that the correct prevailing wage rates are paid.
- F. Statement to Pay Prevailing Wages
 - 1. Prior to any payment being made by the Port under this Contract, the Contractor, and each Subcontractor of any tier, shall file a Statement of Intent to Pay Prevailing Wages with the Department of Labor and Industries for approval.
 - 2. The statement shall include the hourly wage rate to be paid to each classification of workers entitled to prevailing wages, which shall not be less than the prevailing rate of wage, and the estimated number of workers in each classification employed on the Project by the Contractor or a Subcontractor of any tier, as well as the Contractor's contractor registration number and other information required by the Department of Labor and Industries.
 - 3. The statement, and any supplemental statements, shall be filed in accordance with the requirements of the Department of Labor and Industries. No progress payment shall be made until the Port receives such certified statement.

- G. The Contractor shall post, in a location readily visible to workers, at the Project site: (i) a copy of the Statement of Intent to Pay Prevailing Wages approved by the Industrial Statistician of the Department of Labor and Industries and (ii) the address and telephone number of the Industrial Statistician of the Department of Labor and Industries to whom a complaint or inquiry concerning prevailing wages may be directed.
- H. If a State of Washington prevailing wage rate conflicts with another applicable wage rate (such as Davis-Bacon Act wage rate) for the same labor classification, the higher of the two shall govern.
- I. Pursuant to RCW 39.12.060, if any dispute arises concerning the appropriate prevailing wage rate for work of a similar nature, and the dispute cannot be adjusted by the parties in interest, including labor and management representatives, the matter shall be referred for arbitration to the Director of the Department of Labor and Industries, and his or her decision shall be final and conclusive and binding on all parties involved in the dispute.
- J. Immediately following the end of all Work completed under this Contract, the Contractor and each Subcontractor of any tier, shall file an approved Affidavit of Wages Paid with the Department of Labor and Industries.
- K. The Contractor shall defend (at the Contractor's sole cost, with legal counsel approved by Port), indemnify, and hold the Port harmless from all liabilities, obligations, claims, demands, damages, disbursements, lawsuits, losses, fines, penalties, costs, and expenses, whether direct, indirect, including, but not limited to, attorneys' fees and consultants' fees and other costs and expenses, from any violation or alleged violation by the Contractor or any Subcontractor of any tier of RCW 39.12 ("Prevailing Wages on Public Works") or RCW Title 51 ("Industrial Insurance"), including, but not limited to, RCW 51.12.050.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 REQUIREMENTS APPLICABLE PORT-WIDE

- A. The Contractor shall submit, prior to the start of Work, a list of emergency contact numbers for itself and its Subcontractors, Suppliers, and manufacturer representatives. Each person on the Project site shall have a valid identification card that is tamper proof with laminated photo identification, such as one (1) of the following:
 - 1. State-issued Driver's license (also required if driving a vehicle)
 - 2. Card issued by a governmental agency
 - 3. Passport
 - 4. Pacific Maritime Association card
 - 5. Labor organization identification card
- B. Identification cards shall be visible while on the Project site or easily displayed when requested.

1.02 TRANSPORTATION WORKER IDENTIFICATION CARD (TWIC) SUMMARY

- A. TWIC is required for all personnel needing unescorted access to secure and restricted areas of Port facilities subject to 33 CFR 105, including truckers, surveyors, construction personnel, and delivery personnel. Secure areas are those areas with security measures for access control in accordance with a Coast Guard approved security plan. Restricted areas are those areas within a secure area that require increased limited access and a higher degree of security protection. New terminals under construction prior to terminal operations may not be designated secure areas. Construction on existing maritime transportation facilities and punchlist or other type of work requirements on facilities that have been certified under 33 CFR will require a TWIC.
- B. Contractors should allow for application and enrollment for the security threat assessment and issuance of TWIC when submitting a bid.

1.03 ESCORTING

- A. To access restricted Port facilities, all un-credentialed individuals must be accompanied by a person who has been issued a TWIC and trained as an escort at that specific facility. Each restricted facility has their own guidelines for escorting. Having escort training at one facility does not qualify you to escort at other facilities. Prior to conducting escort services for non-TWIC personnel, the escorts are required to contact the Facility Security Officer at the gate for verification they are on the escort list and to document who is being escorted. For required documentation, upon completion of escorting, the escort is to inform the Security officer that the escort is complete. It is the Contractor's responsibility to schedule escort training with the Facility Security Officer.
- B. For more information, refer to the Port Security website at:
<http://www.portoftacoma.com/shipping/security>
- C. For Project specific information, refer to Section 01 14 00 - Work Restrictions.

1.04 ELIGIBILITY FOR TWIC

- A. Refer to the Transportation Worker Identification Credential website at: <https://www.tsa.gov/for-industry/twic> for information on eligibility and applying for TWIC.

1.05 TWIC USE AND DISPLAY

- A. Each worker granted unescorted access to secure areas of a facility or vessel must present their cards to authorized personnel, who will compare the holder to his or her photo, inspect

security features on the TWIC, and evaluate the card for signs of tampering. The Coast Guard will verify TWIC's when conducting vessel and facility inspections and during spot checks using hand-held scanners, ensuring credentials are valid.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE

- A. The accompanying Drawings and Specifications show and describe the location and type of Work to be performed under this project. Work is more specifically defined on the drawings listed in Section 00 01 15.
 - 1. The Work under this contract consists of furnishing, installing and providing all labor, materials and equipment required to complete the work described in these documents.
 - 2. The Washington United Terminal Fender System Replacement consists of: Demolition of the existing fender systems including the precast concrete fender piles, steel walers, chains, cables, and arch fenders. Installation of new fender systems that include cone fenders, UHMW-PE faced steel fender panels, chains, and anchorages. Repairing the damaged concrete bullrail and water vault.

1.02 LOCATION

- A. The work is located at:
1815 Port of Tacoma Rd, Tacoma, WA 98421

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section specifies work sequence and constraints.
- B. The purpose of the milestones, sequence and limitations of construction are to ensure that the Contractor understands the requirements and limitations on its work by the specific characteristics of the Contract, schedules and conducts work in a manner consistent with achieving these purposes, and complies with the construction schedule, the specific sequence, constraints, milestones and limitations of work specified.
- C. Sequence of construction. Plan the sequence of construction to accommodate all the requirements of the specifications. The Contract Price shall include all specified requirements as described in this Section.

1.02 CONTRACTOR ACCESS AND USE OF PREMISES

- A. Activity Regulations
 - 1. Ensure Contractor personnel deployed to the project become familiar with and follow all regulations or restrictions established by the Engineer.
- B. Working Facility
 - 1. The WUT is operational 24 hours a day, 7 (seven) days a week. The Facility will remain in operation for the duration of construction. The Contractor shall conduct all items of the Work in such a manner as to prevent interference with the normal operations of the Facility.
 - 2. Washington United Terminal (WUT) is a secure and restricted site. All work performed at the WUT terminal will require TWIC credentials as specified in Section 00 73 63 Security requirements.
- C. Work Site Regulations
 - 1. Keep within the limits of work and assigned avenues of ingress and egress. Do not enter any areas outside the designated work location unless previously approved by the Engineer. The Contractor must comply with the following conditions:
 - a. Restore all common areas to a clean and useable condition that permits the resumption of Tenant operations after the Contractor ceases daily work.
 - b. Be responsible for control and security of Contractor-owned equipment and materials at the work site. Report to Port Security (phone (253) 383-9472) any missing/lost/stolen property.
 - c. A laydown area will be provided as shown on the plans. Ensure all materials, tools and equipment are removed from the site or secured within the designated laydown area at the end of each shift.

1.03 CONSTRAINTS - GENERAL

- A. Constraints for Work at Site
 - 1. This project includes work below the Ordinary High-Water Mark (OHWM) (Elev. +12.78) which is considered in-water work. All in-water work must be performed between July 16th and February 14th.
 - 2. Marine Mammal Monitoring is required on this site between October 1st and February 14th. The Contractor is required to perform the necessary coordination, monitoring and

reporting as required in the Port of Tacoma's Marine Mammal Monitoring Plan which is included in Appendix I.

3. All Work shall be coordinated with the Engineer who will coordinate with the terminal operator. A laydown area of approximately 355-ft x 60-ft will be provided the contractor. The work area space on the dock available to the contractor will depend on the terminal operations and vessel schedule. Contractor can anticipate a work area of approximately 50-ft x 50-ft centered on the location of each fender system demolition and installation, the location of each ladder removal and reinstallation, and the location of the bullrail and water vault repairs. If terminal operations and vessel schedule allow, more space and work area limits will be provided to the Contractor. The laydown area will not be available to the Contractor until May 2021.
4. It is anticipated that two vessels will berth at WUT each week, one vessel at a time. Contractor should anticipate on vessel schedule slipping one (1) day a week where two vessels are at berth at the same time. On days when two vessels are at berth, the contractor should anticipate on not having access to work. On days when only one vessel is at berth, contractor will be able to work on the section of the pier not occupied by the vessel and terminal operations. Contractor should plan on alternating operations/work between Area 2 (Bents 1- 55) and Area 1(Bents 55– 82). If there is more than one (1) day a week with two vessels at berth, additional days will be added to the Contract time.
5. Contractor shall maintain a flexible schedule to accommodate terminal operations and vessel schedule. Vessel schedule will be shared with the Contractor two (2) to three (3) weeks in advance for planning purposes. Vessel activity at berths takes priority over the Contract so the Work must be coordinated through the Engineer to continue while accommodating vessels at berth.
6. During concrete fender pile extraction, the contractor will be allowed a radius distance of up to 200-ft from the fender pilings being removed. More space will be provided the contractor if vessel schedule and terminal operations allow.
7. There will be other construction projects and activities on the dock / pier during this project. There will be limited space available to the contractor on the dock / pier. If contractor chooses to extract piles from the land / dock side, contractor should anticipate delays and interruptions to their operations due to other activities and projects on the pier. Contractor will make up lost time at no additional cost to the Port.
8. If contractor chooses to extract the concrete fender pilings from the land / dock side, contractor is responsible for providing engineering verifying that crane loading during pile extraction does not exceed pier loading capacity. See section 00 31 00 for available pier as-builts drawings.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION

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. Measurement by Volume:
 - 1. Measurement by volume will be by the cubic dimension indicated in the Contractor's submitted bid. Method of volume measurement will be by the unit volume in place or removed as shown on the Contract Drawings or as specified.
 - 2. When material is to be measured and paid for on a volume basis and it is impractical to determine the volume by the specified method of measurement, or when requested by the Contractor in writing and accepted by the Engineer in writing, the material may be weighed in accordance with the requirements specified for weight measurement. Such weights will be converted to volume measurement for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Resident Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities will be accepted.
- C. Measurement by Area: Measurement by area will be by the square dimension shown on the Contract Drawings or as specified. Method of square measurement will be as specified.
- D. 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.

E. 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.
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 this item 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: Demolition and Removal of Existing Fender Systems and Appurtenances

1. Item Description: The Work of this item includes but is not limited to, demolition of pile-to-waler connections, removal and disposal of existing steel waler assemblies, removal and disposal of existing wire ropes, extraction of existing concrete fender piles, disposal/recycling of existing concrete fender piles, removal and disposal of existing rubber fender elements, cutting-off anchor bolts, grinding them flush & coating them, cutting-off U-anchors, grinding them flush & coating them, water turbidity testing, marine mammal monitoring and all other demolition and preparation Work required for demolition and removal of existing fender systems and appurtenances per the project plans and specifications.
2. Measurement: This item will be measured per each fender system removed.
3. Payment: This item will be paid for at the Contract unit price as specified in the Contractor's submitted bid and in accordance with the approved Schedule of Values.

D. Item #4: Installation of New Fender Systems with Pile Cap Supplements

1. Item Description: The Work of this item includes but is not limited to, installation of new fender systems and pile cap supplements behind the bullrail. This includes; removal of pavement and controlled density fill, drilling and epoxying for reinforcing dowels, furnishing and installing reinforcing dowels, furnishing and placing reinforcing, forming and placing concrete, furnishing and placing controlled density fill, and installation of asphalt pavement. Installation of fenders includes; furnishing and installing drilled and epoxied anchors for fender element, and for weight and shear chain anchorages, furnishing and installing drilled through-rods for tension chain anchorages, furnishing and installing mounting plates, furnishing and installing cone fender systems including panels, chains and anchorages, and all other Work required to install new fenders with pile cap supplements per the project plans and specifications.
2. Measurement: This item will be measured per each new fender system with a supplement installed.
3. Payment: This item will be paid for at the Contract unit price as specified in the Contractor's submitted bid, and in accordance with the approved Schedule of Values.

E. Item #5: Installation of New Fender Systems without Pile Cap Supplements

1. Item Description: The Work of this item includes but is not limited to furnishing and installing drilled and epoxied anchors for fender element, and for weight and shear chain anchorages, removal of pavement and controlled density fill behind bullrail for tension anchorages' installation, furnishing and installing drilled through-rods for tension chain anchorages, furnishing and placing of controlled density fill around tension chain anchorage, installation of asphalt pavement, furnishing and installing mounting plates, furnishing and installing cone fender systems including panels, chains, and anchorages, and all other Work required to install new fenders without pile cap supplements per the project plans and specifications.
2. Measurement: This item will be measured per each new fender system without a supplement installed.
3. Payment: This item will be paid for at the Contract unit price as specified in the Contractor's submitted bid, and in accordance with the approved Schedule of Values.

F. Item #6: Furnish Spare Cone Fender System

1. Item Description: The Work of this item includes furnishing a cone fender system including panels, chains, anchor bolts and anchorages per the project plans and specifications.
 2. Measurement: This item will be measured per a new spare fender system furnished.
 3. Payment: This item will be paid for at the Contract unit price as specified in the Contractor's submitted bid, and in accordance with the approved Schedule of Values.
- G. Item #7: Relocation of Existing Ladders
1. Item Description: The Work of this item includes removal and relocation of the existing ladders and top grab bars per the project plans and specifications.
 2. Measurement: This item will be measured per each ladder removed and relocated.
 3. Payment: This item will be paid for at the Contract unit price as specified in the Contractor's submitted bid, and in accordance with the approved Schedule of Values.
- H. Item #8: Unforeseen Condition Allowance
1. Item Description: This allowance will be for UNFORESEEN CONDITIONS for work unidentified at the time of bid and will be paid preferably as negotiated unit price(s) or lump sum(s). If unit prices or lump sums cannot be established, work will be paid on a time and materials basis per section 00 72 00 General Conditions Article 8.0. Work under this bid item shall be accomplished upon written direction from the Engineer as a Minor Change in Work.
 2. This item will be measured based upon the method agreed upon for each Minor Change issued
 3. Payment: This item will be paid for on a force account basis and at the price agreed upon for each change in Work issued by the Engineer in accordance with procedures noted in Section 01 26 00 - Change Management Procedures
- I. Additive Alternate Bid Item #1: Bullrail and Water Vault Repairs.
1. Item Description: The Work of this item includes all Work required to repair the damaged bullrail and water vault per the project plans and specifications.
 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, and in accordance with the approved Schedule of Values.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.02 SUBMITTALS

- A. The Contractor shall submit for approval the following documentation to the Port for force account change orders:
 - 1. List of Labor Rates
 - a. For the Contractor and each subcontractor, a list of labor rates for each trade applicable to the scope of work to be performed. These submitted rates shall be broken down to include the base wage, fringes, FICA, SUTA, FUTA, industrial insurance, and medical aid premiums as stated in the General Conditions. The rates shall not contain any travel time, safety, loss efficiency factors, overhead, or profit. Rates shall be submitted for straight time, overtime, and double time in a form acceptable to the Engineer. Contractor shall provide proof of all labor rate costs as required by the Engineer, including the submission of a copy of the most current Workers Compensation Rate Notice from Labor & Industries and a copy of the Unemployment Insurance Tax Rate notice from the Employment Security Department.
 - 1) If labor rates change during the course of the project or additional labor rates become required to complete the work, the Contractor shall submit new rates for approval.
 - 2. List of Equipment.
 - a. Submit for the Contractor and each subcontractor, a list of equipment and rates applicable to the scope of work to be performed. The equipment rates shall conform to the rates shown on Equipment Watch. A separate page from equipment watch detailing the hourly rate shall be submitted as backup documentation for each piece of equipment.
 - 1) If the list of equipment and/or equipment rates changes during the course of the project or additional equipment becomes required to complete the work, the Contractor shall submit a new list and rates for approval.

1.03 METHOD TO CALCULATE ADJUSTMENTS TO CONTRACT PRICE

- A. One of the following methods shall be used:
 - 1. Unit Price Method;
 - 2. Firm Fixed Price Method (Lump Sum); or,
 - 3. Time and Materials Method (Force Account).
- B. The Port preferred methods are firm fixed price or unit prices.

1.04 MINOR CHANGES IN THE WORK

- A. Engineer will issue a written directive authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1.05 PROPOSAL REQUESTS

- A. Port-Initiated Proposal Requests: The Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
1. Work Change Proposal Requests issued by Engineer are not instructions either to stop work in progress or to execute the proposed change.
 2. Contractor shall submit a written proposal within the time specified in the General Conditions. The proposal shall represent the Contractor's offer to perform the requested work, and the pricing set forth within the proposal shall represent full, complete, and final compensation for the proposed change and any impacts to any other Contract Work, including any adjustments in the Contract Time.
 - a. Include a breakdown of the changed work in sufficient detail that permits the Engineer to substantiate the costs.
 - 1) Generally, the cost breakdown should be divided into the time and materials categories listed in the General Conditions under Article 8.02.B for either Lump Sum Proposals or Force Account Proposals.
 - 2) For Unit Price Proposals, include the quantity and description of all work involved in the unit pricing being proposed, along with a not to exceed total cost.
 - b. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or differing site conditions require modifications to the Contract, the Contractor may initiate a claim by submitting a request for a change to the Engineer.
1. Notify the Engineer immediately upon finding differing conditions prior to disturbing the site.
 2. Provide follow-up written notification and differing site conditions proposal within the time frames set forth in the General Conditions.
 3. Provide the differing site condition change proposal in the same or similar manner as described above under 1.05.A.
 4. Comply with requirements in Section 00 26 00 Substitution Procedures if the proposed change requires substitution of one product or system for product or system specified.
 5. Proposal Request Form: Use form acceptable to Engineer.

1.06 PROCEEDING WITH CHANGED WORK

- A. The Engineer may issue a directive instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order per the General Conditions, Article 8.01.E.
1. The directive will contain a description of change in the Work and a not-to-exceed amount. It will designate the method to be followed to determine the change in the Contract Sum or the Contract Time.

1.07 CHANGE ORDER PROCEDURES

- A. Issuance of Change Order
1. On approval of the Contractor's proposal, and following successful negotiations, the Engineer will issue a Change Order for signature by the Contractor and execution by the

Engineer.

- a. The Contractor shall sign and return the Change Order to the Engineer within **four (4) days** following receipt of the Change Order from the Engineer. If the Contractor fails to return the signed Change Order within the allotted time, the Engineer may issue a Unilateral Change Directive.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes specifications for preparation, format, and submittal of Schedule of Values.
- B. The Schedule of Values will establish unit prices for individual items of work.
- C. The Schedule of Values will be the basis for payment of contract work.

1.02 PREPARATION

- A. To facilitate monthly pay requests, develop the Schedule of Values based on the Contractor's submitted Bid Items. The Schedule of Values shall be used to provide an allocation of the Work for measurement and payment to a level of detail to ensure accurate payment for the Work accomplished. The Schedule of Values is based on unit priced bid items and a breakdown of each lump-sum bid item. The total dollars for the Schedule of Values shall total the bid amount.
- B. Obtain the agreement of the Engineer on the Schedule of Values. No payment will be made prior to an agreed upon Schedule of Values.
- C. Include an updated version of the Schedule of Values as changes occur. Update the Schedule of Values to include:
 - 1. Dollars earned and percent complete for the current progress payment period,
 - 2. Dollars earned and percent complete to-date, excluding the current progress payment period,
 - 3. Total dollars earned and percent complete to-date,
 - 4. Total dollars remaining, and
 - 5. Changes resulting from Change Orders.
- D. The total value of the line items in the Schedule of Values plus any approved Change Orders shall be equal to the current approved contract price.
- E. The value of stored material shall be identified in the Schedule of Values with both a material-purchase activity and a separate corresponding installation activity in the Construction Schedule(s).
- F. Include as exhibits, drawings or sketches as necessary, to better define the limits of pay items that are in close proximity and that have no clear boundary in the Contract Drawings.

1.03 SUBMITTAL

- A. Submit preliminary Schedule of Values within 10 days of the effective date of the Notice to Proceed.
- B. Submit corrected Schedule of Values within 10 days upon receipt of reviewed Schedule of Values.
- C. At the Engineer's request, submit documentation substantiating the cost allocations for line items within the Schedule of Values.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 SCHEDULE OF VALUES

- A. Submit the Schedule of Values in a form acceptable to the Engineer.
- B. Provide updated Schedule of Values as required by the Engineer and as indicated in the Contract Documents.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE

- A. The purpose of this section is to provide the framework for communication between the Port and the Contractor by defining the types and timing of administrative tasks, including meetings and other items related to communications.

1.02 NOTICE TO PROCEED

- A. Contract execution will be made per the requirements of the Contract Documents. Once the contract has been executed and all pre-work submittals have been received, the Engineer will issue a Notice to Proceed (NTP).
 - 1. In certain instances, the Engineer may issue to the Contractor a Limited NTP for specified elements of the work described in these Contract Documents.
- B. The Contractor shall submit all pre-work submittals within 10 days of contract execution.
 - 1. No contract time extension shall be granted for any delays in issuance of the NTP by the Engineer due to the Contractor's failure to provide acceptable submittals required by the Contract Documents.

1.03 COORDINATION

- A. The Contractor shall coordinate all its activities through the Engineer.
- B. The Contractor shall coordinate construction operations as required to execute the Work efficiently, to obtain the best results where installation of one part of the Work depends on other portions.

1.04 PROJECT MEETINGS

- A. Pre-Construction Meeting
 - 1. After execution of the contract, but prior to commencement of any work at the site, a mandatory one time meeting will be scheduled by the Engineer to discuss and develop a mutual understanding relative to the administration of the safety program, preparation of the Schedule of Values, change orders, RFI's, submittals, scheduling prosecution of the work. Major subcontractors who will engage in the work shall attend.
 - 2. Suggested Agenda: The agenda will include items of significance to the project.
 - 3. Location of the Pre-Construction Meeting will be held at the Port of Tacoma Administration Building located at One Sitcum Plaza.
- B. Weekly Progress Meetings – Progress meetings include the Contractor, Engineer, consultants and others affected by decisions made.
 - 1. The Engineer will arrange meetings, prepare standard agenda with copies for participants, preside at meetings, record minutes and distribute copies within ten working days to the Contractor, meeting participants, and others affected by decisions made.
 - a. The Engineer will approve submitted meeting minutes in writing within 10 working days.
 - 2. Attendance is required for the Contractor's job superintendent, major subcontractors and suppliers, Engineer, and representatives of the Port as appropriate to the agenda topics for each meeting.
 - 3. Standard Agenda

- a. Review minutes of previous meeting
- b. Review of work progress
- c. Field observations, problems, and decisions
- d. Identification of problems that impede planned progress
- e. Maintenance of Progress Schedule (3 weeks ahead; 1 week back)
- f. Corrective measures to regain projected schedules
- g. Planned progress during succeeding work period
- h. Coordination of projected progress
- i. Maintenance of quality and work standards
- j. Effect of proposed changes on progress schedule and coordination
- k. Demonstration that the project record drawings are up-to-date
- l. Other business relating to the work

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. The Port and Contractor shall use the Port Contract Management application (e-Builder®) for electronic information exchange throughout the duration of the Contract, as later described.
 - 1. e-Builder® is a web-based application accessed via the web.
 - 2. The Contractor will receive up to two separate user accounts for access to e-Builder®.
 - 3. The joint use of this system is to facilitate and coordinate the electronic exchange of Requests for Information, Submittals, Change Order Proposals, Pay Applications, and project specific correspondence.

1.02 USER ACCESS LIMITATIONS

- A. Contractor's access to e-Builder® is granted and controlled by the Engineer.
 - 1. The users assigned by the Contractor to use e-Builder® shall be competent and experienced with the practices commonly employed in the industry for electronically submitting requests for information, submittals, product data, shop drawings and related items as required by the contract and the methods commonly used for project correspondence transmission and filing.
 - 2. Any users assigned by the Contractor whom the Engineer determines is incapable of performing the prescribed tasks in an accurate, competent and efficient manner will be removed upon request from the Engineer. The qualifications and identity of a replacement user shall be submitted within 24 hours for consideration by the Engineer. Once accepted by the Engineer, the user account will be modified accordingly.

1.03 CONTRACTOR TECHNOLOGY REQUIREMENTS

- A. The Contractor is responsible for providing and maintaining web enabled devices capable of running the desktop version of the e-Builder® website effectively.

1.04 CONTRACTOR SOFTWARE REQUIREMENTS

- A. The Contractor is responsible for providing and maintaining the following:
 - 1. An office suite that is Microsoft Office 2013 compatible for generation and manipulation of correspondence.
 - 2. A program capable of editing, annotating and manipulating Adobe pdf files for inserting the Contractor's review stamp, clouding and adding notation to the files as necessary for review by the Engineer.

1.05 CONTRACTOR RESPONSIBILITY

- A. Provide all the equipment, internet connections, software, personnel and expertise required to support the use of e-Builder® as described in the Contract documents.

1.06 PORT RESPONSIBILITY

- A. Provide the Contractor with the following:
 - 1. All forms necessary for application to obtain permissions to access e-Builder® as described above.
 - 2. Information, basic user guides and requirements on methods for using e-Builder®.
 - 3. Instruction for the Contractor's staff utilizing e-Builder®.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 UTILIZATION OF E-BUILDER®

- A. The Contractor shall provide required information in a timely manner that also supports the project schedule and meets the requirements of the Contract.
- B. The Contractor shall provide and maintain competent and qualified personnel to perform the various tasks required to support the work within e-Builder®.
- C. The Port will not be liable for any delays associated from the usage of e-Builder® including, but not limited to: slow response time, Port maintenance and off-line periods, connectivity problems or loss of information. Under no circumstances shall the usage of e-Builder® software be grounds for a time extension or cost adjustment to the contract.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes the requirements to provide a preliminary schedule and construction progress schedule, bar chart type.

1.02 SUBMITTALS

- A. Within 10 days following execution of the contract, submit a baseline project schedule defining planned operations.
- B. If the baseline project schedule requires revision after review, submit revised baseline project schedule within 10 days.
- C. Within 20 days after review of baseline project schedule, submit draft of proposed complete baseline project schedule for review.
- D. Submit updated progress schedule monthly to the Engineer with each pay application as required in Section 01 20 00 Price and Payment Procedures.

1.03 QUALITY ASSURANCE

- A. Scheduler: Contractor's personnel or Consultant specializing in Critical Path Method (CPM) scheduling with one year's minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.

1.04 SCHEDULE FORMAT

- A. The baseline project schedule shall be produced using the CPM format.
- B. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.
- C. Sheet Size: Multiples of 11 x 17 (280 x 432 mm).

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 BASELINE SCHEDULE

- A. Prepare baseline project schedule in the form of a horizontal bar chart.
- B. The baseline project schedule shall include all the activities listed in the Schedule of Values and be directly related to items listed in the Bid Form. The Contractor is encouraged to add sufficient activities to facilitate a clear understanding of the means and methods planned for the various work items.
- C. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction and critical path. At a minimum it shall include and show the following:
 - 1. A time scale showing the elementary work items needed to complete the work;
 - 2. Estimated time durations for each activity, defined as any single identifiable work step within the project;
 - 3. A graphical network diagram showing the logical sequence of activities, their precedence relationships, and estimated float or leeway available for each;

4. The different categories of work as distinguished by crew requirements, equipment requirements, and construction materials; and
 5. The different areas of responsibility, such as distinctly separate or subcontracted work, and identifiable subdivisions of work.
- D. It shall be maintained and updated as necessary to accurately reflect past progress and the most probable future progress.
- E. Activities shown shall include submittals, milestones, and sufficient task breakdown for major components of work.
- F. Identify work of separate stages and other logically grouped activities.
- G. Provide sub-schedules to define critical portions of the entire schedule.
- H. Provide separate schedule of submittal dates for shop drawings, product data, samples, owner-furnished products, products identified, and dates reviewed submittals will be required from the Engineer. Indicate decision dates for selection of finishes.

3.02 PROGRESS SCHEDULE

- A. From the regularly-maintained baseline project schedule, progress schedules showing a three-week look-ahead, one-week look-back, shall be submitted and distributed at the weekly progress meetings. The progress schedule shall represent a practical plan to complete the work shown within the contract work window presented. At a minimum, the presentation, typically a Gantt-style chart, shall convey the task durations, a logical work sequence, task interdependencies, and identify important or critical constraints.
- B. Submittal and distribution of progress schedules will be understood to be the Contractor's representation that the scheduled work meets the requirements of the contract documents and that the work will be executed in the manner and sequence presented, and over the durations indicated.
- C. The scheduling, coordination, and execution of construction in accordance with the contract documents are the responsibility of the Contractor. The Contractor shall involve, coordinate, and resolve scheduling with all subcontractors, material suppliers, or others affected in development of the progress schedules.
- D. The progress schedule shall be used for coordination purposes for inspection and testing purposes as well as validation of work progress against the baseline schedule.

3.03 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- D. Indicate changes required to maintain Date of Substantial Completion.
- E. Submit reports required to support recommended changes.
- F. Contractor shall submit an updated progress schedule with each pay application and include a written narrative describing the overall progress of the work. The narrative shall include the following key aspects:
1. Progress in the last period.

2. Critical Path progress and schedule concerns.
3. Changes to schedule logic or sequencing of the work.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes the requirements to provide a submittal log and project submittals.

1.02 SUBMITTAL LOG

- A. Contractor shall, within 14 days of contract execution prepare and submit for Engineer approval a detailed log of all the submittals required under this Contract, along with any other submittals identified by the Port or Contractor. The log shall include, but not be limited to, schedules, required construction Work plans, equipment and material cut sheets, shop drawings, project record documents, test results, survey records, record drawings, results of QC testing, and all other items for which a submittal is required. The submittal log shall be organized by CSI Specification Division, and Section number and include the following information:
1. Item Description
 2. Category
 3. Specification Section information of the applicable section
 4. After the submittal log is reviewed and approved by the Engineer, it shall become the basis for the submittal of all items by Contractor.

1.03 COMPLIANCE

- A. Failure to comply with these requirements shall be deemed as the Contractor's agreement to furnish the exact materials specified or materials selected by the Engineer based on these specifications.

1.04 SHOP DRAWINGS AND MANUFACTURERS' LITERATURE

- A. The Port will not accept shop drawings that prohibit the Port from making copies for its own use.
- B. Shop drawings shall be prepared accurately and to a scale sufficiently large to indicate all pertinent features of the products and the method of fabrication, connection, erection, or assembly with respect to the Work.
- C. All drawings submitted to the Engineer for approval shall be drawn to scale as ANSI D.
- D. Required electronic formats for these drawings are as follows:
1. AutoCad DWG
 2. PDF - Formatted to print to half-scale using 11x17 paper
- E. Catalog cuts or brochures shall show the type, size, ratings, style, color, manufacturer, and catalog number of each item and be complete enough to provide for positive and rapid identification in the field. General catalogs or partial lists will not be accepted. Manufacturers' original electronic files are required for submitting.

1.05 SUBMITTAL REVIEW

- A. After review of each of Contractor's submittals, the submittal will be returned to Contractor with a form indicating one or more of the following:
1. No Exceptions Taken - Means, accepted subject to its compatibility with future submittals and additional partial submittals for portions of the work not covered in this submittal. But it does not constitute approval or deletion of specified or required items not shown in the partial submittal.

2. Make Corrections Noted - Same as Item 1, except that minor corrections as noted shall be made by Contractor.
 3. Reviewed - Submittal has been reviewed by the Port, does not constitute approval, and the Contractor is responsible for requirements in submittal.
 4. Review as Noted - Submittal has to be reviewed by the Port with comments as noted.
 5. Revise and Resubmit - Means, rejected because of major inconsistencies or errors. Resolve or correct before next submittal.
 6. Rejected - Means, submitted material does not conform to the Contract Documents in a major respect (e.g., wrong material, size, capacity, model, etc.).
- B. Submittals marked "No Exceptions Taken," "Make Corrections Noted," or "Reviewed as Noted" authorizes Contractor to proceed with construction covered by those data sheets or shop drawings with corrections, if any, incorporated.
- C. When submittals or prints of shop drawings have been marked "Revise and Resubmit" or "Rejected," Contractor shall make the necessary corrections and submit required copies. Every revision shall be shown by number, date, and subject in a revision block, and each revised shop drawing shall have its latest revision numbers and items clearly indicated by clouding around the revised areas on the shop drawing.
- D. Submittals authorized by the Engineer do not in any case supersede the Contract Documents. The approval by the Engineer shall not relieve the Contractor from responsibility to conform to the Drawings or Specifications, or correct details when in error, or ensure the proper fit of parts when installed. A favorable review by the Port of shop drawings, method of work, or information regarding material and equipment Contractor proposes to furnish shall not relieve Contractor of its responsibility for errors therein and shall not be regarded as assumption of risk or liability by the Port or its officers, employees, or representatives. Contractor shall have no claim under the Contract on account of failure or partial failure, or inefficiency or insufficiency of any plan or method of work, or material and equipment so accepted. Favorable review means that the Port has no objection to Contractor using, upon its own full responsibility, the plan or method of work proposed, or furnishing the material and equipment proposed.
- E. It is considered reasonable that the Contractor's submittals shall be complete and acceptable by at least the second submission of each submittal. The Port reserves the right to deduct monies from payments due Contractor to cover additional costs for review beyond the second submission.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 PREPARATION OF SUBMITTALS

- A. The Contractor shall submit all shop drawings, catalog cuts, brochures and physical samples using e-Builder® (a web based construction management software). All post-document-generated notations such as notes, arrows, stamps, clouding, or other items, are required to be shown directly on the submittal document. **Each submittal shall be accompanied by a transmittal developed within the e-Builder® software.**
- B. A separate submittal shall be prepared for each product or procedure and shall be further identified by referencing the Specification Section and paragraph number and each submittal shall be numbered consecutively.

- C. Product submittals that cannot be accomplished electronically shall be submitted electronically without attachments, marked as being hand delivered, and accompanied by a printed version of a transmittal.
- D. Shop and detail drawings shall be submitted in related packages. All equipment or material details which are interdependent, or are related in any way, must be submitted indicating the complete installation. Submittals shall not be altered once marked "No Exceptions Taken" Revisions shall be clearly marked and dated. Major revisions must be submitted for approval.
- E. The Contractor shall thoroughly review all shop and detail drawings, prior to submittal, to assure coordination with other parts of the work.
- F. Components or materials which require shop drawings and which arrive at the job site prior to approval of shop drawings shall be considered as not being made for this project and shall be subject to rejection and removal from the premises.
- G. All submittal packages including, but not limited to, product data sheets, mix designs, shop drawings and other required information for submittal must be submitted, reviewed and approved before the relevant scheduled task may commence. It is the responsibility of the Contractor to provide the submittal information which may drive a task on the construction schedule to submit items well enough in advance as to provide adequate time for review and comment from the Engineer without adversely impacting the construction schedule.
- H. When completing the e-Builder® submittal form, a Date Due field is required to be completed. This field is intended to inform the Port of the urgency of the submittal. Failure of the Port to return the submittal by the date provided by the Contractor will not be considered grounds for a contract time extension.

3.02 PRE-WORK SUBMITTALS

- A. Prior to issuance of Notice to Proceed, the following submittals must be submitted and returned to the Contractor as No Exceptions Taken, Make Corrections Noted, Reviewed, or Reviewed as Noted.
 - 1. Per 00 72 00 and 01 32 16, Baseline Project Schedule
 - 2. Per 00 73 63, Emergency Contact Numbers
 - 3. Per 01 35 29, Health and Safety Plan (HASP)
 - 4. Per 01 35 29, Spill Prevention and Countermeasures Plan (SPCC)
 - 5. Per 01 35 47, List of equipment and written certification
 - 6. Per Appendix E, Statement of Understanding Water Quality Certification Conditions

3.03 MAINTENANCE OF SUBMITTAL LOG

- A. Prepare and submit for Port review a detailed submittal log conforming to the requirements of paragraph 1.02 of this section. When approved by the Engineer, use the submittal log to track the transmittal of submittals to the Engineer, the receipt of submittal comments from the Engineer, and all subsequent action with respect to each submittal. Provide an updated copy of the submittal log to the Engineer during each weekly progress meeting, unless otherwise approved by the Engineer.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. The work includes the requirements for health and safety provisions necessary for all work at the site for this project. The work also includes compliance with all laws, regulations and ordinances with respect to safety, noise, dust, fire and police action, civil disobedience, security or traffic.
- B. The Contractor shall monitor site conditions for indications of identified and other potentially hazardous, dangerous, and/or regulated materials (suspicious material). Indicators of suspicious material include, but are not limited to, refuse, oily sheen or coloring on soil or water, or oily or chemical odors. If suspicious materials are encountered, the Contractor shall stop all work in that area and notify the Engineer immediately.

1.02 SUBMITTALS

- A. Prior to Notice to Proceed, the Contractor shall provide a site specific Health and Safety Plan (HASP), which meets all the requirements of local, state and federal laws, rules and regulations. The HASP shall address all requirements for general health and safety and shall include, but not be limited to:
 - 1. Description of work to be performed and anticipated chemical and/or physical hazards associated with the work;
 - 2. Map of the site(s) illustrating the location of the anticipated hazards and areas of control for those hazards (including containments, exclusion/work zones, and contaminant reduction/decontamination zones);
 - 3. Hazardous material inventory and safety data sheets (SDSs) for all chemicals which will be brought on site;
 - 4. Signage appropriate to warn site personnel and visitors of anticipated site hazards;
 - 5. Documentation that the necessary workers have completed the required Hazardous Waste Operations and Emergency Response (HAZWOPER) training;
 - 6. Engineering controls/equipment to be used to protect against anticipated hazards;
 - 7. Personal protective equipment and clothing including head, foot, skin, eye, and respiratory protection;
 - 8. Procedures which will be used for:
 - a. Lockout/Tagout,
 - b. Fall protection,
 - c. Trenching and shoring,
 - d. Hot work,
 - e. Explosive conditions due to methane,
 - f. Oxygen deficient conditions,
 - g. Suspicious materials and/or unidentified materials,
 - h. Confined-space entry (could include dewatering storage tanks, manholes, or other items),
 - 9. Site housekeeping procedures and personal hygiene practices;

10. Personnel and equipment decontamination plan;
 11. Administrative controls;
 12. Emergency plan including locations of and route to nearest hospital;
 13. Medical surveillance program for site personnel before, during, and after completion of site work;
 14. Recordkeeping including:
 - a. Documentation of appropriate employee training (e.g., Hazardous Waste Operations and Emergency Response [HAZWOPER] 40-hour training for staff involved with excavation and handling of soil),
 - b. Respirator fit testing, and
 15. Name and qualification of person preparing the HASP and person designated to implement and enforce the HASP;
 16. Lighting and sanitation; and
 17. Signatory page for site personnel to acknowledge receipt, understanding, and agreement to comply with the HASP.
- B. Prior to the start of any Work, the Contractor shall provide a site specific Spill Prevention, Control and Countermeasures (SPCC) Plan, which meets all the requirements of local, state and federal laws, rules and regulations.
- C. Contractor may submit the HASP and SPCC Plan as one comprehensive document or may submit the plans as separate documents.
- D. The Contractor shall include in the HASP recent requirements associated with the State's COVID-19 Job Site Requirements as noted at in the Appendix or online at <https://www.governor.wa.gov/sites/default/files/Phase%201%20Construction%20COVID-19%20Safety%20Requirements%20%28final%29.pdf>.

1.03 POTENTIAL CHEMICAL HAZARDS

A. Site Contaminants

1. The Contractor must provide site workers with Hazard Communication standard information for potential site contaminants (in accordance with WAC 296-843). The Contractor shall ensure that all site workers are aware of and understand this information. Additional information shall also be provided by the Contractor, as necessary, to meet the Hazard Communication Standard and HASP requirements as noted in WAC 296-901-14010 and 296-843. Workers shall be instructed on basic methods or techniques to assist in detecting suspicious material.

B. Potential Exposures Routes

1. Inhalation: Airborne dusts, fibers, particulates, or vapors may be released during site activities.
2. Skin and Eye Contact: Dusts generated during site work activities may settle on the skin or clothing of site workers. Also, workers may contact potentially regulated sediments, or water, in the normal course of their work. Precautions to prevent skin or eye contact with hazardous materials will be included in the HASP.
3. Ingestion: Inadvertent transfer of site contaminants from hands or other objects to the mouth could occur if site workers eat, drink, smoke, chew tobacco, or engage in similar

activities in work areas. This could result in ingestion of site contaminants. Precautions to prevent accidental or inadvertent ingestion of hazardous materials will be included in the HASP.

- C. Chemical hazards may also result from Contractor operations resulting in inadvertent release of fuel, oil, or other chemicals in a manner that would expose workers.

1.04 POTENTIAL PHYSICAL AND OTHER HAZARDS

- A. The Work of the Contractor is described elsewhere in these specifications. Precautions to prevent all anticipated physical and other hazards, including heavy equipment and vessels, shall be addressed in the HASP.
- B. Specific aspects of construction resulting in physical hazards anticipated for this project include, but are not limited to the following:
1. Work over or adjacent to water, presenting hazards of falling into water, hypothermia from exposure to the elements, and drowning;
 2. Operation of marine equipment, including winches, dredges, and related equipment, entrapment, ensnarement, and being struck by moving parts hazards;
 3. Major hazards associated with earthwork impacts from moving construction vehicles and trucks, noise, thermal stress, contact with unguarded machines, excavation hazards (i.e., cave-in, utility, etc.), strains from heavy lifting, and reduced visibility and communications difficulties in work area; and
 4. Operation of equipment, including excavators, loaders, and related equipment, presenting hazards of entrapment, ensnarement, and being struck by moving parts.
- C. Other anticipated physical hazards:
1. Heat stress, such as that potentially caused by impermeable clothing (may reduce the cooling ability of the body due to evaporation reduction);
 2. Cold stress, such as that potentially caused during times when temperatures are low, winds are high, especially when precipitation occurs during these conditions;
 3. Biological hazards, such as mold, insect stings, or bites, poisonous plants (i.e., poison oak, sumac, etc.); and
 4. Trips and falls.
- D. Firewatch Procedures
1. A firewatch is implemented to ensure the fire-safety of a building, structure or area in the event of any act (e.g., hot work) or situation instigating an increased risk of fire. The term "firewatch" is used to describe a dedicated person or persons whose sole responsibility is to look for fires within an established area.
 2. A firewatch is required when all hot work is being performed.
 3. The firewatch is to perform the following functions:
 - a. Firewatch personnel are to keep diligent watch for fires in the general area where the work is being performed.
 - b. Firewatch personnel are to be familiar with facilities and procedures for sounding an alarm in the event of a fire.
 - c. Firewatch personnel are to have fire extinguishing equipment readily available and be trained in its use, including practice on test fires.
-

- d. Firewatch personnel are to inspect the site prior to hot work activities to ensure that combustibles are removed or covered and that any nearby holes or penetrations in the ground and walls are sealed or covered with fire-safe materials.
- e. Firewatch personnel are to watch for fires in all exposed areas. If a fire is located, firewatch personnel are to sound the evacuation alarm immediately and after that try to extinguish the fire, only when obviously within the capacity of the equipment available.
- f. The firewatch is to be maintained for at least 120 minutes after completion of hot work such as cutting, welding, or other open flame operations, in order to detect and extinguish smoldering and flaming fires. During this time, the work area and other adjacent areas where sparks or flame may have traveled are to be searched for signs of combustion.

PART 2 - PRODUCTS

2.01 SAFETY SIGNAGE

- A. The Contractor shall provide signage at strategic locations within the project site to alert jobsite workers and visitors of the remediation work, associated hazards, and required precautions.

2.02 PRODUCTS SPECIFIED FOR HEALTH AND SAFETY

- A. Provide the equipment and supplies necessary to support the work as described in the site-specific HASP. Equipment and supplies may include, but are not limited to:
 - 1. All chemicals to be used on site;
 - 2. A hazardous materials inventory and SDSs for the chemicals brought on site;
 - 3. Fencing and barriers;
 - 4. Warning signs and labels;
 - 5. Fire extinguishers;
 - 6. Equipment to support hot work;
 - 7. Scaffolding and fall protection equipment;
 - 8. Personal protective equipment (hard hats, foot gear, skin, eye, and respiratory protection);
 - 9. Area and personnel exposure monitoring equipment;
 - 10. Demolition equipment and supplies;
 - 11. Decontamination equipment and supplies;
 - 12. First aid equipment;
 - 13. Spill response and spill prevention equipment; and
 - 14. Field documentation logs/supplies.

PART 3 - EXECUTION

3.01 WORK AREA PREPARATION

- A. Contractor shall comply with health and safety rules, regulations, ordinances promulgated by the local, state, and federal government, the various construction permits, and other sections of the Contract Documents. Such compliance shall include, but not be specifically limited to: any and all protective devices, equipment and clothing; guards; restraints; locks; latches; switches; and other safety provisions that may be required or necessitated by state and federal safety

regulations. The Contractor shall determine the specific requirements for safety provisions and shall have inspections and reports by the appropriate safety authorities to be conducted to ensure compliance with the intent of the regulations.

- B. All Contractor employees expected to work at the jobsite or individuals entering the jobsite shall read the Contractor HASP before they enter the jobsite, and will sign a statement provided by the Contractor that they have read and understand the HASP. A copy of the Contractor's HASP shall be readily available at the site at all times the work is being performed.
- C. Contractor shall perform whatever work is necessary for safety and be solely and completely responsible for conditions of the job site, including safety of all persons (including employees of the Engineer, Engineer's Representative, and Contractor) and property during the Contract period. This requirement applies continuously and is not limited to normal working hours.
- D. The Engineer's review of the Contractor's performance does not include an opinion regarding the adequacy of, or approval of, the Contractor's safety supervisor, the site-specific HASP, safety program or safety measures taken in, on, or near the job site.
- E. Accidents causing death, injury, or damage must be reported immediately to the Engineer and the Port Security Department in person or by telephone or messenger. In addition, promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.
- F. If a claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing within 24 hours after occurrence, to the Engineer, giving full details of the claim.

3.02 SITE SAFETY AND HEALTH OFFICER

- A. Contractor shall provide a person designated as the Site Safety and Health Officer, who is thoroughly trained in rescue procedures, has a minimum current 40-hour HAZWOPER certification (minimum), and trained to use all necessary safety equipment, air monitoring equipment, and gas detectors. The person must be available and/or present at all times while work is being performed, and conduct testing, as necessary.
- B. The Site Safety and Health Officer shall be empowered with the delegated authority to order any person or worker on the project site to follow the safety rules. Failure to observe these rules is sufficient cause for removal of the person or worker(s) from this project.
- C. The Site Safety and Health Officer is responsible for determining the extent to which any safety equipment must be utilized, depending on conditions encountered at the site.

3.03 SPILL PREVENTION AND CONTROL

- A. The Contractor shall be responsible for prevention, containment and cleanup of spilling petroleum and other chemicals/hazardous materials used in the Contractor's operations. All such prevention, containment and cleanup costs shall be borne by the Contractor.
- B. The Contractor is advised that discharge of oil, fuel, other petroleum, or any chemicals/hazardous materials from equipment or facilities into state waters or onto adjacent land is not permitted under state water quality regulations.
- C. In the event of a discharge of oil, fuel or chemicals/hazardous materials into waters, or onto land with a potential for entry into waters, containment and cleanup efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Cleanup shall include proper disposal of all spilled material and used cleanup materials.

- D. The Contractor shall, at a minimum, take the following measures regarding spill prevention, containment and cleanup:
1. Fuel hoses, lubrication equipment, hydraulically operated equipment, oil drums and other equipment and facilities shall be inspected regularly for drips, leaks or signs of damage, and shall be maintained and stored properly to prevent spills. Proper security shall be maintained to discourage vandalism.
 2. All land-based chemical, oil and products' storage tanks shall be diked, contained and/or located so as to prevent spills from escaping into the water. Dikes and containment area surfaces shall be lined with impervious material to prevent chemicals or oil from seeping through the ground and dikes.
 3. All visible floating sheen shall be immediately contained with booms, dikes or other appropriate means and removed from the water prior to discharge into state waters. All visible spills on land shall be immediately contained using dikes, straw bales or other appropriate means and removed using sand, sawdust or other absorbent material, which shall be properly disposed of by the Contractor. Waste materials shall be temporarily stored in drums or other leak-proof containers after cleanup and during transport to disposal. Waste materials shall be disposed offsite in accordance with applicable local, state and federal regulations.
 4. In the event of any oil or product discharges into public waters, or onto land with a potential for entry into public waters, the Contractor shall immediately notify the Port Security at their listed 24-hour response number:
 - a. Port Security: 253-383-9472
- E. The Contractor shall maintain the following materials (as a minimum) at each of the project sites:
1. Oil-absorbent booms: 100 feet;
 2. Oil-absorbent pads or bulk material, adequate for coverage of 200 square feet of surface area;
 3. Oil-skimming system; and
 4. Oil dry-all, gloves and plastic bags.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section discloses procedures to follow if unknown regulated materials are encountered.

1.02 NOTIFICATION AND SUSPENSION

- A. In the event the Contractor detects the presence of potentially regulated materials not previously identified in this specification, the Contractor shall stop work and immediately notify the Port. Following such notification by the Contractor, the Port shall in turn notify the various governmental and regulatory agencies concerned with the presence of regulated materials, if warranted. Depending upon the type of materials identified, the Port may suspend work in the vicinity of the discovery under the provisions of General Conditions.
1. Following completion of any further testing necessary to determine the nature of the materials involved, the Port will determine how the material shall be managed. Although the actual procedures used in resuming the work shall depend upon the nature and extent of the regulated material, the following alternate methods of operation are foreseen as possible:
 - a. Contractor to resume work as before the suspension.
 - b. Contractor to move its operations to another portion of the work until measures to eliminate any hazardous conditions can be developed and approved by the appropriate regulatory agencies.
 - c. The Port to direct the Contractor to dispose or treat the material in an approved manner.
 - d. The Port to terminate or modify the Contract accordingly, for unforeseen conditions.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. The Work includes the requirements to provide air and noise control measures until Final Completion of the Work.

1.02 SUBMITTALS

- A. Prior to Notice to Proceed, the Contractor shall submit a list of equipment to be used on the project and written certification that all equipment on the list and any additional equipment, including Contractor's, subcontractors or supplier's equipment, shall meet the requirements of 3.01 below.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 AIR POLLUTION CONTROL

- A. The Contractor shall meet or exceed EPA Tier 2 off-road diesel engine emission standards for off-road equipment ≥ 25 hp and meet or exceed EPA 1994 on-road diesel engine emission standards for on-road equipment except as follows:
 - 1. Equipment being used in an emergency or public safety capacity
- B. The Contractor shall not discharge smoke, dust, and other hazardous materials into the atmosphere that violate local, state or federal regulations.
- C. No vehicles can idle for more than 5 consecutive minutes, except as follows:
 - 1. Idling is required to bring or maintain the equipment to operating temperature;
 - 2. Engine idling is necessary to accomplish work for which the equipment was designed (i.e. operating a crane); or
 - 3. Idling vehicles being used in an emergency or public safety capacity.
- D. The Contractor shall minimize nuisance dust by cleaning, sweeping, vacuum sweeping, sprinkling with water, or other means. Equipment for this operation shall be on the job site or available at all times.

3.02 NOISE CONTROL

- A. The Contractor shall comply with all local controls and noise level rules, regulations and ordinances which apply to work performed pursuant to the Contract.
- B. All internal combustion engines used on the job shall be equipped with a muffler of a type recommended by the manufacturer.

END OF SECTION

PART 1 - GENERAL

1.01 PERMITS, CODES, AND REGULATIONS

- A. The following permits/approvals have been applied for (or are on file) and incorporated into the Contract:
 - 1. Department of Army Permit, Appendix A & H
 - 2. Hydraulic Project Approval Permit, Appendix B
 - 3. Shoreline Substantial Development Permit Exemption, Appendix C
 - 4. State Environmental Policy Act (SEPA) Exemption, Appendix D
 - 5. Department of Ecology Water Quality Certification, Appendix E & G
- B. Conform with the requirements of listed permits and additional or other applicable permits, codes, and regulations as may govern the Work.
- C. Obtain and pay fees for licenses, permits, inspections, and approvals required by laws ordinances, and rules of appropriate governing or approving agencies necessary for proper completion of Work (other than those listed under item 1.01.A above and Special Inspections called for by the International Building Code).
- D. Conform with current applicable codes, regulations and standards, which is the minimum standard of quality for material and workmanship. Provide labor, materials, and equipment necessary for compliance with code requirements or interpretations, although not specifically detailed in Drawings or specifications. Be familiar with applicable codes and standards prior to bidding.
- E. Process through Engineer, request to extend, modify, revise, or renew any of the permits (listed in 1.01.A above). Furnish requests in writing and include a narrative description and adequate Drawings to clearly describe and depict proposed action. Do not contact regulatory agency with requests for permit extensions, modifications, revisions, or renewals without the prior written consent of the Engineer.

1.02 VARIATIONS WITH CODES, REGULATIONS AND STANDARDS

- A. Nothing in the Drawings and specifications permits Work not conforming to codes, permits, or regulations. Promptly submit written notice to the Engineer of observed variations or discrepancies between the Contract Documents and governing codes and regulations.
- B. Appropriate modifications to the Contract Documents will be made by Change Order to incorporate changes to Work resulting from code and/or regulatory requirements. Contractor assumes responsibility for Work contrary to such requirements if Work proceeds without notice.
- C. Contractor is not relieved from complying with requirements of Contract Documents which may exceed, but not conflict with requirements of governing codes.

1.03 COORDINATION WITH REGULATORY AGENCIES

- A. The Port will do all the notifying to the regulatory agencies. Contractor shall coordinate all contact with regulatory agencies through the Port. Should regulatory agencies show up on the project site without prior notification, contractor should contact Port.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes requirements relating to referenced standards.

1.02 QUALITY ASSURANCE

- A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue specified in this section, except where a specific date is established by applicable code.
- C. Should specified reference standards conflict with Contract Documents, request clarification from the Engineer before proceeding.
- D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Engineer shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 QUALITY CONTROL FOR COMPLIANCE:

- A. The Contractor shall perform such detailed examination, inspection, quality control and assurance of the Work as to ensure that the Work is progressing and is being completed in strict accordance with the Contract Documents. The Contractor shall plan and lay out all Work in advance of operations so as to coordinate all Work without delay or revision. The Contractor shall be responsible for inspection of portions of the Work already performed to determine that such portions are in proper condition to receive subsequent Work. Under no conditions shall a portion of Work proceed prior to preparatory work having been satisfactorily completed. The Contractor shall ensure that the responsible Subcontractor has carefully examined all preparatory work and has notified the Contractor (who shall promptly notify the Port in writing) of any defects or imperfections in preparatory work that will, in any way, affect completion of the Work.

1.02 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop Drawings or as instructed by the manufacturer.
- G. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.03 TOLERANCES

- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.04 TESTING SERVICES

- A. Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities.
 - 1. Neither observations by an inspector retained by the Port, the presence or absence of such inspector at the site, nor inspections, tests, or approvals by others, shall relieve the Contractor from any requirement of the Contract Documents, nor is any such inspector authorized to change any term or condition of the Contract Documents.

- B. Necessary materials testing shall be performed by an independent testing laboratory during the execution of the Work and paid for by the Port of Tacoma, unless otherwise specified. Access to the area necessary to perform the testing and/or to secure the material for testing, shall be provided by the Contractor.
- C. Testing does not relieve Contractor from performing work to contract requirements.
- D. Re-testing required because of non-conformance to specified requirements will be charged to the Contractor by deducting testing charges from the Contract Sum via Change Order.
- E. Material testing for initial material approval will be performed by an independent, certified laboratory and paid for by the Contractor. These tests must be dated within six (6) months of the submittal date.
- F. Subsequent sampling and testing, required as the work progresses to ensure continual control of materials and compliance with all requirements of the Contract documents, shall be the responsibility of the Port, except as required by other sections of these Specifications.

1.05 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual specification sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up equipment, test, and adjust and balance equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer subject to approval of Engineer.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes requirements relating to the following:
 - 1. Temporary utilities,
 - 2. Temporary telecommunications services,
 - 3. Temporary sanitary facilities,
 - 4. Temporary Controls: Barriers, enclosures, and fencing, and

1.02 TEMPORARY UTILITIES

- A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes. Contractor is responsible for getting required permits and meters from the City of Tacoma.

1.03 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization. It is the Contractor's responsibility to be able to receive phone calls and emails at the job site.

1.04 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.
- C. At end of construction, return facilities to same or better condition as originally found.

1.05 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for Port's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.06 FENCING

- A. Provide 6 ft. (1.8 m) high fence around construction site; equip with vehicular gates with locks.

1.07 EXTERIOR ENCLOSURES

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes requirements relating to the following:
 - 1. Access roads
 - 2. Parking
 - 3. Construction parking controls
 - 4. Haul routes
 - 5. Maintenance
 - 6. Removal, repair

PART 2 - PRODUCTS

2.01 SIGNS, SIGNALS, AND DEVICES

- A. Post Mounted and Wall Mounted Traffic Control and Informational Signs, as specified.
- B. Traffic Cones and Drums, Flares and Lights: As approved by local jurisdictions.
- C. Flag Person Equipment: As required by local jurisdictions.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Clear areas, provide surface and storm drainage of road, parking, area premises, and adjacent areas.

3.02 ACCESS TO SITE

- A. Contractor shall conduct all business through the gate assigned by the Engineer.
 - 1. The Contractor may be required to relocate entry and related work areas as required by Port Operations.
- B. Provide unimpeded access for emergency vehicles. Maintain 20 foot (6 m) width driveways with turning space between and around combustible materials.
- C. Provide and maintain access to fire hydrants free of obstructions.

3.03 PARKING

- A. All Contractor's work vehicles will be parked on-site as designated by the Engineer.
- B. All Contractor's employee cars and other private vehicles will be parked outside the Port terminals.
- C. As a part of its bid, the Contractor shall provide necessary shuttle service to transport its employees to and from the work site.

3.04 HAUL ROUTES

- A. Confine construction traffic to designated haul routes.
- B. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

3.05 MAINTENANCE

- A. Maintain existing paved areas used for construction. Promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

3.06 REMOVAL, REPAIR

- A. Repair existing facilities damaged by use, to original condition.
- B. Repair damage caused by installation.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

- A. The Work shall consist of planning, installing, inspecting, maintaining and removing Temporary Erosion and Sediment Control (TESC) Best Management Practices (BMPs) to prevent pollution of air and water; and to control, respond to, and dispose of eroded sediment and turbid water during the term of the Contract.
- B. These TESC requirements shall apply to all areas associated with the Work, including but not limited to the following:
 - 1. Work areas;
 - 2. Equipment and material storage areas;
 - 3. Staging areas;
 - 4. Stockpiles; and
 - 5. Discharge points within or adjacent to the work areas that are impacted by stormwater runoff from the site.
- C. Acceptance of TESC plans does not constitute an approval of permanent Work or drainage design (e.g., size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).
- D. Contractor shall read and conform to all requirements set forth in Washington Department of Ecology's (Ecology) Phase I Municipal Stormwater Permit (MS4) for projects less than one acre.

1.02 REFERENCES

- A. The rules, requirements, and regulations that apply to this Work include, but are not necessarily limited to the following:
 - 1. Washington Department of Ecology, "Stormwater Management Manual for Western Washington," current version.
 - 2. Washington Department of Ecology Phase I Municipal Stormwater Permit (MS4), current version.
 - 3. Washington State Department of Transportation, current version, Standard Specification M41-10, Division 8-01 Erosion Control and Water Pollution Control.

1.03 SUBMITTALS

- A. Prior to the start of any construction activities, a Construction Stormwater Pollution Prevention Plan (SWPPP), as required by the MS4.
 - 1. Contractor shall comply with a Contractor provided project SWPPP.
 - 2. Contractor shall be responsible for updating the project SWPPP during construction to reflect the required changes to BMPs and personnel, as needed, to comply with the MS4 at no additional cost to the Port.
- B. Safety Data Sheet (SDS) for any dust palliative product.
- C. A copy of all Contractor site inspection logs at a time interval (e.g., weekly, monthly) specified by the Engineer.

1.04 AUTHORITY OF ENGINEER

- A. The Engineer has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and fill operations, as determined by analysis of project conditions; and to direct the Contractor to provide immediate permanent or temporary pollution control measures to minimize impacts to adjacent streams or other watercourses, lakes, ponds, and other areas of water impoundment.
- B. In the event that areas adjacent to the work area are suffering degradation due to erosion, sediment deposit, water flows, or other causes, the Engineer may stop construction activities until the Contractor rectifies the situation.

PART 2 – PRODUCTS

PART 3 – EXECUTION

3.01 GENERAL

- A. The Port is subject to Phase I Municipal Stormwater Permit (MS4). The Contractor shall be responsible for compliance with the Department of Ecology Western Washington Stormwater Management Manual, Volume II, Construction Stormwater Pollution Prevention for the duration of the project.
- B. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply as determined by the Engineer.
- C. No project discharge of water shall be allowed that exceeds the regulated pollutant levels in Ecology's NPDES permit associated with the Project.
- D. Contractor shall be solely responsible for all BMP modifications and upgrades to comply with the MS4 and the requirements of this Section, at no additional cost to the Port.
- E. Contractor shall be solely responsible for any damages and fines incurred because of Contractor, subcontractor, or supplier actions in implementing the requirements of this Section.
- F. The Contractor shall be solely responsible for schedule impacts incurred because of Contractor, subcontractor, or supplier actions in implementing the requirements of this Section.

3.02 TEMPORARY EROSION AND SEDIMENT CONTROL DEVELOPMENT

- A. Contractor shall prepare and submit a site-specific SWPPP prior to initiating ground disturbing activities.
 - 1. The SWPPP describes construction activities and sequencing, and the proposed Temporary and Permanent Erosion and Sediment Control measures. If there are any changes to BMPs or personnel on the site, Contractor must update the SWPPP and be prepared to submit the SWPPP to the Port and Ecology upon request.
 - 2. The SWPPP shall consist of planning, installing, inspecting, maintaining, and removing TESC BMPs per Volume II of the Stormwater Management Manual for Western Washington (current version) or equivalent. The BMPs shown in the Drawings are the minimum required to prevent pollution of air and water, to control peak volumetric flow rates and velocity of stormwater, and to control, respond to, and dispose of eroded sediment and turbid water during the term of the Contract.
 - 3. A SWPPP template is available to the Contractor for this purpose. The template was prepared by the Port to meet part of the National Pollution Discharge Elimination System (NPDES) stormwater permit requirements for the project. Contractor may use the applicable Port template to prepare the project SWPPP or prepare their own SWPPP. If the Contractor elects to prepare their own SWPPP, it must meet or exceed the control

- measures required by Ecology (reference Ecology's Stormwater Management Manual for Western Washington, current version).
4. If Contractor chooses to write a SWPPP separate from the Port-provided SWPPP, it must comply with all of the requirements set forth by the CSGP.
 5. Because this Project will disturb less than one (1) acre of land, the Port's short form template will meet the project SWPPP requirements. The SWPPP short form template is attached in Appendix F.
- B. Contractor shall develop project-specific TESC BMPs and incorporate them into the SWPPP. Contractor shall address the following issues as part of developing and implementing the BMPs:
1. TESC BMPs must meet the requirements in Ecology's Volume II of the Stormwater Management Manual for Western Washington (current version) or equivalent.
 2. TESC notes and details shown in the Drawings and the information in this Section form a basis of the minimum requirements for a TESC Plan. Contractor shall develop a TESC Plan specific to the construction schedule and proposed means and methods prior to commencing construction activities for the duration of the Project.

3.03 TEMPORARY EROSION AND SEDIMENT CONTROL IMPLEMENTATION

- A. Contractor is responsible for implementing and updating the SWPPP including TESC BMPs.
1. Contractor shall inspect the TESC measures daily and maintain these measures to ensure continued proper functioning for the duration of the Project.
 2. Contractor will be responsible for documenting TESC site inspections on a weekly basis in areas of active construction and on a monthly basis in areas that have undergone stabilization. Contractor shall keep records of the inspections on site.
 3. During the construction period the Contractor shall, at no additional cost to the Port, upgrade and/or maintain TESC measures as needed, based on Contractor means and methods, work sequencing, and changing site conditions (e.g., changes to impervious surface coverage, proximity of work to storm conveyance systems, storm events, etc.). Contractor shall modify these measures for changing site conditions and update the SWPPP to document all modifications made.
- B. Contractor shall ensure that water, or a dust palliative and a dispensing subcontractor, if needed, is available for project use. It is the responsibility of the Contractor to develop and adhere to appropriate safety measures pertaining to the palliative use. This also includes ensuring the dispensing subcontractor develops and adheres to the appropriate safety measures, if a dispensing subcontractor is used. Water used for dust suppression shall not be applied at such a rate or in a location that it will generate runoff from the site.
- C. TESC measures in an inactive area shall be inspected and maintained by the Contractor until the area is permanently stabilized.
- D. In the event that additional temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the Work as scheduled or as ordered by the Engineer, such work shall be performed by the Contractor at its own expense.
- E. Contractor shall remove all TESC facilities, install permanent site surfacing improvements and permanent BMPs with minimal disturbance, and shall clean stormwater facilities prior to Work completion.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes the requirements to provide product data under the applicable specification section.

1.02 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 - PRODUCTS

2.01 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.

2.02 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

PART 3 - EXECUTION

3.01 TRANSPORTATION AND HANDLING

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.02 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Prevent contact with material that may cause corrosion, discoloration, or staining.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes requirements relating to the following:
 - 1. Examination, preparation, and general installation procedures
 - 2. Cutting and patching

1.02 SUBMITTALS

- A. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project;
 - 2. Integrity of weather exposed or moisture resistant element;
 - 3. Efficiency, maintenance, or safety of any operational element;
 - 4. Visual qualities of sight exposed elements; and
 - 5. Work of the Port or separate Contractor.
- B. Project As-Built Documents: Accurately record actual locations of capped and active utilities.

PART 2 - PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.04 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. Perform whatever cutting and patching is necessary to:
 - 1. Complete the work;
 - 2. Fit products together to integrate with other work;
 - 3. Match work that has been cut to adjacent work;
 - 4. Repair areas adjacent to cuts to required condition;
 - 5. Repair new work damaged by subsequent work;
 - 6. Remove samples of installed work for testing when requested; and
 - 7. Remove and replace defective and non-conforming work.
- C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- F. Restore work with new products in accordance with requirements of Contract Documents.
- G. Patching:
 - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.
 - 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.05 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.

- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes information for progress and final cleaning and restoration of damaged work prior to final inspection.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.01 PROGRESS CLEAN-UP

- A. The Contractor shall clean the project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with all requirements for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials for the type of material to be stored.
 - 4. Coordinate progress cleaning for joint use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free from waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in these specifications.

- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration until Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.02 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances.
 - f. Remove debris and surface dust from limited access spaces, including roofs, attics, and similar spaces.
 - g. Sweep concrete floors broom clean in unoccupied spaces.
 - h. Remove labels that are not permanent.
 - i. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - j. Leave Project clean and ready for occupancy.

3.03 REPAIR OF WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surface, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
2. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes construction waste management requirements.

1.02 DEFINITIONS

- A. Co-mingled or Off-site Separation: Collecting all material types into a single bin or mixed collection system and separating the waste materials into recyclable material types at an off-site facility.
- B. Construction, Demolition and Land-Clearing (CDL) Waste: Includes all nonhazardous solid wastes resulting from construction, remodeling, alterations, repair, demolition, and land clearing. Includes material that is recycled, reused, salvaged or disposed as garbage. This also includes uncontaminated soils that are designated as geotechnically unsuitable or excess excavation.
- C. Hazardous/Dangerous Waste: As defined by Chapter 70.105.010 Revised Code of Washington and 40 Code of Federal Register 261 and by Washington Administrative Code 173-303.
- D. Proper Disposal: As defined by the jurisdiction receiving the waste.
- E. Recyclable Materials: Products and materials that can be recovered and remanufactured into new products.
- F. Recycling: The process of sorting, cleaning, treating and reconstituting materials for the purpose of using the material in the manufacture of a new product. Can be conducted on-site (as in the grinding of concrete).
- G. Recycling Facility: An operation that is permitted to accept materials for the purpose of processing the materials into an altered form for the manufacture of a new product.
- H. Salvage for Reuse: Existing usable product or material that can be saved and reused in some manner on the project site or other projects off-site.
- I. Salvage for Resale: Existing usable product or material that can be saved and removed intact (as is) from the project site to another site for resale to others without remanufacturing.
- J. Source-Separated Materials: Materials that are sorted at the site into separate containers for the purpose of reuse or recycling.
- K. Sources Separation: Sorting the recovered materials into specific material types with no, or a minimum amount of, contamination on site.
- L. Time-Based Separation: Collecting waste during each phase of construction or deconstruction that results in primarily one major type of recovered material. The material is removed before it becomes mixed with the material from the next phase of construction.
- M. Garbage: Product or material typically considered to be trash or debris that is unable to be salvaged for resale, salvaged and reused, returned, or recycled.

1.03 SUBMITTALS

- A. Waste Management Plan
- B. Waste Management Final Report

1.04 PERFORMANCE GOALS

- A. General: Divert CDL waste to the maximum extent practicable from the landfill by one or a combination of the following activities:
 - 1. Salvage
 - 2. Reuse
 - 3. Source separated CDL recycling
 - 4. Co-mingled CDL recycling
- B. CDL waste materials that can be salvaged, resold, reused or recycled, include, but are not limited to the following:
 - 1. Clean dimensional wood, pallet wood, plywood, OSB, and particleboard
 - 2. Asphalt
 - 3. Concrete and concrete masonry units
 - 4. Ferrous and non-ferrous metals
 - 5. Field office waste paper, aluminum cans, glass, plastic, and cardboard
- C. Hazardous/Dangerous Wastes, contaminated soils and other hazardous materials such as paints, solvents, adhesives, batteries, and fluorescent light bulbs and ballasts shall be disposed of at applicable permitted facilities.

1.05 WASTE MANAGEMENT PLAN

- A. Submit to the Engineer a Waste Management Plan narrative in accordance with these specifications. Provide a Waste Management Plan in a format as approved by the Engineer.
- B. The Waste Management Plan shall include the following:
 - 1. Name of designated Recycling Coordinator;
 - 2. A list of waste materials that will be salvaged for resale, salvaged for reuse, recycled, and disposed;
 - 3. Identify waste handling methods to be used, including one or more of the following:
 - a. Method 1 - Contractor or subcontractor(s) hauls recyclable materials to an approved recycling facility,
 - b. Method 2 - Contracting with diversion/recycling hauler to haul recyclable material to an approved recycling or material recovery facility,
 - c. Method 3 - Recyclable material reuse on-site, and
 - d. Method 4- Recyclable material salvage for resale;
 - 4. Identification of each recycling or material recovery facility to be utilized, including name, address and types of materials being recycled at each facility;
 - 5. Description of the method to be employed in collecting, and handling, waste materials; and
 - 6. Description of methods to communicate Waste Management Plan to personnel and subcontractors.

1.06 WASTE MANAGEMENT FINAL REPORT

- A. Provide a Waste Management Final Report, in a format approved by the Engineer. The Waste Management Final Report shall list the following for the project:

1. A record of each waste material type and quantity recycled, reused, salvaged, or disposed from the Project. Include total quantity of waste material removed from the site and hauled to a landfill.
 2. Percentage of total waste material generated that was recycled, reused, or salvaged.
- B. Quantities shall be reported by weight (tons) unless otherwise approved by the Engineer.
- C. Submit copies of manifests, weight tickets, recycling/disposal receipts or invoices, which validate the calculations or a signed certification of completeness and accuracy of the final quantities reported.

1.07 QUALITY ASSURANCE

- A. Regulatory Requirements: The Contractor shall maintain compliance with all applicable Federal, State, or Local laws that apply to Construction Waste Management and material salvage, reuse, recycling and disposal.
- B. Disposal Sites, Recyclers and Waste Materials Processors: All facilities utilized for management of any materials covered under this specification must maintain all necessary permits as required by federal, state and local jurisdictions.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 SOURCE-SEPARATED CDL RECYCLING

- A. Provide individual containers for separate types of CDL waste to be recycled, clearly labeled with a list of acceptable and unacceptable materials.

3.02 CO-MINGLED CDL RECYCLING

- A. Provide containers for co-mingled CDL waste to be recycled, clearly labeled with a list of acceptable and unacceptable materials.

3.03 LANDFILL

- A. Provide containers for CDL waste that is to be disposed of in a landfill clearly labeled as such.

3.04 REMOVAL OF CDL WASTE FROM PROJECT SITE

- A. Transport CDL waste off Port's property and legally dispose of them.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures
 - 2. Final completion procedures
 - 3. Warranties
 - 4. As-Built Drawings

1.02 ACTION SUBMITTALS

- A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

1.03 PROJECT SUBMITTALS

- A. Submittal of Project Warranties
- B. Record Drawings
 - 1. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous recordkeeping requirements and submittals in connection with various construction activities.
- C. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.04 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request:
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Port unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in individual Sections, including specific warranties, operation and maintenance manuals, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 3. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by the Contract Document or Engineer. Label with manufacturer's name and model number where applicable.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request:
 - 1. Make final changeover of permanent locks and deliver keys to Port
 - 2. Complete startup and testing of systems and equipment

3. Perform preventive maintenance on equipment used prior to Substantial Completion
 4. Instruct Port's personnel in operation, adjustment, and maintenance of products, equipment, and systems
 5. Advise Port of changeover in heat and other utilities
 6. Terminate and remove temporary facilities from Project site
 7. Complete final cleaning requirements
- D. Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to the date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Notice of Substantial Completion after inspection or will notify Contractor of items, either on the Contractor's list or additional items identified by the Engineer, that must be completed or corrected before notice will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for final completion.

1.05 PUNCH LIST (LIST OF INCOMPLETE ITEMS)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of Construction.
1. Organize list of spaces in sequential order.
 2. Organize items applying to each space by major elements.

1.06 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete and submit the following:
1. Submittal of all remaining items, including as-built documents, final completion construction photographic documentation, damage or settlement surveys, surveys, and similar final record information and all other submittals defined in the Contract Documents.
 2. List of Incomplete Items: Submit copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (Punch List). Copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be complete and ready for final inspection and tests. On receipt of request, the Engineer will either proceed with inspection or notify contractor of unfulfilled requirements.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
- C. Execution of all Change Orders.

1.07 FINAL ACCEPTANCE PROCEDURES

- A. Submittals Prior to Final Acceptance:

1. Receipt and approval of application for final payment; due within seven (7) days of receipt of Final Completion by the Engineer;
2. Contractor's signed waiver and release of claims on the Engineer provided form;
3. Contractor's submittal of list of all suppliers and subcontractors and the total amounts paid to each on the Engineer provided form; and
4. Contractor's submittal of a list of all subcontractors and suppliers requiring Affidavits of Wages paid on the Contract and certify that each of companies will submit an approved Affidavit of Wages paid to the Port within 30 days.

B. The Engineer will issue the Final Acceptance Memo upon receipt of the required submittals.

PART 2 - PRODUCTS

2.01 CONTRACTOR'S WARRANTY

- A. The Contractor warrants the labor, materials and equipment delivered under the contract to be free from defects in design, material, or workmanship, and against damage caused prior to final inspection. Unless otherwise specified, this warranty extends for a period of one (1) year from the date of Substantial Completion.
1. Time of Submittal: Submit written warranties on request of Engineer for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit the Port's rights under warranty.
 2. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Port or Port tenants during construction.
 3. Submit Warranties to the Engineer as a submittal, as described in 01 33 00 – Submittal Procedures.
- B. In the event of equipment failure, during such time or in such a location that immediate repairs are mandatory, the Contractor shall respond promptly (within 48 hours), irrespective of day of the week. If the Contractor is not available, the Port will affect repairs. The Contractor shall then reimburse the Port for parts and labor necessary to correct deficiencies as defined within the warranty clause and time.

2.02 AS-BUILT DRAWINGS

- A. Project As-Built Drawings: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
- B. Project As-Built Drawings shall be compiled by the Contractor and submitted to the Engineer for translation to the Record Drawings on a monthly basis.
1. The Project As-Built Drawings will be submitted on paper full-sized (ANSI D) copy.
 2. Drawings shall be kept current and shall be done at the time the material and equipment is installed. Annotations to the record documents shall be made with an erasable colored pencil conforming to the following color code:
 - a. Additions – Red
 - b. Deletions – Green
 - c. Comments – Blue

- d. Dimensions – Graphite
- 3. Project As-Built Drawings must be complete and accepted by the Engineer before Final Completion is issued.
- 4. As-Built Drawings shall be in accordance with horizontal and vertical control as shown on the drawings.

PART 3 – EXECUTION

3.01 MAINTENANCE OF AS-BUILT DRAWINGS

- A. The Contractor shall maintain at the Project site, in good order for ready reference by the Engineer, one complete copy of the Contract Documents, including Addenda, Change Orders, other documents issued by the Port, a current Progress Schedule, and approved Submittals. The Contractor shall also generate and keep on site all documents and reports required by applicable permits.
- B. The Contractor's As-Built Drawings shall be updated to record all changes made during construction. The location of all existing or new underground piping, valves and utilities, and obstructions located during the Work shall be appropriately marked until the Contractor incorporates the actual field dimensions and coordinates into the as-built drawings. The as-built drawings shall be updated at least weekly and before elements of the Work are covered or hidden from view. After the completion of the Work, the as-built drawings shall be provided to the Port.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions and General Requirements, apply to this work as if specified in this section. Work related to this section is described in the following sections:
 - 1. Section 00 31 00 – Available Project Information
 - 2. Section 01 10 00 – Summary
 - 3. Section 01 14 00 – Work Restrictions
 - 4. Section 01 33 00 – Submittal Procedures
 - 5. Section 01 35 29 – Health, Safety, and Emergency Response Procedures
 - 6. Section 01 50 00 – Temporary Facilities and Controls
 - 7. Section 01 57 13 – Temporary Erosion and Sediment Control and Construction Stormwater Pollution Prevention
 - 8. Section 01 74 19 – Construction Waste Management and Disposal
 - 9. Section 02 90 00 – Fugitive and Silica Dust Control Procedures

1.02 DESCRIPTION OF WORK

- A. The extent and location of the "Demolition" work, including "Select Demolition" is indicated on the Drawings, in the specifications, and as outlined below.
 - 1. Removal and disposal, in whole or in part, of all items (demolition materials, debris, etc.) in compliance with the specifications and all agencies of jurisdiction. All items shall become the property of the Contractor unless otherwise noted.
 - 2. Payment of all costs required for disposal of items at legal disposal sites, including all permit fees and related costs.
 - 3. Salvaging items as indicated on the Drawings and in the specifications.
- B. The demolition details shown on the Drawings are based upon information contained in the reference drawings. The details indicate typical features of the various structures and shall not be construed as complete or adequate to supplant actual on-site inspection, additional review, and interpretation of the reference drawings by the Contractor. The reference drawings shall be used by the Contractor to establish typical features and quantities for demolition.
- C. The Contractor shall furnish all labor, materials, tools, equipment, and supervision necessary to perform demolition work as described in the Drawings and these specifications.

1.03 DEFINITIONS

- A. Demolition:
 - 1. Complete removal and disposal of all items within the areas depicted on the Drawings, unless noted otherwise, by means such that surrounding structures are not damaged.
- B. Select Demolition:
 - 1. Removal and disposal of items within the areas depicted on the Drawings utilizing means and methods such that embedded items to remain are protected for reuse on the structure and in such a way as to leave a clean and plane surface suitable for reattachment or re-

incorporation into the new structure.

1.04 REFERENCE DRAWINGS

- A. Not all information pertaining to the features of pier structure to be demolished under this contract is shown on the Contract Drawings. The reference drawings indicated below provide additional information regarding the existing pier structure that is to be demolished. These documents shall be reviewed by the Contractor and are available as noted in Section 00 31 00 – Available Project Information.

1. **Pier Structure Between Bents 1 and 82:**

- a. Hyundai Merchant Marine Terminal (Contract No. 978038, Record Drawings Dated January 4, 1999), Sheets 1 through 58 Sheets.

1.05 SITE CONDITIONS:

- A. Washington United Terminal is an operating facility. The work shall be completed in accordance with the constraints and access plan shown on the Drawings. Access to the site is restricted by ongoing terminal operations. Contractor operations shall be restricted to the designated areas.
- B. Coordinate and schedule, with the Engineer, access to the site in advance, and acknowledge that terminal operations take precedence over construction activities.
- C. Section 01 14 00 – Work Restrictions.
- D. All demolition items not identified for salvage shall become the property of the Contractor. Disposal of all demolition items shall be in accordance with the specifications, local, state and federal requirements.

1.06 SUMMARY

- A. Items and material categories for demolition include, but are not limited to, the following:
1. Fender system including precast concrete fender piles, walers, connections, rubber fender elements, and fender panels.
 2. Portions of deck pavement and controlled density fill as indicated on the Drawings.
- B. Items or equipment to be salvaged or recycled shall be dismantled without damage. Items designated for salvage or recycling are listed below.

	Salvage/Recycle List	Destination
1	Bullrail Ladders	Reinstallation on site

- C. Any damage by the Contractor's operations to materials identified to be salvaged shall be repaired or replaced, as determined by the Engineer, by the Contractor and at the Contractor's expense.

1.07 SUBMITTALS

- A. Demolition Management Plan (DMP) with documentation that includes and addresses the following:
1. Work sequence and schedule. Include phased demolition requirements consistent with the overall project schedule.
 2. Activity-based schedule.
 3. List of equipment to be used for demolition operations.
 4. Means and methods for removing specified portions of existing structures as shown on the Drawings. This shall include descriptions of selective demolition at interface areas where

existing structure will remain.

5. Means and methods to protect existing infrastructure, stockpile materials, and deliver salvaged material.
 6. Means and methods to prevent demolition materials, debris, water from construction activities, etc. from falling into or entering the Blair Waterway.
 7. Means and methods for removing or cutting precast concrete piles that break during extraction.
 8. Laydown areas for materials management.
- B. If the DMP is revised, resubmit with any proposed changes for review by the Engineer prior to incorporating changes to means, methods, equipment, tools, etc.

PART 2 - PRODUCTS

2.01 GENERAL

- A. All products that are required to repair, accomplish, or be incorporated into the work shall be selected by the Contractor, subject to the approval of the Engineer.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Utility locates shall be performed prior to start of demolition. Coordinate and resolve with the Engineer and terminal operators to turn off or de-energize affected services before starting demolition.
- B. Verify all items for demolition, disposal, and salvage as early as practicable prior to start of the work. Notify the Engineer immediately if observed conditions differ from anticipated conditions.
- C. Contractor shall coordinate demolition work with the Engineer and perform demolition activities in a manner that minimizes impact to terminal operations.

3.02 DEMOLITION

- A. Completely remove and dispose of all designated items. Infrastructure or materials designated to remain that are damaged by Contractor activities shall be replaced or repaired at the Contractor's expense.
- B. Do not damage existing pavement which is to remain in place. Pavement demolition shall be accomplished by making neat vertical saw cuts at the boundaries of areas to be removed.
- C. All prestressed concrete piles designated for demolition shall be completely removed by pulling. Jetting is not permitted.
- D. At no time shall any debris be allowed to enter the water. The Contractor shall make provisions using floats, falsework, scaffolding, and other means as necessary to prevent debris from falling into the water. All debris that falls into the water, whether it sinks or floats, shall be removed immediately. Removal and disposal of all debris shall occur at no additional cost to the Port.
- E. Blasting shall not be used.
- F. Disposal of all asphalt pavement shall be at a Contractor-selected recycle site.

3.03 DISPOSAL

- A. The Contractor is responsible for the proper disposal of all demolition materials under this Contract in a manner that meets the requirements of federal, state, and local regulations for

protecting the health and safety of employees, the public, and for protecting the environment.

- B. Cleanup: Clean the site after removal of all demolition items and materials. There shall be no debris, rubble or litter left at the site from any of the demolition operations.

END OF SECTION

PART 1 – GENERAL

1.01 RELATED WORK DESCRIBED ELSEWHERE

The provisions and intent of the Contract, including the General Conditions and General Requirements, apply to this work as if specified in this section. Work related to this section is described in the following sections:

- A. Section 01 35 29 – Health, Safety, and Emergency Response Procedures
- B. Section 01 42 19 – Reference standards
- C. Section 01 50 00 – Temporary Facilities and Controls
- D. Section 01 74 19 – Construction Waste Management and Disposal
- E. Section 02 41 00 – Demolition

1.02 DESCRIPTION

- A. The Contractor shall supply all labor, materials, facilities, equipment, services, employee training and testing, handling, transport, disposal, and agreements necessary to perform the work required for fugitive dust control activities and potential silica-containing dust control activities in accordance with these specifications and applicable regulations from the State of Washington Department of Labor and Industries (WISHA), Puget Sound Clean Air Agency (PSCAA), and any other applicable federal, state, and local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable.
- B. In all cases where potential silica dust exposures may occur, the Contractor shall use any and all feasible engineering and work practice controls to reduce and maintain employee exposure levels at or below the Washington State Permissible Exposure Limits (PELs) for silica compounds, as specified in WAC 296-62-07515. It shall be assumed that the workers generating the silica dust are exposed above the Permissible Exposure Limit (PEL) until the Contractor air monitoring demonstrates levels below the PEL.
- C. The work specified herein shall be performed by competent persons. Competent persons are those who are trained, knowledgeable, and qualified in both fugitive and silica dust evaluation and control methods.
- D. If fugitive dust emissions are visible beyond the perimeter of the work area, or if respirable crystalline silica dust concentrations exceed 0.05 mg/m^3 beyond the perimeter of the work area, the Engineer is authorized to stop work. The Contractor shall perform all necessary corrective actions to eliminate visible dust and reduce respirable crystalline silica concentrations to less than 0.05 mg/m^3 before resuming work. The Port may visually monitor for fugitive dust and collect air samples for silica at any time.

1.03 SCOPE OF WORK

- A. Construction work will potentially generate fugitive dust. It is the responsibility of the Contractor to control fugitive dust generation and emissions.
- B. Construction site work that requires control of silica-containing dust includes chipping, sanding, sawing, jack-hammering, drilling, and other aggressive methods on concrete building materials associated with this project.
- C. Work activities shall include the following, as applicable:
 - 1. Provide site security to assure that no member of the public is able to gain access to the construction work area at any time. The Contractor shall maintain access and egress

routes at all times.

2. Provide worker training, respiratory protection, and medical examinations, as necessary, to meet applicable silica regulations and regulatory guidance regarding silica exposures where work involves the generation of concrete or demolition-related dust.
3. Adopt work practices that prevent the release of fugitive and silica dust outside of the work area, as described in Part 3 of this section.
4. Use wet methods and High-Efficiency Particulate Absorption (HEPA) vacuuming equipment within the work area to clean the work area and control fugitive dust during demolition and construction activities, and at the completion of demolition and construction activities.
5. Use barriers to prevent the release of dust from the work area to other areas of the project.
6. Provide for worker and equipment decontamination. Worker decontamination and equipment areas shall be cleaned daily or more frequently, as required, to prevent dust emissions.
7. Protect personal security, life safety, and energy management systems, including associated wiring, which shall remain operational throughout the work activities.

1.04 PERSONAL PROTECTION

A. Respiratory Protection

1. Where exposures to respirable crystalline silica may exceed the PEL of 0.05 mg/m³ based on an 8-hour time-weighted average (8-hr. TWA) per WAC 296-62-07515, workers shall be provided, as a minimum, with personally issued and marked respirators equipped with high efficiency particulate air (HEPA) filters approved by the National Institute for Occupational Safety and Health (NIOSH), 99.97% efficient, that shall be worn in the designated work area. Sufficient filters shall be provided for replacement as required by the workers or applicable regulations. Disposable respirators shall not be used. Respirators and respirator supplies shall be provided to the workers at the expense of the Contractor.
2. The Contractor shall comply with OSHA 29 CFR Part 1926.134, WAC 296-62-071 (Respiratory Protection), and ANSI Standard Z88.2-1990 "Practices for Respiratory Protection."
3. No worker shall be exposed to levels greater than 0.05 mg/m³ respirable crystalline silica as determined by the protection factor of the respirator worn and the work airborne area respirable crystalline silica levels.
4. A sufficient supply of replacement parts and HEPA filter cartridges shall be provided to the workers.
5. The Contractor shall maintain daily inspection(s) of all respirators to verify cleanliness and to replace damaged, worn or missing parts.

B. Protective Clothing

1. Workers shall be provided with sufficient sets of protective full-body clothing to be worn in the designated work area whenever a potential exposure to respirable crystalline silica concentrations exists above the PEL. Such clothing shall include, but not be limited to, coveralls and eye protection.
2. Protective clothing shall not be worn outside the work area. Non-disposable-type protective clothing and footwear shall be left in the work area.

3. Eye protection shall be provided and worn as required by applicable safety regulations. Equipment shall conform to ANSI Z87.1-1989.
4. Head Protection: Hard hats or other head protection shall be provided as required by applicable safety regulations. Hard hats shall conform to ANSI Z89.1-1991, Class A or B.
5. Foot Protection: Nonskid footwear shall be provided to all workers. Footwear shall conform to ANSI Z41.1-1993, Class 75.
6. Workers shall not eat, drink, smoke, or chew gum or tobacco in or near the work areas.

1.05 SUBMITTALS

- A. Contractors shall provide complete submittals as per Section 01 33 00 – Submittal Procedures for review by the Engineer. Following receipt of review comments from the Engineer, submit additional complete sets of revised submittals. No hazardous material abatement work or demolition work will be permitted prior to submittals being approved by the Engineer. Allow fifteen (15) calendar days for submittal review.
- B. Pre-Work Submittals: The Contractor shall submit to the Engineer for review and acceptance the Contractor's Work Plan as a prerequisite to demolition activities. The work plan must be reviewed and signed by a Certified Industrial Hygienist chosen by the Contractor. The plan must be suitably titled and indexed, providing detailed information concerning the following items as a minimum in the order listed below:
 1. Safety and health hazards;
 2. Personal protective measures and decontamination system requirements;
 3. Respiratory protection program, fit testing and training records for all employees potentially exposed above the PEL;
 4. Specific work practices and procedures;
 5. Description of engineering controls designed to keep fugitive dust and silica exposures below the levels specified herein, for outside and inside each work area;
 6. Silica Air Monitoring Plan;
 7. Dust disposal plan;
 8. Emergency procedures; and
 9. Internal administrative and inspection procedures.

1.06 SILICA AIR SAMPLING EVALUATION BY CONTRACTOR

- A. The Contractor shall conduct air sampling of workers and subcontractors for respirable crystalline silica in accordance with NIOSH Method 7500, and according to the Contractor's Work Plan. This sampling is performed to evaluate workers' exposure levels.
- B. The Contractor shall conduct perimeter area air sampling in areas of the marine building occupied by Terminal Employees and Port Employees for respirable crystalline silica in accordance with the NIOSH Method 7500, and according to the Contractor's Work Plan. This sampling is performed to evaluate potential exposures to building occupants.
- C. The Contractor shall conduct air sampling in accordance with the NIOSH Method to collect a sufficient volume of air to determine if the airborne silica dust levels are below the PELs. If the sampling detection levels are above the PELs, the Contractor is required to re-sample at no expense to the Port of Tacoma.

- D. Results of area air samples collected by the Contractor shall be submitted to the Port Engineer within 48 hours after sample collection.

PART 2 - PRODUCTS

2.01 TOOLS AND EQUIPMENT

- A. Equipment and supplies may include but are not limited to:
1. Chemicals to be used on site including solvents, dust suppressants, wetting agents, cleaning products, degreasing agents, welding/cutting supplies, and encapsulants;
 2. Enclosure equipment (for dust control);
 3. Material storage containers and supplies;
 4. Suitable tools for dust collection and water-jet dust suppression systems;
 5. Sufficient number of HEPA-filtered vacuum cleaners to cleanup visible duct residues.

PART 3 - EXECUTION

3.01 WET METHODS

- A. Use "wet" systems that eliminate or reduce dust generated by demolition activities including cutting concrete. Cleanup sludge and /or waste immediately following its generation.

3.02 ENCLOSURE METHOD

- A. Use enclosures in conjunction with air filtration devices. Air shall be moved through the filtration unit with a minimum of 1500 CFM. Provide HEPA filter-based shop vacuum units to control dust generated at the work face and use tools that include dust control features where possible.

3.03 OVERSIGHT

- A. The Engineer will stop work if, in the course of performing their monitoring duties, they observe an instance of substantial non-conformance with the contract documents and/or a situation presenting a health hazard to workers, Port employees, or the public. Work shall not resume until corrective measures have been enforced. Instances of substantial non-conformance shall include, but not be limited to, the following:
1. Visible dust emissions outside of the work area barriers;
 2. Loss of negative pressurization (if required);
 3. Activities or misconduct affecting worker's or building occupant's safety; and
 4. Breaches of containment that could substantially damage building life safety systems.
- B. If poor work practices are observed, the Engineer shall direct the Contractor to make the necessary corrections. If appropriate corrections are not made, or if there is an immediate threat exists that silica dust could be released outside the work area, work shall be stopped. The decision to stop work shall be made by Engineer. The decision to stop work can also be made by the Contractor as part of the Contractor's management and control of the site and site activities.
- C. The Engineer may perform air sampling inside and outside the work area during the project. The Contractor shall cooperate fully with the Consultant and ensure the cooperation of his workers during collection of air samples and work area inspections.
- D. The Engineer's oversight role does not relieve the Contractor's obligation to comply with all applicable health and safety regulations promulgated by the federal, state, or local

governments. Air monitoring results generated by the Port shall not be used by the Contractor to represent compliance with regulatory agency requirements for monitoring of workers exposure to airborne silica, nor shall any other activity on the part of the Port represent the Contractor's compliance with applicable health and safety regulations.

3.04 RECORDKEEPING

- A. The Contractor shall maintain for at least thirty (30) years, employee health and safety records for the project, as specified in WAC 296-802. Furnish one copy to the Engineer. The record shall include the following information:
1. The starting and completion dates of the project;
 2. A copy of all analytical results;
 3. Copies of negative pressure documentation records (as required);
 4. The name and address of the analytical laboratory used for silica analyses; and
 5. The name and address of all persons who were engaged in the concrete demolition activities.

END OF SECTION

PART 1 – GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions and General Requirements, apply to this work as if specified in this section. Work related to this section is described in:
 - 1. Section 03 30 00 – Cast-in-Place Concrete
 - 2. Section 05 50 00 – Metal Fabrications

1.02 DESCRIPTION OF WORK

- A. The work includes the requirements for manufacture, detailing, cutting, bending, transporting, handling, and placing of all concrete reinforcement and associated items required or indicated on the drawings.

1.03 REFERENCE STANDARDS

- A. American Concrete Institute ACI 301-16: Specifications for Structural Concrete for Buildings.
- B. American Concrete Institute SP-66(04): ACI Detailing Manual (including ACI 315-99).
- C. American Concrete Institute ACI 318-14: Building Code Requirements for Structural Concrete and Commentary.
- D. American Society for Testing Materials (ASTM), Standard Specifications and Standard Test Methods, designated by basic reference in this section (use the most current edition at the time of bid unless otherwise indicated).
- E. American Welding Society (AWS) D1.4 Structural Welding Code – Reinforcing Steel, 2010 Edition.
- F. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice (MSP), 2009, 28th Edition.
- G. Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge and Municipal Construction M41-10, 2012 Edition.
- H. Washington Association of Building Officials (WABO) Standard No. 27-13, WABO Welder and Welding Operator Performance Qualification Standard for Structural Steel, Sheet Steel, and Reinforcing Steel.

1.04 QUALITY ASSURANCE

- A. Provide at least one (1) qualified person who shall be present at all times during execution of this portion of work, be thoroughly familiar with the type of materials being installed, be skilled in the required methods for installation, and who shall direct all the work. Qualified personnel shall have a minimum of five (5) years of experience in placement of reinforcement for concrete structures.
- B. All welders shall be qualified in accordance with AWS D1.4 and WABO Standard 27- 13 for the weld procedures and positions to be performed.

1.05 SUBMITTALS

- A. Documentation demonstrating the qualifications and experience of the supervisor's and welder's of the work, as described above.

- B. Detailed shop drawings that are coordinated and checked for all concrete reinforcement prior to casting concrete.
 - 1. Do not deliver concrete reinforcement to the site prior to acceptance of the shop drawings.
 - 2. The shop drawings shall include, but not be limited to, material specifications, bar lengths, bar bending schedules, order lists, splice lengths, and proposed splice locations.
- C. Mill certificates for each heat of reinforcing steel and threaded bars to be furnished, indicating specification compliance, yield strength, ultimate strength, and chemistry.
- D. Qualified weld procedure specification (WPS) including all information contained in Annex A of AWS D1.4.
- E. Weld procedure and welder qualification test reports, including valid WABO card for welds and positions to be performed.
- F. Headed reinforcement details and manufacturer data sheets.
- G. Data sheets for mortar blocks and chairs used for placing reinforcement.

PART 2 – PRODUCTS

2.01 HANDLING

- A. Protect from damage all reinforcement before, during, and after installation in the work. Protect from damage the installed work and materials of other trades.
- B. All reinforcement shall be new and free from rust, grease, oil, wax, paint, soil, dirt, kinks, bends, or other defects. Store in a manner to prevent corrosion, or fouling with bond-breaking or deleterious coatings.
- C. Maintain reinforcement identification after the bundles are broken. Indicate to the Engineer what bar types and grades are stored in each location.
- D. In the event of damage, immediately make all repairs and replacements necessary as directed by the Engineer and at no additional cost to the Port.

2.02 REINFORCEMENT

- A. All reinforcing bars, except as noted below, shall be deformed billet-steel bars conforming to ASTM A 615, Grade 60, deformed. Bars conforming to ASTM A 706 may be substituted for ASTM A 615 reinforcing bars at the Contractor's expense.
- B. All dowel reinforcing bars for ladders and grab bars, bars requiring welds, and bars designated as weldable shall conform to ASTM A 706, Grade 60, deformed.
- C. Mechanical couplers, where approved, shall be as follows.
 - 1. Couplers shall develop a minimum of 125% of the minimum specified yield strength of the reinforcing bar.
 - 2. Dayton Superior D-250 Bar-Lock S/CA-Series couplers, or approved equal.
 - 3. Lenton Lock B-Series mechanical couplers by Erico Inc, or approved equal.
 - 4. HRC Series 400 High Performance Mechanical Couplers by the Headed Reinforcement Company, or approved equal.
- D. Headed reinforcement shall conform to ASTM A 970.
 - 1. Heads shall be round in configuration.

2. Pile Cap Supplement: Bars shall be Lenton Terminator – D6 end anchors by Erico, Inc., Dayton Superior D-158 end anchors, Headed Reinforcement Company HRC Type 150 or 555, or approved equal.

PART 3 – EXECUTION

3.01 GENERAL

- A. Prior to installation of this section, carefully inspect the installed work of other trades and verify that such work is complete to the point where reinforcement installation may commence.
- B. Details of bending, placing, and splicing of all reinforcing steel shall conform to ACI 318 and ACI SP-66, except as modified herein.

3.02 REINFORCING STEEL BARS

- A. Order Lists: Before ordering material, furnish all order lists and bending diagrams for approval by the Engineer; reinforcement placing drawings submitted for approval shall conform to the CRSI MSP. Do not order material until such lists and bending diagrams have been approved. The approval of order lists and bending diagrams by the Engineer shall in no way relieve the Contractor of responsibility for the correctness of such lists and diagrams.
- B. General Fabrication Requirements for Reinforcing Bars: Bend all bars cold to the shapes indicated on the drawings unless otherwise approved by the Engineer. Do not field-bend bars partially embedded in concrete except as indicated on the drawings or as approved by the Engineer. Make bends and hooks in accordance with the applicable portions of the CRSI MSP.
- C. Placing and Fastening:
 1. Place all steel reinforcement accurately and hold firmly in the position indicated on the drawing during the placing and setting of concrete. Tie bars at all intersections.
 2. Minimum concrete cover to reinforcement shall be as indicated on the drawings:
 3. Maintain the minimum distance from the forms by means of stays, blocks, ties, hangers, or other approved supports.
 - a. Holding reinforcement from contact with the forms shall be by approved metal or plastic chairs. Metal chairs which are in contact with the exterior surface of the concrete shall be plastic-coated for the full depth of the indicated concrete cover.
 - b. Separate layers of bars by plastic chairs, by precast mortar blocks of compressive strength not less than 3750 pounds per square inch, spacing bars, or by other devices approved equal.
 - c. The minimum spacing between bars, except at lap splices, shall not be less than one bar diameter or one inch minimum, but not less than 1-1/3 times the maximum size of the coarse aggregate.
 4. In the event that conduits, anchor bolts, piping, inserts, sleeves, embedded objects, headed studs, or other items interfere with placing reinforcement as indicated on the drawings, or as otherwise required, immediately contact the Engineer and obtain approval of a new procedure before placing concrete.

3.03 SPLICING

- A. Furnish all reinforcement in the full lengths indicated on the drawings.
- B. Splicing of bars, except when indicated on the drawings, will not be permitted without approval of the Engineer. When approved, splices shall be staggered with no more than fifty percent of

any particular bar type being spliced at any one location. Minimum length of lap splice shall be per the schedule of minimum lap splice lengths in the drawings unless noted otherwise on the drawings. Minimum distance between spliced zones shall be one lap length plus one foot.

3.04 WELDING

- A. Welding of reinforcing steel shall be performed only as indicated on the Drawings.
- B. Welding shall be performed by welders certified by the Washington Association of Building Officials (WABO) and shall conform to the current specifications of the American Welding Society (AWS) D1.4 except that weld size and reinforcement shall be as shown on the drawings.
- C. Processes used to place welds shall be either shielded metal arc or flux core arc (inner shield only) welding. All slag shall be removed from each weld.
- D. Filler metal, preheat, and interpass temperature requirements shall conform with Section 5 of AWS D1.4.
- E. Exposure times for low hydrogen coated electrodes shall be in accordance with Section 5.8 of AWS D1.4.

3.05 CLEANING REINFORCEMENT

- A. Steel reinforcement, at the time concrete is placed around it, shall be free from loose rust or mill scale, oil, paint, and all other coatings which will destroy, impair, or reduce the bond between steel and concrete.

3.06 INSPECTION

- A. Reinforcement in any member shall be placed and inspected by qualified personnel before placement of concrete.
- B. Access for inspection by the Engineer prior to concrete placement shall be provided for all pours. Concrete placed in violation of this provision will be rejected. The Contractor shall remove the rejected concrete, place new reinforcing steel, and cast new concrete at its own expense.
- C. The Contractor shall notify the Engineer at least 48 hours in advance of any concrete pour, to allow for inspection.

END OF SECTION

PART 1 – GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions and General Requirements, apply to this work as if specified in this section. Work related to this section is described in:

- 1. Section 03 20 00 – Concrete Reinforcing

1.02 DESCRIPTION OF WORK

- A. The extent and location of the “Cast-in-Place Concrete” work is indicated on the drawings. The work includes the requirements for providing all cast-in-place concrete and associated work in conformance with these specifications and as indicated on the drawings.

1.03 REFERENCE STANDARDS

- A. American Concrete Institute ACI 301-16: Specifications for Structural Concrete.
- B. American Concrete Institute ACI 305R-10: Hot Weather Concreting.
- C. American Concrete Institute ACI 306R-16: Cold Weather Concreting.
- D. American Concrete Institute ACI 308R-16: Guide to Curing Concrete.
- E. Modification of ACI 305R, 306R, and 308R: accomplish work in accordance with these guides except as modified herein. Consider the advisory or recommended provisions to be mandatory. Interpret reference to the "Building Official," the "Structural Engineer," and the "Architect/Engineer" to mean the Engineer.
- F. American Concrete Institute ACI 318-14: Building Code Requirements for Structural Concrete and Commentary.
- G. American Society for Testing Materials (ASTM), Standard Specifications and Standard Test Methods, designated by basic reference in this section (use the most current edition at the time of bid unless otherwise indicated).
- H. Standard Specifications for Road, Bridge, and Municipal Construction, M41-10, 2012 edition, by Washington State Department of Transportation (WSDOT Standard Specifications).

1.04 QUALITY ASSURANCE

- A. All concrete work shall conform to the requirements of ACI 301, unless otherwise noted in the drawings or the specifications.
- B. Inspection and Testing: As determined by the Engineer, the Port will provide inspection and testing as required. The Contractor shall provide all necessary access and assistance in carrying out such inspections and tests at its own expense. The Contractor may obtain results of tests performed by the Port from the Engineer.
- C. Qualifications of Supplier: Ready-mixed concrete plants shall be approved and certified by the National Ready Mix Concrete Association (NRMCA) or qualified by WSDOT. Ready-mixed concrete shall be batched in accordance with the applicable portions of ASTM C 94.
- D. Qualifications of Personnel:
 - 1. Provide at least one qualified person who shall be present at all times during execution of this portion of the work, who shall be thoroughly trained and experienced in placing the types of concrete specified, and who shall direct all work performed under this section. Qualified personnel shall have at least five (5) years' experience performing the work

described in this section.

1.05 SUBMITTALS

- A. Documentation demonstrating the qualifications and experience of supervisors and directors of work, as described above.
- B. Proposed concrete design mixes, indicating all material contents per cubic yard of concrete, including certificates of specification compliance. Written evidence that the ready-mix concrete plant is approved and certified by the NRMCA and other organizations.
- C. Test certificates for compressive strength, yield, air content, and slump of the proposed concrete mix. Report strength test results in accordance with ACI 318, Section 5.3.
- D. Manufacturer's name, address, catalog number, and specifications for all proposed admixtures, concrete bonding agents, curing compounds, etc.
- E. Identify all aggregate supply pit names and locations. Submit certificates of specification compliance for materials to be used including aggregate alkali-silica reactivity (ASR).
- F. Proposed curing methods including manufacturer's data for curing membranes, evaporation retardants, accelerated cure methods, etc. Submit detailed plans for concreting in ambient temperatures below 40 degrees F. Describe the specific methods and procedures used for substrate preparation, concrete placement, curing, and protection. Provide specific references to ACI 306R and ACI 308R.
- G. Shop drawings showing pour sequences, construction joints, etc.
- H. Concrete delivery tickets for each truck delivered to the site. Submit delivery tickets to the Engineer before unloading at the site and in accordance with ASTM C 94, Section 14.

PART 2 – PRODUCTS

2.01 CONCRETE

- A. General:
 - 1. All concrete, unless otherwise specifically permitted by the Engineer, shall be batched and mixed at the approved Ready-Mix plant. Batching, mixing, and delivery of ready-mix concrete shall conform to ASTM C 94.
 - 2. All cast-in-place concrete shall be proportioned on the basis of field experience or laboratory trial mixtures according to ACI 318, Section 5.3.
- B. Cementitious Materials:
 - 1. All cement shall be Portland cement conforming to ASTM C 150.
 - 2. Portland cement for use in mixes without fly ash shall be Type I-II or Type II conforming to ASTM C 150 except that the cement shall not contain more than percent alkalis by weight calculated as $\text{Na}_2\text{O} + 0.658 \text{ K}_2\text{O}$ and the content of Tricalcium aluminate (C3A) shall not exceed 8 percent by weight.
 - 3. Portland cement for use in mixes with fly ash shall be Type I or Type I-II conforming to ASTM C 150.
 - 4. Fly ash, if used, shall meet the requirements of ASTM C 618, Type F, with the added provision that the loss on ignition shall not exceed 1 percent, and that the fly ash is stored in a separate silo from the cement. Split bins are not acceptable.
- C. Aggregates:

1. Aggregates shall conform to ASTM C 33. All coarse and fine aggregate shall consist of hard, tough, durable particles free from foreign and deleterious materials, and shall be stored in such a manner as to prevent segregation, excessive breakage, and the introduction of foreign material.
 2. Evaluate and test fine and coarse aggregates to be used in all concrete for alkali-aggregate reactivity in accordance with ASTM C 1260 or ASTM C 1293. Test both coarse aggregate size groups if from different sources. Test results of the combination shall have a measured expansion equal to or less than 0.10 percent at 16 days after casting when aggregates are tested in accordance with ASTM C 1260 or 0.04 percent for aggregates tested in accordance with ASTM C 1293.
 3. Grading shall conform to WSDOT Standard Specifications paragraph 9-03.1(5) Combined Aggregate Gradation for Portland Cement Concrete. Maximum nominal aggregate size shall be $\frac{3}{4}$ inch, unless approved by the Engineer.
 4. The maximum size of coarse aggregate shall not be larger than three fourths of the minimum clear spacing between reinforcing bars, between reinforcing bars and side forms, and between reinforcing bars and top or bottom surface of the concrete.
 5. The maximum size of aggregate for "pea gravel" concrete shall be $\frac{3}{8}$ inch.
- D. Water used for mixing concrete shall conform to the quality requirements of paragraph 9-25.1 of the WSDOT Standard Specifications.
- E. Admixtures: All admixtures shall be supplied by one manufacturer approved by the Engineer.
1. Air-entraining admixtures shall conform to ASTM C 260. Dosage rates shall be in accordance with the manufacturer's recommendations to meet the air content specified herein.
 2. Water-reducing admixtures shall conform to the requirements of ASTM C 494. Dosage rates shall be in accordance with the manufacturer's recommendations.
 3. Water reducing admixture shall be Type A, D, F, or G. The amount shall control the desired workability and water/cement ratio of the mix and shall be within the manufacturer's recommended range.
- F. Epoxy Bonding Agent:
1. Meets ASTM C 881, Type V, Grade 2, Temperature Class A, B, or C, and match the surface temperatures to which the bonding agent is applied, as endorsed by the manufacturer.
 2. MasterEmaco ADH 326 manufactured by BASF, or Sikadur 32 HI-MOD LPL, manufactured by Sika Corporation, or equal, as approved by the Engineer before the start of the work where it will be used.

2.02 OTHER MATERIALS

- A. All other materials not specifically described but required for a complete and proper installation of cast-in-place concrete shall be selected by the Contractor subject to the approval of the Engineer.

2.03 MIX PROPORTIONS AND STRENGTH

- A. The mix proportions shall produce a mixture that will readily work into all corners, sides, and angles of the forms, around reinforcement and embedded items, with no segregation, and prevent free water from collecting on the surface.

- B. The mix proportions shall be selected in accordance with ACI 318.
 - 1. Test data representing thirty recent consecutive tests for each design shall be submitted to establish the standard deviation used in Section 5.3.1.
 - 2. The criteria for acceptance of submitted tests shall be accordance with Section 5.3.1.1. Section 5.3.1.1(b) shall be amended to read, "... 500 psi of f'_c ", instead of 1000 psi.
 - 3. Where 30 recent consecutive tests are not available, the standard deviation may be determined by records based on no less than 15 tests as described in Section 5.3.1.2.
 - 4. Where no previous data are available, the mix or mixes shall be oversized in accordance with Section 5.3.2.2.
 - 5. When consecutive test data have been established during the project the oversized criteria may be relaxed in accordance with Section 5.5.
 - 6. Deviation from any reviewed design mix without approval of the Engineer will not be permitted.
- C. Unless otherwise indicated, concrete minimum 7-day compressive strengths are shown on the drawings.
- D. Concrete, shall meet the following requirements:
 - 1. Minimum Cementitious Material
 - a. Cement without fly ash: 6.5 sacks/cy (611 lbs./cy)
 - b. Cement with fly ash: 6 sacks/cy (564 lbs./cy) and 100 lbs. fly ash/cy
 - 2. Maximum Water/Cement Ratio: 0.40, computed by weight, including free moisture on aggregate. If fly ash is used, the water/cement ratio shall be calculated as the weight of water divided by the combined weight of cement and fly ash.
 - 3. Air Content: 3.5 percent to 6.5 percent
 - 4. Slump: Maximum 8 inches, and chosen to enhance workability without violating the maximum water/cement ratio requirement.

PART 3 – EXECUTION

3.01 PREPARATORY WORK

- A. General:
 - 1. All concrete work shall be coordinated and performed in strict accordance with the permit requirements. This specification section does not include all required protection measures, mitigation measures, and BMPs associated with this project. The Contractor shall pay particular attention to the conditions of issued permits, and applicable regulations and authorizations associated with this project. All protection measures, mitigation measures, and BMPs included in these documents shall be implemented by the Contractor.
 - 2. Prior to casting, inspect the installed work of all other trades and verify it is complete to the point where this installation may commence.
 - 3. Verify that all items to be embedded in concrete are in place, properly oriented, located, and secured.
 - 4. Verify that concrete may be placed to the lines and elevations indicated on the drawings with all required clearances for reinforcement.

5. All areas in which concrete is to be placed shall be thoroughly cleaned to remove wood debris, sawdust, tie wire cuttings, and all other deleterious material.
 6. Tie wire ends shall be bent back so they do not encroach into the specified clear cover of the concrete.
 7. Concrete forms which have not been treated with oils, waxes, or other bond breakers shall be thoroughly wet prior to placing concrete.
 8. Clean and roughen existing concrete or concrete from previous pours to provide a bondable surface.
 9. All transporting and handling equipment shall be cleaned of all hardened concrete and other debris.
- B. Notification: Notify the Engineer at least 48 hours in advance of any concrete pour. Notify the Engineer when inspection by the Contractor is complete. In the event of discrepancy, immediately notify the Engineer. Do not proceed with installation until all discrepancies have been fully resolved.

3.02 TRANSPORTING AND PLACING CONCRETE

A. Placement:

1. Concrete that does not reach its final position in the forms within 1-1/2 hours after the addition of cement shall not be used. During hot weather, this time limit shall be reduced in accordance with ACI 305R.
2. Place concrete as soon as possible after mixing. Concrete which has developed initial set or partially hardened shall not be re-tempered or remixed.
3. The method and manner of placing concrete shall not allow segregation of the aggregates or displacement of reinforcement and embedded objects.
4. When using a concrete pump as the placing system, the pump priming slurry shall be discarded before placement into the forms. Initial acceptance testing may be delayed until the pump priming slurry has been eliminated. No pump shall be used that allows free water to flow past the piston. Aluminum conduits or tremies shall not be used for pumping or placing concrete.
5. Place concrete in continuous horizontal layers, or lifts, not exceeding 18 inches and compact so that there will be no line of separation between layers. Carefully fill each part of the forms by depositing concrete directly in its final destination.
6. When concrete must be dropped more than five feet into the forms, it shall be deposited through a sheet metal or other approved conduit. Approved conduit shall also be used to place concrete in sloping forms or in other locations, as directed by the Engineer, to prevent concrete from sliding around reinforcing or other embedded objects.
7. The methods of depositing and compacting concrete shall produce compact, dense, impervious concrete with the required surface finishes and no segregation. Remove defective concrete as directed by the Engineer at no additional cost to the Port.
8. During pile extraction, or other vibratory activity, do not place concrete within 100 feet of the activity, and do not perform or resume the activity within 100 feet of placed concrete until a minimum of 3 days after initial concrete set.
9. Concrete shall not be placed or allowed to fall in the water or on the bank within the wharf footprint. Otherwise, concrete shall be immediately removed from the water or the bank.

- B. Hot/Cold Weather Placement: Do not place concrete on frozen ground or against frosted reinforcing steel or forms. Do not mix or place concrete while the atmospheric temperature is below 40° F. If air temperature exceeds 90°F, provide water spray or other approved methods to cool contact surfaces to less than 90°F. Hot and cold- weather concrete placement shall follow the respective recommendations in ACI 305R and ACI 306R.
- C. Consolidation of Concrete:
 - 1. Provide suitable internal vibrators for use in compacting all concrete. The vibrators shall be of the type designed to be placed directly in the concrete, and their frequency of vibration shall not be less than 7,000 impulses per minute when in actual operation.
 - 2. Vibration shall be such that the concrete becomes uniformly plastic. Insert vibrators to a depth sufficient to vibrate the bottom of each layer effectively, but do not penetrate partially hardened concrete. Do not apply the vibrators directly to steel which extends into partially hardened concrete. The intervals between points of insertion shall be not less than 2 feet, nor more than 3 feet.
 - 3. Do not continue vibration in any one spot such that pools of cement or cement and sand are formed. In vibrating and finishing top surfaces which are exposed to weather or wear, avoid drawing water or laitance to the surface. In relatively high lifts, the top layer shall be comparatively shallow and the concrete mix shall be as stiff as can be effectively vibrated into place and properly finished.
 - 4. Do not use vibrators to transport or move concrete inside the form.
 - 5. A sufficient number of vibrators shall be supplied to effectively vibrate all of the concrete placed. Hand-tamping or rodding shall be required wherever necessary to secure a smooth and dense concrete on the outside surfaces.
 - 6. When vibrating concrete with epoxy-coated reinforcement, only use vibrators with coated stingers than do not damage the epoxy coating.
- D. Concrete trucks shall not be washed out onsite unless contained within a concrete wash-out area that complies with the requirements of the latest version of the Department of Ecology Stormwater Management Manual for Western Washington.
- E. Any delivered load of concrete that is rejected shall be completely disposed of offsite.

3.03 CONSTRUCTION JOINTS

- A. Joints and stoppages, except as specifically shown on the drawings, shall conform to ACI 318, Chapter 6. Wire mesh or similar materials shall not be used.
- B. Submit for the Engineer's approval all requests for additional, deleted, or relocated construction joints. Changes as a result of such requests shall be at the Contractor's expense.
- C. Thoroughly clean and roughen all joint surfaces and remove loose concrete, gravel, sediment, laitance, and all other deleterious substances.
- D. Thoroughly wet and condition all joint surfaces to a saturated surface dry (SSD) condition for a minimum twelve hour period immediately prior to placing fresh concrete.
- E. Horizontal surfaces of construction joints, such as between existing pile cap and new pile cap supplement pours, shall have a bonding agent or neat cement paste applied.

3.04 CURING CONCRETE

- A. Follow ACI 308R.

- B. Concrete shall be maintained above 40° F and in a moist condition for at least the first seven days (168 hours) after placement.
- C. Do not use curing compounds on surfaces to receive additional concrete.
- D. Where permitted, apply an ASTM C 309, Type 1, Class A or B curing compound to the fresh concrete immediately after finishing the concrete and as soon as the visible bleed water has evaporated or as directed by the Engineer. Apply according to the manufacturer's recommendations. The rate of coverage shall be at least one gallon per 100 square feet and be sufficient to effectively obscure the original color of the concrete.
- E. Apply the curing compound in two applications to ensure full coverage of the concrete, with the second coat applied in a direction perpendicular to that of the first application.
- F. Do not apply curing compound to construction joint surfaces, reinforcing steel, or embedments in the concrete. Curing compound on construction joints, reinforcing steel, or embedments shall be completely removed before the following concrete pour.
- G. Supply backup spray equipment and sufficient workers to properly apply the curing compound.
- H. Within 12 hours following the application of the curing compound, the top surfaces shall be covered with cotton mats, an approved vapor proof curing paper, or white polyethylene sheeting. If the covering used is cotton mats, it shall be kept continuously wet day and night for the period of time specified above, and if curing paper or plastic film is used, it shall be left in place for the same length of time.
- I. Curing paper and white polyethylene sheeting shall be kept tightly in place by taping and weighting joints, or other methods for the prescribed length of time.
- J. Membrane curing compounds which leave a waxy film on the concrete shall not be used.
- K. After the concrete has cured for the required time, the top surfaces shall be swept clean.
- L. All concrete shall be protected from damage and accelerated drying. No fire or excessive heat shall be permitted near the concrete at any time.
- M. In lieu of curing compounds the Contractor may use wet burlap or other wet cure methods as approved by the Engineer.
- N. Wet cure methods shall be continuous for the prescribed duration of the curing period.

3.05 FINISHING CONCRETE

- A. Protect finished surfaces from damage, stains and abrasion. Surfaces or edges damaged during construction shall be repaired at the Contractor's expense.
- B. Defects:
 - 1. Surface defects include honeycomb, rock pockets, spalls, chips, air bubbles, voids, pinholes, bug holes, and indentations greater than or equal to 1/4 inch in depth, or greater than or equal to 1/2 inch in width, length, or diameter. These defects shall be chipped out to reveal sound concrete and then shall be patched according to Section 03 60 00 – Grouting.
 - 2. Surface cracks greater than or equal to 0.007 inches in width. These cracks shall be patched according to Section 03 60 00 – Grouting.
 - 3. Surface irregularities include embedded objects, embedded debris, lift lines, sand lines, bleed lines, segregation, form pop-outs, fins, form leakage, texture irregularities, stains and other discolorations that cannot be removed by water blast cleaning. These defects shall

be repaired as specified in this Section unless otherwise directed by the Engineer.

C. Horizontal Surfaces:

1. Exposed horizontal surfaces that will not receive additional concrete shall have a smooth wood float finish.

3.06 TESTING

- A. Testing of concrete will be performed by an accredited testing agency retained by the Port. Methods of sampling, testing, evaluation, and acceptance will conform to ACI 301. The Contractor shall assist the Port with access to collect samples.
- B. Testing as described above will be at the Port's discretion and in no way relieves the Contractor of any obligations.
- C. The Contractor shall perform its own tests and institute a quality assurance program to assure the specified quality of materials and work are provided.
- D. Tests performed by the Port will be done at no cost to the Contractor, except as noted below.
 1. Additional testing and inspection required because of changes in materials, proportions, and procedures requested by the Contractor.
 2. Additional testing of materials or concrete when either fails to meet the specification requirements when tested in accordance with the ACI standards outlined and the appropriate ASTM standards contained therein.

END OF SECTION

PART 1 – GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions and General Requirements, apply to this work as if specified in this section. Work related to this section is described in the following sections:
 - 1. Section 03 30 00 – Cast-in-Place Concrete
 - 2. Section 05 50 00 – Metal Fabrications

1.02 DESCRIPTION OF WORK

- A. The work includes furnishing of all necessary material, labor, and equipment for grouting dowels and anchors as shown on the drawings and described in the specifications. The work also includes the patching of demolished or damaged surfaces resulting from demolition activities.

1.03 REFERENCE STANDARDS

- A. American Society for Testing Materials (ASTM), Standard Specifications and Standard Test Methods, designated by basic reference in this section (use the most current edition at the time of bid unless otherwise indicated)

1.04 QUALITY ASSURANCE

- A. The Port will provide testing and inspection services as required. The Contractor shall provide all necessary assistance in testing of materials and provide access for testing and inspection at its own expense.
- B. Provide at least one person who shall be present at all times during execution of the work, who shall direct all work performed, and who has at least five (5) years' experience with the materials and the methods of installation necessary to meet the performance specifications.
- C. Dowel and anchor installers shall be trained and certified by the adhesive, grout, or system manufacturer.

1.05 SUBMITTALS

- A. Documentation that the supervisor's directing the work and that the dowel and anchor installers have the qualifications and experience as described above.
- B. For each application, manufacturer's name, address, catalog cuts, and specifications for grout, epoxies, adhesives, admixtures, and proprietary products.
- C. Doweling and anchoring system manufacturer's instructions for preparation, placement, drilling holes, installation of dowels, anchors and adhesive, and handling of cartridges, nozzles, and equipment.
- D. Doweling and anchoring system manufacturer's ICC Evaluation Service - ES Reports and written letter of certification identifying the installer's qualifications to install the manufacturer's products.

PART 2 – PRODUCTS

2.01 REPAIR MORTAR

- A. Typical locations: demolition surfaces, incomplete drilled holes for dowels, damaged concrete, locations determined by the Engineer.

- B. Shrinkage-compensated mortar EMACO R350 CI manufactured by BASF Construction Chemicals LLC, or approved equal.

2.02 DRILLED-IN AND BONDED DOWEL ADHESIVE

- A. Store adhesive at temperatures and in locations indicated in the manufacturer's literature. Do not use and dispose of adhesives with expired shelf lives.
- B. Meet ASTM C 881, Type IV, Grade 2 or 3. Overhead applications shall meet Grade 3. Temperature Class A, B, or C shall match, or be endorsed by the manufacturer, the surface temperature of the concrete to which the bonding system is applied.
- C. Suppliers, or approved equal:
 - 1. HIT-RE 500 V3 adhesive, by Hilti Inc., Tulsa, OK.
 - 2. SET-XP adhesive, by Simpson Strong-Tie Co., Dublin, CA.

2.03 CRACK REPAIR

- A. Products shall be appropriate for the specific defect and are subject to the approval of the Engineer. Suppliers, or approved equal:
 - 1. MasterInject 1000, by BASF Construction Chemicals LLC, Shakopee, MN.
 - 2. Sikadur 35, Hi-Mod LV, by Sika Corporation, Lyndhurst, NJ.
 - 3. SCB Concrecive 1350, by BASF Construction Chemicals LLC, Shakopee, MN.
 - 4. SCB Concrecive 1360, by BASF Construction Chemicals LLC, Shakopee, MN.

PART 3 – EXECUTION

3.01 GENERAL

- A. Products shall be stored, mixed, placed, and cured in accordance with the manufacturer's published specifications. Surface shall be prepared in accordance with manufacturer's published specifications unless otherwise indicate herein. In case of a discrepancy the more strict requirements, as determined by the Engineer, shall apply.
- B. Concrete surfaces shall be thoroughly cleaned and wetted before placing grout. Steel members to be embedded and grouted shall be set level at proper elevation with the use of steel shims or leveling screws before grout placement begins.

3.02 DOWEL INSTALLATION

- A. Drilling hammers for dowel and anchor holes shall be pneumatic rotary type with medium or light impact. Holes for dowels and anchors shall not be core drilled unless otherwise shown on the drawings or approved by the Engineer.
- B. Use a drill bit diameter meeting the ICC-ES Report requirements of each dowel and anchor system and as recommended by the manufacturer.
- C. Locate drilled holes to avoid existing reinforcing steel and other embedded objects. Prior to drilling, locate the existing reinforcement using a pachometer or other non- destructive methods approved by the Engineer.
- D. When existing reinforcing steel is encountered, obtain criteria from the Engineer for relocating and re-drilling the hole. Incomplete holes, or holes that expose existing reinforcing steel shall be patched.

- E. Clean, roughen, prepare, wet, and inspect each hole in accordance with the manufacturer's instructions before installing dowels or anchors, and adhesive or grout.

END OF SECTION

PART 1 – GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions and General Requirements, apply to this work as if specified in this section. Work related to this section is described in:
 - 1. Section 03 30 00 – Cast-in-Place Concrete
 - 2. Section 03 60 00 – Grouting
 - 3. Section 09 96 00 – High Performance Coatings
 - 4. Section 35 59 13 – Marine Fenders

1.02 DESCRIPTION OF WORK

- A. All metal fabrications are indicated on the Drawings and in the specifications. The work shall consist of furnishing all materials, labor, and equipment for fabricating and/or repairing, galvanizing, and erecting metal fabrications, in accordance with the Drawings, notes, and this specification.

1.03 REFERENCE STANDARDS

- A. American Galvanizers Association (AGA), Quality Assurance Manual.
- B. American Institute of Steel Construction (AISC), Specification for Structural Steel Buildings, 2010.
- C. American Institute of Steel Construction (AISC), Code of Standard Practice for Steel Buildings and Bridges, 2010.
- D. American Society for Testing Materials (ASTM), Standard Specifications and Standard Test Methods, designated by basic reference in this section (use the most current edition at the time of bid unless otherwise indicated).
- E. American Welding Society (AWS) D1.1 – 2010, Structural Welding Code – Steel.
- F. American Welding Society (AWS) A2.4 – 2012, Standard Symbols for Welding, Brazing, and Nondestructive Examination.
- G. Society for Protective Coatings (SSPC), Surface Preparation Specifications.
- H. Washington Association of Building Officials (WABO) Standard No. 27-13, WABO Welder and Welding Operator Performance Qualification Standard for Structural Steel, Sheet Steel, and Reinforcing Steel.

1.04 QUALITY ASSURANCE

- A. Demonstrate that the fabricator has a minimum of five (5) years of experience fabricating and working similar metals and configurations, including cutting, bending, forming, welding, and finishing.
- B. Welders shall be currently certified by the Washington Association of Building Officials (WABO) for structural welding.
- C. Welding procedures, operations, welders, and tackers shall be qualified in accordance with AWS D1.1.
- D. The galvanized coating applicator shall specialize in hot-dip galvanizing after fabrication and follow the procedures in the AGA Quality Assurance Manual.

- E. Nondestructive testing (NDT) and inspection of all shop and field welds will be performed in accordance with AWS D1.1 by an independent testing agency retained by the Port. Welds failing to comply shall be repaired or replaced at the Contractor's expense.

1.05 SUBMITTALS

- A. Detailed and coordinated shop drawings indicating all shop and erection details, including cuts, copes, connections, holes, fasteners, material specifications, welds, surface preparations, and finishes.
- B. Documentation that the fabricator has the qualifications and experience described above.
- C. Welder qualifications and certifications.
- D. Weld Procedure Specifications (WPS's) proposed for use on the project. Submit supporting Procedure Qualification Records (PQR's) for all WPS's not prequalified by AWS.
- E. Galvanized coating applicator's Certificate of Compliance that the hot-dip galvanized coatings meets or exceed the specified requirements of ASTM A 123 or A 153, as applicable, and has followed the procedures in the AGA Quality Assurance Manual.
- F. Mill certificates for each heat number of structural and miscellaneous steel.

PART 2 – PRODUCTS

2.01 GENERAL

- A. All products shall be new, free from oxidation, corrosion, and defects, and shall be of the specified quality.
- B. Protect all materials and fabrications before, during, and after installation from damage. Protect the installed work of other trades from damage.
- C. Protect galvanized finishes and painted coatings from damage by use of padded slings and straps.
- D. In the event of damage, immediately make all repairs and replacements as per the manufacturer's written recommendations and as approved by the Engineer at no additional cost to the Port.

2.02 STRUCTURAL STEEL

- A. Plates and bars: ASTM A 572, Grade 50, unless noted otherwise.
- B. Angles and channels: ASTM A 36.
- C. HSS sections: ASTM A 500, Grade B.
- D. Pipe: ASTM A 53, Grade B, ASTM A 106, Grade B or C.

2.03 BOLTS, NUTS, AND WASHERS

- A. Anchor bolts or anchor rods: ASTM F 1554, Grade 105, headed, unless noted otherwise.
- B. Economy bolts, hex head bolts, and other bolts not specified as high-strength: ASTM A 307, Grade A.
- C. Nuts and washers for economy bolts, hex head bolts, and other bolts not specified as high-strength: ASTM A 563, suitable for grade of bolt, ASTM F 844, wide series, maximum thickness, respectively.

- D. High-Strength bolts, nuts, and washers: ASTM A 325-X, Type 3, ASTM A 563-DH, hot-dip zinc coated, and ASTM F 436, hot-dip zinc coated, respectively.

2.04 OTHER MATERIALS

- A. Chains, shackles, links, and wire rope: See Section 35 59 13 – Marine Fenders.
- B. All other materials not specifically described but required shall be proposed by the Contractor, new, free of corrosion, and subject to the approval of the Engineer.

PART 3 – EXECUTION

3.01 PREPARATORY REVIEW

- A. Prior to all work of this section, inspect the installed work of all other trades affecting this work and verify that all such work is complete to the point where this installation may commence.
- B. Coordinate and furnish placement drawings, templates, instructions, and directions for installation of embedded anchorages, including concrete inserts, sleeves, anchor bolts, and miscellaneous items.
- C. Verify that the work can be fabricated and installed in accordance with the Drawings, specifications, and reference standards. Immediately report discrepancies to the Engineer and do not proceed with fabrication or installation until discrepancies are resolved and direction is provided.

3.02 FABRICATION

- A. All structural steel shall be fabricated in accordance with the approved shop drawings and reference standards.
- B. Shop-fabricate and preassemble all items complete for installation to the extent practicable to minimize field assembly. Disassemble units only as necessary for shipping and handling limitations.
- C. Weld all shop connections unless otherwise directed on the Drawings. All joints shall be tightly fitting, securely fastened, square, plumb, straight, and true.
- D. Drill or punch all holes required for attachments and bolted connections including those of other trades. Burned holes are not acceptable.
- E. Welding of all metal fabrications shall conform to AWS D1.1.
- F. Install and erect all miscellaneous metal and metal fabrications in accordance with the design drawings, shop drawings, and reference standards.

3.03 PROTECTIVE COATINGS

- A. Galvanizing:
 - 1. All miscellaneous metal, metal fabrications, and fasteners, except as noted in this specification, shall be hot-dip galvanized in conformance with ASTM A 123, A 143, A 153, A 384, and A 385, as applicable.
 - 2. All miscellaneous metal, metal fabrications, and fasteners that have a galvanized coating, and are to be further coated (painted), shall be cleaned, prepared, primed, and coated with additional coatings over the galvanized coating as specified in Section 09 96 00 – High Performance Coatings.
 - 3. Identify proposed drain holes or vent holes required to produce galvanized coatings to the specified standards. Clearly locate these holes on the shop drawings.

4. Galvanize items, to the extent practicable, immediately after fabrication is complete.
 5. Damaged galvanizing, including damage due to welding, shall be restored in accordance with ASTM A 780, annex A3. Zinc-rich paints and cold spray materials are not acceptable. Surface preparation and application shall be according to the manufacturer's specifications.
- B. The following metal fabrications shall be galvanized and coated as specified in Section 09 96 00 – High Performance Coatings.
1. Ladders, grab bars, and bars protruding from concrete ladder weights
- C. The following metal fabrications shall be coated only as specified in Section 09 96 00 – High Performance Coatings (not galvanized).
1. Fender panels, carbon steel fender panel elements, and fender spacers

END OF SECTION

PART 1 – GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions and General Requirements, apply to this work as if specified in this section. Work related to this section is described in:
 - 1. Section 00 26 00 – Substitution Procedures
 - 2. Section 05 50 00 – Metal Fabrications
 - 3. Section 35 59 13 – Marine Fenders

1.02 DESCRIPTION OF WORK

- A. The work includes furnishing all materials, labor, equipment, and accessories for preparing and providing the required finished painting and protective coatings on the fabrications and items identified on the drawings and in the specifications. See Section 05 50 00 for list of project components to receive high performance coating.

1.03 REFERENCE STANDARDS

- A. Society for Protective Coatings (SSPC), SSPC Painting Manual, Volume I, 4th Edition, “Good Painting Practice”.
- B. SSPC Painting Manual, Volume II, 2008 Edition, “Systems and Specifications”.
- C. SSPC, “The Fundamentals of Cleaning and Coating Concrete”.
- D. SSPC, “Procedure for Determining Conformance to Dry Coating Thickness Requirements”, SSPC-PA2.

1.04 QUALITY ASSURANCE

- A. Coating application shall be by qualified and experienced personnel having demonstrated at least five (5) years of experience in coating applications for marine structures.
- B. Conform to all manufacturers’ specifications and recommendations for achieving published results with each product, application, and condition. If manufacturers’ specifications or recommendations differ from those in these specifications, report the discrepancy to the Engineer and obtain further direction before proceeding.
- C. The Engineer may inspect coating preparation, application, or touchup at its discretion. Provide access to the Engineer for these inspections and at no additional cost to the Port.

1.05 SUBMITTALS

- A. A complete list of products and product descriptions proposed for use as coating systems.
 - 1. Provide manufacturer product data and accessories, including specifications, physical characteristics, and performance data.
 - 2. Manufacturer instructions and directions for application of the coating systems.
 - 3. Manufacturer instructions and procedures for use in performing field repairs and touch-ups to the coating systems.
 - 4. Use the same manufacturer’s products for all coats unless otherwise approved by the Engineer.

- B. Documentation that key personnel of the coating applicator have at least the minimum experience and certifications described above and below. Demonstrate consistent experience applying the proposed coating systems under similar conditions. List information by individual and include the following.
 - 1. Position or responsibility
 - 2. Employer (if other than the Contractor)
 - 3. Name of facility owner
 - 4. Mailing address and telephone number of facility owner
 - 5. Name of contact reference in facility owner's organization
 - 6. Location, size, and description of structure
 - 7. Dates work was performed
 - 8. Description of work performed on structure
- C. Samples of all paints and finishes proposed for use.
- D. Schedule of coating operations with dates and items listed.
- E. Measurement reports of dry paint thickness on metal surfaces according to SSPC-PA2.

1.06 PRODUCT HANDLING

- A. Deliver paint and associated materials in undamaged and unopened containers bearing labels of the manufacturer, which indicate the contents and directions for use, storage, and handling. Store materials in a location where the ambient temperature and humidity is not outside the ranges recommended by the manufacturer.
- B. Prevent fire. Open containers of inflammable materials only as needed. Keep rubbing cloths, oily rags, etc., in tightly closed metal containers, or remove from the job site daily. Benzene, gasoline, or distillates shall not be stored on the job site.
- C. Do not damage the coating materials before, during, or after installation and prevent damage to the installed work and materials of other trades.
- D. In the event of damage, immediately make all repairs and replacements as directed by the Engineer according to the manufacturer's recommendations and procedures at no additional cost to the Port.

PART 2 – PRODUCTS

2.01 COATING SYSTEMS

- A. Manufacturers who have provided acceptable coating systems for past marine projects include the following. This does not imply that products from any manufacturer listed below will be acceptable.
 - 1. Carboline Protective Coatings (1-206-243-6494)
 - 2. International Marine Coatings of AkzoNobel (1-206-763-8003)
 - 3. Sherwin Williams Co Industrial and Marine Coatings (1-360-931-4645)
 - 4. Tnemec Company (1-206-762-5755)
 - 5. Wasser High-Tech Coatings (1-253-218-2222)

6. Fields Company LLC (1-253-627-4098)

- B. Coating systems selected for each type of finish surface shall be products of a single manufacturer. Coating materials shall be suitable for corrosion protection in an aggressive marine environment.
- C. Materials not specifically noted but required for the work, such as thinners, or other materials, shall be products of the approved paint manufacturer or compatible products accepted by the coating manufacturer.
- D. Paint products for coating systems shall be mixed according to the manufacturer's directions. Do not deviate except with written approval of the Engineer.

2.02 SUBSTITUTIONS

- A. Manufacturer-specific coating systems are referenced in this specification. The manufacturer's product identification numbers indicate the product type, quality, and performance required for a specific application. Bids shall be based upon the manufacturer-specific coating systems referenced herein.
- B. Submit in writing a request to the Engineer for review and approval prior to material procurement and in accordance with Section 00 26 00 – Substitution Procedures. Substantiating technical data and documentation are required as described above for all submittals.
- C. Proposed coating system substitutions will be reviewed and evaluated, subject to the approval of the Engineer, based on equivalency to the coating systems referenced in this herein. Substitute coating system data and documentation that does not demonstrate equivalency will not be approved.
- D. Approved substitutions shall be at no additional cost to the Port.

2.03 COLOR SCHEDULE

- A. OSHA safety yellow: ladders, ladder grab bars, and bars protruding from concrete ladder weights.
- B. Black: Fender panels, carbon steel fender panel elements, and fender spacers.

2.04 COATING SCHEDULE

- A. Galvanized metal surfaces that are indicated in Section 05 50 00 – Metal Fabrications to be coated (painted) and that are above MHHW shall be coated as follows:
 - 1. Solvent cleaned to remove contaminants using a biodegradable, water soluble, cleaner in conformance with SSPC-SP1.
 - 2. Solvent cleaned galvanized surfaces shall receive a light, sweeping abrasive sand blast to create a toothed surface profile in accordance with SSPC-SP7.
 - 3. Primer: Intergard 345 epoxy primer by International Marine Coatings of AkzoNobel, applied to a minimum dry film thickness of 5 mils on all surfaces.
 - 4. Top coat: Intergard 345 epoxy primer by International Marine Coatings of AkzoNobel, applied to a minimum dry film thickness of 5 mils on all surfaces.
- B. Galvanized surfaces or non-galvanized surfaces to be coated, and with any part below MHHW (ladders, fender system) shall be coated as follows:
 - 1. Solvent cleaned to remove contaminants using a biodegradable, water soluble, cleaner in conformance with SSPC-SP1.

2. Solvent cleaned galvanized surfaces shall receive a light, sweeping abrasive sand blast to create a toothed surface profile in accordance with SSPC-SP7.
3. Primer: Interzone 954 modified epoxy barrier coat by International Marine Coatings of AkzoNobel, applied to a minimum dry film thickness of 15 mils on all surfaces.
4. Top coat: Interthane 990 acrylic polyurethane by International Marine Coatings of AkzoNobel, applied to a minimum dry film thickness of 2.5 mils on all surfaces.

PART 3 – EXECUTION

3.01 GENERAL

- A. Apply paints and coatings in accordance with the manufacturer's recommendations for each application. Adhere to the manufacturer's provisions, directions, and procedures for the following.
 1. Surface preparation
 2. Ambient temperature and humidity monitoring
 3. Mixing techniques
 4. Method of product application
 5. Minimum and maximum thickness per coat to achieve total thickness
 6. Minimum time between coats
- B. Use clean equipment and brushes. Spread materials evenly without runs, drips, sags, laps, brush marks, variations in color, texture, or sheen, and without "holidays".
- C. Vary color or sheens between coats and apply all coats to uniform thicknesses. Refinish any work determined defective or damaged, and repair all defective or damaged work at no additional cost to the Port. Leave finished surfaces clean, completely covered, and uniform in appearance.

3.02 APPLICATION

- A. Number of coats as specified herein.
- B. Thickness of coats: Use ample undiluted materials; apply in uniform thickness over entire areas; do not exceed manufacturer's recommended spreading rate per gallon.
- C. Tint prime coats if necessary to obtain uniform finish coats.

3.03 TOUCHUP PAINTING

- A. Paint film damaged due to field welding or other Contractor activities shall be immediately restored to its original thickness after thorough cleaning and necessary surface preparation according to the written manufacturer's recommendations.
- B. Touchup painting shall be at the Contractor's expense.

3.04 INSPECTION

- A. The Contractor shall perform measurements of dry paint thickness on all metal surfaces by means of magnetic gages as described in SSPC-PA2.
- B. Copies of the measurement reports shall be provided to the Engineer prior to delivery.
- C. The Engineer will perform verification testing/inspection at the Port's expense. The Contractor shall make arrangements for these tests/inspections at all facilities performing coating

applications and give the Engineer a notice at least 14 days in advance of each coating operation.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. The provisions and intent of the contract, including the General conditions and General Requirements, apply to the work as if specified in this section. Work related to this section is described in the following sections:
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 01 45 00 – Quality Control
 - 3. Section 02 41 00 – Demolition

1.02 SCOPE

- A. The extent of work is indicated on the Drawings. The work includes the requirements for producing, transporting, placing, shaping and compacting of one or more courses of materials in conformance with these Specifications and the dimensions and sections indicated on the Drawings. Pavement, asphalt, asphalt pavement, ACP (Asphaltic Concrete Pavement), and HMA (Hot Mix Asphalt) are all intended to describe asphalt concrete pavement. Mix furnished shall be historic Hveem designs meeting the criteria provided below (Section 2.03)

1.03 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. Unless otherwise indicated, the most recent edition of the publication, including any revisions, shall be used.
- C. American Association of State Highway and Transportation Officials (AASHTO)
 - 1. AASHTO M 17 – Mineral Filler for Bituminous Paving Mixtures
 - 2. AASHTO M 332 – Performance-Graded Asphalt Binder Using Multiple Stress Creep Recovery (MSCR) Test
 - 3. AASHTO T 11 – Materials Finer Than 75 μ m (No. 200) Sieve in Mineral Aggregates by Washing
 - 4. AASHTO T 27 – Sieve Analysis of Fine and Coarse Aggregates
 - 5. AASHTO T 30 – Mechanical Analysis of Extracted Aggregate
 - 6. AASHTO T 96 – Resistance to Degradation of Small-Size Coarse Aggregate and Impact in the Los Angeles Machine
 - 7. AASHTO T 112 – Clay Lumps and Friable Particles in Aggregate
 - 8. AASHTO T 164 – Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)
 - 9. AASHTO T 176 – Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test
 - 10. AASHTO T 283 – Resistance of Compacted Hot-Mix Asphalt (HMA) Mixtures to Moisture-Induced Damage
 - 11. AASHTO T 304 – Uncompacted Void Content of Fine Aggregate
 - 12. AASHTO T 308 – Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method

- 13. AASHTO T 335 – Determining the Percentage of Fracture in Coarse Aggregate
- D. American Society for Testing and Materials (ASTM)
 - 1. ASTM D75 – Sampling Aggregates
 - 2. ASTM D242 – Mineral Filler for Bituminous Paving Mixtures
- E. Washington State Department of Transportation (WSDOT)
 - 1. Construction Manual, M 41-01
 - 2. Standard Specifications for Road, Bridge and Municipal Construction, M 41-10
 - 3. Materials Manual, M 46-01

1.04 SUBMITTALS

- A. A separate job mix formula for each proposed mix design shall be submitted in writing by the Contractor. Submittals shall represent all submittal elements specified herein and shall include as a minimum:
 - 1. Mix designation/identification number.
 - 2. Plant where mix will be produced.
 - 3. Performance Graded Binder Certified Test Reports
 - a. Source location and type of binder.
 - b. Certificate of Compliance, including date and signature of the supplier, regarding conformance with AASHTO M 332, Table 1.
 - c. Compliance with WSDOT elastic recovery requirements in Section 9-02.1(4)
 - d. Temperature-viscosity relationship of the asphalt cement.
 - e. Minimum mixing temperature (degrees F).
 - f. Minimum compaction temperature (degrees F).
 - 4. Coarse Aggregate Certified Test Reports:
 - a. Source location and type of aggregate.
 - b. Fractured Faces.
 - c. Bulk specific gravity.
 - d. LA Abrasion.
 - 5. Fine Aggregate Certified Test Reports:
 - a. Source location and type of aggregate.
 - b. Bulk specific gravity.
 - c. Percent natural sand (if used).
 - d. Sand equivalent.
 - e. Uncompacted void content.
 - 6. Anti-strip agent:
 - a. Certification.

- b. Amount used.
 - 7. Recycled Asphalt Pavement Test Reports (if used)
 - 8. Percentage and grade of performance graded asphalt binder.
 - 9. Proportions and percentage of each aggregate stockpile.
 - 10. Temperature range of mix when discharged from the mixer.
 - 11. Plot of the blended aggregate gradation and gradation control points on the Federal Highway Administration (FHWA) 0.45 power gradation curve.
 - 12. Maximum specific gravity at the target binder content.
 - 13. Air void content at the target binder content.
 - 14. Graphical plots of air voids, voids in the mineral aggregate, voids filled with asphalt, fines to effective binder content ratio, and unit weight verses asphalt content. Plots shall indicate values at -0.5 percent design asphalt content, design asphalt content, and +0.5 percent design asphalt content.
 - 15. Tensile strength ratio (TSR), strength of conditioned samples, and worksheets (Hveem).
- B. The certification(s) shall show the appropriate AASHTO/ASTM test(s) for each material, test results, and a statement that the material meets the specification requirement.
- C. If requested by the Engineer, submit samples for each type aggregate to be used and from each source with proper identification as to source, type of aggregate and contract number. Take all samples in accordance with requirements of ASTM D75 and D242. Submit in clean, sturdy bags and in the following amounts for each sample when requested:

MATERIAL	SAMPLE SIZE
Coarse Aggregate	25 lbs.
Fine Aggregate	25 lbs.
Reclaimed Asphalt Pavement	25 lbs.
Mineral Filler	5 lbs.

- D. The job mix formula for each mixture shall be in effect until modified in writing by the Engineer. Should a change in mix or sources of materials be made, a new job mix formula must be tested and resubmitted for approved by the Engineer before the new mix is used.
- E. Working Drawings: For each paving area, provide working drawings to show the following information:
- 1. Direction of paving.
 - 2. Lane widths.
 - 3. Thickness of each lift.
- F. Submit smoothness measurements and surface grade survey results to the Engineer prior to application for payment.

1.05 CONTRACTOR QUALITY CONTROL

- A. The Contractor shall be responsible for developing the asphalt mix designs specified herein. The mix designs shall be developed and/or certified by a laboratory accredited by AASHTO under the AASHTO re:source program.
- B. Quality Control Testing: The Contractor shall conduct any and all quality control (QC) testing that he deems necessary to properly control the quality, consistency, and uniformity of the asphalt concrete mix being produced. No minimum number of quality control tests is required for this Contract.
- C. If the Contractor chooses to conduct quality control tests, the information and data determined through that testing shall be made available for inspection by the Engineer. In no case, however, shall the Contractor's quality control test data be used by the Engineer for acceptance or payment purposes.
- D. Surface Grades: Grades shall conform to the tolerance requirements specified herein, except where closer tolerance is required for the proper functioning of appurtenant structures and drainage as determined by the Engineer.

1.06 QUALITY ASSURANCE

- A. The Engineer will provide inspection services. Sampling and testing for compliance shall be in accordance with the applicable reference standards using certified technicians and accredited independent testing laboratories.
- B. Sampling and testing for compliance with the Contract provisions shall be in accordance with Section 01 33 00 - Submittal Procedures and Section 01 45 00 - Quality Control.
- C. The Contractor may obtain copies of results of tests performed by the Port from the office of the Port, at no cost. Tests conducted for the sole benefit of the Contractor, shall be at the Contractor's expense.
- D. Unless otherwise referenced or modified herein, quality control and quality standards for this section shall be as specified in the WSDOT Standard Specifications.

1.07 JOB CONDITIONS

- A. Environmental Requirements:
 - 1. Weather limitations shall be in accordance WSDOT Standard Specifications Section 5-04.3(3), as modified herein.
 - 2. In case of sudden rain, the Engineer may permit placing of mixture then in transport from the plant provided that the surface upon which the mix is being placed is free from pools of water. In addition, the laydown temperatures must conform to the above requirements. Such permission, however, shall not be interpreted as a waiver of any of the quality requirements.
- B. New and existing manholes, catch basins, and utility vault covers shall be adjusted to conform to the new pavement grades. Paving shall be finished 1/4-inch to 1/2-inch higher than adjacent structures, unless otherwise shown or specified.
- C. Existing Underground Utilities: The Contractor shall locate existing underground utilities in the area of the work. Those utilities which are to remain shall be adequately protected from damage.
- D. All permanent utilities shall be installed prior to final paving. All utility trenches shall be patched with asphalt pavement as shown on the Contract Drawings.

- E. Dust Control: The Contractor shall be responsible for dust control at the site. As a minimum, a water truck and vacuum truck shall be used on site for dust control when required by the Engineer.

PART 2 - PRODUCTS

2.01 PERFORMANCE GRADED ASPHALT BINDER (PGAB)

- A. Asphalt shall conform to the requirements of AASHTO M 332, Table 1 and the elastic recovery requirements of WSDOT Standard Specification Section 9-02.1(4) for the Performance Grade specified herein.

2.02 AGGREGATE

- A. Coarse Aggregate – Coarse aggregate shall conform to WSDOT Standard Specification Section 9-03.8, as modified below:

Test	Specification
Coarse Aggregate Angularity (AASHTO T335)	90% with 2 or more fractured faces

- B. Fine Aggregate - Fine aggregate shall consist of clean, sound, durable, angular shaped particles produced by crushing stone or gravel that meets the requirements for wear and soundness specified for coarse aggregate. Natural (non-manufactured) siliceous sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. The amount of sand to be added will be adjusted to produce mixtures conforming to requirements of this Specification. The aggregate particles shall be free from coatings of clay, silt, or other objectionable matter and shall contain no clay balls. Fine aggregate shall conform to WSDOT Standard Specification Section 9-03.8, as modified below:

Test	Specification
Uncompacted Void Content (AASHTO T 304, Method A)	44%, minimum
Deleterious Materials (AASHTO T 112)	2%, maximum
Wood Waste Retained on a No. 4 Sieve (Specific Gravity < 1.0)	0.1%, maximum

- C. Mineral filler, when used, shall conform to the requirements of AASHTO M 17.
- D. Recycled Asphalt Pavement (RAP)
1. RAP, if used, shall conform to the requirements of WSDOT Standard Specification Section 9-03.8(3)B, 9-03.21(1) and 9-03.21(1)A, as modified herein.
 2. The maximum proportion of RAP permitted within each mix shall not exceed 20 percent.
 3. RAP shall have 100 percent passing the 2-inch sieve, 95 percent passing the 1-inch sieve, and shall be a mixture of only coarse aggregate, fine aggregate, and asphalt cement, free of solvents and other contaminating materials.
 4. When RAP is used in a mixture, the RAP aggregate shall be extracted from the RAP using a solvent extraction (AASHTO T164) or ignition oven (AASHTO T308). The RAP aggregate shall be included in determinations of gradation, coarse aggregate angularity,

and fine aggregate angularity. The sand equivalent requirements shall be waived for the RAP aggregates but shall apply to the remainder of the aggregate blend.

5. Documentation of RAP stockpile quality and traceability shall be submitted to the Engineer for approval prior to use.

E. Aggregate Gradation

1. Each gradation contains maximum and minimum control points. Job mix formula gradations must fall within control points for the specified nominal aggregate size. The combined aggregate shall conform to the gradation requirements shown below when tested in accordance with AASHTO T 11 and T 27. Design gradation requirements are as follows:

Design Aggregate Gradation Control Points	
Sieve Size	Class B (1/2-inch) (Percent Passing)
1-1/2"	-
1"	-
3/4"	100
1/2"	90-100
3/8"	75-90
No. 4	46-66
No. 10	30-42
No. 40	11-24
No. 200	3.0-7.0

2. Aggregates shall be provided in sufficient sizes to produce a uniform mixture. The Contractor shall indicate on the proposed job-mix formula the separate size designations of aggregate to be used.
3. It is recommended that the Bailey Method of gradation evaluation be used to evaluate the packing of aggregate particles and constructability of the blended aggregate mix. If segregation or non-uniformity is evident in the finished pavement, the Engineer reserves the right to require the Contractor to discontinue the use of crusher run or aggregate blends and to furnish separate sizes of open graded aggregate material.

2.03 HVEEM HOT MIX ASPHALT (HMA) MIX DESIGN

- A. Mix design shall be prepared using the Hveem mix design method in accordance with the 2011 WSDOT Materials Manual Test Method T 702, 2011 WSDOT Materials Manual Test Method T 703, and the 2002 WSDOT Standard Specifications, as modified herein. The 2011 WSDOT Materials Manual and the 2002 WSDOT Standard Specifications are referenced for mix design purposes only and the current edition of the WSDOT Standard Specifications is applicable to all other references.
- B. Asphalt Binder: PG 58H-22.
- C. Aggregate Gradation: Class B (1/2").
- D. Stabilometer Value: 35, minimum.
- E. Cohesimeter Value: 100, minimum.

- F. Air Voids: 2% – 4.5%.
- G. The dust to binder ratio of the blended mix shall be between 0.6 and 1.6.
- H. Compacted mix design shall have a tensile strength ratio (TSR) greater than or equal to 85 percent when tested in accordance with WSDOT Test Method T718, including the freeze-thaw cycle. In addition, the mixture shall have a minimum wet tensile strength of 80 pounds per square inch (psi). In the event the mix design does not meet the tensile strength requirements the Contractor shall increase the approved anti-stripping agent dosage or take other corrective action to satisfy the specification.

2.04 HEAT-STABLE ANTI-STRIPPING ADDITIVE

- A. Mix designs shall include a minimum of 0.1 percent by weight binder, anti-stripping additive conforming to the requirements of WSDOT Standard Specification Section 9-02.4.

2.05 HMA ADDITIVE

- A. An approved HMA Additive, to assist field compaction, meeting Section 9-02.5 of WSDOT Specifications, may be accepted by the Engineer.

2.06 TACK COAT

- A. Unless otherwise approved by the Engineer, the tack coat shall be CSS-1, CSS-1h, or STE-1 emulsified asphalt conforming to WSDOT Standard Specification Section 9-02.1(6). The CSS-1 and CSS-1h emulsified asphalt may be diluted with water at a rate not to exceed one-part water to one-part emulsified asphalt. The tack coat shall not exceed the maximum temperature recommended by the emulsified asphalt manufacturer.

2.07 JOINT AND CRACK SEALANT

- A. Sealant shall conform to the requirements of WSDOT Standard Specification Section 9-04.2(1).

2.08 CONTROLLED DENSITY FILL (CDF)

- A. Controlled Density Fill (also may be referred to as lean concrete) shall meet the requirements of the WSDOT Standard Specifications, Section 2-09.3(1) E.
- B. Mix design to have a minimum 28-day compressive strength of 50 psi and a maximum 28-day compressive strength not to exceed 300 psi.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Asphalt Mixing Plant – Asphalt shall be produced at a plant approved by the WSDOT. Plants shall conform to WSDOT Standard Specifications Section 5-04.3(3)A.
- B. Hauling Equipment:
 - 1. Hauling equipment shall conform to WSDOT Standard Specifications Section 5-04.3(3)B, as modified herein.
 - 2. Trucks shall be equipped with tarps, in good condition without holes, which can be tied down over the sides and ends of the truck beds during periods of inclement weather to prevent rain from entering the truck bed and coming in contact with the asphalt concrete mix.
 - 3. Trucks shall be loaded using a multiple-drop method (front then back the middle) to minimize truck to truck segregation.

- C. Paving Equipment – Asphalt pavers shall conform to WSDOT Standard Specifications Section 5-04.3(3)C.
- D. Compaction Equipment – Rollers shall conform to WSDOT Standard Specifications Section 5-04.3(3)E.
- E. Preparation of the Asphalt Binder Material (asphalt cement):
 - 1. The binder shall be stored within the temperature range specified by the supplier of the binder for the grade of asphalt cement being used. Different grades of asphalt binder shall be stored separately and not mixed together at any time.
 - 2. The binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the bituminous material to the mixer at a uniform temperature.
 - 3. The temperature of the binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 350 degrees F unless otherwise required by the asphalt binder manufacturer.
- F. Preparation of the Aggregates:
 - 1. The aggregate for the mixture shall be heated and dried prior to introduction into the mixer. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates.
 - 2. The aggregate temperature shall not be lower than is required to obtain complete coating and uniform distribution of the aggregate particles and to provide a mixture of satisfactory workability.
- G. Preparation of Bituminous Mixture:
 - 1. Mixing shall conform to WSDOT Standard Specifications Section 5-04.3(6), as modified herein.
 - 2. The aggregates and the bituminous material shall be properly proportioned and introduced into the mixer in the amount specified by the job mix formula.
 - 3. Job mix formula production tolerances shall conform to WSDOT Standard Specifications Section 9-03.8(7) (Statistical Evaluation), except the tolerance limits for aggregate shall not exceed the limits of the control points specified herein.
 - 4. The moisture content of all bituminous mix upon discharge shall not exceed one (1) percent.
- H. Preparation of the Underlying Surface:
 - 1. Preparation shall conform to WSDOT Standard Specifications Sections 5-04.3(4), 5-04.3(4)A, and 5-04.3(5)C as modified herein.
 - 2. Asphalt materials shall not be placed until the underlying course has been tested and accepted by the Engineer.
 - 3. Immediately before placing asphalt materials, clean all underlying pavement surfaces and previous courses of all loose and foreign material by sweeping with hand brooms, power sweepers or blowers as directed by the Engineer.
 - 4. Tack Coat:

- a. Tack coat shall be applied in accordance with WSDOT Standard Specifications Section 5-04.3(4)A, as modified herein. The Port inspector shall verify that the tack coat has been properly placed prior to constructing subsequent pavement lifts. Refer to the applicable sections in Chapter 5 of the WSDOT Construction Manual for guidance on tack coat application and inspection.
 - b. Apply tack coat only when the underlying surface is dry, and the ambient temperature meets the requirements for the pavement course being placed.
 - c. Residual asphalt coating shall be 0.03 to 0.05 gallons per square yard on newly placed asphalt surfaces
 - d. Residual asphalt coating shall be 0.06 to 0.08 gallons per square yard on existing or milled asphalt surfaces.
5. Manholes, valve boxes, inlets, and other appurtenances within the area to be paved shall be adjusted to grade as shown on the Contract Drawings. Permanent curbs, gutters, and other supports shall be constructed and backfilled prior to placing asphalt. All contact surfaces shall be coated with tack coat.
- I. Transporting, Placing, and Finishing:
1. The asphalt concrete mixture shall be transported from the mixing plant to the site in vehicles conforming to the requirements specified herein.
 2. Hauling over freshly placed material shall be not permitted until the material has been compacted, as specified, and allowed to cool to atmospheric temperature.
 3. Placing and finishing of the asphalt mixture shall be in accordance with WSDOT Standard Specifications Section 5-04.3(7), as modified herein.
 4. The nominal compacted depth of any layer of any course shall not exceed 4.0 inches.
 5. The hot mix asphalt mixture shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than that specified below. The temperature requirements may be waived by the Engineer, if requested; however, all other requirements including compaction shall be met.

Lift Thickness, T (inches)	Minimum Base Temperature (degrees F)
T > 3	35
2 < T < 3	35
T < 2	45

6. The initial placement of the asphalt concrete mixture shall occur at a temperature suitable for obtaining density, surface smoothness, and other specified requirements but not less than 250 degrees F, unless approved by the Engineer.
7. Upon arrival, the mixture shall be placed to the full width of the paving lane. It shall be struck off in a uniform layer of such depth that, when the mix is properly compacted, shall have the required thickness and conform to the grade and contour indicated. The speed of the paver shall be regulated to eliminate pulling and tearing of the bituminous mat. Unless otherwise permitted, placement of the mixtures shall begin along the centerline of a crowned section or on the high side or areas with a one-way slope. The mixture shall be

placed in consecutive adjacent strips having a minimum width of 10-feet except where edge lanes require less width to complete the area.

8. Compaction of the asphalt mixture shall be in accordance with WSDOT Standard Specifications Section 5-04.3(10), as modified herein.
 - a. Each day's production will be treated as a lot. A minimum of five sublots will be tested. Sublot sizes will not exceed 20 tons. Random test locations will be determined according to WSDOT Test Method T 716.
 - b. In-place density shall be a minimum of 93% of the reference theoretical maximum density as determined by WSDOT FOP for AASHTO T 209. Evidence of gauge calibration to cores, required in the test method, shall be provided for the approved job-mix being placed at a similar thickness or the gauge will be calibrated as described in the test method. Calibration cores may be omitted at the Engineer's discretion. At the Owner's discretion, cores can be used as the sole means of density acceptance with a testing frequency meeting the requirements of Section 8a.
 - c. Determine reference theoretical maximum density as the moving average of the most recent five determinations for the lot of asphalt concrete being placed according to WSDOT Materials Manual Standard Operating Procedure 729.
 - d. Engineer may evaluate cyclic density as described in WSDOT Standard Specifications Section 5-04.3(10)B to assess segregation.
9. Joints:
 - a. The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 6-inches; however, the joint in the surface course shall be at the centerline of the pavement if that pavement is to be used by normal car or truck traffic.
 - b. Longitudinal joint density shall be assessed once per subplot in accordance with WSDOT SOP 735. Low density is defined as less than 91 percent of reference maximum density. When placing a single paver width patch, consecutive density tests will be taken on alternating sides of the patch.
 - c. Transverse joints in one course shall be offset by at least 10-feet longitudinally from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10-feet.
10. On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture may be spread and raked by hand tools.

3.02 JOINT SEALANT

- A. Apply joint sealant to the edges of new paving joints, catch basins, manholes, at the meet lines to concrete structures and as directed by the Engineer.

3.03 SURFACE SMOOTHNESS

- A. The completed surface of the wearing course shall conform to the smoothness tolerance requirements of WSDOT Standard Specifications Section 5-04.3(13).

END OF SECTION

PART 1– GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions and General Requirements, apply to this work as if specified in this section. Work related to this section is described in the following.
 - 1. Section 00 26 00 – Substitution Procedures
 - 2. Section 03 30 00 – Cast-in-Place Concrete
 - 3. Section 05 50 00 – Metal Fabrications
 - 4. Section 09 96 00 – High Performance Coatings

1.02 DESCRIPTION OF WORK

- A. The work includes designing, manufacturing, transporting, and installing a complete fender system (including 1 spare fender assembly) and all necessary materials, labor, and equipment to accomplish the work.
- B. Marine fenders consist of coated steel fender panels attached to energy-absorption rubber cone fenders and galvanized connection hardware as shown on the Drawings and in accordance with the specifications.
- C. The work includes covering the steel fender panels with an ultra-high molecular weight polyethylene (UHMW-PE) facing, all bolts and miscellaneous connection hardware, shear chains, weight chains, tension chains, shackles; U-anchors; spacers, and embedded anchorages.

1.03 REFERENCES

- A. American Bureau of Shipping (ABS) “Rules for Building and Classing Steel Ships, Part 2 – Materials and Welding”.
- B. American Society for Testing Materials (ASTM), Standard Specifications and Standard Test Methods, designated by basic reference in this section (use the most current edition at the time of bid unless otherwise indicated).
- C. Permanent International Association of Navigation Congresses (PIANC), “Guidelines for the Design of Fender Systems: 2002”, Report of Working Group 33 – MARCOM, and “Appendix A – Procedure to Determine and Report the Performance of Marine Fenders” (PIANC 2002).
- D. Society for Protective Coatings (SSPC) Painting Manual, Volume II, 2008 Edition, “Systems and Specifications”.

1.04 QUALITY ASSURANCE

- A. The Port will provide inspection service for all site work in this section. Tests conducted for the sole benefit of the Contractor, or before a product is approved, shall be at the Contractor's expense.
- B. The fender manufacturer shall have a minimum of five years’ experience manufacturing rubber marine fenders of sizes similar to those specified and show proof thereof with installation references in accordance with this specification.
- C. Testing and reporting of fender performance shall be in accordance with PIANC 2002.
- D. Fender Performance Verification:

1. The performance of the fender shall be determined through testing and expressed by the value of the energy absorbed at the maximum value of the reaction load generated when the fender is compressed to its rated or maximum deflection.
2. In the performance testing of the fenders, compression shall be applied toward the top face of the fender. The compression speed shall follow current PIANC Fender Performance Testing guidelines and shall be recorded during testing. The fender is to be cycled for three times up to the designed deflection. Let the fender stand for at least one hour. Then, a fourth deflection cycle is to be performed using constant or decreasing velocity compression. The fourth cycle shall determine the fender performance. The room temperature at the time of the tests shall be recorded. Correction factors for the fender performance shall be determined per PIANC for a contact angle of approach of 10 degrees and the temperature recorded at the time of the test. The fenders shall achieve a performance within plus or minus 10 percent of the stated nominal design performance.
3. Performance tests must be conducted in the United States on 10% of the fenders from each Lot that are to be delivered to the jobsite by a testing agency independent to the manufacturer with a minimum of five years' experience testing rubber marine fenders. The tested fenders shall be track-able by Lot number and match the Lot numbers of the remaining fenders regardless of when they are delivered to the jobsite. Failure to provide proof of tracking will be considered grounds for rejection. Acceptable fender performance testing agencies include the following:
 - a. University of Washington
Structural Research Laboratory
201 More Hall
Seattle, WA 98195
206-616-3530
Contact: Jeffrey Berman
 - b. Lehigh University
Fritz Engineering Laboratory
117 ATLSS Drive
Bethlehem, PA 18015
610-758-3497
Contact: Robin Hendricks
4. If any of the tested fenders fail to meet the performance required by the project specifications, then all of the remaining fenders shall be tested at the manufacturer's expense. All fenders that fail to meet the performance required by the specifications shall be rejected.
5. The specimens for testing and inspection of the materials, dimensions, and performance shall be sampled as specified below. The specimen to be used for the material tests shall be taken directly from the product or the rubber prepared in the quality check and under the condition of the same vulcanization process.
 - a. Break-in Cycle: All fenders.
 - b. Material: One set from the lot of compound for the manufacture of the fenders.

- c. Dimensions: All fenders.
- d. Performance: 10% of all fenders.
- E. All panels shall be pressure tested and results must be approved by the Engineer prior to delivery of the panels.

1.05 SUBMITTALS

- A. The Contractor shall prepare bids based on the products and performance requirements indicated on the drawings and in this specification. Submit all data and test reports necessary to demonstrate product equivalence and achievement of performance requirements.
- B. The fender system submittal shall be presented in, or converted to, English units. Incomplete submittals or submittals without English units and appropriate reference standards will not be reviewed.
 - 1. List of at least 5 installations in the United States within the past five years demonstrating the experience required under the paragraph, "Quality Assurance". Provide project name, owner, contact name, email address, and telephone number for a minimum of 5 installations.
 - 2. Retain a Professional Engineer registered in the State of Washington who shall design the fender system and stamp the drawings, shop drawings, and design calculations.
 - 3. Shop drawings and catalog cuts of the fender units and coated steel fender panels showing complete fender system subassemblies such as chain systems, anchorage to the pier, relationships to bullrail, crane beam, pile cap reinforcement, etc.
 - 4. Proposed attachments or modifications of the fender system required to make connections of the cone fender to the panel and to the concrete face shall be shown on the shop drawings and be coordinated with the Contractor.
 - 5. Fender system selection and performance verification and testing data, including fender supplier, model number, size, performance curves showing energy and reaction load versus deflection for the range of contact angles specified, etc. Performance data shall be based on test results of the actual fender unit proposed, including size and grade of rubber. Test results shall not be adjusted for rate of loading different from that used in testing nor extrapolated from prototypical or scaled representations of the proposed fender unit. Performance curves for the fender elements showing energy and reaction as a function of displacement. Include performance characteristics of the unit fenders under shear and angular berthing conditions.
 - 6. Test results for the rubber and UHMW-PE demonstrating material compliance with the requirements herein.
- C. Qualifications of the independent testing laboratory for testing of rubber.
- D. Submit manufacturer verification that all fenders have undergone at least one break-in cycle as described herein.
- E. Documentation identifying the proposed coating system, meeting the requirements of Section 05 50 00 – Metal Fabrications and Section 09 96 00 – High Performance Coatings, including written confirmation from the manufacturer that the coating system is suitable for an aggressive marine environment in the Pacific Northwest.
- F. Furnish a written warranty stating that all components of each fender assembly, including anchorage hardware, are free of defects in material and workmanship for a minimum period of five (5) calendar years from the date of project substantial completion, and that all defects

evident during that period shall be removed and replaced, without cost to the Port, within 90 days of notification.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Fender systems shall include rubber fender, protective fender panel, UHMW-PE facing, back cover plate, mounting plate, stiffeners, fittings, fasteners, metal fabrications, embedded anchorages, spacers, chains, and anchor bolts in accordance with the contract documents. If a backup stub is used, it shall be removable by means of mechanical fasteners.
- B. Each fender system assembly as depicted on the drawings is based on the performance, dimensions and material characteristics of a single Fender Team SPC 1000H G2.6 Super Circle Fender. The system proposed shall be equivalent to the Fender Team system. Submit all information, test reports, and product data necessary to demonstrate equivalence. The cost of all labor including any testing necessary to demonstrate equivalence shall be at the Contractor's expense.

2.02 RUBBER FENDER ELEMENTS

- A. Break-in each rubber fender before delivery to the site by subjecting it to one (1) complete compression cycle to its rated deflection. Provide manufacturer verification that all fenders have undergone at least one break-in cycle.
- B. The fender system shall meet the following requirements:
 - 1. Absorbing the full energy of the design vessels identified on Sheet S1.1 of the drawings when applied to any unit single fender assembly.
 - 2. Rubber fenders shall be cone-type fenders each with a minimum rated energy of 490 kip-ft (577 kN-m) and a maximum rated reaction per element of 320 kips (1101 kN). The maximum deflection at the rated values shall not exceed 70% of the total element height.
 - 3. Limit the hull reaction pressure to no more than 5.0 kips/sq. ft (240 kN/sqm).
 - 4. Absorb the required energy when the fender face is compressed to its rated deflection, and skewed/rotated parallel with any approach angle between 0 and 10 degrees.
 - 5. There shall be no contact between the fender panel at its rated deflection and the pier structure.
- C. Install the fenders at the locations shown in the drawings with the standoff distance as indicated. All rubber fender elements shall be identical. The fender elements shall be sized to fit within the geometric constraints shown on the drawings and shall meet the performance criteria and material requirements.

2.03 RUBBER PROPERTIES

- A. Natural rubber or styrene butadiene rubber conforming to the following:

Property	Test Standard	Condition	Requirement
Tensile Strength	ASTM D 412, Die C	Original	16 MPa (min)
	ISO 37, 188	Aged for 96 hours at 70° C	12.8 MPa (min)
Elongation at Break	ASTM D 412, Die C	Original	400% (min)
		Aged for 96 hours at 70° C	320% (min)

Property	Test Standard	Condition	Requirement
	ISO 37, 188		
Hardness	ASTM D 2240	Original	78° Shore A (max)
		Aged for 96 hours at 70° C	Original value + 8° points increase
Compression Set	ASTM D 395, Method B	Aged for 22 hours at 70° C	30% (max)
Tear Resistance	ASTM D 624, Die B	Original	70 kN/m (min)
Ozone Resistance	ASTM D 1149	50 pphm at 20% strain at 40° C for 100 hours	No visible cracking
Seawater Resistance	DIN 86076; Section 7.7	28 days in artificial seawater at 95° C ± 2° C	Hardness: +/-10° (max) Shore A +/-10° Vol. +10%, -5%
Abrasion Resistance	DIN 53516	Original	100 mm ³ (max)

- B. Test results furnished under different specifications than those listed above shall be accompanied by the fender manufacturer's documentation explaining how the furnished test results meet or exceed the test requirements listed above. Test results without this documentation shall be out of compliance with the section and will be rejected by the Engineer.

2.04 UHMW POLYETHYLENE FACING

- A. The ultra-high molecular weight polyethylene (UHMW-PE) facing shall have minimum thickness, wear surface, and bearing area as shown on the drawings. UHMW-PE shall be made of 2-1/2% UV stabilized virgin resin conforming to ASTM D 4020 having UV-stabilized dyes and conforming to the following:

Property	Test Method	Acceptance Requirements
Specific Gravity	ASTM D 792	0.93 g/cm ³ (min)
Ultimate Tensile Strength	ASTM D 638	6,300 psi (min)
Izod Impact, Double Notch	ASTM D 256A	23-29 ft-lbs./notch
Abrasion	Sand Slurry	16
Water Absorption	ASTM D 570	Nil
Coefficient of Friction	ASTM D 1894	0.20 (max)
Hardness	ASTM D 785	63-68
Thermal Expansion	ASTM D 648	9.0x10 ⁻⁵ in/in/°F
Color	Not Applicable	Black

2.05 CHAINS AND SHACKLES

- A. Galvanized Grade 3 stud link chain in accordance with ABS. Provide each chain with compatible shackles and special links to adjust the length. Associated hardware shall conform with ABS requirements.
- B. Shackles shall be galvanized, drop-forged, with a working load limit greater than the chain using a minimum safety factor of 2.0 on chain working loads. Shackles shall be sized to connect all items and shall have a galvanized bolt, nut and cotter pin.

- C. Galvanized chains, shackles, turnbuckles, U-bolts, and their anchorages to both the concrete structure and the steel panel shall be sized to resist the appropriate design forces with a minimum factor of safety of 2.0. The design of the chains shall be based on the maximum reaction from paragraph 2.02.B.2 and a minimum friction coefficient, $\mu = 0.30$, for vertical (up and down) and horizontal (side to side) movement.

2.06 BOLTS AND MISCELLANEOUS HARDWARE

- A. The fender units and chains shall be fastened to the concrete structure with hot dip galvanized anchor bolts meeting ASTM F 1554 Grade 55, unless otherwise specified.
- B. Design and detail fender anchor bolts and anchor assemblies to not interfere with the reinforcing steel or other attachments. Surface mounted anchor assemblies shall be constructed of hot dip galvanized ASTM A 36, or ASTM A 572 steel. Minimum steel thickness shall be 1/2-inch. Design, supply, and install any additional steel that may be needed, locally or otherwise, to transfer forces between the frontal panel and the pier structure.
- C. Fender panels shall be a closed, watertight, internally-stiffened, box-type design. Construct fender panels of ASTM A 36, or ASTM A 572, steel. Minimum steel thickness shall be 1/2- inch for exterior plates and 3/8-inch for interior stiffeners.
- D. UHMW-PE facing shall be attached to the fender panel with minimum 5/8" diameter AISI Type 316 stainless steel threaded studs. Size individual pieces of UHMW-PE facing such that the maximum distance between any adjacent fasteners, along perpendicular lines is 12 inches. Configure the fasteners such that the distance between any fastener centerline to the edge of the UHMW-PE piece is at least 1 1/2 inches and no more than 3 inches.
- E. Bevel all edges of the fender panel to provide a continuous bevel at the face. Configure the bevel so that it does not hook or catch a six (6) inch radius half-round belt. Provide a maximum 45-degree angle between the beveled face and flat face of the panel. Provide details on the shop drawings to show how this is accomplished.

2.07 SPARE PARTS

- A. Provide one spare complete fender assembly consisting of one steel fender panel with UHMW-PE facing and connectors for chains and cables, one rubber fender element, and all fender and panel mounting hardware.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Install fenders at the locations shown on the drawings in an undamaged condition. Coordinate the fender design and fabrication with requirements for installing the fenders at connections in the concrete pier. Supply and use wooden or steel templates to accurately locate and align all elements to be embedded in concrete, including bullrail and pile cap reinforcing steel.
- B. Do not damage, cut, or tear the rubber or the fender assembly during installation. Canvas slings, wood cradles or other protective devices as recommended by the manufacturer shall be used. Hoisting and slinging by the rubber section may be permitted only when approved by the manufacturer and the Engineer.
- C. Protective UHMW-PE facing shall be pre-attached to the fender panel. The UHMW-PE thickness under the bolt head shall be a minimum of 1-inch. Individual protective facing panels shall be chamfered a minimum of 3/4-inch on all 4 sides. Fender panels shall be set at the elevation indicated on the drawings.
- D. Coat fender panels in accordance with Section 09 96 00 – High-Performance Coatings.

- E. The fender units will be inspected after installation and be subject to approval by the Engineer. Damaged coatings shall be repaired in accordance with the coating supplier's recommendations.
- F. All chains and shackles shall be installed as indicated on the shop drawings. Chains shall be installed taut, with no slack.
- G. Expansion bolts for anchorage to concrete shall not be used. Drilled epoxy bonded anchor bolts or cast-in-place bolts shall be installed in accordance with the fender manufacturer's instructions and the approved shop drawings.

END OF SECTION

APPENDIX A

CORPS OF ENGINEERS PERMIT



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

Regulatory Branch

OCT 09 2018

Ms. Jenn Stebbings
Port of Tacoma
Post Office Box 1837
Tacoma, Washington 98401-1837

Reference: NWS-2011-0089-WRD
Tacoma, Port of
(Programmatic Piling
Repair)

Dear Ms. Stebbings:

Enclosed is a Department of the Army permit which authorizes performance of the work described in your referenced application. You are cautioned that any change in the location or plans of the work will require submittal of revised plans to this office for approval prior to accomplishment. Deviation from the approved plans may result in imposition of criminal or civil penalties.

Your attention is drawn to General Condition 1 of the permit which specifies the expiration date for completion of the work. Upon completing the authorized work, please fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit* form.

We are interested in your experience with our Regulatory Program and encourage you to complete a customer service survey form. This form and information about our program is available on our website at: www.nws.usace.army.mil select "Regulatory Branch, Permit Information" and then "Contact Us.". If you have any questions please contact Mr. Frank Nichols at thomas.f.nichols@usace.army.mil or at (206) 764-6182.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacalen M. Printz", is written over a horizontal line.

Jacalen M. Printz
Chief, Regulatory Branch

Enclosures



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

Regulatory Branch

OCT 09 2018

Ms. Jenn Stebbings
Port of Tacoma
Post Office Box 1837
Tacoma, Washington 98401-1837

Reference: NWS-2011-0089-WRD
Tacoma, Port of
(Programmatic Piling
Repair)

Dear Ms. Stebbings:

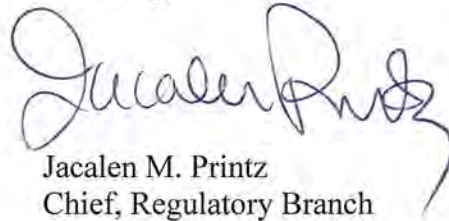
Enclosed for your signature are two initial proffered Department of the Army permit forms for your proposal to replace up to 200 piles per year over a five year period in Sitcum, Blair, and Hylebos waterways and Commencement Bay at Tacoma, Washington as described in the enclosed drawings dated April 13, 2018. If you object to this permit decision, you may submit your objections on the enclosed *Notification of Administrative Appeal Options and Process and Request for Appeal* form. For your objections to be considered, the appeal form describing your objections must be received in our office within 60 days of the date on the appeal form.

If the entire permit is acceptable, you must sign and date both permit forms and return them in the enclosed envelope. Your copy of the fully executed permit will then be returned to you. The time limit for completing the work at General Condition 1 will be 5 years from the effective date of the permit. You may not modify these permit forms or their accompanying drawings. By signing the permit forms you will be indicating your acceptance of all the permit's general and special conditions, some of which require you to take action by specific due dates. The signed permit forms must be returned to us within 90 days from the date of this letter or your application will be canceled.

Since a Department of the Army permit is necessary for this work, do not commence construction before obtaining a valid permit. You can begin the work authorized by this permit only after you have received your copy of the fully executed permit form. If you have any

questions please contact Ms. Frank Nichols at thomas.f.nichols@usace.army.mil or at (206) 764-6182.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jacalen Printz", with a stylized flourish at the end.

Jacalen M. Printz
Chief, Regulatory Branch

Enclosures

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Tacoma, Port of	File Number: NWS-2011-89-WRD	Date: OCT 09 2018
Attached is:		See Section below
X	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found in Corps regulations at 33 CFR Part 331 or at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/FederalRegulation.aspx>

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Frank Nichols, Project Manager
U.S. Army Corps of Engineers, Seattle District
Post Office Box 3755
Seattle, Washington 98124-3755
Telephone: (206) 764-6182

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation, and will have the opportunity to participate in all site investigations.

<hr/> Signature of appellant or agent.	Date:	Telephone number:
--	-------	-------------------



US Army Corps
of Engineers
Seattle District

CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT



Permit Number: NWS- 2011-0089-WRD

Name of Permittee: PORT OF TACOMA

Date of Issuance: OCT 09 2018

Upon completion of the activity authorized by this permit, please check the applicable boxes below, date and sign this certification, and return it to the following address:

Department of the Army
U.S. Army Corps of Engineers
Seattle District, Regulatory Branch
Post Office Box 3755
Seattle, Washington 98124-3755

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of your authorization, your permit may be subject to suspension, modification, or revocation.

<input type="checkbox"/>	The work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of this permit. Date work complete: _____ <input type="checkbox"/> Photographs and as-built drawings of the authorized work (OPTIONAL, unless required as a Special Condition of the permit).
--------------------------	---

<input type="checkbox"/>	If applicable, the mitigation required (e.g., construction and plantings) in the above-referenced permit has been completed in accordance with the terms and conditions of this permit (not including future monitoring). Date work complete: _____ <input type="checkbox"/> N/A <input type="checkbox"/> Photographs and as-built drawings of the mitigation (OPTIONAL, unless required as a Special Condition of the permit).
--------------------------	---

<input type="checkbox"/>	Provide phone number/email for scheduling site visits (must have legal authority to grant property access). Printed Name: _____ Phone Number: _____ Email: _____
--------------------------	--

Printed Name: _____

Signature: _____

Date: _____

DEPARTMENT OF THE ARMY PERMIT

Permittee: Tacoma, Port of

Permit No: NWS-2011-0089-WRD

Issuing Office: Seattle District

Ms. Jenn Stebbings

Post Office Box 1837

Tacoma, Washington 98401-1837

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the U.S. Army Corps of Engineers (Corps) having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To replace up to 1,000 piles (fender piles, dolphin piles, and /or support piles) and associated pile caps, chocks, whalers, and rub strips over a five year period and place up to 600 cubic yards of clean sand in any area left from pile removal in accordance with the plans and drawings dated April 13, 2018 attached hereto which are incorporated in and made a part of this permit. The purpose of the project is to maintain function and structural integrity of existing wharf/pier structures.

Project Location: In Blair, Hylebos, and Sitcum Waterways and Commencement Bay at Tacoma, Washington.

Permit Conditions:

General Conditions:

OCT 09 2023

1. The time limit for completing the work authorized ends on _____. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in accordance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification to this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.
7. After a detailed and careful review of all the conditions contained in this permit, the permittee acknowledges that, although said conditions were required by the Corps, nonetheless the permittee agreed to

those conditions voluntarily to facilitate issuance of the permit; the permittee will comply fully with all the terms of all the permit conditions.

Special Conditions:

- a. You must provide a copy of the permit transmittal letter, the permit form, and drawings to all contractors performing any of the authorized work.
- b. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the U.S. Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
- c. The permittee must provide a completed "*Port of Tacoma Piling Replacement Program Compliance Form*" by March 15 of each year in which work under this permit is conducted. This completed form must be submitted to the U.S. Army Corps of Engineers, Regulatory Branch, Post Office Box 3755, Seattle, Washington 98124-3755.

The following Special Conditions are being added to the permit to ensure compliance with CERCLA protocols:

- d. By accepting this permit, the permittee agrees to accept such potential liability for response costs, response activity and natural resource damages as the permittee would have under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq. (CERCLA) or the Model Toxics Control Act, R.C.W. 70.105 (MTCA) absent the issuance of this permit. Further, the permittee agrees that this permit does not provide the permittee with any defense from liability under the CERCLA or the MTCA. Additionally, the permittee shall be financially responsible for any incremental response costs attributable under CERCLA or MTCA to the permittee's activities under this permit in the Sitcum, Blair, and Hylebos Waterways and Commencement Bay.

- e. The permittee must provide site specific pre-construction information (number of piles to be removed and replaced, size of piles, type of piles, location of piles within the facility, etc) on the following facilities: Trident Piers 24 and 25; Parcel 99; Parcel 105; and Parcel 86. This information must be provided to the U.S. Army Corps of Engineers, Regulatory Branch, Post Office Box 3755, Seattle, Washington 98124-3755, a minimum of 60 days prior to July 16 of any year this permit is valid to allow for coordination with Environmental Protection Agency (EPA) CERCLA RPMs. Pile replacement at these facilities may not be conducted until CERCLA coordination has been completed and the Port receives written approval to proceed from the U.S. Army Corps of Engineers.

- f. You must implement and abide by the enclosed *Best Management Practices for Piling Removal and Disposal*, dated February 18, 2016.

The following Special Conditions are being added to the permit to ensure compliance with ESA protocols:

- g. Incidents where any individuals of fish species, marine mammals and/or sea turtles listed by National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) under the Endangered Species Act appear to be injured or killed as a result of discharges of dredged or fill material into waters of the U.S. or structures or work in navigable waters of the U.S. authorized by this Nationwide Permit verification shall be reported to NOAA Fisheries, Office of Protected Resources at (301) 713-1401 and the Regulatory Office of the Seattle District of the U.S. Army Corps of Engineers at (206) 764-3495. The finder should leave the animal alone, make note of any circumstances likely causing the death or injury, note the location and number of individuals involved and, if possible, take photographs. Adult animals should not be disturbed unless circumstances arise where they are obviously injured or killed by discharge exposure or some unnatural cause. The finder may be asked to carry out instructions

provided by NOAA Fisheries to collect specimens or take other measures to ensure that evidence intrinsic to the specimen is preserved.

h. You must implement and abide by the Endangered Species Act (ESA) requirements and/or agreements set forth in the ESA Technical Memorandum, *"Programmatic Biological Evaluation, Port of Tacoma Pile Replacement Program, NWS-2011-89-WRD"*, dated November 2011 – Revised April 2012, in its entirety. The U.S. Fish and Wildlife Service (USFWS) provided the enclosed LOC with a finding of "may affect, not likely to adversely affect" based on this document on May 24, 2012 (USFWS Reference Number #01EWF00-2012-I-0111). The National Marine Fisheries Service (NMFS) provided the enclosed Letter of Concurrence (LOC) with a finding of "may affect, not likely to adversely affect" based on this document on July 12, 2012 (NMFS Reference #2012/00218). Both agencies will be informed of this permit issuance. Failure to comply with the commitments made in this consultation constitutes non-compliance with the ESA and your U.S. Army Corps of Engineers permit. The USFWS/NMFS is the appropriate authority to determine compliance with the ESA.

i. In order to meet the requirements of the Endangered Species Act you may conduct the authorized activities from July 16 through February 15 in any year this permit is valid. You shall not conduct work authorized by this permit from February 16 through July 15 in any year this permit is valid.

The following Special Conditions are being added to the permit to ensure compliance with tribal treaty rights:

j. The permittee must notify the Puyallup Tribe of Indians (Tribe) Water Quality Program Manager (WQPM) and Resource Protection Manager (RPM) at least 14 days prior to pile removal and installation activities authorized by this permit. The permittee will provide, the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch, prior to construction, a copy of the notification provided to the Tribe's WQPM and RPM. The permittee must then obtain written approval from the Corps to proceed with the in-water construction.

Further Information:

1. Congressional Authorities. You have been authorized to undertake the activity described above pursuant to:

- ☒ Section 10 of the Rivers and Harbor Act of 1899 (33 United States Code (U.S.C.) 403).
- ☒ Section 404 of the Clean Water Act (33 U.S.C. 1344).
- ☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C 1413).

2. Limits of this authorization.

- a. This permit does not obviate the need to obtain other Federal, State, or local authorization required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of the permit.

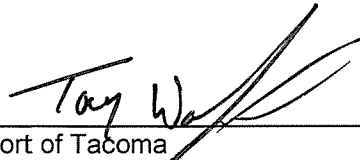
b. The information provided by you in support of your application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 Code of Federal Regulations (CFR), Part 325.7 or enforcement procedures such as those contained in 33 CFR, Parts 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR, Part 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

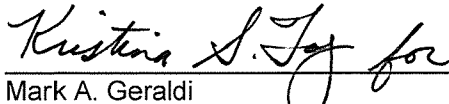


 Port of Tacoma

10/9/2018

 (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



 Mark A. Gerald
 Colonel, Corps of Engineers
 District Engineer

10/9/18

 (DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

 (TRANSFeree)

 (DATE)



FIGURE 01 - Vicinity Map

REFERENCE: NWS-2011-0089-WRD (renewal)
 PROJECT: Programmatic Piling Repair
 APPLICANT: Port of Tacoma
 LOCATION: Tacoma, WA
 Lat: 47.266/-122.395

IN: Commencement Bay

NEAR: Tacoma

COUNTY: Pierce

STATE: Washington

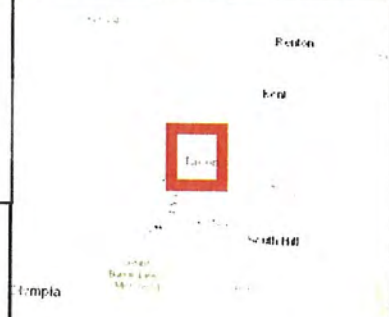
ADJACENT LANDOWNERS:

1. City of Tacoma
2. City of Fife
3. WSDOT
4. Puyallup Tribe of Indians
5. Numerous Private Landowners

SHEET: 1 OF 7
 DATE: 4/13/2018
 AUTHOR: Brian Archer

0 0.125 0.25 0.5 0.75 1 1.25 Miles

DISCLAIMER: The information included on this map has been compiled by Port of Tacoma staff from a variety of sources and is subject to change without notice. These data are intended for informational purposes and should not be considered authoritative for engineering, navigational, legal and other site-specific uses. The Port of Tacoma makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information.



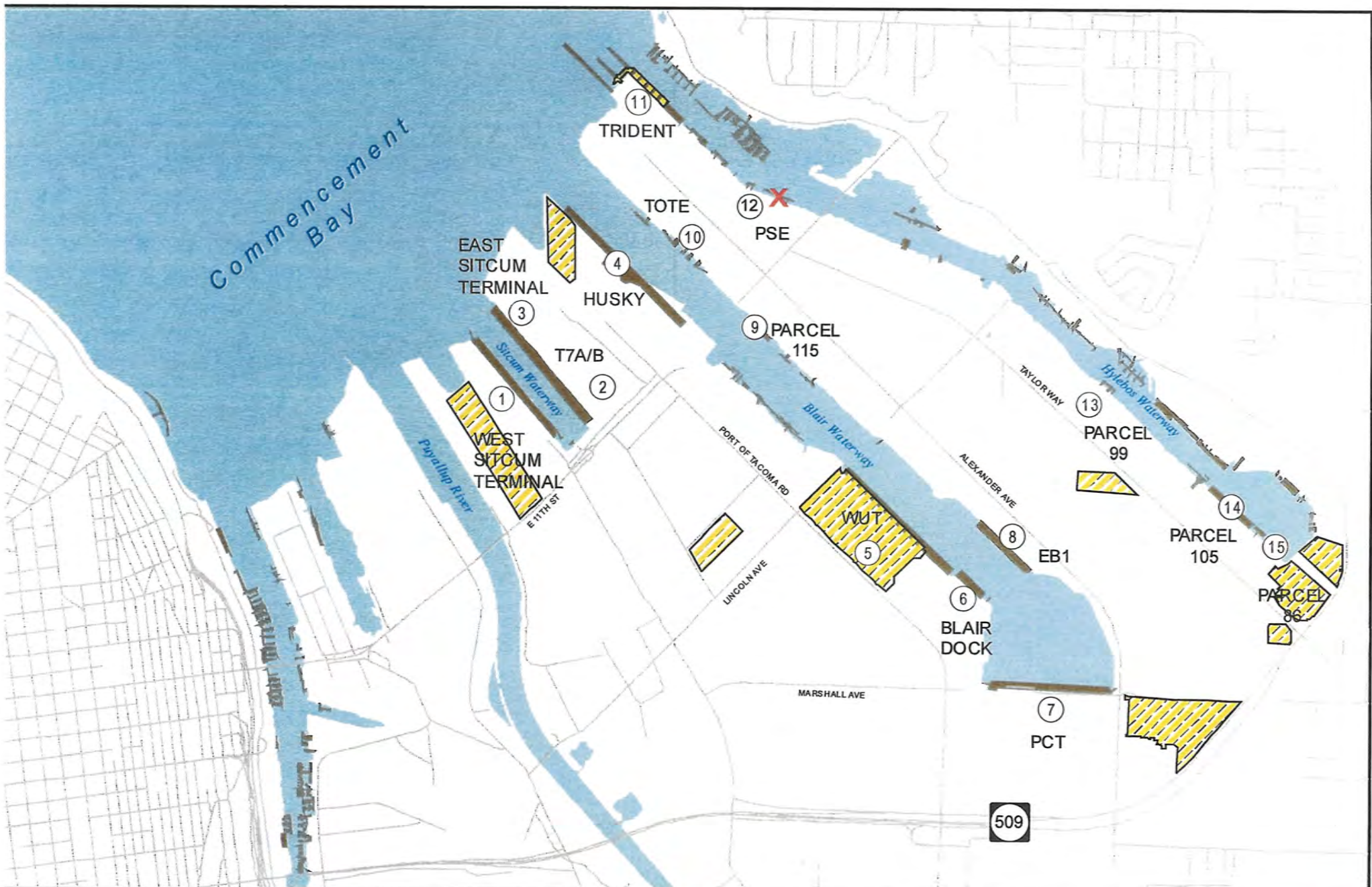


FIGURE 02

SHEET 2 OF 7

APPLICANT: Port of Tacoma

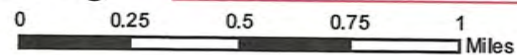
PROJECT: Programmatic Piling Repair

REFERENCE: NWS-2011-0089-WRD

DATE: 4/13/2018

- | | | | |
|------------------------|----------------|--------------|--------------|
| ① WEST SITCUM TERMINAL | ⑤ WUT | ⑨ PARCEL 115 | ⑬ PARCEL 99 |
| ② TERMINAL 7A/B | ⑥ BLAIR DOCK | ⑩ TOTE | ⑭ PARCEL 105 |
| ③ EAST SITCUM TERMINAL | ⑦ PCT | ⑪ TRIDENT | ⑮ PARCEL 86 |
| ④ HUSKY TERMINAL | ⑧ EAST BLAIR 1 | ⑫ PSE | |

*Request to be removed from permit application.



Author: Brian Archer
Map Date: 4/13/2018



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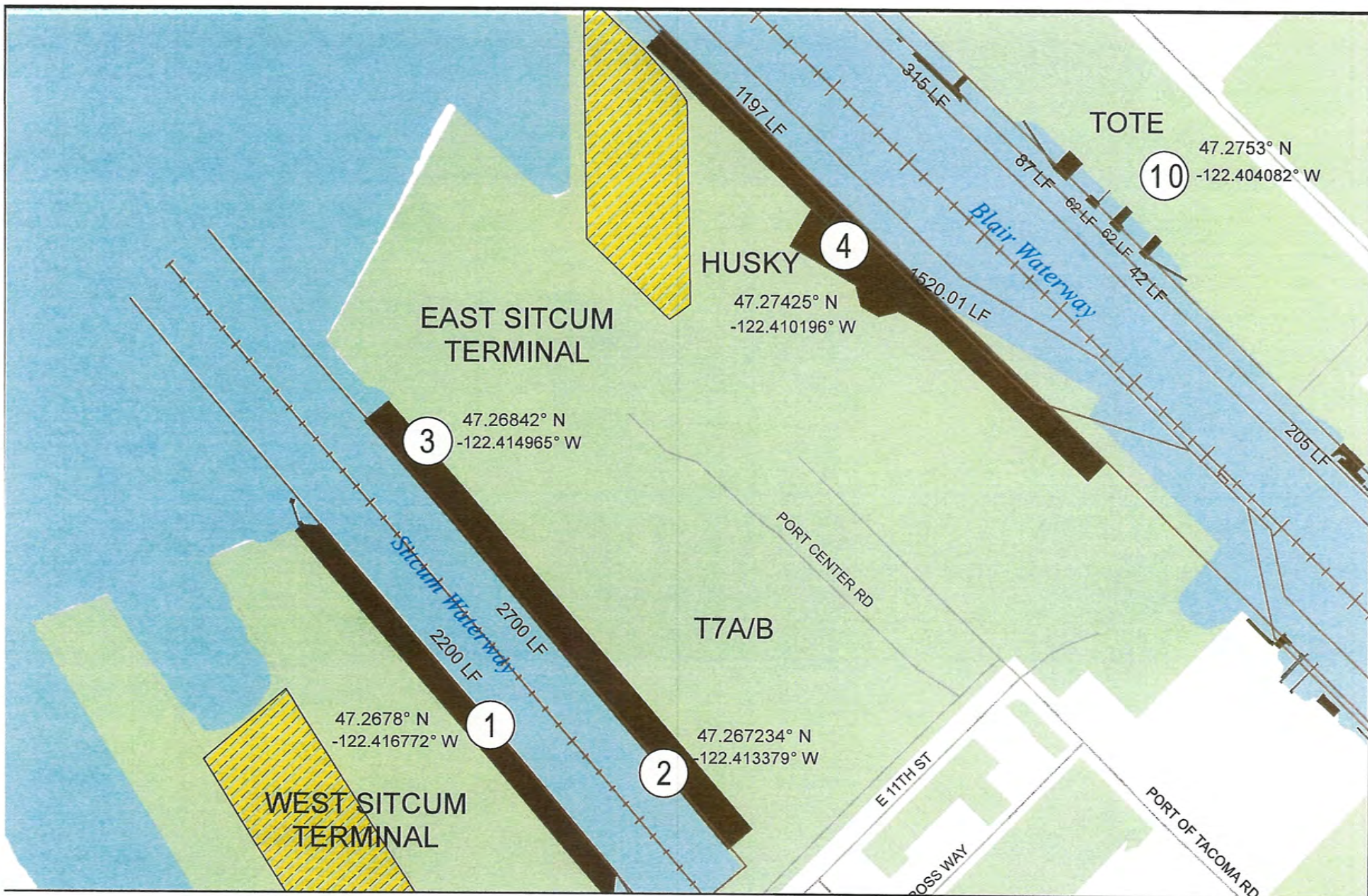


FIGURE 03 DATE: 4/13/2018

SHEET: 3 OF 7

APPLICANT: Port of Tacoma

PROJECT: Program Pile Replacement

REFERENCE: NWS-2011-0089-WRD

- | | |
|------------------------|---------|
| ① WEST SITCUM TERMINAL | ④ HUSKY |
| ② TERMINAL 7A/B | ⑩ TOTE |
| ③ EAST SITCUM TERMINAL | |

0 0.05 0.1 0.15 0.2 Miles

- Channel Lines
- Roads
- Caps
- Piers
- Waterways
- Port Parcels



Author: Brian Archer
Map Date: 4/13/2018



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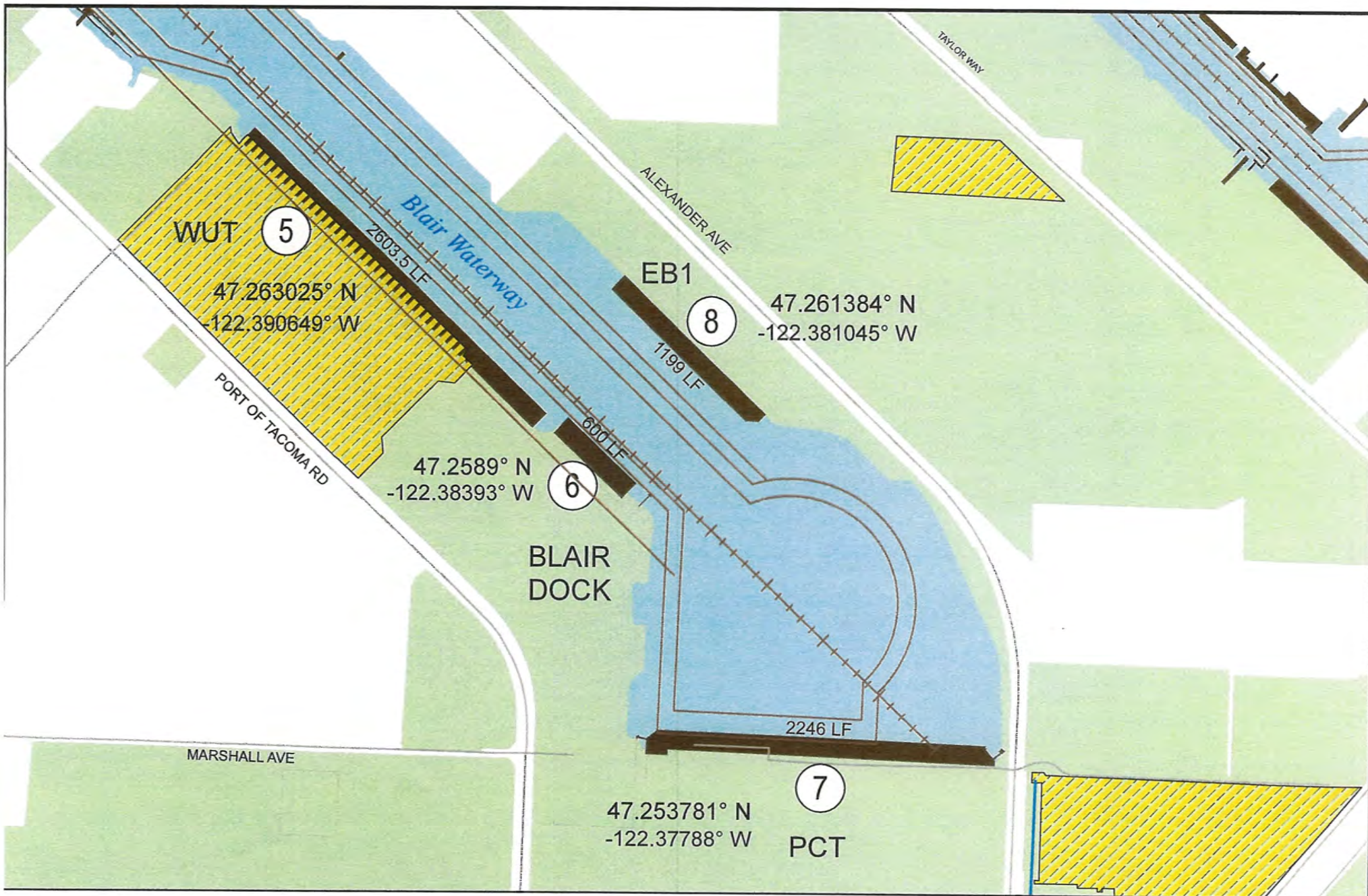


FIGURE 04 DATE: 4/13/2018

SHEET: 4 OF 7

APPLICANT: Port of Tacoma

PROJECT: Program Pile Replacement

REFERENCE: NWS-2011-0089-WRD

(5) WUT

(6) BLAIR DOCK

(7) PCT

(8) EB1

Channel Lines

Wapato Creek

Roads

Caps

Piers

Waterways

Port Parcels



Author: Brian Archer
Map Date: 4/13/2018



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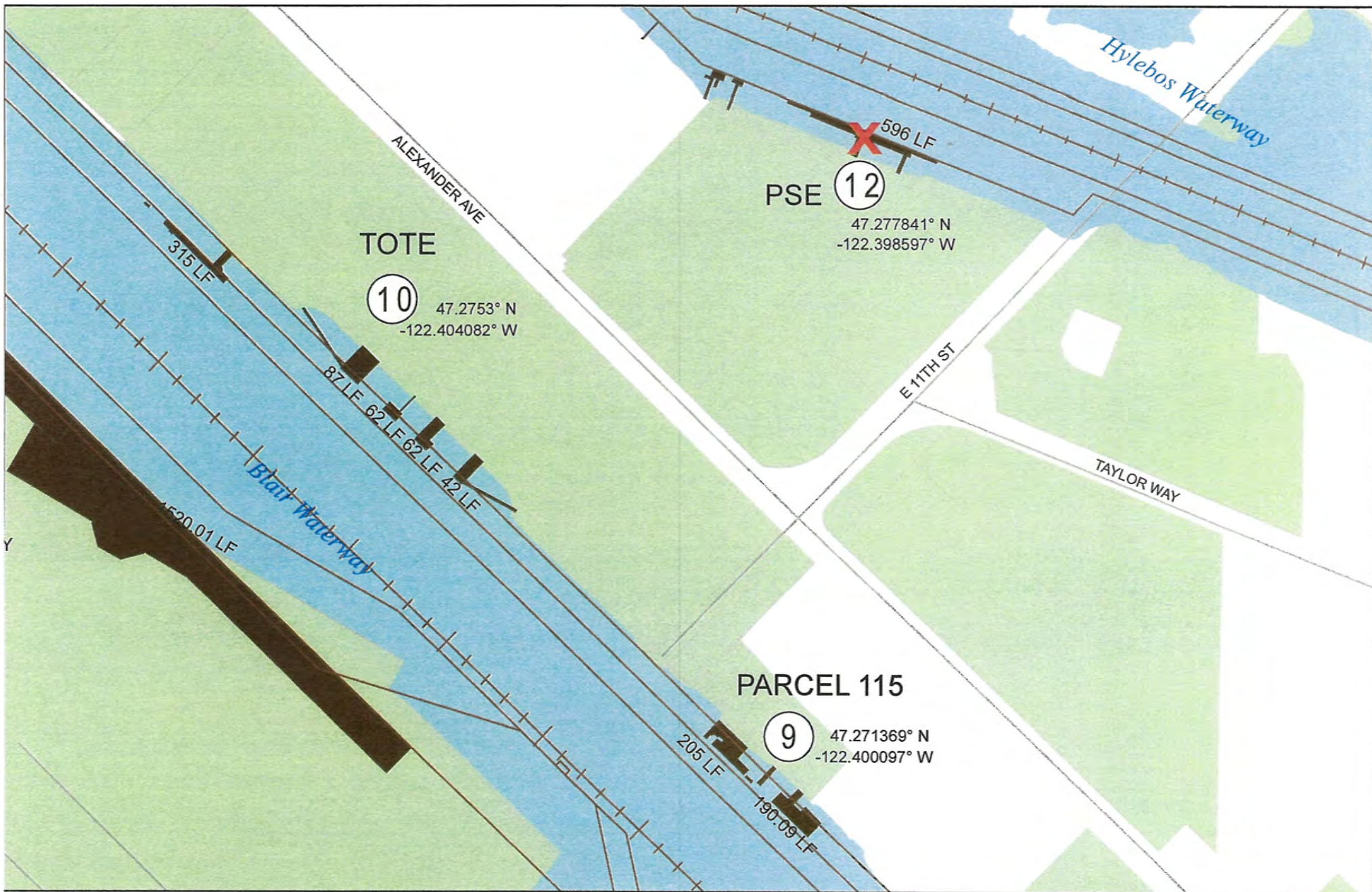


FIGURE 05 DATE: 4/13/2018

SHEET: 5 OF 7
 APPLICANT: Port of Tacoma
 PROJECT: Program Pile Replacement
 REFERENCE: NWS-2011-0089-WRD

⑨ PARCEL 115

⑩ TOTE

⑫ PSE *Request to be removed from permit application.

0 250 500 750 Feet

- Channel Lines
- Roads
- Caps
- Piers
- Waterways
- Port Parcels



Author: Brian Archer
 Map Date: 4/13/2018



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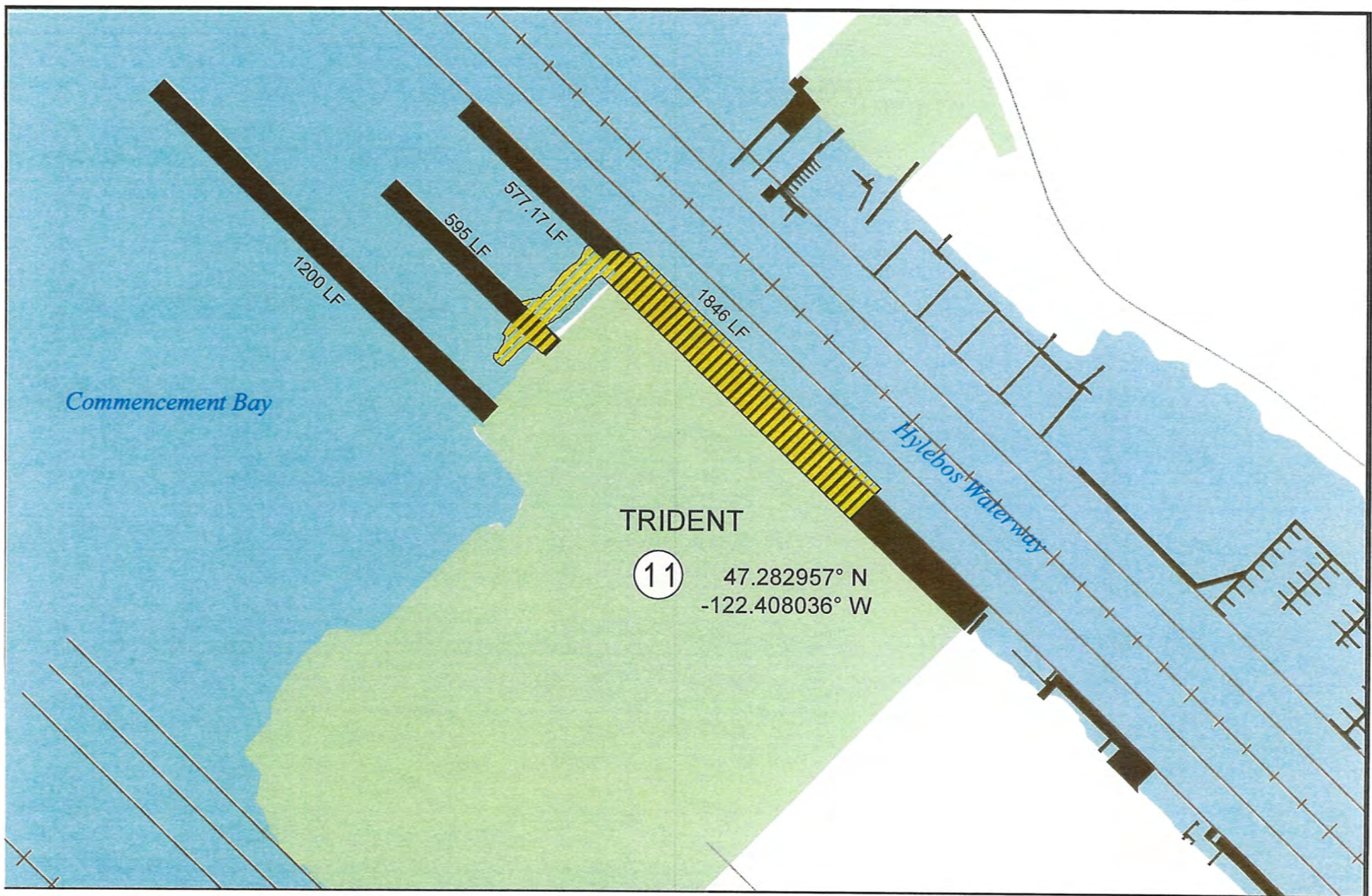


FIGURE 06

DATE: 4/13/2018

⑪ TRIDENT

SHEET: 6 OF 7

APPLICANT: Port of Tacoma

PROJECT: Program Pile Replacement

REFERENCE: NWS-2011-0089-WRD

0 250 500 750 Feet

- Channel Lines
- Roads
- ▨ Caps
- Piers
- Waterways
- Port Parcels



Author: Brian Archer
Map Date: 4/13/2018



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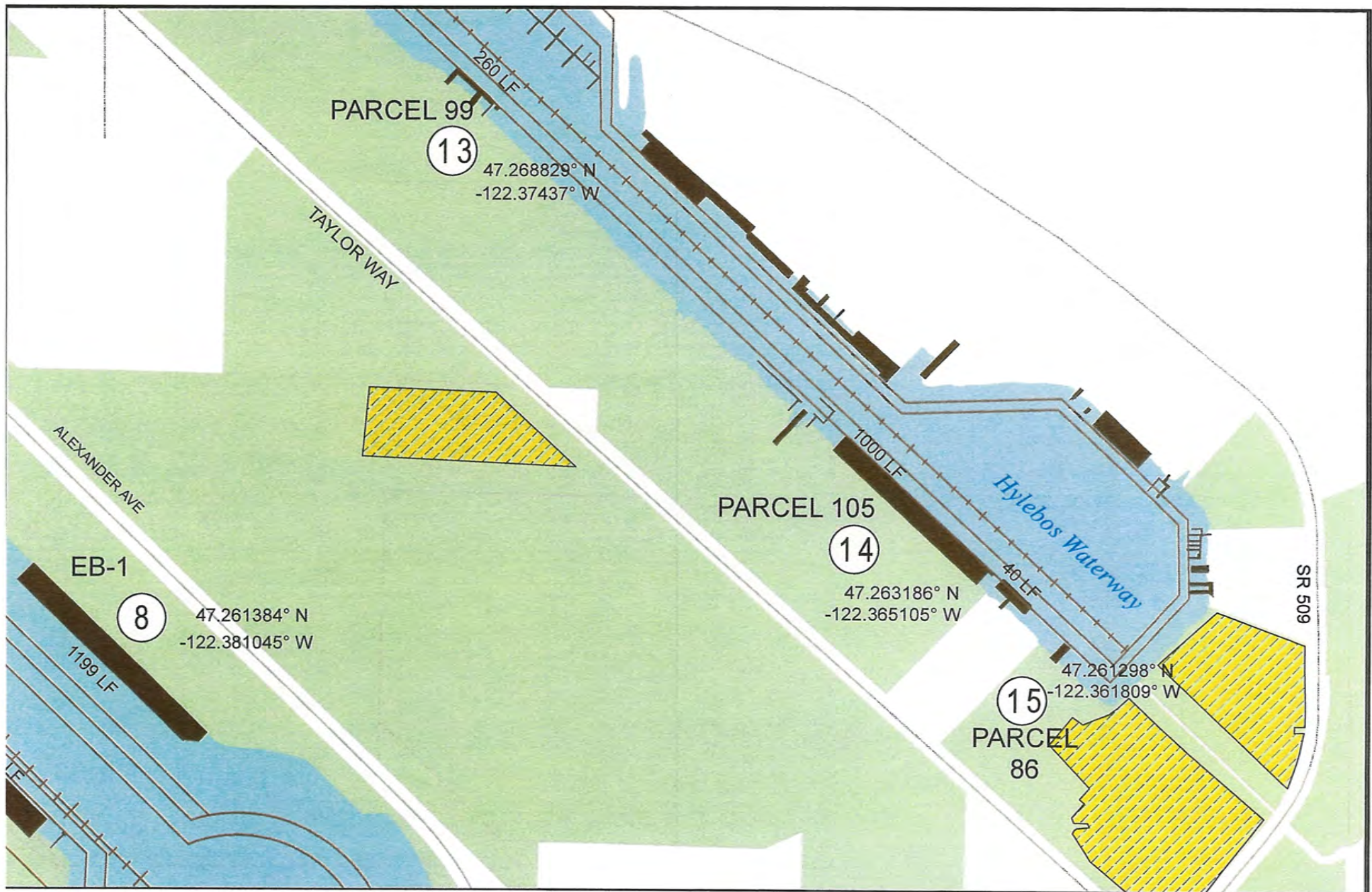


FIGURE 07 DATE: 4/13/2018

SHEET: 7 OF 7
 APPLICANT: Port of Tacoma
 PROJECT: Program Pile Replacement
 REFERENCE: NWS-2011-0089-WRD

- ⑧ EAST BLAIR 1
- ⑬ PARCEL 99
- ⑭ PARCEL 105
- ⑮ PARCEL 86

0 250 500 750
 Feet

- Channel Lines
- Roads
- Caps
- Piers
- Waterways
- Port Parcels



Author: Brian Archer
 Map Date: 4/13/2018



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Appendix A
PORT OF TACOMA PILING REPLACEMENT PROGRAM COMPLIANCE FORM

Corps Reference #: NWS-2011-89-WRD

NMFS Reference #:

FWS Reference #:

Reporting Period:

Date of Report:

Report Preparer:

By March 15th of each year in which work under the above referenced permit is conducted, this compliance form will be filled out, signed and submitted to: U.S. Army Corps of Engineers, Regulatory Branch, P.O. Box 3755, Seattle, WA 98124-3755.

1. Permittee:

Port of Tacoma
PO Box 1837
Tacoma, Washington 98401-1837

2. Summary of completed work:

Waterway Name	# Concrete Replacement Piling Installed	# AZCA Timber Replacement Piling Installed	Linear Feet Waterway Impact
Blair Waterway			
Hylebos Waterway			
Sitcum Waterway			
Commencement Bay			
Totals			

* Linear feet of waterway impact is calculated as the maximum linear distance between two piles at each structure where pile replacement is conducted. The number reported is the sum total of linear feet impacted in each waterway.

3. Additional Notes:

I hereby certify that the above-described work has been conducted in compliance with the terms and conditions of this permit, including any project specific conditions required by the District Engineer to ensure that this work would have no more than minimal adverse impact on the aquatic environment.

Signature of Permittee

Date



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503



In Reply Refer To:
01EWF00-2012-I-0111

MAY 24 2012

Michelle Walker
Regulatory Branch Chief
U.S. Army Corps of Engineers
P.O. Box 3755
Seattle, Washington 98124-3755

MAY 29 2012

REGULATORY

Dear Ms. Walker:

This is in response to your letter and attached Biological Evaluation (BE), for the proposed Port of Tacoma (Port) pile replacement programmatic located in Commencement Bay, Pierce County, Washington (T21N, R03E, Section 35). Your letter, the Memorandum for the Services, and the BE were received in our office on January 26, 2012. Additional information was received on April 13, 2012. The letter requests our concurrence with your finding that the project "may affect, but is not likely to adversely affect" the bull trout (*Salvelinus confluentus*), designated critical habitat for the bull trout, and the marbled murrelet (*Brachyramphus marmoratus*). This request was submitted in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

According to the BE, the Port is proposing to conduct pile replacement activities at 12 wharf/dock structures located on the Sitcum, Blair, and Hylebos waterways within the marine waters of Commencement Bay in Tacoma, Washington (Figure 1). The proposed project includes the replacement of up to 200 damaged or broken fender and/or structural piles annually as needed, along with associated pile caps, chocks, and whalers. The project duration is five years (through 2017). Eleven of the 12 facilities where pile replacement will be conducted are located within the Sitcum, Blair, and Hylebos waterways, which are busy industrial shipping channels. The last site, the Trident facility (site 7 in Figure 1), is located within the waters of Commencement Bay at the mouth of the Hylebos Waterway.

The piles being replaced include a combination of load-bearing structural piles and fender piles. Most of the existing piles are wood treated with creosote or ammoniacal copper zinc arsenate (ACZA), but some are concrete. Both types of wood piling will be replaced with ACZA-treated wooden piles of a similar size and diameter. Concrete pilings will be replaced with concrete

piles of a similar size and diameter. The largest concrete piles that would be replaced will be 24 inches in diameter. Most of the piles to be replaced are less than 18 inches in diameter, and it is estimated that no more than 4 concrete piles with diameters 18 inches or greater will be replaced in a single year.

Existing piles will be removed with a vibratory hammer or by pulling with a choke chain. Piles that break during extraction will be cut off three feet below the mudline and the holes will be capped with clean sand. Most of the new piles will be installed using a vibratory hammer. However, some new pilings may need to be proofed with an impact hammer and, in some instances, it may be necessary to use an impact hammer for the entire installation.

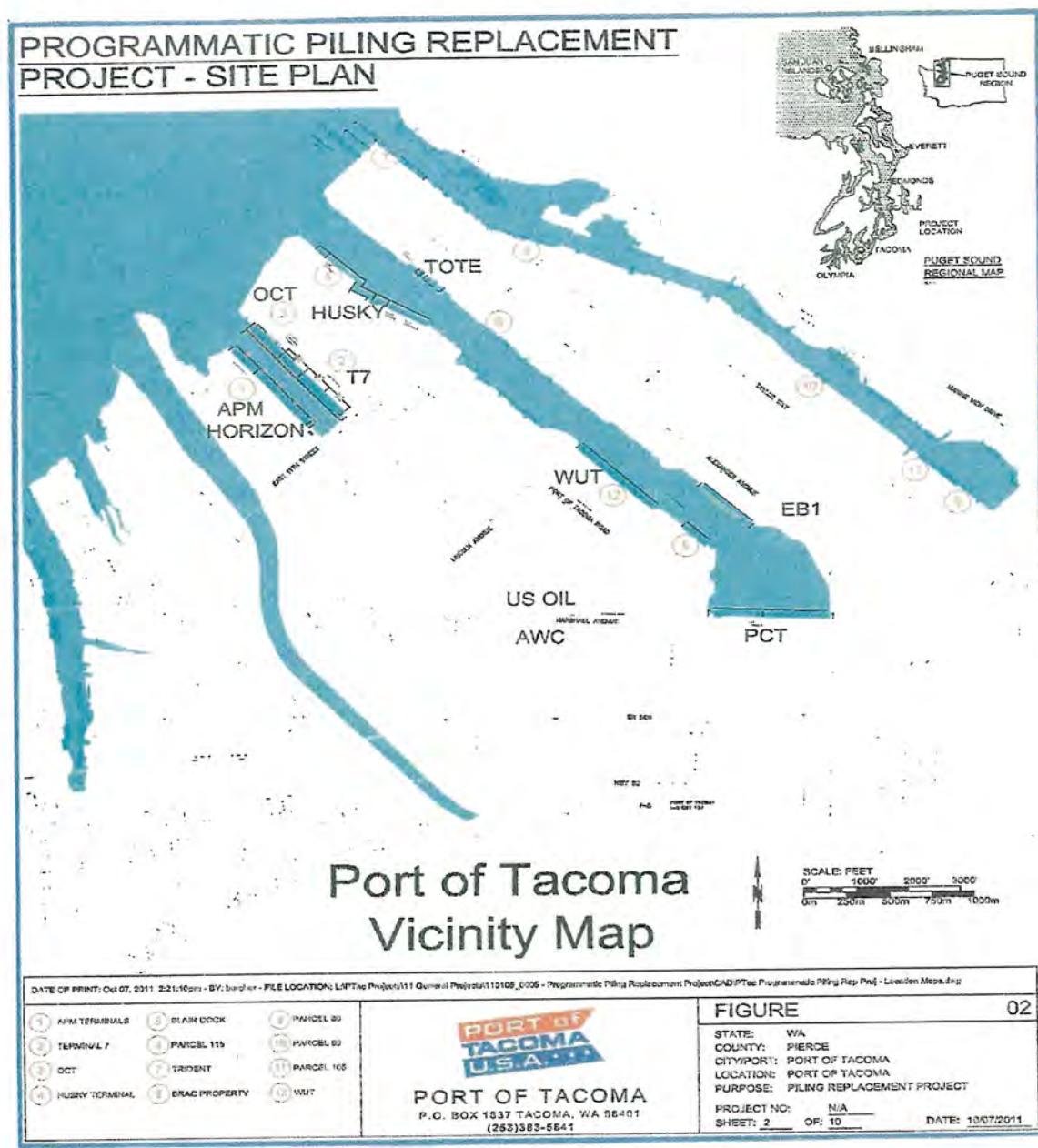


Figure 1. Piling Replacement Site Plan

Once the pile has been removed and the new pile installed, the overwater portions of the work will be completed. Chocks and whalers will be repaired as necessary to restore the fendering systems to their design capabilities. Pile caps, where present, will be repaired or replaced as necessary. Fender piles will have a rub strip of either ultra-high molecular weight or high-density polyethylene plastic lag-screwed to their outer faces to prevent frictional loss of treated wood during berthing operations. All of these activities will typically occur above the Mean Higher High Water (MHHW) mark.

Some of the conservation measures to reduce, eliminate, or minimize the effects of the proposed action to listed species and critical habitat are listed below:

- Pile removal and installation will be conducted during the approved in-water work window for Commencement Bay (July 16 to February 15 of each year).
- Upon advance notice, the Port will provide access to the work site to representatives from the U.S. Army Corps of Engineers (Corps), the U.S. Fish and Wildlife Service (Service), Washington Department of Ecology, and the Washington State Department of Fish and Wildlife during all hours when the proposed action is being conducted.
- No stockpiling or staging of materials will occur below the MHHW mark of any waterbody.
- All areas for fuel storage and refueling and servicing of construction equipment and vehicles will be located 150 ft from open water or wetlands, with the exception of refueling of barge derricks, which may need to be refueled and serviced while on the water.
- The Port will report annually to the Corps and the Service with a Port of Tacoma Piling Replacement Program Compliance Form (Appendix A) that includes the following information: 1) the number of piles replaced in each waterway, and 2) the linear feet in which piles were replaced in each waterway.
- Holes left when removing piles will be capped with clean sand. Any sand used as fill material will be washed and cleaned prior to being brought to the site, and will be obtained from an approved source.
- Only ACZA-treated wood will be used and treatment will comply with the Western Wood Preservers Institute best management practices.
- During removal of creosote-treated piles, containment booms and absorbent sausage booms (or other oil-absorbent fabric) will be placed around the perimeter of the work area to capture wood debris, oil, and other materials released into marine waters. All accumulated debris will be collected daily and disposed of at an approved upland site.
- At least two oil-absorbing floating booms, appropriate for the size of the work area, will be available on site whenever heavy equipment operates within 150 ft of open water and there is a potential for hazardous materials to enter surface waters. The booms will be stored in a location that facilitates their immediate deployment in the event of a spill.

- Existing piles will either be 1) fully extracted or 2) cut 3 ft below the mud line. If piles cannot be fully extracted or cut below the mud line, they may be cut at or near the mudline and then driven to a depth of 3 feet below the mud line. The cutting of piles that have broken will take place utilizing a diver with a chainsaw.

Based on the information provided, we have concluded that effects to the federally listed bull trout, marbled murrelet and designated critical habitat for the bull trout would be insignificant or discountable. Therefore, we concur with your “may affect, not likely to adversely affect” determination for these species and bull trout critical habitat. Our conclusion is based on the following rationale.

Bull trout

The closest population of bull trout is in the Puyallup River, which empties into Commencement Bay on the west side of the industrial waterfront. Anadromous and fluvial bull trout use the lower reaches of the Puyallup, Carbon, and White Rivers for foraging and overwintering, while the anadromous form also uses Commencement Bay and nearshore marine areas of Puget Sound seasonally for foraging and to migrate between core areas. Bull trout use of marine areas is highest in the spring and they have been documented in Commencement Bay during the months of April, May, and June. The urban and industrial waterfront of Tacoma and the action area has been highly altered and does not provide good fish habitat, as is evident by the low numbers of native char that have been documented during sampling efforts by the Puyallup Tribe and others (Ratte and Salo 1985). However, bull trout likely pass through the action area to forage on juvenile salmonids, Pacific herring (*Clupea pallasii*), Pacific sand lance (*Ammodytes hexapterus*), and surf smelt (*Hypomesus pretiosus*) that use the nearshore areas of Commencement Bay, the Tacoma Narrows and Dalco Passage.

A number of conservation measures, including implementation of the approved in-water work window (July 16 to February 15), will greatly minimize the likelihood for exposure of bull trout to construction-related effects.

- Although the proposed action may result in increased turbidity during construction, impacts to water quality will be localized, short in duration, and will occur during the time of year when bull trout are least likely to be present. If they are present, the amount of turbidity generated is anticipated to be minimal due to the conservation measures that will be implemented. Therefore, direct effects to bull trout due to increased construction-related turbidity (pile replacement) are considered insignificant.
- In the "Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving" (Fisheries Hydroacoustic Working Group, 2008) the Federal Highway Administration and Federal Agencies, including the Service, identified threshold criteria where harm or injury to fish could occur. The dual criteria injury threshold established by the agencies gives an upper sound pressure level of 206 dB (re: 1μPa) peak and 187 dB (re: 1μPa-sec) accumulated sound exposure level (SEL) for fish weighing more than 2 grams. The SEL for fish weighing less than 2 grams is 183 dB (re: 1μPa-sec).

Data published by the Washington State Department of Transportation (WSDOT) and Caltrans indicates that impact installation of timber piles can produce underwater sound pressure levels up to 191 dB (re: 1 μ Pa-sec) peak and 160 dB (re: 1 μ Pa-sec) SEL (WSDOT 2012). Carlson et al. conducted hydroacoustic monitoring during impact installation of wood piles and found that impact installation of 12-inch diameter wood piles can result in Sound Pressure Levels (SPL) up to 195 dB_{peak}. The WSDOT data indicates that impact installation of 24 inch diameter concrete piles produces single strike sound pressure levels up to 192 dB (re: 1 μ Pa-sec) peak and 174 dB (re: 1 μ Pa-sec) SEL.

To consider the area potentially affected by underwater sound exceeding the established dual criteria injury threshold for the proposed project, the Corps used the practical spreading model for moving fish. In this analysis the Corps assumed: (1) a transmission loss constant of 15; (2) 400 strikes per day; and (3) reference sound data from WSDOT (2012) for single strikes of 24-inch concrete piles. To determine the area in which driving 24-inch concrete piles could exceed the dual criteria harm thresholds a value of 187 dB re: 1 μ Pa peak was used for calculating the area. Although the analysis indicates that the 187 dB re: 1 μ Pa accumulated SEL threshold for onset of physical injury would be exceeded within 250 ft of the pile driving site, we do not anticipate bull trout to be exposed due to the timing, location, short duration (less than five minutes per pile), and small area of effect.

Furthermore, the type and intensity of the underwater sounds produced depend on a variety of factors, including, but not limited to, the type and size of the pile, the firmness of the substrate and depth of water into which the pile is being driven, and the type and size of the pile-driving hammer. In general, driving steel piles with an impact hammer appears to generate pressure waves that are more harmful than those generated by impact-driving of concrete or wood piles, or by vibratory installation of any type of pile. SPLs associated with installation of concrete piles are characterized by a longer rise time than those of steel piles. Rise time appears to be an important factor in whether or not a sound pressure wave is likely to cause physical injury. To date, the Service is not aware of any situations where installation of concrete or wood piles has been shown to cause injury or mortality in aquatic organisms. As such, we do not expect that the SPLs associated with impact installation or proofing of concrete or wood piles to cause injury. The sound pressure waves from vibratory pile driving are much shallower and do not result in physical injury and less behavioral impacts. The sounds from vibratory pile drivers also differ in frequency and impulse energy which is the total energy content of the pressure wave. Most of the energy in the sounds produced by vibratory hammers are around 20 to 30 Hz, near the range of infrasound, which fish have been shown to avoid.

- The marine area that will be affected by the project is relatively small in relation to the overall available marine habitat in Puget Sound. The marine habitat and water quality within the action area, and specifically the Blair and Hylebos Waterways, are degraded. The action area is highly developed with overwater structures, armored shores, and contaminated sediments. The short-term elevated levels of turbidity and construction-related disturbance will not preclude use of the area by bull trout during or after project implementation.

- There are no documented Pacific herring, sand lance, or surf smelt spawning areas in the construction area and the project will not impact populations of salmonids or other prey resources. Therefore, indirect effects of the action on bull trout through their prey resources are considered discountable.

Given the timing, location and implementation of conservation measures for this project, effects to bull trout associated with exposure to elevated underwater sound pressure levels generated by pile driving are considered insignificant.

The final rule identified nine primary constituent elements (PCEs) essential for the conservation of bull trout. Five of the PCEs are located within designated critical habitat. The proposed action has the potential to affect the following Primary Constituent Elements (PCE) of bull trout critical habitat:

- PCE #2: Migration habitats with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and freshwater and marine foraging habitats, including but not limited to permanent, partial, intermittent or seasonal barriers.

The proposed action may temporarily impact water quality as a result of suspended sediment or minor contaminant releases; however, impacts to the migratory corridor would be short-term and are not expected to measurably affect bull trout migration or movement through the area during or after construction. Periods of elevated levels of underwater sound during pile installation and removal would not preclude movement through the area or reduce the function of the migratory corridor. Furthermore, most of the project locations are in industrial waterways that are not linkages between core areas or corridors to the Puyallup River and have shown low presence of salmonids species. Therefore, effects to this PCE are considered to be insignificant.

- PCE #3: An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish. The proposed action may cause a short term reduction of benthic individuals that are prey for marine forage fish.

Because the waterways in the Port presently do not support marine forage fish spawning habitat and are not a migratory corridor for juvenile salmonids, impacts to the food web are not expected to be measurable. Therefore, effects to this PCE are considered insignificant.

- PCE #4: Complex river, stream, lake, reservoir, and marine shoreline aquatic environments, and processes that establish and maintain these aquatic environments, with features such as large wood, side channels, pools, undercut banks and unembedded substrates, to provide a variety of depths, gradients, velocities, and structures.

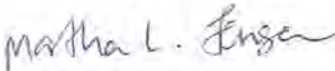
replacement sites are in areas where we do not anticipate marbled murrelets to be, the effects to foraging marbled murrelets associated with elevated sound levels are considered insignificant.

- The proposed action may result in the short term and localized re-suspension of minor amounts of sediment. However due to the relatively low concentrations and duration of exposure, the effects to marbled murrelets via their prey will not be measurable and are considered insignificant.

This concludes informal consultation pursuant to the regulations implementing the Endangered Species Act (50 CFR 402.13). This project should be re-analyzed if new information reveals effects of the action that may affect listed species or critical habitat in a manner, or to an extent, not considered in this consultation. The project should also be re-analyzed if the action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this consultation, and/or a new species is listed or critical habitat is designated that may be affected by this project.

If you have any questions regarding this consultation, please contact Shandra O'Haleck at (360) 753-9533 or Martha Jensen at (360) 753-9000, of this office.

Sincerely,


for

Ken S. Berg, Manager
Washington Fish and Wildlife Office

Enclosure(s):

The proposed action does not include any activities that would alter marine shorelines in this area. The industrial area of the Port has been historically changed to support industrial facilities and does not presently contain complex shoreline features. Therefore, no effects are anticipated to this PCE.

- PCE #5: Water temperatures ranging from 2 to 15 °C (36 to 59 °F), with adequate thermal refugia available for temperatures that exceed the upper end of this range. Specific temperatures within this range will depend on bull trout life-history stage and form; geography; elevation; diurnal and seasonal variation; shading, such as that provided by riparian habitat; streamflow; and local groundwater influence.

The proposed action does not include any activities that would directly or indirectly alter water temperature. Therefore, no effects are anticipated to this PCE.

- PCE #8: Sufficient water quality and quantity such that normal reproduction, growth and survival are not inhibited.

While the proposed project has a slight potential to affect water quality through sediment releases, the effects will be localized and temporary and are not expected to measurably affect water quality. Therefore, overall effects to this PCE are considered insignificant.

Marbled Murrelet

Marbled murrelets forage in the nearshore areas of the Puget Sound and have been documented off Browns Point. Based on the survey data, marbled murrelet densities in southern Puget Sound are much lower than other areas of the Sound and outer coast. Habitat conditions and foraging opportunities are poor in the industrial waterfront of Tacoma (including the action area) and marbled murrelets are not expected to spend much time in the vicinity of the commercial waterfront, especially during construction. Although marbled murrelets could be present in Commencement Bay at any time of year, effects to murrelets are considered insignificant or discountable because:

- There is no suitable marbled murrelet nesting habitat within 0.25 mile of the action area. Effects to nesting marbled murrelets are considered discountable because the project will not affect suitable nesting habitat or generate sound above ambient background levels in forested areas that could be used by marbled murrelets for nesting.
- Because there are little or no good foraging opportunities in the industrial waterways and noise and vessel traffic is high in and along the heavily developed waterfront, it is extremely unlikely that marbled murrelets would be present in the project areas.
- Driving concrete and wood piles of the size and type used in the proposed project may produce sound pressure levels that could disturb marbled murrelets. However, most of the project locations are in areas where elevated sound levels would not extend into Commencement Bay or areas where marbled murrelets may be foraging (Figure 1). Because the duration of pile driving is relatively short and the locations of the pile

Literature Cited

- Fisheries Hydroacoustic Working Group (FHWG)2008. Agreement in principle for interim criteria for injury to fish from pile driving activities. Memorandum of agreement between NOAA Fisheries Northwest and Southwest Regions, USFWS Regions 1 and 8, California/Washington/Oregon Departments of Transportation, California Department of Fish and Game, and U.S. Federal Highway Administration. Available at: June 12, 2008. <http://www.wsdot.wa.gov/Environment/Biology/BA/default.htm#Noise>.
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- Strategic Environmental Consulting (SEC) 2005. Monitoring the Effects of Conventional Pile Driving on Three Species of Fish. Prepared for Manson Construction company. Richmond, California.
- Stadler, John H.(2003). The Adverse Effects to Fishes of Pile-Driving - The Implications for ESA and EFH Consultations in the Pacific Northwest. UC Davis: John Muir Institute of the Environment. Retrieved from: <http://www.escholarship.org/uc/item/7bx541gm>
- Washington State Department of Transportation (WSDOT) 2012). Pile diameters /single strike sound levels. Available at: http://www.wsdot.wa.gov/NR/rdonlyres/A3B6FF43-DC7B-4D98-9228-C8764635587A/0/BA_PileDiameterNoiseLevels.pdf



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, Washington 98115

Refer to NMFS No:
2012/00218

July 12, 2012

Michelle Walker
Chief, Regulatory Branch
U.S. Army Corps of Engineers, Seattle District
CENSW-OD-RG
Post Office Box 3755
Seattle, Washington 98124-3755

RECEIVED

JUL 18 2012

REGULATORY

Re: Endangered Species Act Section 7 Concurrence Letter and Magnuson-Stevens Essential Fish Habitat Response for the Port of Tacoma Pile Replacement Programmatic, Commencement Bay, COE No. NWS-2011-00218-WRD, (Pierce County, Washington, Fourth Field HUC 17110019 Puget Sound)

Dear Ms. Walker

On January 26, 2012 the National Marine Fisheries Service (NMFS) received a request from the U.S. Army Corps of Engineers (COE) for a written concurrence that the proposed multi-year replacement of piles at the Port of Tacoma (Port) is not likely to adversely affect (NLAA) the species and critical habitat listed in Table 1. This consultation is conducted under section 7(a)(2) of the ESA of 1973, as amended (16 U.S.C. 1531, et seq.), and its implementing regulations, 50 CFR Part 402. NMFS initiated consultation on January 30, 2012. This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.¹

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Act (MSA), including conservation measures and any determination that you made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.² In this case, NMFS concluded that the action would not adversely affect EFH. Thus, consultation under the MSA is not required for this action.

¹ Memorandum from D. Robert Lohn, Regional Administrator, to ESA consultation biologists (guidance on informal consultation and preparation of letters of concurrence) (January 30, 2006).

² Memorandum from William T. Hogarth, Acting Administrator for Fisheries, to Regional Administrators (national finding for use of Endangered Species Act section 7 consultation process to complete essential fish habitat consultations) (February 28, 2001).



This letter is in compliance with section 515 of the Treasury and General Government Appropriations Act of 2001 (Data Quality Act) (44 U.S.C. 3504 (d) (1) and 3516), and underwent pre-dissemination review using standards for utility, integrity and objectivity.

Table 1. Federal Register notices for final rules that list threatened and endangered species, designate CHs, or apply protective regulations to listed species considered in this consultation.

Species & [Service Jurisdiction]	ESU or DPS	Listing Status	Listing Status Reaffirmed	Critical Habitat	Protective Regulations
Chinook salmon (<i>Oncorhynchus tshawytscha</i>) [NMFS]	Puget Sound	6/28/05 70 FR 37160 Threatened	8/15/11 76FR50448 Threatened	9/02/05 70 FR 52630	6/28/05 70 FR 37160
steelhead (<i>O. mykiss</i>) [NMFS]	Puget Sound	5/11/07 72FR26722 Threatened	8/15/11 76FR50448 Threatened	In development	9/25/08 73 FR 55451
yelloweye rockfish (<i>Sebastes ruberrimus</i>) [NMFS]	PS/Georgian Basins	4/28/2010 72 FR 2276 Threatened	Not applicable	In development	In development
canary rockfish (<i>S. pinniger</i>) [NMFS]	PS/Georgian Basins	4/28/2010 72 FR 2276 Threatened	Not applicable	In development	In development
bocaccio (<i>S. paucispinus</i>) [NMFS]	PS/Georgian Basins	4/28/2010 72 FR 2276 Endangered	Not applicable	In development	Not applicable to endangered listings, ESA Section 9 applies
killer whales (<i>Orcinus orca</i>) [NMFS]	Southern Resident	11/18/05 70 FR 69903 Endangered	3/8/11	11/29/2006 71 FR 69054	Not applicable to endangered listings; ESA Section 9 applies
Steller sea lion (<i>Eumetopias jubatus</i>) [NMFS]	Eastern DPS	11/26/90 55 FR 49204 Threatened	5/05/97 62 FR 24345	Not applicable	3/05/08 73 FR 11872
humpback whale (<i>Megaptera novaeangliae</i>) [NMFS]		12/02/70 35 FR 18319 Endangered		Not applicable	ESA section 9 applies

Consultation History

The US Army Corps of Engineers (COE) submitted a Biological Evaluation (BE) and Memorandum for Services to the National Marine Fisheries Service (NMFS) for the project referenced above on January 26, 2012. A meeting between the Port and the NMFS was held on February 27, 2012 where additional information was requested concerning sound analysis for marine mammals. Additional information was received on April 6, 2012, and April 13, 2012.

A complete record of this consultation is on file at the Washington State Habitat Office in Lacey, Washington.

Description of the Proposed Action and the Action Area

The Port is proposing to conduct pile replacement activities over five years at 12 wharf/dock structures located in the Sitcum, Blair, and Hylebos waterways, and in the inner marine waters of Commencement Bay in Tacoma, Washington (Figure 1). The proposed project includes the replacement of up to 200 damaged or broken fender and/or structural piling annually as needed, along with associated pile caps, chocks, and whalers. Eleven of the 12 facilities where pile replacement will be conducted are located within the Sitcum, Blair, and Hylebos waterways, which are busy industrial shipping channels. One additional site, the Trident facility, is located within the waters of Commencement Bay at the mouth of the Hylebos Waterway.

The piles being replaced include a combination of load-bearing structural piles and fender piles. Most of the piles are wood treated with creosote or ammoniacal copper zinc arsenate (ACZA), but some are concrete. Both types of wood piling will be replaced with ACZA-treated wooden piling of a similar size and diameter. Concrete piling will be replaced with concrete piling of a similar size and diameter. The largest concrete piling to be replaced will be 24 inches in diameter. Most of the pilings to be replaced are less than 18 inches in diameter, and it is estimated that no more than 4 concrete pilings with diameters 18 inches or greater will be replaced in a single year.

Pilings will be removed with a vibratory hammer or by pulling with a choke chain. Pilings that break during extraction will be cut off three feet below the mudline and capped with clean sand. Most new pilings will be installed with a vibratory hammer. However, some new pilings may need to be proofed with an impact hammer and, in some instances, it may be necessary to use an impact hammer for the entire installation.

Once the pile has been removed and the new pile installed, the overwater portions of the work will be completed. Chocks and whalers will be repaired as necessary to restore the fendering systems to their design capabilities. Pile caps, where present, will be repaired or replaced as necessary. Fender pilings will have a rub strip of either ultra-high molecular weight (UHMW) or high-density polyethylene (HDPE) plastic lag-screwed to their outer faces to prevent frictional loss of treated wood during berthing operations. All of these activities will typically occur above the OHWM of the waterways.

Some of the conservation measures to reduce, eliminate, or minimize the effects of the proposed action to listed species or habitat are listed below.

- Pile removal and installation will be conducted during the approved in-water work window for Commencement Bay (July 16–February 14 of each year).
- Upon advance notice, the Port will provide access to the work site to representatives from the COE, the Services, Washington Department of Ecology, and Washington State Department of Fish and Wildlife during all hours when the proposed action is being conducted.
- No stockpiling or staging of materials will occur below the mean higher high water mark of any waterbody.

- All areas for fuel storage and refueling and servicing of construction equipment and vehicles will be located 150 feet from open water or wetlands, with the exception of refueling of barge derricks, which may need to be refueled and serviced while in the water.
- The Port will report annually to the COE and the Services with a Compliance Form (appendix) that includes the following information: 1) the number of piles replaced in each waterway, and 2) the linear feet in which piles were replaced in each waterway.
- Holes left when removing piling will be capped with clean sand. Any sand used as fill material will be washed and cleaned prior to being brought to the site, and will be obtained from a commercial source that is operating within compliance with the ESA.
- Only ACZA-treated wood will be used and treatment will comply with the Western Wood Preservers Institute BMPs.
- During removal of creosote-treated piles, containment booms and absorbent sausage booms (or other oil-absorbent fabric) will be placed around the perimeter of the work area to capture wood debris, oil, and other materials released into marine waters. All accumulated debris will be collected daily and disposed of at an approved upland site.
- At least two oil-absorbing floating booms, appropriate for the size of the work area, will be available on site whenever heavy equipment operates within 150 feet of open water and there is a potential for hazardous materials to enter surface waters. The booms will be stored in a location that facilitates their immediate deployment in the event of a spill.
- Existing piles will either be 1) fully extracted or 2) cut 3 feet below the mudline. If piles cannot be fully extracted or cut below the mudline, they may be cut at or near the mudline and then driven to a depth of 3 feet below the mudline.
- Work performed in or within 25 feet of an existing or previously designated Superfund site, or Washington State Model Toxics Control Act (MTCA) site, will follow BMPs established by the EPA during CERCLA coordination or Ecology during MTCA.

A marine mammal monitoring plan will be implemented between October 1 and February 14 at sites 1-4 and site 7 (see Figure 1) during pile installation and removal activities to avoid impacts to ESA-listed marine mammals.

The action area is located in the industrial portion of Commencement Bay and encompasses three waterways; the Sitcum, Blair, and Hylebos. There is little to no aquatic vegetation in the project area. The shoreline in the action area is bulkheaded, covered with industrial over water structures, and has been dredged to achieve navigational depths.

The action area encompasses a radius of 4,642 meters (or 2.8 miles) from the pile driving location to account for any possible sound effects from pile driving to marine mammals. This is the maximum area where in-water noise will be elevated above the disturbance threshold level for marine mammals. The area of potential effect from underwater noise to fish created by pile driving is substantially smaller (15 meters or 45 feet) and is therefore contained within this action area.

Effects of the Action

For purposes of the ESA, “effects of the action” means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is NLAA listed species or critical habitat is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial.³ Beneficial effects are contemporaneous positive effects without any adverse effects to the species. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

The effects of the proposed action are reasonably likely to include temporarily impaired water quality within the action area, including temporarily elevated turbidity levels and temporarily elevated underwater noise levels during pile removal and installation. Construction would take place between July 16 and February 15 when ESA species are least likely to be in the area.

³ U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1998. Endangered Species Act consultation handbook: procedures for conducting section 7 consultations and conferences. March. Final. P. 3-12.

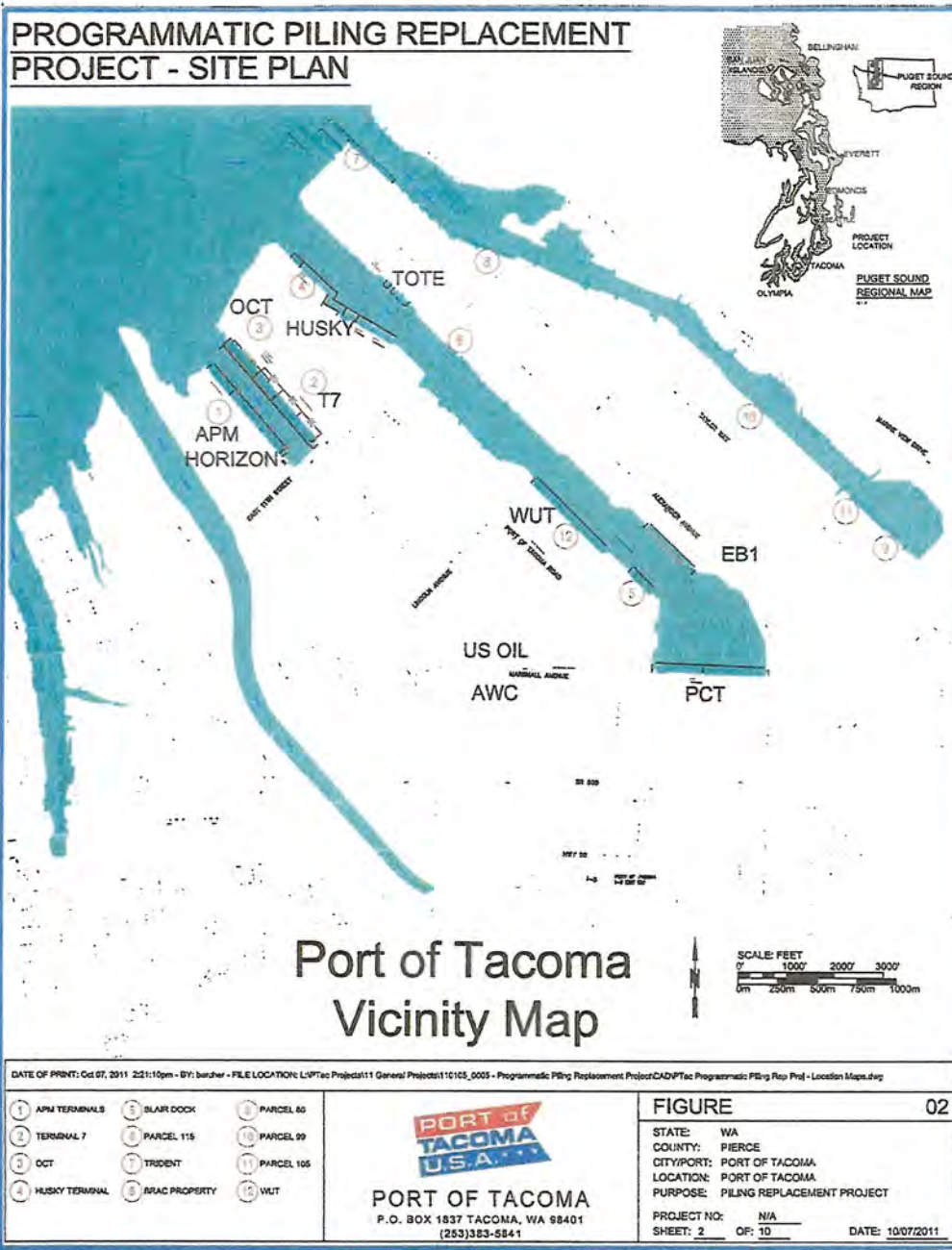


Figure 1. Port of Tacoma Pile Replacement Site Plan

Puget Sound Chinook, Steelhead, and Rockfish

Turbidity and suspended sediments

Pile driving and removal, and associated vessel use (barge mounted pile driver) can alter water quality conditions that could elicit short-term, localized, and temporary behavioral effects in juveniles. In the absence of data on the specific effects of suspended sediments on rockfish, potentially harmful effects associated with elevated suspended sediments can be assumed to be

similar to salmonids, which are among the most sensitive species for which effects from suspended sediments have been evaluated in estuarine dependent species (Wilber and Clarke 2001). No difference in the response to suspended sediments is anticipated among PS Chinook or PS steelhead.

The effects of suspended sediment on fish increases in severity with suspended sediment concentration and exposure time and can progressively include behavioral avoidance and/or disorientation, physiological stress (e.g., coughing), gill abrasion, and death—at extremely high concentrations. Studies show that salmonids have an ability to detect and distinguish turbidity and other water quality gradients (Quinn 1988, Simenstad 1988), and that larger juvenile salmonids are more tolerant to suspended sediment than smaller juveniles (Servizi and Martens 1991). To this end, Newcombe and Jensen (1996) analyzed numerous reports on documented fish responses to suspended sediment in streams and estuaries, and developed a 14-point ‘scale of ill effects’ algorithm based on sediment concentration and duration of exposure. NMFS has used this model to gauge the potential for ill effects from suspended sediment exposure in Section 7 ESA consultations, by assuming certain exposure durations and concentrations as available from the literature or from past project monitoring. If the model projects a score of 5 or less on the Newcombe and Jensen scale (i.e., Total Suspended Solids (TSS) exposure may lead to an avoidance response with possible short term reduction in feeding [level 4] and minor physiological stress for [level 5]), then NMFS considers such exposures insignificant and within the environmental baseline of exposure typically experienced by the species.

Few data exist regarding the temporary increase in suspended sediment associated with pile removal or pile driving. Indeed, NMFS could find no data relating to suspended sediment concentrations generated from impact pile driving. To estimate the magnitude of suspended sediment associated with pile driving, NMFS reviewed results from a vibratory pile removal project near the mouth of Jimmycomelately Creek in Sequim Bay (Weston Solutions 2006). In that study, total suspended solid (TSS) concentrations associated with activation of the vibratory hammer to loosen the pile from the substrate ranged from 13 to 42 milligrams per liter (mg/L) and averaged 25 mg/L. During the pile driving, elevated levels of TSS averaging 40 mg/L were recorded near the pile and 26 mg/L at the sensor located 16 to 33 feet from the pile. Concentrations during extraction ranged from 20 to 82.9 mg/L, and were sometimes visible in the water column as a 10- to 16-foot diameter plume that extended at least 15 to 20 feet from the actual pulling event. Although concentrations decreased after pile extraction, the time interval was unavailable due to tug movement as soon as the pile cleared the water’s surface.

To consider how the TSS generated from impact pile removal and placement within Commencement Bay might affect PS Chinook salmon, PS steelhead and rockfish larvae NMFS used the Weston (2006) data as an estimate for the range of expected TSS and the Newcombe and Jensen (1996) ‘scale of ill effects’ to determine likely associated biological responses. For an exposure duration of up to fifteen hours and an increase in TSS over background of up to 90 mg/L, the calculated severity of ill effect for juvenile salmon does not exceed a response of minor physiological stress [level5] (increased in rate of coughing, increased respiration rate). The maximum increase in TSS reported in Weston Solutions (2006) is 83 mg/L. These data illustrate that the duration and concentration of TSS from the proposed action will be below levels that would be reasonably likely to result in take. Further, any elevations in turbidity and TSS

generated by the impact pile driving will be localized, short-term and similar to the variations that occur normally within the environmental baseline of the marine nearshore—which is regularly subject to strong winds and currents that generate suspended sediments. Thus, juvenile Chinook salmon, steelhead, and rockfish larvae likely encounter similar suspended sediment concentrations and turbidity levels within the environmental baseline to which they are regularly exposed.

In summary, the low level increase in suspended sediments, small action area, and expected return to pre-construction conditions shortly following the cessation of activity renders the effects of the increased TSS on PS Chinook, PS steelhead and ESA-listed rockfish larvae insignificant.

Underwater Sound

Little information is available on the effects of underwater sound on rockfish (Hastings and Popper 2005). However, all fish with swimbladders, which includes rockfish and salmonids, are potentially affected by underwater sound, which can cause barotrauma and associated injuries at high levels. In the "Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving" (Fisheries Hydroacoustic Working Group, 2008) the Federal Highway Administration and Federal Agencies including NMFS agreed upon threshold criteria where harm or injury to fish may occur. The dual criteria injury threshold established by the Agencies gives an upper sound pressure level of 206 dB (re: 1 μ Pa) peak and 187 dB (re: 1 μ Pa·sec) accumulated sound exposure level (SEL) for all listed fish weighing more than 2 grams. The SEL for listed fish weighing less than 2 grams is 183 dB (re: 1 μ Pa·sec).

Data published by the Washington State Department of Transportation (WSDOT) and Caltrans indicates that impact installation of timber piles can produce underwater sound pressure levels up to 191 dB (re: 1 μ Pa·sec) peak and 160 dB (re: 1 μ Pa·sec) SEL (WSDOT 2012). Carlson et al. conducted hydroacoustic monitoring during impact installation of wood piles and found that impact installation of 12-inch diameter wood piles can result in SPLs up to 195 dB_{peak}. The WSDOT data indicates that impact installation of 24 inch diameter concrete piles produces single strike sound pressure levels up to 188 dB (re: 1 μ Pa·sec) peak and 166 dB (re: 1 μ Pa·sec) SEL.

To consider the area potentially affected by underwater sound exceeding the established dual criteria injury threshold for the proposed project, the Corps used the practical spreading model for moving fish. In this analysis the Corps assumed: (1) a transmission loss constant of 15; (2) 400 strikes per day; and (3) reference sound data from WSDOT (2012) for single strikes of 24-inch concrete piles. To determine the area in which driving 24-inch concrete piles could exceed the dual criteria harm thresholds a value of 187 dB re: 1 μ Pa peak for adult fish was used for calculating the area because it is unlikely that juveniles would be in the area during construction. Although the analysis indicates that the 187 dB re: 1 μ Pa accumulated SEL threshold for onset of physical injury would be exceeded within 45 feet of the pile driving site, we do not anticipate adult Chinook, steelhead, or rockfish to be exposed to potentially harmful sound levels due to the timing, location, short duration (less than five minutes per pile), and small area of effect. The industrial waterways do not support habitat for rockfish. Adult ESA-listed salmon species are

unlikely to utilize the waterways during their migration to spawning grounds in the upper reaches of the Puyallup River and no pile driving would be covered under this programmatic in the river. Further, in the unlikely event of waterway use by adult salmonids, fish of this size and swimming ability have the capacity to rapidly move out of the small zone of potential injury from underwater noise without increasing their potential for take from other mechanisms (e.g., predation).

Furthermore, the type and intensity of the underwater sounds produced depends on a variety of factors, including, but not limited to, the type and size of the pile, the firmness of the substrate and depth of water into which the pile is being driven, and the type and size of the pile-driving hammer. In general, driving steel piles with an impact hammer appears to generate pressure waves that are more harmful than those generated by impact-driving of concrete or wood piles, or by vibratory installation of any type of pile. SPLs associated with installation of concrete piles are characterized by a longer rise time than those of steel piles. Rise time appears to be an important factor in whether or not a sound pressure wave is likely to cause physical injury. To date, the NMFS is not aware of any situations where installation of concrete or wood piles has been shown to cause injury or mortality in aquatic organisms. As such, we do not expect that the SPLs associated with impact installation or proofing of concrete or wood piles to cause injury. The sound pressure waves from vibratory pile driving are much shallower and do not result in physical injury and less behavioral impacts. The sounds from vibratory pile drivers also differ in frequency and impulse energy which is the total energy content of the pressure wave. Most of the energy in the sounds produced by vibratory hammers are around 20 to 30 Hz, near the range of infrasound, which fish have been shown to avoid.

Given the timing, location and implementation of conservation measures for this project, effects to ESA-listed PS Chinook salmon, PS steelhead, and/or PS-Georgia Basin rockfish larvae associated with exposure to elevated underwater sound pressure levels generated by pile driving are considered insignificant.

Southern Resident Killer Whales

The final rule listing Southern Resident killer whales as endangered identified several potential factors that may have contributed to their decline or may be limiting recovery. These include: quantity and quality of prey, toxic chemicals which accumulate in top predators, and disturbance from sound and vessel traffic. The rule also identified oil spills as a potential risk factor for this species. The final recovery plan includes more information on these potential threats to SR killer whales (73 FR 4176).

Southern Resident killer whales spend considerable time in the Georgia Basin from late spring to early autumn, with concentrated activity in the inland waters of Washington State around the San Juan Islands, and then move south into Puget Sound in early autumn. While these are seasonal patterns, Southern Resident killer whales have the potential to occur throughout their range (from Central California north to the Queen Charlotte Islands) at any time during the year.

The Whale Museum manages a long-term database of SR killer whale sightings and geospatial locations in inland waters of Washington.

A review of this dataset from the years 1990 to 2008 indicates that SR killer whales may occur near the project vicinity (both in Commencement Bay and adjacent waters) during the months that in-water activities are proposed (Table 2).

Table 2. SR Killer Whale Sightings near the Project Vicinity.

MONTH	NUMBER OF DAYS SIGHTED ¹
July	1
August	2
September	1
October	12
November	11
December	35
January	17
February	2

¹ Unique sighting days during the work window from 1990 to 2008.

SR killer whales may be disturbed by sound pressure generated by in-water construction activities. The NMFS is currently developing comprehensive guidance on sound levels likely to cause injury and behavioral disruption in the context of the Marine Mammal Protection Act. Until formal guidance is available, NMFS uses conservative thresholds of sound pressure levels from broad band sounds that cause behavioral disturbance (160 dB rms (re: 1 μ Pa) for impulse sound and 120 dB rms (re: 1 μ Pa) for continuous sound) and injury (180 dB rms (re: 1 μ Pa) for whales and 190 dB rms (re: 1 μ Pa) for pinnipeds) (70 FR 1871).

Based on these conservative thresholds, the proposed pile installations will produce sound pressure levels that could disturb SR killer whales if they are present. Five sites have been identified as having potential to have sound levels above the disturbance threshold for marine mammals extend into Commencement Bay. These five sites are the APM Terminal, Terminal 7, Olympic Container Terminal (OCT), Husky Container Terminal, and Trident piers 24 and 25 (sites 1-4 and site 7 on Figure 1). For those five sites, the applicant has proposed to implement a marine mammal monitoring plan for this project during the portion of the in-water work window when ESA-listed marine mammals are likely to be present in the action area (October 1 to February 14). Under the plan, the applicant will monitor an area from the piling site out to the 120dB isopleth (4,642 meter radius or until land) because this is the maximum area where in-water noise will be elevated above the disturbance threshold level for marine mammals, and will not start work, or will cease work, if ESA-listed marine mammals are sighted in the monitored area.

Pile installation or removal will not initiate or will temporarily suspend if ESA-listed marine mammals are detected within the monitoring area. The monitoring plan makes it extremely unlikely, and therefore discountable, that Southern Resident killer whales will be exposed to sound pressure levels that could cause disturbance during project construction.

Vessels associated with the proposed construction are primarily tug/barges, which are slow moving, follow a predictable course, do not target whales, and should be easily detected by SR killer whales. Vessel strikes are extremely unlikely and any potential encounters with SR killer whales are expected to be sporadic and transitory in nature. Most of the sound pressure produced by a tug towing a loaded barge is expected to be below the level of peak hearing sensitivity for SR killer whales. When in motion, sound pressure levels from the tug will be transient and are therefore expected to be below background levels a short distance from any one location. Thus, tug/barge sound is unlikely to mask acoustic signals of biological significance to SR killer whales. The proposed action is not likely to adversely affect Chinook salmon (primary prey of SR killer whales) as discussed above and is not anticipated to have a measurable effect on prey quality.

Steller sea lions

Steller sea lions in Washington are from the eastern Distinct Populations Segment (DPS). For the past 25 to 30 years, the eastern DPS has grown steadily at about 3 percent per year. The final revised recovery plan (73 FR 11872) identifies no threats to the continued recovery of the eastern DPS. On April 18, 2012, NMFS issued a proposed rule to remove the eastern DPS of Steller sea lions from the List of Endangered and Threatened Wildlife (77 FR 23209). Nevertheless, NMFS evaluates whether the proposed action has the potential to affect Steller sea lions.

Steller sea lions can occur in Washington waters throughout the year; however, there are no breeding rookeries in Washington. Occurrence in inland waters of Washington is limited to primarily male and sub-adult Steller sea lions in fall, winter and spring months. Steller sea lions haul out in a variety of locations in coastal and inland waters of Washington. The closest Steller sea lion haulout is approximately 10 miles south of the action area near Days Island.

Steller sea lions are likely to occur in Puget Soundwaters during the in-water work window from October through February. In the event that Steller sea lions are present in the action area, implementation of the above referenced marine mammal monitoring plan makes it extremely unlikely, and therefore discountable, that Steller sea lions will be exposed to sound pressure levels that could cause disturbance. The proposed action is not likely to adversely affect salmonid prey as discussed above and is not anticipated to have a measurable effect on prey quality.

Humpback whales

The humpback whale was listed as endangered under the ESA on December 2, 1970 (35 FR 18319). The eastern North Pacific Stock, which includes humpback whales in the waters of Washington State, is generally located along coastal Central America during winter/spring, and migrates to the coast of California north to southern British Columbia during the summer. Although in recent years humpback whales have been sighted in the inside waters of Washington on a few occasions, including within Puget Sound (primarily during fall; Falcone et al. 2005), they are more common in coastal waters and remain extremely rare within the Puget Sound and have not been observed in or near industrial waterways.

As humpback whales are extremely unlikely to be present near the project; the potential for disturbance from pile driving and vessel activity to the species is considered discountable. In the unlikely event that humpback whales were in the vicinity of the project, implementation of the above referenced marine mammal monitoring plan also makes it extremely unlikely, and therefore discountable, that humpback whales will be exposed to sound pressure levels that could cause disturbance, as discussed above.

Critical Habitat Determination

Puget Sound Chinook Critical Habitat Determination

The NMFS designated critical habitat for the PS Chinook salmon Evolutionary Significant Unit (ESU) on September 2, 2005 (70 FR 52630). The primary constituent element (PCE) for the PS Chinook salmon ESU critical habitat in this action area is:

Nearshore marine areas free of obstruction and excessive predation with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation, and natural cover such as submerged and overhanging large wood, aquatic vegetation, etc.

Designated critical habitat boundaries within the action area for the proposed project include areas contiguous with the shoreline from the line of extreme high water out to a depth of 98 feet relative to mean lower low water. The NMFS analyzed the potential impacts of the project on this PCE and determined that the potential effects will be insignificant or discountable because:

1. The project will not result in a barrier to migration through the marine area as the proposed pile replacement is located within industrial areas that are not on the migration path to or from the Puyallup River. Effects to migratory habitat are expected to be discountable.
2. The proposed construction will not significantly alter the food base within the action area. Macro-invertebrate production and fish prey species will continue to be available from the surrounding habitat in the immediate area. In addition, no forage fish spawning is documented in the project area. Therefore, the project is not likely to reduce the abundance of prey species, and any effects would be insignificant.
3. While the proposed project has a slight potential to remobilize sediment during construction and alter water quality for several hours, the effects are expected to be local and temporary and not measurably affect water quality, and therefore, the effects are insignificant. In addition, any removal of existing treated wood is expected to improve long-term water quality in the immediate area.

Therefore, NMFS concurs with your “may affect, but not likely to adversely modify” determination for critical habitat for PS Chinook salmon.

Southern Resident Killer Whale Critical Habitat

Critical habitat includes approximately 2,560 square miles of Puget Sound, excluding areas with water less than 20 feet deep relative to extreme high water. The PCEs for SR killer whale critical habitat are:

- (1) Water quality to support growth and development; (2) prey species of sufficient quantity, quality, and availability to support individual growth, reproduction and development, as well as overall population growth; and (3) passage conditions to allow for migration, resting, and foraging.

The proposed project is not expected to have a measureable effect on water quality, but removal of treated wood piles will eliminate chemical leaching in the future. The low level increase in suspended sediments and turbidity as described above are not expected to affect SR killer whales or affect the water quality PCE, and the proposed conservation measures will ensure that the project does not result in contaminant releases. As described above the action is not likely to adversely affect salmonids, therefore, NMFS does not anticipate effects on quality or quantity of prey species in the action area, which includes designated critical habitat of SR killer whales. Additionally, the potential for vessels or sound from the proposed pile driving to interfere with SR killer whale passage is expected to be insignificant or discountable (i.e., any vessel disturbance will be short-term and localized with no lasting effects, and marine mammal monitoring will ensure disturbance does not occur).

Conclusion

Based on the above analyses, the NMFS concludes that all effects of the proposed action are NLAA for the subject ESA-listed species identified and the species-specific critical habitats as designated under the ESA.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the Federal agency, or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

Please direct questions regarding this letter to Jeff Fisher of the Lacey, Washington Habitat office at (360)534-9342 or jeff.fisher@noaa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "W. Stelle, Jr.", written in a cursive style.

William W. Stelle, Jr.
Regional Administrator

cc: Olivia Romano, COE

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Port of Tacoma Daily Turbidity Monitoring
In-Water Construction for Pile Repair and Replacement
USACE Permit #: NWS-2011-0089-WRD ECY WQC Order #: 15952

Date: _____		Observer: _____	
Start of in-water work: _____		CERCLA Site?	<input type="checkbox"/> Yes <input type="checkbox"/> No
End of in-water work: _____			
Observation 1			
Time: _____	Turbidity visible within 150-foot radius of in-water work? <input type="checkbox"/> Yes <input type="checkbox"/> No	NTUs (CERCLA only)	Notes (work modifications, monitoring point, additional observations, etc.)
Observation 2			
Time: _____	Turbidity visible within 150-foot radius of in-water work? <input type="checkbox"/> Yes <input type="checkbox"/> No	NTUs (CERCLA only)	Notes (work modifications, monitoring point, additional observations, etc.)
General description of weather, waterway conditions, circumstances affecting background turbidity, and work affecting turbidity throughout the day. 			
Water Quality Monitoring during In-Water Work Activities			
Turbidity should NOT be visible more than 150 feet (radius) at any time during in-water work activities. If turbidity is visible, stop work and contact the Engineering Project Manager.			
A minimum of two (2) observations must be recorded during active in-water work activity.			
Recorded observations should be a minimum of 2 hours apart unless in-water work ceases before 2 hours have passed. If in-water work activity ends before 2 hours, record second observation at the end of the in-water work activity.			
(For CERCLA sites only) In addition to visual observations of turbidity and requirements listed above, CERCLA sites must also have water quality measurements taken with an approved turbidimeter.			