

**PORT OF TACOMA
TACOMA, WASHINGTON
PARCEL 15 (PORTAC) CLEANUP PHASE 1**

PROJECT NO. 101531.01

CONTRACT NO. 071579

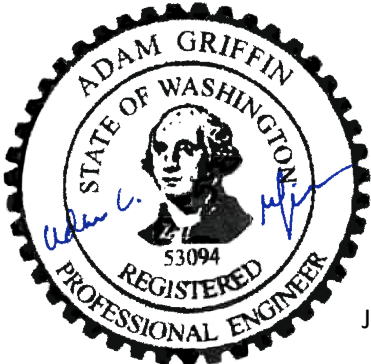

**Thais Howard, PE
Director, Engineering**

**Norman Gilbert, 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>
 <p>June 30, 2022</p>	<p>31 23 33 Trenching and Backfilling</p>
	<p>02 41 13 Selective Site Demolition 31 00 00 Earthwork 31 23 19 Dewatering 31 41 00 Shoring and Underpinning 32 11 23 Aggregate Base Course 32 12 16 Asphalt Paving 32 17 23 Pavement Markings and Signing 32 31 13 Chain Link Fence and Gates 33 01 30 72 Cured-in-Place Pipe Lining 33 40 00 Storm Drainage Utilities</p>

END OF SECTION

PROCUREMENT AND CONTRACTING REQUIREMENTS

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- Appendix B - Cultural Resource Assessment

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Appendix G - Special Approved Discharge Authorization #22-007

Appendix H - Special Waste Disposal Agreement #2637

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
G1.0	COVER SHEET
V1.0	SURVEY PLAN
D1.0	TESC, DEMOLITION, AND BYPASS PLAN
D1.1	TESC, DEMOLITION, AND BYPASS DETAILS
C1.0	PRB PLAN
C1.1	PRB SECTION - CONTROL POINT 1
C1.2	PRB SECTION - CONTROL POINT 2
C1.3	PRB SECTION - CONTROL POINT 3
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C2.0	SITE RESTORATION PLAN
C3.0	STORM DRAINAGE PLAN
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PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PARCEL 15 (PORTAC) CLEANUP PHASE 1

PROJECT NO. 101531.01 | CONTRACT NO. 071579

- Scope of Work: The Work required for this Project includes:
Permeable Reactive Barrier (PRB): constructed by conventional excavation and biopolymer slurry methods, excavated soils will be transported off site for disposal at LRI, the PRB trench will be backfilled with a combination of sand and zero-valent iron mix, trench area will be patched with hot mix asphalt.
Stormwater Conveyance Improvements: the following work is for both 30 and 36 inch pipe alignments; removal of accumulated debris and solids in the pipe, trenchless pipe repair using cure-in-place-pipe (CIPP) methods, demolition existing spill containment vaults, installation of new manhole structures and owner provided stormwater vaults, installation of inline check valve tide gates and repairs to the rip rap outfall pads.
- Bid Estimate: Estimated cost range is \$1,950,000 to \$2,380,000, 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 August 2, 2022**, 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 July 19, 2022 at 10:00 A.M. The site visit will convene at the project site.
The following Personal Protective Equipment is required for the site visit: sturdy shoes.
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 portoftacoma.com. Click on "Contracts," "Procurement," and then the Procurement Number 071579. 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 "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).
- C. "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.
- D. The "Award Requirements" include the statutory requirements as a condition precedent to Award.
- E. 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.
- F. 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.
- G. 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.
- H. 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.
- I. A "Bidder" is a person or entity who submits a Bid.
- J. 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.
- K. 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.
- L. 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.
- M. 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. 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.
 7. No Conditions. The Bidder shall make no conditions or stipulations on the Bid Form, nor qualify its Bid in any manner.
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8. 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
9. 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. **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 (10) 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.

1. On contracts of one hundred fifty thousand dollars (\$150,000) or less, at the option of the Contractor or the General Contractor/Construction Manager as defined in RCW 39.10.210, the Port may, in lieu of the bond, retain ten (10) 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 RCW 60.28, 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.

2. On contracts of one hundred fifty thousand dollars (\$150,000) or less, the Port may accept a full payment and performance bond from an individual surety or sureties.

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 (10) 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," "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: Parcel 15 (PORTAC) Cleanup Phase 1 **PROJECT NO.: 101531.01**

SUBMITTED BY: _____ CONTRACT NO.: 071579

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. Site Drawings: Entitled Portac Fencing, dated 2016.
 2. Site Drawings: Entitled PORTAC LOG SORT YARD PAVING PROJECT, dated 8/1988
 3. Anticipated Soil Conditions: Soil Boring Logs, dated December 2021.
 - a. Borings installed for pre-remedial design investigation. Boring locations AB-02, AB-03, and AB-04 are on the permeable reactive barrier alignment.
 4. Anticipated Soil Conditions: Grain Size Analysis, dated December 2021.

1.02 PRELIMINARY DATA

- A. Certain preliminary investigations and studies made by the Port are available to the Bidders online at www.portoftacoma.com, but will not be part of the Contract Documents, as follows:
1. Preliminary Design Documents: Entitled Engineering Design Report, dated June 2022.

1.03 AVAILABILITY

- A. Reference Documents are available online through the Port of Tacoma's Website www.portoftacoma.com. Click on "Buisness," "Contracting," "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.
- B. Contaminated soils and water will be generated by the Project. The handling requirements for contaminated soils and water are defined in Section 01 74 16 - Soil Characteristics and Waste Management.

1.03 NOTIFICATION AND SUSPENSION

- A. In the event the Contractor detects the presence of potentially hazardous materials not previously identified in this specification or Section Division 01 74 16 Soil Characteristics and Waste Management, the Contractor shall immediately notify the Engineer. Following such notification by the Contractor, the Engineer shall in turn notify the appropriate governmental or regulatory agencies concerned with the discovered hazardous materials, if appropriate.
 - 1. Following completion of any further testing necessary to determine the nature of the materials involved, the Engineer will determine how the material shall be managed. Although the actual procedures in resuming the work shall depend upon the nature and extent of the potentially hazardous 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 agency.
 - c. The Engineer to direct Contractor to dispose or treat the material in approved manner.
 - d. The Engineer to terminate or modify the Contract.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

BIDDER'S NAME: _____

PROJECT TITLE: PARCEL 15 (PORTAC) CLEANUP PHASE 1

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	Temporary Erosion and Sediment Control	1	LS		
4	Cut and Remove Concrete	3,800	SF		
5	Excavate, Stockpile, and Backfill CSBC	125	CY		
6	Permeable Reactive Barrier Trenching	664	LF		
7	Export Contaminated Soils	2,100	TONS		
8	Sand for PRB Backfill	1,800	TONS		
9	ZVI for PRB Backfill	188	TONS		
10	Mix Sand and ZVI	1	LS		
11	Stormwater Demolition	1	LS		
12	Stormwater Conveyance Improvements Preparation	1	LS		
13	Outfall Riprap	20	TONS		
14	Construction Water Management	1	LS		
15	Cast-in-place-lining for 30-inch diameter Stormdrain Line	363	LF		
16	Cast-in-place-lining for 36-inch diameter Stormdrain Line	377	LF		
17	Furnish and Install Stormwater Manholes	1	LS		
18	Install Stormwater Vaults	1	LS		
19	Furnish and Install 30-inch	1	EA		

ITEM NO.	DESCRIPTION OF ITEM	QTY	UOM	UNIT PRICE	EXTENDED PRICE (QTY. x UNIT PRICE)
	diameter Inline Check Valve				
20	Furnish and Install 36-inch diameter Inline Check Valve	1	EA		
21	Asphalt Paving	107	TONS		
22	Fence Removal and Replacement	1	LS		
23	Field Engineering	1	LS		
24	Unforeseen Conditions Allowance	1	LS	\$50,000	\$50,000

TOTAL BID AMOUNT	
10.3% WASHINGTON STATE SALES TAX (WSST) ON BASE 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.

Schedule of Unit Prices. The unit prices are proposed to apply only in the event of additions to, or deletions from, the work required and ordered. All prices shall include complete installation without Washington State Sales Tax. The bidder shall propose a price for each item; failure to propose a price for each item may render the bid non-responsive. The Port reserves the right to accept or reject the unit prices proposed.

Trench Excavation Safety Provision. If the bid amount contains work which requires trenching exceeding a depth of four (4) feet, all costs for trench safety shall be included in the Base Bid and indicated below for adequate trench safety systems in compliance with RCW 39.04 and WAC 296-155-650. Bidder shall include a lump sum amount, excluding Washington State Sales Tax. If trench excavation safety provisions do not pertain to the Work, the Bidder should enter "N.A." or "Not Applicable" in the blank below.

Trench Excavation Safety: _____ (Total in Written Figures Only)

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	
Structural Steel Installation as described in RCW 39.080	
Reinforcing Bar Installation as described in RCW 39.080	

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:**
 - 1. 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.
 - 2. 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: Parcel 15 (PORTAC) Cleanup Phase 1

PROJECT NO.: 101531.01

CONTRACT NO.: 071579

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: Parcel 15 (PORTAC) Cleanup Phase 1

BIDDER: _____

CONTRACT AND PROJECT NUMBER: 071579/ 101531.01

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: Parcel 15 (PORTAC) Cleanup Phase 1 (Title)

101531.01 | 071579 (Project/Contract No.)

4215 SR509 N. Frontage Rd (Project Address)

Project Location Address 2 (Project Address 2)

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 150 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 \$800 per calendar day. After the required Final Completion date, the liquidated damages for failure to achieve Final Completion shall be \$150 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.

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)

AGENT OR BROKER (FOR INFORMATION ONLY)

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

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 Parcel 15 (PORTAC) Cleanup Phase 1, Project No. 101531.01/Contract No. 071579, 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)

AGENT OR BROKER (FOR INFORMATION ONLY)

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

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, 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 Parcel 15 (PORTAC) Cleanup Phase 1, Project No. 101531.01/Contract No. 071579, 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: Parcel 15 (PORTAC) Cleanup Phase 1

PROJECT NO.: 101531.01

CONTRACT NO.: 071579

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. 071579 with the Port for Parcel 15 (PORTAC) Cleanup Phase 1, Project No. 101531.01.

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

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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 (10) 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) 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 as additional insureds shall not create premium liability for the Port.

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 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. Commercial 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;

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. 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.
3. 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 shall be named as an additional insured(s) on the CPL policy.
4. 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.

United States Longshoremen's and Harbor Worker's Act (USL&H) and Jones Act may be required for this project. The Contractor shall be solely responsible for determining the applicability of USL&H and Jones Act coverage. The failure of the Contractor to procure either USL&H or Jones Act coverage shall at no time create liability on the part of the Port. The Contractor shall bear all responsibility and shall indemnify and hold harmless the Port for any and all liability, cost, and/or damages.

- 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 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 August 2, 2022.
- 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.

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 is to provide, furnish and install all labor, materials and equipment required to complete the work, installed, tested, and ready for use, and as described in these documents.
 2. The Parcel 15 (PORTAC) Cleanup Phase 1 consists of:
 - a. Permeable Reactive Barrier (PRB): The PRB trench will be constructed using conventional excavation and biopolymer slurry methods. Excavated soil will be transported off Site for disposal at LRI Subtitle D Landfill. The PRB trench will be backfilled with a combination of sand and zero-valent iron (ZVI) mix, sand, re-used crushed surface base course, and the surface restored with hot mix asphalt.
 - b. Stormwater Conveyance Improvements: The stormwater system to be improved consists of a 30-inch diameter storm pipe at the north end of the Work area and a 36-inch diameter storm pipe at the south end of the Work area. Both stormwater pipes have outfall discharges to Wapato Creek. The improvements to these stormwater conveyance system features are:
 - 1) Removal of accumulated debris and solids in the stormwater system.
 - 2) Approximately 354 and 346 linear feet of trenchless pipe repair for the pipe sections between the outfalls and the spill containment vaults. The pipes will be repaired with conventional or ultraviolet cure-in-place-pipe (CIPP) or ultraviolet CIPP methods.
 - 3) Removal of the existing spill containment vaults and replacement with new section of pipe, manholes and owner provided stormwater vaults. Soil excavated from the replacement stormwater vaults will be transported off Site for disposal at LRI Subtitled D Landfill or reused as backfill.
 - 4) Installation of tide gates (inline check valves) at both outfalls to prevent tidal backflow from Wapato Creek. The outfall upgrade will include placement of riprap to repair scour holes and prevent future erosion.

1.02 LOCATION

- A. The work is located at:
4215 SR509 N. Frontage Rd
Tacoma, WA 98421

1.03 PORT PROVIDED MATERIALS

- A. Port of Tacoma will furnish the Contractor with the following material:
1. 2 ea. Stormwater Vaults
- B. Reference Section 01 64 00 - Owner Provided Materials for coordination.

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 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. Contractor shall stay within Contractor's fenced area as shown on Drawing D1.0. Access to the site will also be restricted to the driveway shown on Drawing D1.0.
 - 3. There are no work hour restrictions associated with this location, although the Contractor shall comply with local ordinances with regard to noise and work hour restrictions. In the event that the Contractor is planning to work outside typical work hours (Monday - Friday 0700 - 1700) the Contractor is to notify the Engineer at least three (3) days in advance to arrange for inspection and testing as necessary.
- 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. Ensure all materials, tools and equipment will be 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. The trenchless pipe repairs and outfall upgrades require work be conducted below the ordinary high water mark (OHWM) of Wapato Creek. The Work will be conducted in accordance with USACE Joint Aquatic Resources Permit Application (JARPA) Project

Reference No. NWS-2021-950 conditions.

2. Work below the OHWM will occur July 16 through February 28 when juvenile salmonids are unlikely to be present.
3. Work below the OHWM will occur during periods of low-tide. The stormwater pipe outfall inverts are less than high water levels in Wapato Creek.
4. Discharge to City of Tacoma sanitary sewer via the special approved discharge authorization No. 22-007 will occur only when authorized by the Port. The Port is responsible for sampling discharge parameters and requesting discharge. The Port requires at least 48 hours notice of the intent to discharge from Contractor in order to sample and obtain discharge approval from the permitting authority. Discharges to the City sanitary sewer to occur after hours. Contractor is to provide appropriate traffic control while discharge pipe is blocking Alexander Ave.
5. Hours of operation at adjacent Terminals varies. Typical gate hours are Monday - Friday 0800 - 1700. Extended and weekend operations are possible. Contractor is to coordinate with the Engineer when scheduling discharging and blocking Alexander Ave.
6. Tenant will provide on site security for the remaining tenant space on the property. Contractor is still responsible for security within the contractor's work area. Tenant provided security will be in place at the time that the permanent fence is being taken down and will remain until the fence is completely reinstalled. Notify Engineer a minimum of 7 days prior to the start of fence removal so that tenant provided security can be scheduled.

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 Weight:
 - 1. Reinforcing steel, steel shapes, castings, miscellaneous metal, metal fabrications, and similar items to be paid for by weight shall be measured by scale or by handbook weights for the type and quantity of material actually furnished and incorporated into the Work.
 - 2. Unless shipped by rail, material to be measured and paid for by weight shall be weighed on sealed scales regularly inspected by the Washington State Department of Agriculture's Weights and Measures Section or its designated representative. Measurement shall be furnished by and at the expense of the Contractor. All weighing, measuring, and metering devices shall be suitable for the purpose intended and shall conform to the tolerances and specifications as outlined in Washington State Department of Transportation Standard Specifications, Division 1, General Requirements, Article 1-09.2, Weighing Equipment.
 - 3. Provide or utilize platform scales of sufficient size and capacity to permit the entire vehicle or combination of vehicles to rest on the scale platform while being weighed. Combination vehicles may be weighed as separate units provided they are disconnected while being weighed. Scales shall be inspected and certified as often as the Engineer may deem necessary to ascertain accuracy. Costs incurred as a result of regulating, adjusting, testing, inspecting, and certifying scales shall be borne by the Contractor.

4. A licensed weighmaster shall weigh all Contractor-furnished materials. The Engineer may be present to witness the weighing and to check and compile the daily record of such scale weights. However, in any case, the Engineer will require that the Contractor furnish weight slips and daily summary weigh sheets. In such cases, furnish a duplicate weight slip or a load slip for each vehicle weighed, and deliver the slip to the Engineer at the point of delivery of the material.
5. If the material is shipped by rail, the certified car weights will be accepted, provided only actual weight of material will be paid for and not minimum car weights used for assessing freight tariff. Car weights will not be acceptable for material to be passed through mixing plants. Material to be measured by weight shall be weighed separately for each bid item under which it is to be paid.
6. Trucks used to haul material being paid for by weight shall be weighed empty daily and at such additional times as the Engineer may require. Each truck shall bear a plainly legible identification mark. The Engineer may require the weight of the material be verified by weighing empty and loaded trucks on such other scales as the Engineer may designate.

C. 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.

D. 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.

E. 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.

F. 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: Temporary Erosion and Sediment Control

1. Item Description: The Work of this item includes installation, maintenance and adjustment of temporary erosion and sediment control measures as noted on the Drawings, within these specifications and as required to comply with local and state regulations.
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.

D. Item #4: Cut and Remove Concrete.

1. Item Description: The Work of this item includes the sawcutting, transportation and disposal of roller compacted concrete (RCC) for the PRB and new stormwater vaults.

2. Measurement: This item will be measured per square foot based on the areal extent of cut RCC.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- E. Item #5: Excavate, Stockpile and Backfill CSBC.
1. Item Description: The Work of this item includes excavation, temporary stockpiling, and reuse as backfill of the crushed surfacing base course (CSBC). The CSBC is underlying the RCC and is 1 foot thick on average. The CSBC is not contaminated and does not have any special handling requirements. It will be excavated discretely and segregated from the underlying contaminated fill. The CSBC will be temporarily stockpiled onsite and reused for backfill of PRB.
 2. Measurement: This item will be measured per cubic yard based on the measured quantity of stockpiled CSBC material.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- F. Item #6: Permeable Reactive Barrier Trenching.
1. Item Description: The Work of this item excavation and backfill of PRB trench. Excavation will be performed using long-reach excavation equipment and biopolymer slurry. The Work of this item includes the production, placement, and any modifications to the biopolymer slurry to maintain an open and stable trench. Backfilling includes the placement of sand and zero valent iron (ZVI) mix to the elevations shown on the drawings.
 2. Measurement: This item will be measured per linear foot based on the measured quantity of the backfilled PRB trench.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- G. Item #7: Export Contaminated Soils.
1. Item Description: The Work of this item includes the loading and transportation of soils excavated from the permeable reactive barrier and stormwater conveyance improvements to LRI Subtitle D Landfill. The Work of this item does not include LRI Subtitle D Landfill disposal fees which will be direct paid by the Port.
 2. Measurement: This item will be measured per ton based on the measured weight of materials disposed at LRI Subtitle D Landfill.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- H. Item #8: Sand for PRB Backfill.
1. Item Description: The Work of this item includes the supply of sand backfill for the permeable reactive barrier.
 2. Measurement: This item will be measured per ton of furnished and accepted material from certified weight tickets or delivery receipts.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- I. Item #9: Zero Valent Iron for PRB Backfill.

1. Item Description: The Work of this item includes the supply of zero valent iron (ZVI) backfill for PRB. The ZVI will be used for the mixed sand and ZVI backfill.
 2. Measurement: This item will be measured per ton of furnished and accepted material from certified weight tickets or delivery receipts.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- J. Item #10: Mix Sand and ZVI.
1. Item Description: The Work of this item includes the onsite mixing of sand and ZVI before backfilling. The Work of this item includes any construction of a mixing pad, mixing equipment, and all equipment necessary to produce a mixed backfill comprised of 20 percent by weight ZVI.
 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.
- K. Item #11: Stormwater Demolition.
1. Item Description: The Work of this item includes the removal and disposal of existing stormwater infrastructure as indicated on the Drawings, including existing stormwater quality vaults.
 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.
- L. Item #12: Stormwater Conveyance Improvements Preparation.
1. Item Description: The Work of this item includes the cleaning and preparing of 30-inch and 36-inch existing concrete stormwater lines, and CCTV inspections.
 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.
- M. Item #13: Outfall Riprap.
1. Item Description: The Work of this item includes the delivery and placement of riprap as specified in the Drawings.
 2. Measurement: This item will be measured per ton of furnished and accepted material from certified weight tickets or delivery receipts.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- N. Item #14: Construction Water Management.
1. Item Description: The Work of this item includes temporary bypass and dewatering facilities necessary to complete portions of the work as shown on the Drawings. All temporary stormwater bypass, construction runoff, or water generated by way of means

- and methods of construction shall be suitable for discharge to Sanitary Sewer with the necessary treatment to comply with the City of Tacoma Special Discharge Authorization.
2. Measurement: This item will be measured based on a percentage complete of 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.
- O. Item #15: Cast-in-place-lining for 30-inch diameter Stormdrain Line.
1. Item Description: The Work of this item includes cast-in-place-lining of the existing 30-inch diameter concrete stormdrain line.
 2. Measurement: This item will be measured per linear foot of cast-in-place-lining installed.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- P. Item #16: Cast-in-place-lining for 36-inch diameter Stormdrain Line.
1. Item Description: The Work of this item includes cast-in-place-lining of the existing 36-inch diameter concrete stormdrain line.
 2. Measurement: This item will be measured per linear foot of cast-in-place-lining installed.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- Q. Item #17: Furnish and Install Stormwater Manholes.
1. Item Description: The Work of this item includes the furnish and installation of new stormwater manholes and all necessary excavation, backfill, and appurtenances for watertight connection to the existing concrete pipe to be Cast-in-place-lined. Connection from manhole to existing concrete pipe shall include installation of new pipe and all necessary bedding and backfill.
 2. Measurement: This item will be measured based on a percentage complete of 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.
- R. Item #18: Install Stormwater Vaults.
1. Item Description: The Work of this item includes installing the Port Furnished Stormwater Vaults and all necessary excavation and backfill, and appurtenances for proper watertight connection.
 2. Measurement: This item will be measured based on a percentage complete of 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.
- S. Item #19: Furnish and Install 30-inch diameter Inline Check Valve.
1. Item Description: The Work of this item includes furnishing and installation of inline check valve of appropriate size for 30-inch diameter cast-in-place-lined concrete stormdrain pipe.
 2. Measurement: This item will be measured per each installed.

3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- T. Item #20: Furnish and Install 36-inch diameter Inline Check Valve.
1. Item Description: The Work of this item includes furnishing and installation of inline check valve of appropriate size for 36-inch diameter cast-in-place-lined concrete stormdrain pipe.
 2. Measurement: This item will be measured per each installed.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- U. Item #21: Asphalt Paving.
1. Item Description: The Work of this item includes asphalt paving surfaces, placemtn, compaction, joint sealants and tack coats.
 2. Measurement: This item will be measured per ton of furnished and accepted material from certified weight tickets or delivery receipts.
 3. Payment: This item will be paid for at the unit price indicated on the bid form and actual quantities for the period being billed.
- V. Item #22: Fence Removal and Replacement.
1. Item Description: The Work of this item includes temporarily removing, storing onsite, and upon completion of the site work replacement of the fence as indicated on the Drawings.
 2. Measurement: This item will be measured based on a percentage compete of 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.
- W. Item #23: Field Engineering.
1. Item Description: The Work of this item is intended to cover necessary Field Engineering, verifying survey reference points, completion of pre-construction and post-construction surveys, locating and surveying utilities, survey data processing, all required record drawing control reporting. Field Engineering including all work defined in Specification Section 01 71 23.
 2. Measurement: This item will be measured based on a percentage compete of 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.
- X. Item #24: 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 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 material basis per Section 00 72 00 General Conditions Article 8.0. Work under this item shall be accomplished upon written direction of teh Engineer as a Minor Change in Work. This entire bid item may or may not be used.
 2. Measurement: This item will be measured based upon the method agreed upon for each Minor Change issued.

3. Payment: This item will be paid for at the price agreed upon for each Change in Work issued by the Engineer in accordance with the procedures noted in Section 01 26 00 - Change Management Procedures.

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

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 Work is cleanup and requires handling of contaminated soil and water. All workers are required to have completed the OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) 40-hour training before entering the Site.
- C. 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.
- D. This project is a Washington State Department of Ecology (Ecology) Remedial Action, subject to Ecology oversight.
- E. The Contractor is alerted to the presence of odorous conditions during excavation and stockpiling of materials due to methane and possibly other odorous gases.

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 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. Fall protection,
 - b. Trenching and shoring,
 - c. Hot work,
 - d. Explosive conditions due to methane,

- e. Oxygen deficient conditions,
 - f. Suspicious materials and/or unidentified materials,
 - g. Confined-space entry (could include dewatering storage tanks, manholes, or other items),
 - h. Confined-space rescue, and
 - i. Odorous conditions and toxic gases;
9. Exposure monitoring to be used to evaluate actual hazards compared with anticipated conditions, including but not limited to arsenic exposure assessment;
 10. Site housekeeping procedures and personal hygiene practices;
 11. Personnel and equipment decontamination plan;
 12. Railroad safety procedures;
 13. Administrative controls;
 14. Emergency plan including locations of and route to nearest hospital;
 15. Medical surveillance program for site personnel before, during, and after completion of site work;
 16. 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
 - c. Arsenic exposure assessment results;
 17. Name and qualification of person preparing the HASP and person designated to implement and enforce the HASP;
 18. Name and qualifications for Certified Safety Professional (CSP) or Certified Industrial Hygienist (CIH) and a copy of the CIH's or CSP's certification and resume;
 19. Excavation, stockpiling, and truck loading procedures;
 20. Lighting and sanitation; and
 21. 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.
2. The Project soils and groundwater contain arsenic. In some Work areas, soils contain greater than 20 ppm of inorganic arsenic and the Contractor shall comply with all applicable requirements of Washington Department of Labor and Industries Division of Occupational Safety and Health (DOSH) Arsenic Standard, WAC 296-848 including but not limited to personal exposure monitoring, use of respirators and PPE, and worker training. Refer to WAC 296-848-100 Table 1 to determine applicable sections.
3. Methane gas is present in soil at the Site at concentration that exceed the lower explosive limit of 5 percent by volume presenting an explosive hazard. Methane is produced from the decomposition of organics containing fill materials, and the former use of property as log storage yard. The methane gas accumulates under the roller compacted concrete surface, which will be removed during the Work. The Contractor shall comply with all applicable requirements for mitigating the explosion hazard including but not limited to monitoring and mitigation techniques.

B. Potential Exposures Routes

1. Inhalation: Airborne dusts, fibers, particulates, or vapors may be released during site activities. Inhalation of airborne inorganic arsenic may occur.
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. Arsenic exposure may cause skin irritation.
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. 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
 3. 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.

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. Enclosure equipment (for dust and asbestos fiber control);
 4. Fencing and barriers;
 5. Warning signs and labels;
 6. Trenching equipment;
 7. Fire extinguishers;
 8. Equipment to support hot work;
 9. Scaffolding and fall protection equipment;
 10. Personal protective equipment (hard hats, foot gear, skin, eye, and respiratory protection);
 11. Area and personnel exposure monitoring equipment;
 12. Demolition equipment and supplies;
 13. Decontamination equipment and supplies;
 14. First aid equipment;
 15. Spill response and spill prevention equipment; and
 16. 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. Contractor shall inform employees, subcontractors and their employees of the potential danger in working with any potentially regulated materials, equipment, soils and groundwater at the project site.
 - 1. The Contractor shall not proceed with jobsite activities that might result in exposure of employees to hazardous materials, including arsenic, until the HASP is reviewed by the Engineer.
 - 2. In addition, the Engineer will submit a copy of the Contractor's HASP to Ecology for review. Ecology and the Engineer will review but not approve HASP.
- C. 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.
- D. The Contractor's HASP shall be amended as needed by the CIH or CSP to include special work practices warranted by jobsite conditions actually encountered. Special practices could include provisions for decontamination of personnel and equipment, and the use of special equipment not covered in the initial plan.
- E. 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.
- F. 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.
- G. 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.
- H. 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 GENERAL SAFETY GUIDELINES FOR HAZARDOUS GASES

- A. The generally accepted procedure to protect the worker from the effects of the dangers from hazardous gases is through the use of four safeguard measures:
 - 1. Test the atmosphere: Before entering a trench, underground vault, or any other excavation, the atmosphere shall be tested to detect any adverse environmental conditions with a gas detector instrument. Test instruments shall be properly maintained and calibrated. The test shall be conducted from top to bottom of the excavation or every four (4) feet.
 - 2. Ventilate all confined spaces: Before entry and during the entire time workers are in the confined space. Forced ventilation is the generally accepted procedure.
 - 3. Use appropriate safety equipment: All personnel shall be trained to operate the appropriate safety equipment that are to be utilized during the course of their work. It is the responsibility of the Contractor's Site Safety and Health Officer to ascertain that all safety equipment is being used when appropriate.
 - 4. Provide backup safety personnel: Prior to any personnel entering an excavation or confined space, a separate individual shall be positioned outside the space.
- B. Safety Monitoring Instrumentation: The Safety and Health Officer shall have appropriate instruments (detector[s]) to test for methane gas, oxygen deficiency and for the presence of other known or suspected vapors and gases. The Site Safety and Health Officer shall periodically calibrate the instruments, regularly test the excavation or space areas and other work areas for safe working conditions, and ensure that appropriate safety equipment is available.

3.04 SUPPLEMENTAL SAFETY PROGRAM FOR GASES

- A. Supplemental to the Contractor's regular safety program, the Contractor shall develop and institute procedures to inform all workers at the site of the potential for the presence of methane and other gases emanating from the natural decomposition of subsurface organic material, and the importance of safety precautions to ensure the safety of workers and the public.
- B. Recommended Precautions: In addition to conforming to safety rules and regulations of governmental authorities having jurisdiction, the Contractor shall conform to the following minimum precautionary measures:
 - 1. Frequently monitor for methane, oxygen deficiency and other known or suspected vapors and gases.
 - 2. Prohibit smoking in or near open excavations. Smoking will be permitted only in those areas designated by the Site Safety and Health Officer.
 - 3. In the event toxic gas is present in sufficient quantities to trigger a gas detection alarm, the Contractor shall immediately evacuate all personnel from the area until determined safe by the Site Safety and Health Officer.

4. Do not use explosives.
 5. Do not weld in trenches or excavations unless performed in areas tested and approved by the Site Safety and Health Officer.
 6. Construction equipment used in excavation activities shall be equipped with vertical exhaust and spark arresters.
 7. Electric motors utilized in excavation areas and below ground shall be explosion-proof.
- C. Suggested Measures: If not already included in the Contractor's standard safety practices, the Contractor shall add the following measures to their safety program:
1. Workers shall be cautioned on the possibility of collapsing excavations during construction operations near and in open excavations. Anyone working near the edge of deep excavations should be secured with a safety belt, harness, or limit line to preclude the possibility of falling into the opening.
 2. Any personnel working near the edge of well excavations or similar construction should wear a harness securely attached to a lanyard. The lanyard shall be made as short as possible and securely fastened to a safe object.
 3. Safe and suitable ladders that project 2 feet above ground surface shall be provided for all trenches and excavations over 4 feet in depth. A minimum of one ladder shall be provided for each 25 feet of open trench or excavation, and be so located that workers in the trench need not move more than 25 feet to a ladder.
 4. No worker shall be allowed to work alone in an excavation. An individual shall be positioned outside the excavation, but within eyesight of the workers in the excavation, and assist them should an emergency develop.
 5. Work upwind of an excavation where possible, unless the excavation is constantly monitored and declared safe.
 6. No excavation or drilled hole greater than 2 feet deep shall be left unattended or open overnight unless it is securely covered in a manner acceptable to the Engineer.
 7. Fire extinguishers with a rating of at least A, B, and C shall be available onsite.
 8. Workers shall immediately vacate the excavation if gases are detected therein, and shall not be permitted to re-enter the excavation unless satisfactory precautionary measures are implemented.

3.05 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 \geq 25hp 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 SUMMARY

- A. The Work shall consist of the procedures to be followed in the event that cultural and/or historical resources are inadvertently discovered during the projects activities.
- B. The project is located in an area previously inventoried for cultural and historical resources; however it is possible that additional, previously unidentified archaeological resources and/or skeletal remains could be inadvertently discovered during project activities. In the event that prehistoric, historic-era archaeological materials or skeletal remains are discovered, the appropriate protection measures and protocols described in this section must be followed.
- C. The Port will provide archaeological monitoring by or under the guidance of a professional archaeologist (archaeologist).
 - 1. All ground disturbing activities must be observed by the archaeologist.

1.02 REFERENCES

- A. The rules, requirements, and regulations that apply to this Work include, but are not necessarily limited to the following:
 - 1. Cultural Resources Assessment for the Port of Tacoma Parcel 15 (Portac) Cleanup Phase 1, dated April 15, 2022, located in Appendix B
 - 2. Inadvertent Discovery Plans, Department of Ecology and Puyallup Tribe of Indians forms, located in Appendix C

1.03 AUTHORITY OF ARCHAEOLOGIST

- A. At any time, when the archaeologist determines that possible cultural resources or skeletal remains might be present, they have the authority to stop work, secure the area of the find and determine a work stoppage zone. This area shall remain protected until further decisions can be made regarding the work site.
- B. The archaeologist will stand in close proximity of the construction equipment to view subsurface deposits as they are exposed and will be in close communication with the equipment operators to ensure adequate opportunity for observation and documentation. The monitor will coordinate the depths of the lifts with the Port and the Contractor.
- C. The archaeologist will be provided the opportunity to screen excavated sediments and matrix samples when this is judged to be useful.
- D. Archaeological monitoring will proceed until it can be determined by the archaeologists that skeletal remains or other cultural resources are not likely to be impacted by construction activities.

PART 2 – PRODUCTS – NOT USED.

PART 3 – EXECUTION

3.01 PROTOCOLS FOR DISCOVERY OF ARCHAEOLOGICAL RESOURCES

- A. In the event that archaeological resources are encountered within the project, the following actions will be taken:
 - 1. All ground disturbing and construction activity at the specific location will stop and the area will be protected via temporary fencing or other appropriate measures.
 - 2. The Contractor's work supervisor will be notified immediately.

3. Contact the PORT's Engineer and Environmental Project Manager immediately.
4. A work stoppage zone, as determined by the Archaeologist and PORT, will be established.
5. The PORT's Environmental Project Manager will contact the appropriate agencies where the discovery is located as well as the Washington State Department of Archaeology and Historic Preservation (DAHP) the Puyallup Tribe (TRIBE) and the U.S. Army Corps of Engineers (Corp).
6. The Work Stoppage Zone will remain protected until further decisions can be made regarding the area.
7. The Contractor will be allowed to continue ground disturbing and other construction activities outside of the established work stoppage zone.

3.02 PROTOCOLS FOR DISCOVERY OF HUMAN REMAINS

- A. In the event of that human remains are encountered within the project, the following actions, consistent with RCWs 68.50.645, 27.44.055 and 68.60.055 will be taken:
 1. All ground disturbing and construction activity at the specific location will stop and the area will be protected via temporary fencing or other appropriate measures. The remains will not be touched, moved or further disturbed.
 2. The Contractor's work supervisor will be notified immediately.
 3. Contact the Port's Engineer and Environmental Project Manager immediately.
 4. The Environmental Project Manager will notify the county medical examiner / coroner and local law enforcement.
 5. A Work Stoppage Zone will be determined and remain protected until further decisions can be made regarding the area.
 6. The Contractor will be allowed to continue ground disturbing and other construction activities outside of the established work stoppage zone.

3.03 PROTOCOLS FOR CONFIDENTIALITY

- A. In the event of that human remains or cultural resources are discovered within the project area, the Port and the Contractor shall keep and maintain all information regarding any discovery confidential.
 1. At no time shall the Contractor contact the media, any third party or otherwise share information regarding the discovery with any member of the public.
 2. If the Contractor is contacted by the media or the public regarding any discovery, they shall refrain from comment, and contact the Port's Environmental Project Manager immediately.

END OF SECTION

PART 1 - GENERAL

1.01 PERMITS, CODES, AND REGULATIONS

- A. The Work is the first phase of the cleanup action plan. The Port entered Agreed Order No. DE 15816 (Agreed Order) with the Washington State Department of Ecology (Ecology) on June 23, 2021, to implement the Portac Phase 1 Cleanup activities.
- B. Under the Agreed Order, the Port is required to comply with all federal, state and local substantive requirements.
- C. The following permits/approvals have been applied for (or are on file) and incorporated into the Contract:
 - 1. State Environmental Policy Act (SEPA) Compliance, located in Appendix D
 - 2. U.S Army Corps of Engineers Nationwide Permit NWS-2021-950-WRD, located in Appendix E
 - 3. State Department of Fish and Wildlife Hydraulic Project Approval substantive requirements.
 - 4. State Department of Archaeological and Historic Preservation substantive requirements.
 - 5. State Department of Ecology Water Quality Construction Stormwater General Permit, located in Appendix F
 - 6. City of Tacoma Special Authorization to Discharge Permit, located in Appendix G
 - 7. Shoreline Management Act / Critical Areas Compliance
 - 8. Hydraulic Code Compliance
- D. Conform with the requirements of listed permits and additional or other applicable permits, codes, and regulations as may govern the Work.
- E. 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.C above).
- F. 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.
- G. Process through Engineer, request to extend, modify, revise, or renew any of the permits (listed in 1.01.C 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. Coordinate Work with appropriate governing or regulating authorities and agencies.
- B. Provide advance notification to Engineer of Project schedule and schedule revisions throughout Project duration, in order to allow proper scheduling of inspection visits at proper stages of Work completion.

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
 - 5. Field offices.

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.
- B. Existing facilities may not be used.
- C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services for field personnel 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 FIELD OFFICES (IF PROVIDED)

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

1.08 TREE AND VEGETATION PROTECTION

- A. The Contractor shall carefully protect existing trees and vegetation noted to remain from damage by construction activities.

- B. If a tree or vegetation designated for protection is damaged or destroyed in the course of the Work, the Contractor shall replace it with new comparable in species and size as required by the Engineer. Where it is necessary to replace trees or vegetation damaged by construction, the Contractor shall bear all expenses associated with replacement and establishment of the replacement vegetation.

1.09 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to final inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition.
- D. Restore new permanent facilities used during construction to specified condition.

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. Traffic Control
 - 5. Haul routes
 - 6. Maintenance
 - 7. Removal, repair
 - 8. Mud from site vehicles

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: As approved 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 employee cars and work vehicles will be parked on-site as designated by the Engineer.

3.04 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Port operations.
- B. Prevent parking on or adjacent to access roads or in non-designated areas.

3.05 TRAFFIC CONTROL

- A. The Contractor shall erect and maintain all construction signs, warning signs, detour signs, flaggers and other traffic control devices necessary for the safe ingress and egress of the

Project Site. Traffic control shall include but is not limited to:

1. The Contractor shall be liable for injuries and damages to persons and property suffered by reason of the Contractor's operations or any negligence in connection therewith.
2. Flagging, signs, and all other traffic control devices furnished or provided shall conform to established WSDOT and City of Tacoma standards. No work shall be done on or adjacent to the above locations until all necessary signs and traffic control devices are in place. During the course of the work, the Contractor shall be responsible for providing and maintaining adequate traffic control measures for the protection of the Contractor's work and the public.

3.06 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.

3.07 MAINTENANCE

- A. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, Products, mud, snow, and ice.
- B. 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.

3.08 REMOVAL, REPAIR

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

3.09 PUBLIC STREET AND ONSITE ROADWAY CLEANING

- A. The Contractor shall be responsible for preventing dirt and dust escaping from trucks and other vehicles operating on or departing the project site by sweeping, covering dusty loads, washing truck tires, and all other reasonable methods.
- B. When trucks and other equipment are operating on paved public streets and site roadways/paved surfaces, the Contractor will be required to clean said streets, roadways, and other paved surfaces at least daily, and at other times if required by the Engineer.
- C. In the event that the above requirements are violated and no action is taken by the Contractor after notification of infraction by the Engineer, the Port reserves the right to have the streets, roadways, and other paved surfaces in question cleaned by others and have the expense of the operation charged to the Contractor.

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. The Contractor shall use a project-specific SWPPP to meet or exceed the control measures required by the Washington Department of Ecology (Ecology). The SWPPP describes the proposed construction activities and all Temporary and Permanent Erosion and Sediment Control (ESC) measures, pollution prevention measures, inspection/monitoring activities, and recordkeeping that will be implemented during the proposed construction project. The Contractor shall have an individual who is a Certified Erosion and Sediment Control Lead (CESCL) on site or on-call at all times.
 - 1. The SWPPP consists of planning, installing, inspecting, maintaining, and removing TESC BMPs per Volume II of the Stormwater Management Manual for Western Washington (current version). The BMPs are designed 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.
 - 2. The Contractor will be responsible for updating the SWPPP to reflect changes to BMPs, as needed, to comply with the Construction Stormwater General Permit at no additional cost to the Port.
- C. 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.
- D. 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.).
- E. Contractor shall read and conform to all requirements set forth in Washington Department of Ecology's (Ecology) NPDES General Permit for Discharges Associated with Construction Activities (CSGP).

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 NPDES General Permit for Discharges Associated with Construction Activities (CSGP), current version.

3. Washington State Department of Transportation, current version, Standard Specification M41-10, Division 8-01 Erosion Control and Water Pollution Control.
4. Pierce County Stormwater and Site Development Manual, current version (if applicable).

1.03 SUBMITTALS

- A. Prior to the start of any construction activities, a Construction Stormwater Pollution Prevention Plan (SWPPP), as required by the CSGP or acceptance of Port provided SWPPP. The Port's short form can be found in the Appendix A.
 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 CSGP 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.
- D. The name and contact number of the Certified Erosion and Sediment Control Lead (CESCL).
- E. Water Management Plan/Temporary Dewatering Plan.

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

2.01 DUST CONTROL

- A. Dust palliative for dust control proposed by the Contractor and approved by the Engineer.

PART 3 – EXECUTION

3.01 GENERAL

- A. The Port is subject to a NPDES General Permit for Discharges Associated with Construction Activities (CSGP). 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 City of Tacoma Special Approved Discharge permit associated with the Project. All project water must discharge to City of Tacoma sanitary sewer or be hauled off site for disposal.

- D. Contractor shall be solely responsible for all BMP modifications and upgrades to comply with the CSGP 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. The Contractor is responsible for developing the TESC BMPs and incorporating them into the SWPPP. The Contractor shall address the following issues as part of developing and implementing the BMPs.
 - 1. The TESC notes and details shown in the Drawings and the information in this Section of these Specifications are minimum requirements for the anticipated site conditions during the construction period. During the construction period the Contractor shall, at no additional cost to the Port, upgrade the TESC measures as needed for unexpected storm events and modify these measures for changing site conditions (such as relocation of ditches and silt fences, etc.) and update the SWPPP to document the modifications made.
 - 2. The Contractor shall inspect the TESC measures daily and maintain these measures to ensure continued proper functioning during the construction period. The Contractor will keep written records on site of inspections on a weekly basis during the wet season (October 1 through April 30) and on a monthly basis during the dry season (May 1 through September 30). The Contractor shall provide the Port with copies of the TESC inspections, as stated in Section 1.03 above.
 - 3. Any areas needing TESC measures not requiring immediate attention shall be addressed by the Contractor at the Port's discretion.
 - 4. The TESC measures in an inactive site shall be inspected and maintained by the Contractor at a frequency described in the Project Construction Stormwater NPDES General Permit.
 - 5. The Contractor shall be responsible for implementing the SWPPP and shall modify the SWPPP as required to reflect on-site activities and personnel.
- B. 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.
- C. Contractor shall develop project-specific TESC BMPs and incorporate them into the SWPPP.
1. The SWPPP shall comply with 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.
- D. Contractor shall inspect the existing system and report to the Engineer the levels of existing material prior to installation of TESC BMPs.

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 clean all stormwater components affected by construction debris prior to Work completion, per TESC BMPs for catch basin maintenance. The cleaning process shall not flush sediment-laden water into a downstream system.
- C. 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.
- D. Areas of exposed soils, including embankments, which will not be disturbed for two days during the wet season (October 1 through April 30) or seven days during the dry season (May 1 through September 30), shall immediately be stabilized by the Contractor with an Ecology-approved TESC measure (e.g., seeding, mulching, plastic covering, etc.).
- E. TESC measures in an inactive area shall be inspected and maintained by the Contractor until the area is permanently stabilized.
- F. 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.

- G. 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 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 SCOPE

- A. The purpose of this section is to provide the framework for transferring Port provided equipment and materials to the Contractor in a safe, timely and effective manner.

1.02 SUBMITTALS

- A. Submit an inspection report or log to the Engineer of the inspection performed on the equipment and materials before acceptance by the Contractor. Flag any equipment or materials identified as being in unsatisfactory condition before moving or relocating it from the Location Area described below. Document unsatisfactory condition of equipment photographically, using digital media.

1.03 COORDINATION

- A. The materials will be available by August 5, 2022

1.04 LOCATION

- A. The materials are located at 4215 SR509 N. Frontage Rd (Project Site)

PART 2 - PRODUCTS

2.01 ITEMS

- A. Assume all items are in satisfactory condition unless otherwise indicated. Report in writing to the Engineer equipment found to be in unsatisfactory condition.

No.	Description	Quantity	Manufacturer/Supplier
1	Storm Water Vault	2	TBD

PART 3 - EXECUTION

3.01 REMOVAL OF EQUIPMENT FROM STORAGE LOCATION

- A. Protect, transport and install where indicated within the Contract Documents.

3.02 PROTECTION

- A. Equipment
 - 1. Tightly cover and protect equipment against dirt, moisture or impact, mechanical and chemical damage.
 - 2. Repair
 - a. Repair or replace Port provided property damaged by the Contractor.

3.03 RELOCATION

- A. Install in accordance with the Contract Documents.

3.04 FIELD QUALITY CONTROL

- A. Equipment Inspection
 - 1. Examine each piece or component for visual defects.

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. Visual qualities of sight exposed elements; and
 - 3. 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. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. 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. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- E. Restore work with new products in accordance with requirements of Contract Documents.
- F. 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 field engineering and land surveying services by Contractor.

1.02 DESCRIPTION OF SERVICES

- A. Specific services listed in this section are in addition to, and do not supersede, general Execution and Closeout Requirements.
- B. Sole responsibility for establishing all locations, dimensions and levels of items of work.
- C. Sole responsibility for provision of all materials required to establish and maintain benchmarks and control points, including batter boards, grade stakes, structure elevation stakes, and other items.
- D. Keeping a transit, theodolite, or TST (total station theodolite with electronic distance measurement device); leveling instrument; and related implements such as survey rods and other measurement devices, at the project site at all times.
- E. Provision of facilities and assistance necessary for Engineer to check lines and grade points placed by Contractor.
 - 1. Performance of excavation or embankment work until after all cross-sectioning necessary for determining payment quantities for Unit Price work have been completed and accepted by Engineer.
- F. Preparation and maintenance of daily reports of activity on the work. Submission of reports containing key progress indicators and job conditions to Engineer.
 - 1. Major equipment and materials installed as part of the work.
 - 2. Major construction equipment utilized.
 - 3. Location of areas in which construction was performed.
 - 4. Materials and equipment received.
 - 5. Work performed, including field quality control measures and testing.
 - 6. Weather conditions.
 - 7. Safety.
 - 8. Delays encountered, amount of delay incurred, and the reasons for the delay.
 - 9. Instructions received from Engineer or Port, if any.
- G. Preparation and maintenance of professional-quality, accurate, well organized, legible notes of all measurements and calculations made while surveying and laying out the work.

1.03 REFERENCE STANDARDS

- A. FGDC-STD-007.1 - Geospatial Positioning Accuracy Standards - Part 1: Reporting Methodology 1998.
- B. FGDC-STD-007.2 - Geospatial Positioning Accuracy Standards - Part 2: Standards for Geodetic Networks 1998.
- C. FGDC-STD-007.4 - Geospatial Positioning Accuracy Standards - Part 4: Architecture, Engineering, Construction, and Facilities Measurement 2002.

D. State Plane Coordinate System for the State in which the Project is located.

1.04 SUBMITTALS

A. Informational Submittals: Submit the following:

1. Field Engineering: Submit daily reports, with content as indicated in this section.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 FIELD ENGINEERING

- A. Maintain field office files, drawings, specifications, and record documents.
- B. Coordinate field engineering services with Contractor's subcontractors, installers, and suppliers as appropriate.
- C. Prepare layout and coordination drawings for construction operations.
- D. Check and coordinate the work for conflicts and interferences, and immediately advise Engineer and Port of all discrepancies of which Contractor is aware.
- E. Cooperate as required with Engineer and Port in observing the work and performing field inspections.
- F. Review and coordinate work on a regular basis with shop drawings and Contractor's other submittals.
- G. Check the location, line and grade of every major element as the work progresses. Notify the Engineer when deviations from required lines or grades exceed allowable tolerances. Include in such notifications a thorough explanation of the problem, and a proposed plan and schedule for remedying the deviation. Do not proceed with remedial work without Port's concurrence of the remediation plan.

3.02 LAND SURVEYING

- A. General: Follow standards for geospatial positioning accuracy.
 1. FGDC-STD-007.1as amended by Authority Having Jurisdiction.
 2. FGDC-STD-007.2as amended by Authority Having Jurisdiction.
 3. FGDC-STD-007.4as amended by Authority Having Jurisdiction.
- B. Coordinate survey data with the State Plane Coordinate System of the State in which the Project is located.
- C. Contractor is responsible for the restoration of all property corners and control monuments damaged or destroyed by construction-related activities. Any disturbed monuments must be replaced at Contractor's expense by a surveyor licensed in the State in which the Project is located, and approved by the Engineer.
 1. Temporarily suspend work at such points and for such reasonable times as the Port may require for resetting monuments. The Contractor will not be entitled to any additional compensation or extension of time.

3.03 CONSTRUCTION SURVEYING

- A. General: Perform surveying as applicable to specific items necessary for proper execution of work.

1. Alignment Staking: Provide alignment stakes at 50 foot (15.24 m) intervals on tangent, and at 25 foot (7.62 m) intervals on curves.
 2. Structure: Stake out structures, including elevations, and check prior to and during construction.
 3. Pipelines: Stake out pipelines including elevations, and check prior to and during construction.
- B. Record Log: Maintain a log of layout control work. Record any deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used.
- C. Accuracy:
1. Establish Contractor's temporary survey references points for Contractor's use to at least second-order accuracy (e.g., 1:10000). Set construction staking used as a guide for the work to at least third-order accuracy (e.g., 1:5000). Provide the absolute margin for error specified below on the basis established by such orders.
 - a. Accuracy of other staking shall be plus or minus 0.04 feet (12.2 mm) horizontally and plus or minus 0.02 feet (6.1 mm) vertically.
 - b. Include an error analysis sufficient to demonstrate required accuracy in survey calculations.
 2. Port reserves the right to check the Contractor's survey, measurements, and calculations. The requirement for accuracy will not be waived, whether this right is exercised or not.

3.04 REPORTS

- A. Submit two copies of Contractor's daily reports at Engineer's field office (or electronically) by 9:00 AM the next working day after the day covered in the associated report. Daily report shall be signed by responsible member of Contractor's staff, such as project manager or superintendent, or foreman designated by Contractor as having authority to sign daily reports.

3.05 RECORDS

- A. Maintain at the Site a complete and accurate log of control and survey work as it progresses.
1. Organize and record survey data in accordance with recognized professional surveying standards, Laws and Regulations, and prevailing standards of practice in the State in which the Project is located. Record Contractor's surveyor's original field notes, computations, and other surveying data in Contractor-furnished hard-bound field books. Contractor is solely responsible for completeness and accuracy of survey work, and completeness and accuracy of survey records, including field books. Survey records, (including field books) may be rejected by Port due to failure to organize and maintain survey records in a manner that allows reasonable and independent verification of calculations, and/or allows identification of elevations, dimensions, and grades of the work.
 2. Illegible notes or data, and erasures on any page of field books, are unacceptable. Do not submit copied notes or data. Corrections by ruling or lining out errors will be unacceptable unless initialed by the surveyor. Violation of these requirements may require re-surveying the data questioned by Engineer.

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.
- 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 the entire area, as appropriate.
- D. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- F. 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 Section 01 74 16 Soil Characteristics and Waste Management.
- G. 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.
- H. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period.
- I. 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 for final cleaning. 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 from limited access spaces.
 - g. 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. Where damaged or worn items cannot be repaired or restored, provide replacements. 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.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes construction waste management requirements.

1.02 DESCRIPTION OF WORK

- A. The work includes demolition and removal within the project areas as shown on the drawings. The work also includes waste generated by construction activities, materials, packaging, scraps, and garbage.
- B. Soils excavated within the Work areas are anticipated to be contaminated. It shall be stockpiled on plastic and covered with plastic until re-use or transport. Excess contaminated soils will be hauled and disposed of at the LRI Subtitle D Landfill per Special Waste Disposal Agreement #2637, located in Appendix H.

1.03 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.
- C. Contaminated Soil: Includes all soil types underlying the roller compacted concrete surface and crushed surface base course and consists of; fill containing slag, dredged sediment fill, and native alluvium soil types.
- D. 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.
- E. Proper Disposal: As defined by the jurisdiction receiving the waste.
- F. Recyclable Materials: Products and materials that can be recovered and remanufactured into new products.
- G. 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).
- H. 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.
- I. 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.
- J. 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.
- K. Source-Separated Materials: Materials that are sorted at the site into separate containers for the purpose of reuse or recycling.
- L. Sources Separation: Sorting the recovered materials into specific material types with no, or a minimum amount of, contamination on site.
- M. 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.

- N. 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.
- O. Olfactory Indications (methods): Of or relating to the sense of smell. Soils contaminated with petroleum and other volatile constituents typically exhibit characteristic odors that can be detected (and sometimes identified) by smell.
- P. PID: Photo Ionization Detector. A field instrument that is used to detect the presence of and give a relative indication of the concentration of vapors emitted from volatile constituents (contamination) in environmental media (soil and water).
- Q. Soil (waste) Profile: A characterization of the chemical and physical properties of a waste material including the types of contaminants and their concentrations as measured by approved laboratory analytical methods. A profile is required by the receiving permitted disposal or recycling facility.
- R. Special Handling: Refers to hauling and disposal of soils that, because they are contaminated, cannot be reused in place as backfill or as general fill at another location. Such soils must be hauled to and managed at a permitted disposal or recycling facility.
- S. Unanticipated Contamination: Contamination unexpectedly found in an excavation or in other locations where there is no prior knowledge, information, or history to indicate possible spills or releases of contamination.

1.04 SUBMITTALS

- A. Waste Management Plan
- B. Waste Management Final Report
- C. Soils Management Plan
- D. Soils Hauling Receipts

1.05 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.

1.06 WASTE MANAGEMENT PLAN

- A. Submit a Waste Management Plan within 10 days after the notice to proceed and not less than 5 days before any site activities 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 Waste Management Coordinator.
 - 2. A list of waste materials, including estimated types and quantities, of the waste that will be generated. Indicate salvaged for resale, salvaged for reuse, recycled, or disposed for each item.
 - 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.
 - d. Method 4 - Contractor or subcontractor hauls waste to an approved disposal facility.
 - 4. Identification of each recycling, disposal, 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.
 - 6. Description of methods to communicate Waste Management Plan to personnel and subcontractors.
 - 7. Actions that will be taken to reduce solid waste generation.
- C. Revise and resubmit Waste Management plan as required by the Engineer. Approval of the Contractor's Plan does not relieve the Contractor of responsibility for compliance with all applicable laws and regulations. Distribute copies of the Waste Management Plan to each subcontractor.

1.07 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.

1.08 SOILS MANAGEMENT PLAN

- A. A minimum of 10 days prior to excavation of any subsurface materials, submit a Soils Management Plan to the Engineer. The Soils Management Plan must be approved by the Engineer prior to any excavation of subsurface materials. Include the following in the Soils Management Plan:
 - 1. Identification of all disposal/recycling facilities to be used on the project for roller compacted concrete as CDL waste.
 - 2. Contingency for managing debris encountered during excavation that may disqualify contaminated soil for disposal at LRI Subtitle D Landfill.
 - 3. General description of how equipment operators, safety personnel and other applicable Contractor shall coordinate with the Engineer to facilitate handling of contaminated soil in accordance with this specification.
 - 4. Description of all haul routes to be used on the project.
- B. Include in the Two Week Look Ahead Schedule specific time frames for excavation. Each excavation activity shall be given an individual line item description, time frame and duration.
- C. Notify the Engineer prior to hauling contaminated soil to the soil disposal facility. The notification shall include:
 - 1. An estimate of the number of truck-trips, and the period in which these trips will be made (e.g., 20 truck-trips to the LRI Subtitle D Landfill over the two-week period beginning on August 1, 2022).

1.09 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.

1.10 HEALTH AND SAFETY

- A. The Contractor is required to implement all health and safety provisions as required by Specification 01 35 29 - Health, Safety and Emergency Response Procedures.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 WASTE DISPOSAL

- A. Source-Separated CDL Recycling: Provide individual containers for separate types of CDL waste to be recycled, clearly labeled with a list of acceptable and unacceptable materials.
- B. Co-Mingled CDL Recycling: Provide containers for co-mingled CDL waste to be recycled, clearly labeled with a list of acceptable and unacceptable materials.
- C. Landfill: Provide containers for CDL waste that is to be disposed of in a landfill clearly labeled as such.
- D. Removal of CDL Waste from Project Site: Transport CDL waste off Port's property and provide legal disposal.

3.02 CONTAMINATED SOIL DISPOSAL

A. Disposition of Material

1. All soil generated during the Work should be handled as Contaminated Soil. Contaminated soil is approved for acceptance at LRI Subtitle D Landfill in Puyallup, WA with Tacoma-Pierce County Health Department Waste Disposal Authorization No. 2637.

B. Other Requirements

1. Cover all soil stockpiles and maintain stockpile areas in accordance with SECTION 01 57 13 - Temporary Erosion and Sediment Control and Construction Stormwater Pollution Prevention.
2. Contaminated soils may be temporarily stockpiled within the construction area. Provide an impervious liner beneath this soil and securely cover with a waterproof covering.
3. Submit all hauling receipts (or copies of receipts) from the receiving facility for all contaminated soil at least weekly.
4. The Engineer may require shut down of excavation should unforeseen condition warrant.

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. Submit closeout submittals specified in individual Sections, including specific warranties, operation and maintenance manuals, workmanship bonds, final certifications, and similar documents.
- 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. Instruct Port's personnel in operation, adjustment, and maintenance of products, equipment, and systems
 - 2. Terminate and remove temporary facilities from Project site
 - 3. 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, 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.
4. Provide additional copies of each warranty in Operation and Maintenance Manuals as described in 01 78 23 – Operation and Maintenance Manuals.

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 SUMMARY

- A. Operation and Maintenance Manual Submittal

1.02 SUBMITTALS

- A. Operation and Maintenance Data:
 - 1. For equipment, or component parts of equipment put into service during construction and operated by the Port, submit completed documents within ten days after acceptance.
 - 2. Submit 1 electronic copy of completed documents 10 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Engineer comments. Revise content of all document sets as required prior to final submission.
 - 3. Submit 2 hard copy and 1 electronic sets of revised final documents in final form by Final Completion.

PART 2 - PRODUCTS

2.01 OPERATION AND MAINTENANCE MANUALS

- A. For small equipment and products (such as furnishings or equipment not requiring routine maintenance), the following information (minimum of 2 printed copies, plus one electronic copy) shall be furnished for all items on the Project requiring operational and/or maintenance procedures and for any additional items indicated by the Engineer. Printed information shall be organized by the Contractor into appropriately sized 3-ring binders (no larger than 3”). The binders shall be sized for material approximately 8-1/2 by 11 inches, and the material in the binders shall not protrude beyond the covers. The binder(s) shall be divided with coversheets for each major item of equipment. The cover sheets shall be typewritten to indicate the name, type of equipment, and location(s) within the Project where installed. A neatly typewritten index shall be provided. Electronic information shall be in PDF format (additional formats where specified) and shall be organized with folders and appropriate file names so as to make the information easily accessible:

- 1. Product Summary:
 - a. Provide the following information (as applicable, indicate 'N/A' where an item does not apply) in Excel spreadsheet format:
 - 1) Description
 - 2) Plan Sheet Number
 - 3) Vendor
 - 4) Manufacturer
 - 5) Model Year
 - 6) Serial Number
 - 7) Warranty – Start Date; Finish Date
 - 8) Purchase Price
 - 9) Make
 - 10) Model

2. Operating Procedures: These instructions consist of the manufacturer's recommended step-by-step procedures for use of the product.
3. Maintenance Procedures: These instructions consist of the equipment manufacturer's recommended steps and schedules for maintaining the product.
4. Specific Information: Where items of information not included in the above list are required, they will be provided as described in the specifications for the equipment.
5. Complete identification, including model and serial numbers.
6. Submittal information, as specified in Section 01 33 00 Submittal Procedures.
7. Warranty Information: This information consists of the name, address, and telephone number of the manufacturer's representative to be contacted for warranty, parts, or service information.
8. Provide DVDs, and audio-visual training materials utilized in the manufacturer's instruction program for the Port.
9. All operation and maintenance information shall be comprehensive and detailed and shall contain information adequately covering all normal operation and maintenance procedures.
10. All information shall be specific for the items of equipment installed on the project. Material not directly applicable shall be removed, omitted, or clearly marked as inapplicable.
11. If manufacturer's standard brochures and manuals are used to describe operating and maintenance procedures, such brochures and manuals shall be modified to reflect only the model or series of equipment used on this project.
12. Extraneous material shall be crossed out neatly or otherwise annotated or eliminated. It shall be the responsibility of the Contractor to ensure that all operation and maintenance materials are obtained. Material submitted must meet the approval of the Engineer prior to project final acceptance.

PART 3 - EXECUTION - NOT USED

END OF SECTION

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The extent and location of the demolition work is indicated on the Drawings and in the specifications. The work includes, but is not limited to:
 - 1. Sawcut existing roller compacted concrete (concrete) and items.
 - 2. The requirements for the removal, wholly or in part, and satisfactory disposal of concrete, and storm drain pipe and structures, miscellaneous site debris, and other obstructions which are designated to be demolished on the Drawings or within these Specifications.
 - 3. Payment of all costs required for disposal of items at legal disposal sites, including all permit fees and related costs.
 - 4. Salvaging items as indicated on the Drawings and in the specifications.
 - 5. Backfilling and compaction of holes, voids, trenches or pits that result from such removal.
- B. All demolition items not identified for salvage by the Engineer shall become the property of the Contractor. Disposal of all demolition items shall be in accordance with the specifications, local, state and federal requirements.

1.02 SUBMITTALS

- A. Demolition Management Plan (DMP)
 - 1. The DMP shall provide the procedures proposed for the complete accomplishment of the demolition work and management of the demolition wastes and documentation. The procedures shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged or disposed, protection of property to remain undisturbed, and coordination with other work in progress. The procedures shall include a detailed description of the methods, staff, and equipment to be used for each operation, the sequence of operations, and quality control measures to ensure compliance with the Contract and regulatory requirements.
 - 2. Submittal requirements in Section 01 74 16 Soil Characteristics and Waste Management may be included as part of DMP plan or submitted separately.

1.03 SITE CONDITIONS

- A. Review and make determinations about the fencing, concrete, and storm drain pipe and structures from the site visit and/or review of information described in Section 00 31 00 – Available Project Information.

PART 2 – PRODUCTS

2.01 SALVAGE FENCING MATERIALS FOR REINSTALLATION

- A. All fencing material designated for removal, salvage and reinstallation within the limits shown on the Drawings shall be placed within the Contractor Laydown area (s). All salvaged material shall be stacked on Contractor supplied pallets where practical, or stored by blocking larger items on Contractor supplied dunnage in a neat and orderly manner.
- B. The following materials shall be salvaged for reinstallation within the project:
 - 1. 8-FT fencing fabric.
 - 2. 25-FT swing gate.

3. Fence posts, base, and clips

2.02 CONCRETE FOR OFFSITE RECYCLING AND/OR DISPOSAL

- A. The concrete is not contaminated and does not have any special handling requirements. The concrete will be loaded into trucks for transportation to an appropriate recycling and/or disposal facility.

2.03 CRUSHED SURFACING BASE COURSE FOR REUSE

- A. All crushed surfacing base course underlying the concrete will be excavated, temporarily stockpiled, and reused as backfill. The crushed surfacing base course is not contaminated and does not have any special handling requirements. The crushed surfacing base course must be segregated by the Contractor from the underlying contaminated soils.

2.04 STORM DRAIN FEATURES

- A. All stormdrain features designated for removal and disposal shall be loaded into trucks for transportation to an appropriate recycling and/or disposal facility.
- B. The following features shall be removed and disposed:
 1. 36-inch or 30-inch concrete pipe
 2. Two existing spill containment vaults are concrete and with two access manways.
 3. Two 54-inch diameter Type-3 manholes.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Utility locates shall be performed prior to start of demolition. Coordinate and resolve with the Engineer 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.

3.02 REMOVE FENCING

- A. Fencing identified on the Drawings for salvage shall be removed to the nearest post at or beyond the length shown on the Drawings.
- B. Contractor temporary fencing will be installed prior to removal of existing fencing and gate(s). AWC will disconnect and reconnect the security wire on the fence. Contractor to remove and replace all other.
- C. Fencing reinstallation requirements included in Section 32 31 13.

3.03 REMOVE CONCRETE

- A. The roller compacted concrete (concrete) surface shall be sawcut and transported offsite for recycling and/or disposal in accordance with all local and state requirements.
- B. Sawcut all concrete designed for removal.
- C. Perform full depth sawcutting of concrete as indicated on the Drawings or where directed by the Engineer, with a method approved by the Engineer.
- D. Neatly cut and remove materials and prepare openings to receive new work.
- E. Make neat vertical sawcuts at the boundaries of the area to be removed and use care in removing the concrete, to protect concrete which is to remain in place adjacent to the work

area.

1. Provide vacuum equipment to control dust and debris generated by sawcutting operations. Control and prevent silt-laden runoff generated by sawcutting operations from entering stormwater.
 2. Replace any adjacent damaged materials designated to remain at no additional cost to the Port.
 3. Provide bracing, or screening as needed to prevent damage to adjacent facilities that are to remain in place.
 4. Field verify any sensor loops or other objects embedded in the concrete at the vicinity of the sawcutting. Notify the Engineer of any conflicts a minimum of two (2) business days prior to the intended sawcutting work.
- F. The concrete will be cut to allow construction of the permeable reactive barrier trench.
- G. The concrete will be cut to remove the existing storm drain features as shown on the Drawings.
- H. The concrete will be cut for the installation of the stormwater vaults.
- I. All crushed surfacing base course underlying the concrete will be excavated, temporarily stockpiled for reuse as backfill.
1. See stockpile and backfill requirements in Section 31 00 00.

3.04 REMOVE EXISTING STORM DRAIN STRUCTURES

- A. Establish necessary construction stormwater by-pass to route around the necessary excavation limits, to capture and convey stormwater to sanitary sewer in accordance with Special Authorization Discharge permit requirements
- B. Removal of existing storm drain structure necessary for CIPP lining work of Section 33 01 30 72 shall be removed to the nearest joint suitable for reconnection to new structure and/or new pipe.
- C. Excavate to expose and remove existing spill containment vaults with two 24-inch diameter manhole access covers and rings, below grade 48-inch diameter rings.
- D. Excavate to expose and remove existing 54-inch diameter Type-3 manholes.
- E. Backfill all areas void of existing structure with available stockpiled and imported crushed surfacing base course.

3.05 DISPOSAL AND DISPOSITION OF MATERIALS

- A. Disposition of Materials
 1. All materials and equipment removed, and not used for reinstallation within the project, shall become the property of the Contractor and shall be removed from Port property.
 2. The Contractor assumes full responsibility 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.
 3. Contaminated soil shall be disposed in accordance with Section 01 74 16 Soil Characteristics and Waste Management.
- B. Cleanup:

- C. Haul route and paved site areas will be swept to remove any construction debris or soil tracked out by construction equipment and vehicles.
 - 1. There shall be no debris, rubble or litter left at the site from any of the demolition operations and the site shall be clean.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The work includes excavation, filling, backfilling, subgrade preparation, grading, and compaction.
- B. Excess Soil and aggregate generated as a result of the work may be re-used on site if the material meets the requirements for Fill or Backfill. If the material does not meet the aggregate gradation for Fill or Backfill, the material may be exported off-site and disposed of, or may be blended with additional aggregates to meet the grading requirements for Fill or Backfill. Use of on-site material as Fill or is subject to approval by the Engineer as described in these specifications. Physical and/or chemical characterization of excess materials may be required and will be provided by the Port as determined by the Engineer.

1.02 QUALITY ASSURANCE

- A. On-site Testing and Inspection: The Port will provide and pay for on-site testing and inspection services. Sampling and testing for compliance with the contract provisions will be in accordance with Section 01 45 00 – Quality Control. The Contractor shall assist in obtaining samples and may obtain copies of test results performed by the Port at no cost. Tests conducted for the sole benefit of the Contractor shall be at the Contractor's expense.
- B. Compaction Control Tests: The Port will provide and pay for laboratory and on-site field compaction control tests in accordance with the applicable provisions of these specifications.
 - 1. The compaction control density shall be the maximum density at optimum moisture content as determined by ASTM D 1557, Standard Methods for Moisture-Density Relationships of Soil and Soil Aggregates, Methods B, C or D as applicable, but shall be no less than 95% of dry density for fill, backfill, crushed surfacing and trench backfill above the bedding zone. Compact trench bedding zone material to 90% of dry density.
 - 2. Field tests to determine in-place compliance with required densities as specified, shall be performed in accordance with ASTM D 1556, D 2167, or D 2922.
- C. Shoring shall be provided in accordance with Specification 31 41 00 – Shoring and Underpinning, applicable local, State and Federal safety codes. Design, agency approval, permits, construction, maintenance, and removal of all shoring elements are the sole responsibility of the Contractor.

1.03 SUBMITTALS

- A. Source characterization, testing, reporting, and certification for all off-site borrow materials.

1.04 SITE CONDITIONS

- A. Subsurface investigations have been made in connection with this Project. This information is available in Section 00 31 00 – Available Project Information.
- B. Anticipate encountering groundwater at elevation ranging from 9 to 11 feet MLLW at the project site. See Section 31 23 19 – Dewatering.
- C. Verify the location of existing utilities at the site, and use an independent private locate company to assist. Those utilities which are to remain shall be protected from damage and remain operational. Damage to utilities which are to remain shall be repaired by the Contractor at its own expense.

PART 2 – PRODUCTS

2.01 FILL AND BACKFILL

- A. Material used for fill and backfill shall be clean, free-draining, sandy gravel or gravelly sand obtained from natural deposits or from excess soils generated during site construction activities. Individual particles shall be free from all objectionable coating. The material shall contain no organic matter or soft friable particles considered objectionable by the Engineer.
- B. Material used for fill and backfill shall be one of the following:
 - 1. Material from excavation, trench excavation or other on-site borrow soils generated during construction at the site, as approved by the Engineer in accordance with paragraph 2.08, free from slag, organic matter, demolition debris, or other deleterious substances, and containing no rocks or lumps over 6 inches in greatest dimension, except where otherwise approved by the Engineer. “Nesting” of rock pieces that will create voids will not be permitted.
 - 2. Imported fill material consisting of bank run gravel for trenches meeting the requirements of Washington State Department of Transportation Standard Specifications Section 9-03.19. The amount of fines shall not exceed 5 percent based on the minus ¾-inch fraction. Off-site borrow materials shall be characterized as specified in sections 2.08 and 2.10 at the Contractor’s expense.
 - a. Material shall be graded between the limits specified below:

Sieve Size	% Passing (by weight)
8-inch	100
4-inch	95-100
3/4-inch	60-90
U.S. No. 10	25-65
U.S. No. 40	10-40
U.S. No. 200	0-4

The moisture content of fill material shall be within minus 2 percent to plus 1 percent of the optimum moisture content at the time of compaction.

2.02 GRAVEL BORROW

- A. Gravel Borrow shall meet the requirements of Specification 32 11 23 – Aggregate Base Course. Imported gravel base shall be characterized as specified in paragraphs 2.08 and 2.10 at the Contractor’s expense.

2.03 GRAVEL BACKFILL FOR PIPE ZONE BEDDING

- A. Gravel backfill for pipe zone bedding shall consist of crushed, processed or naturally occurring granular material. It shall be free from various types of wood waste or other extraneous or objectionable materials. It shall have such characteristics of size and shape that it will compact and shall meet the following specifications for grading and quality:

Sieve Size	% Passing (by weight)
1-1/2” square	100
1” square	75-100
5/8” square	50-100

U.S. No. 4	20-80
U.S. No. 40	3-24
U.S. No. 200	10.0 Max.
Sand Equivalent	35 in.

Imported bedding material shall be characterized as specified in sections 2.08 and 2.10 at the Contractor's expense.

2.04 SAND BACKFILL FOR PERMEABLE REACTIVE BARRIER

- A. Sand backfill shall be well-graded sand that is free from various types of wood waste or other extraneous or objectionable materials. The Sand Backfill shall be insoluble particles of siliceous composition. It shall meet the following requirements for grading:

Sieve Size	% Passing (by weight)
U.S. No. 4	100
U.S. No. 10	Greater than 90
U.S. No. 40	10 to 50
U.S. No. 100	Less than 10
U.S. No. 200	Less than 5

- B. The contractor shall provide sieve analysis and chemical analysis results to the Engineer. Results of the analysis and samples of the Sand Backfill shall be inspected and approved by the Engineer prior to placement.

2.05 ZERO VALENT IRON (ZVI)

- A. Zero Valent Iron (ZVI) aggregate shall be granular iron -8 to +50 mesh (CC-1004 specification) supplied by Connelly-GPM, Inc. of Chicago, Illinois or approved equal.

2.06 ZVI AND SAND MIX BACKFILL

- A. ZVI AND Sand Mix Backfill shall consist of homogeneous mixture of 20 percent Zero Valent Iron in Sand Backfill (dry weight basis). The Contractor shall mix ZVI and Sand on Site and the mix will be verified by the Engineer.

2.07 QUARRY SPALLS

- A. Quarry spalls shall meet the requirements of the Washington State Department of Transportation Standard Specifications Sections 9-13.

2.08 OUTFALL DISPERSION PAD ROCK

- A. Material for an outfall energy dissipation pad shall be streambed cobbles. Cobbles shall be clean, naturally occurring water rounded gravel material. Cobbles shall have a well-graded distribution of sizes and conform to the following gradation:

Approximate Size (in)	Percent Passing (Smaller)
12	99-100
10	70-90
5	30-60
3/4	10 max.

- B. Approximate size can be determined using the following calculation:

1. Approximate Size=(Length+Width+Thickness)/3

2.09 OFF-SITE BORROW SOURCE CHARACTERIZATION

- A. Off-site borrow source characterization shall be performed by the Contractor as specified in Section 2.10 to assure that imported materials are natural, native, virgin materials, free of contaminants, including debris or recycled materials, and meet the requirements of the contract documents.
- B. Each source of off-site borrow material shall be tested once per year for physical properties.
- C. Each source of off-site borrow for sands and gravels shall be tested once per calendar year for metals.
- D. Each source of off-site borrow for soils, including materials to be used for fill and backfill, shall be tested for metals, chemical compounds and hydrocarbons once for every 500 cubic yards of material to be imported.
- E. The Engineer maintains the right to reject any materials that have been determined to be substandard for any reason. In the event of rejection, it shall be the responsibility of the contractor to remove all stockpiles of rejected material from the site.
- F. General
 1. Materials shall be of the quality, size, shape, gradation, or equal to that manufacture as specified herein. The Contractor shall submit a characterization of any and all imported material prior to any on-site placement. The characterization will include source identification, analyses of a material source sample, and a source inspection report. The material shall not be imported to the site until approved by the Engineer. Once approved and imported to the site, the Contractor shall perform an on-site inspection of the material to verify that it is the material sampled for characterization and approval.
- G. Source Identification
 1. The Contractor shall provide documentation of the origin of imported materials and maps identifying specific location(s) of material source(s). Physical and chemical characterization reports available from the material supplier shall be provided to the Engineer.
- H. Inspection of Source
 1. The Contractor shall inspect all material sources. During such inspection, the Contractor shall assure that materials to be delivered to the jobsite are likely to meet the appropriate specifications. The Contractor shall provide the Engineer two weeks notice of such inspections. The Engineer or a designated representative may accompany the Contractor to witness such inspections. This witnessing shall in no way release the Contractor from complying with the specifications and in no way shall be construed as approval of any particular source of material.
- I. Testing, Reporting, and Certification
 1. Off-site borrow materials shall be in accordance with the requirements of Section 2.10 unless waived by the Engineer.
- J. Inspection of Materials at the Jobsite
 1. The Contractor shall visually inspect import material upon delivery. Materials shall be inspected for presence of foreign, recycled, or reprocessed material. The Engineer may at any and all times perform an independent inspection. Material may be tested according to Section 2.10 at the Engineer's discretion. Material may be rejected due to the presence of

deleterious substances or as a result of substandard test results.

2.10 ON-SITE BORROW SOURCE CHARACTERIZATION

- A. Excavated in-situ soils free of fill containing slag generated during site construction activities may be used or reused as backfill material, if approved by the Engineer. Submit a written request for use of on-site borrow materials at least 3 weeks prior to on-site placement. Identify the source of the excavated material, proposed on-site use, and quantity of material to be used. Provide samples of the material for physical and/or chemical characterization as requested by the Engineer. The material shall not be reused at the site until approved by the Engineer. Characterization and characterization testing of excavated materials proposed for reuse may be performed by the Port, as determined by the Engineer, to assure that materials meet the requirements of the contract documents.
- B. The Engineer may reject any materials that have been determined to be substandard or contain regulated materials. One or more of the tests listed in these specifications may be required prior to acceptance.

2.11 CHARACTERIZATION TESTING, REPORTING, AND CERTIFICATION OF OFF-SITE MATERIAL

- A. The Contractor shall provide characterization and testing as described below for off-site borrow materials. Testing results shall meet the Port of Tacoma Import Material Screening Criteria to be considered acceptable.
- B. The Contractor is responsible for all testing costs associated with characterization of off-site borrow materials. The Port is responsible for testing costs associated with on-site borrow materials and excess materials to be exported.
- C. The Contractor shall provide the following information with each sample submitted:
 - 1. Material Source
 - 2. Proposed On-site Use
 - 3. Sampling dates
 - 4. Chain of custody
 - 5. Sampling locations
- D. Contractor’s certification that the samples submitted are representative of the materials that shall be used at the site.
- E. Characterization Testing shall include:
 - 1. Physical Properties:
 - a. Grain Size Distribution (ASTM D 422-63)
 - b. Maximum Dry Density (ASTM D 1557)
 - 2. Metals and Chemicals:
 - 3. Import Material Screening Criteria as indicated in Table 31 00 00 - 1 – Import Material Screening Criteria
 - a. Petroleum Hydrocarbons (NWTPH-Gx (Gasoline) and –Dx (Diesel/Oil))

Table 31 00 00 - 1 – Import Material Screening Criteria

Chemical / Metal Name	Gravel/Rock Criteria (mg/kg)	Soil Criteria (mg/kg)
Volatile Organic Compounds (EPA Method 8260)		

Benzene	-	0.004
Ethylbenzene	-	6.0
Toluene	-	7.0
Xylenes	-	9.0
Tetrachloroethylene (PCE)	-	0.05
Semi-Volatile Organic Compounds (EPA Method 8270)		
Acenaphthene	-	97.9
Anthracene	-	2,275
Benzo[a]anthracene	-	0.130
Benzo[a]pyrene	-	0.1
Benzo[b]fluoranthene	-	0.440
Benzo[k]fluoranthene	-	13.7
Benzoic acid	-	257
Benzyl alcohol	-	8,000
Bis(2-ethylhexyl) phthalate	-	13.9
Chrysene	-	95.5
Benzyl butyl phthalate	-	12.8
Cresol; o-	-	2.3
Cresol; p-	-	8,000
Dibenzo[a,h]anthracene	-	0.1
Dibenzofuran	-	80
Di-butyl phthalate	-	56.5
Dichlorobenzene; 1,2-	-	8.4
Dichlorobenzene; 1,4	-	0.2
Diethyl phthalate	-	72.2
Dimethylphenol; 2,4-	-	1.3
Di-n-octyl phthalate	-	800
Fluoranthene	-	631
Fluorine	-	101
Hexachlorobenzene	-	0.09
Hexachlorobutadiene	-	0.6
Indenol[1,2,3-cd]pyrene	-	1.2
Methyl naphthalene; 2-	-	320
Naphthalene	-	0.006
Nitrosodiphenylamine; N-	-	0.0009
Pentachlorophenol	-	0.003
Phenol	-	11
Pyrene	-	655
Trichlorobenzene; 1,2,4-	-	0.06
Pesticides / PCBs (EPA Method 8081/8082)		
DDD	-	0.3
DDE	-	0.4
DDT	-	2.9

Polychlorinated biphenyls (PCBs)	-	0.5
Metals (EPA Method 6010/6020/7041)		
Arsenic	13.8	13.8
Cadmium	2.0	2.0
Chromium (total)	113	113
Chromium (VI)	-	0
Copper	136	136
Lead	250	250
Mercury	0.14	0.14
Nickel	61	61
Zinc	100	100

PART 3 – EXECUTION

3.01 GENERAL

- A. Excavating, filling and grading shall be completed within the tolerances established or within reasonably close conformity with the alignment grade and cross sections indicated on the Drawings or as established within these specifications.

3.02 EXCAVATION

- A. Excavation: Shall be the naturally occurring earth, contaminated fill, and gravel required to be moved for the construction of associated work.
 - 1. Excavation material shall be moved with the use of mechanical equipment, such as shovels, loaders, excavators with long reach, etc., but shall not require drilling and blasting or drilling and line breaking.
 - 2. Excavation by sluicing method will not be permitted unless specifically approved by the Engineer.
 - 3. In general, excavation shall be removed in horizontal layers in such a way that contaminated fill can be separated and for all native material.
- B. Protect excavated material which is stockpiled for reuse as fill or backfill or staged for contaminated soil export, from contamination by other materials and from weather damage by covering with waterproof sheeting and other effective means. Any material not properly protected which becomes unsuitable or contaminated shall be replaced as necessary at no additional cost to the Port.
- C. Separate stockpiles shall be employed for material to be reused as backfill, and contaminated soil for export. At end of project, any material remaining in temporary “material acceptable for reuse” stockpiles shall be considered surplus / excess material, and following testing of material by the Port, Contractor shall haul excess material off-site to LRI Subtitle D Landfill in Puyallup, WA with Tacoma-Pierce County Health Department Waste Disposal Authorization No. 2637. Disposal cost for excess/surplus material shall be at Contactor’s expense.
- D. Unsuitable Excavation: Shall consist of unstable materials, such as peat, muck, water impregnated clays, swampy or other undesirable materials, including buried logs, stumps, or trash. Unsuitable excavation materials shall be removed to the depth designated by the Engineer.

- E. Unsuitable material excavated shall be replaced with Gravel Backfill for Pipe Zone Bedding per paragraph 2.03 as directed by the Engineer.
- F. Unsuitable materials, excess material and excavated material not approved by the Engineer for use as fill or backfill shall be transported off-site by the Contractor in accordance with Section 01 74 16, Soil Characteristics and Waste Management.

3.03 EXCAVATION FOR STRUCTURES AND UTILITIES

- A. Excavate as necessary for structure and utilities to the lines and grades indicated on the drawings.
- B. Excavation below the designed depth, except as directed by the Port, shall be backfilled with quarry spalls, or other suitable backfill material as approved by the Engineer and compacted as specified, at no extra cost to the Port.
- C. Brace and shore sides of excavations. Comply with all federal, state, and local regulations regarding shoring, bracing, and other protection requirements.
- D. Keep water out of excavated pits and trenches by pumping or other means of dewatering.
- E. Protect excavated material, stockpiled for use as backfill or export, from contamination by other materials and from damage by weather by covering with waterproof sheeting or other suitable means.

3.04 FILL AND BACKFILL AND COMPACTION FOR STRUCTURES AND UTILITIES

- A. Trenches for underground structures shall be over excavated by one foot. The subgrade shall be prepared, and a minimum of 12 inches of Gravel Backfill for Pipe Zone Bedding, or more if specified on the Drawings shall be placed and compacted. If subgrade is soft and cannot be adequately compacted, contact Engineer for direction.
- B. Place backfill and structural backfill to lines and grades indicated on the Drawings.
- C. Remove water from excavated areas, by pumping or other means, before placing any fill material. When placing backfill materials into standing water, the Contractor shall use a tremie or equivalent device to minimize segregation due to particle size and density differences.
- D. Compact subgrade, as specified in paragraph 3.07, before placing any fill or backfill material.
- E. Pipe zone bedding material shall provide uniform support along the entire pipe barrel, without load concentration at joint collars or bells. All adjustments to line and grade shall be made by scraping away or filling in with bedding material under the body of the pipe and not by blocking or wedging. Bedding disturbed by pipe movement, or by removal of shoring movement of a trench shield or box, shall be reconsolidated prior to backfill. Pipe zone bedding shall be placed in loose layers and compacted to 90 percent maximum density. Bedding shall be placed, spread, and compacted before the pipe is installed so that the pipe is uniformly supported along the barrel. Lifts of not more than 6 inches in thickness shall be placed and compacted along the sides of the pipe to the height shown in the Drawings. Material shall be worked carefully under the pipe haunches and then compacted. If the Engineer determines that the material existing in the bottom of the trench is satisfactory for bedding the pipe, the existing material shall be loosened, regraded, and compacted to form a dense, unyielding base.
- F. Backfill by placing material in horizontal layers not exceeding 8-inches upon earth which has been undisturbed, stabilized, or otherwise approved by the Engineer.
 - 1. Construct in compacted layers of uniform thickness. Carry the layers up full width from the bottom. Compact with modern, efficient compacting units, or as directed by the Engineer. The compacting units may be of any type, provided they can compact each lift of the

material to the specified density. The Engineer may order the use of any particular compacting unit discontinued if it is not capable of compacting the material to the required density within a reasonable time, or if the equipment may damage underlying or adjacent soils or structures.

2. Unless noted elsewhere compact each layer to 95% of the maximum density as determined by compaction control tests described in Paragraph 3.08 below. Use small mechanical or vibratory compactor units to compact the layers adjacent to structures that are inaccessible to other compaction equipment.

3.05 CONTAMINATED/HAZARDOUS SOILS AND GROUNDWATER

- A. Contractor shall monitor soils and groundwater by instructing workers in observing and reporting questionable materials, odors, oily sheen or color on soils and water, and oily or chemical odors. If unexpected hazardous or contaminated materials are encountered, Contractor shall stop work in that area immediately and notify the Port.

3.06 OUTFALL DISPERSION PAD ROCK

- A. Outfall pad rock shall be placed to the dimensions, depths, and location as indicated on the Drawings. Outfall pad rock shall be placed with pipe bedding upon the underlying stream material. No rock placed outside of the outfall pad footprint will be paid for or allowed to remain in place.

3.07 COMPACTION

- A. Compaction shall be performed with approved compaction equipment suited to the soil and the area being compacted. Moisten or aerate material as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction with the equipment used. Each lift of material placed shall be uniformly compacted to the density indicated for the specific material and use set forth in these Specifications. The percent of density required is in relation to the maximum density obtainable at optimum moisture content (Compaction Control Density) as determined in paragraph 3.08 "Compaction Control Tests."

3.08 COMPACTION CONTROL TESTS

- A. Laboratory and field tests shall be performed in accordance with the applicable provisions of these Specifications.
- B. Compaction control density shall be the maximum density at optimum moisture content as determined by ASTM D 1557, Standard Methods for Moisture Density Relationships of Soil and Soil Aggregates, Methods B, C or D as applicable but shall be no less than 95% of dry density for Select Fill and Backfill and no less than 98% of dry density for Base Course Material.
- C. Field tests to determine in place compliance with required densities as specified, shall be performed in accordance with ASTM D1556, D2167, or D2922.

3.09 PREPARATION FOR CRUSHED SURFACING

- A. Preparation of Subgrade
 1. Immediately prior to placement of surfacing materials, clean the entire width of the area of all debris and dispose of as directed by the Engineer. All depressions or ruts which contain storm water shall be drained.
 2. Shape the entire subgrade to a smooth uniform surface, true to line, grade, and cross section as staked. Compact the subgrade material to 95% of the maximum density as determined by compaction tests ASTM Designation D1557. If soft or spongy material underlying the upper eight inches of the area being prepared precludes satisfactory

compaction of the upper eight inches, loosen, aerate, or excavate, replace and compact to the required density as directed by the Engineer.

3. Remove and dispose of excess material which cannot be disposed of by normal drifting to low spots during blading and shaping operations or by placing in subgrade areas deficient in materials or by wasting, all as directed by the Engineer. Subgrade areas deficient in materials shall be brought to grade by importing suitable materials from other subgrade areas or other sources as directed by the Engineer. Materials added to subgrade areas deficient in materials shall be watered and compacted as necessary to yield a true finished subgrade as described above.
4. Once it is prepared, maintain the subgrade for surfacing in the finished condition until the first course of surfacing has been placed.

B. Finishing Subgrades

1. Before any paving or base material is placed, the subgrade shall be brought to the proper line, grade and cross section and shall be so maintained until the crushed surfacing and paving is placed.
2. Compact the subgrade for pavement to 95% of maximum density as defined for Compaction Control Density, Article "Compaction Control Tests" these Specifications, to a minimum depth of six inches.

C. Subgrade Protection

1. Take all precautions necessary to protect the subgrade from damage; hauling over the finished subgrade shall be limited to that which is essential for construction purposes.
2. Equipment used for hauling over the prepared subgrade which, in the opinion of the Engineer, is causing undue damage to the prepared subgrade or to the underlying materials, shall be removed from the work at the request of the Engineer.
3. Repair at the Contractor's expense all cuts, ruts and breaks in the surface of the subgrade prior to placing surfacing, treated base, or paving materials.
4. Protect the prepared subgrade from both the Contractor's traffic and public traffic and maintain the subgrade by blading and rolling as frequently as may be necessary to preserve the subgrade in a completely satisfactory condition.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. This work includes all necessary measures to keep excavations and pipe trenches dry during construction. The work covered by this specification consists of providing all supervision, labor, materials, and equipment required to dewater excavations and trenches.

1.02 SITE CONDITIONS

- A. The Contractor should anticipate encountering groundwater in excavations. The Port has subsurface investigations made at and near the project site, the information is available for review as described in Section 00 31 00.
- B. All water removed from trenches and excavations shall be discharged to the City of Tacoma sanitary sewer in accordance with the conditions of the Special Authorization to Discharge obtained by the Port.

1.03 QUALITY CONTROL

- A. It shall be the sole responsibility of the Contractor to control the rate and effect of the dewatering operations in such a manner as to avoid all objectionable settlement and subsidence.
- B. All dewatering operations shall be adequate to ensure the integrity of the finished project and shall be the responsibility of the Contractor.

1.04 SUBMITTALS

- A. The Contractor shall submit a dewatering plan which addresses the methods proposed in dewatering excavations and trenches and handling the dewatering discharge in accordance with the City of Tacoma Special Authorization to Discharge.
- B. Dewatering plan shall include:
 - 1. Water pumping, conveyance and storage equipment.
 - 2. Anticipated pumping rates and durations.
 - 3. Water treatment best management practices.
 - 4. Water discharge locations and anticipation for routing
 - 5. Schedule for completion of work within the trench.
 - 6. Sequence of installation and removal for dewatering measures.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 GENERAL

- A. Site work for excavations and pipe trenches shall be kept free from water to facilitate fine grading, construction of structures, the proper laying and joining of pipe and appurtenances, and placement of backfill material. Adequate pumping equipment shall be provided to handle and dispose of the water without damage to adjacent property. Trenches shall be dewatered if, at the decision of the Engineer, the quantity of water present prevents the proper installation of structures, pipes and ductbanks. Water in pipe trenches shall not be allowed to flow through the pipe.

- B. The Contractor shall provide and maintain at all times during construction, ample means and devices with which to promptly remove and properly dispose of all water entering trenches and excavations and other parts of the work, whether the water be surface water or underground water. No piping shall be laid in water, nor shall water be allowed to rise over them until the concrete or mortar has set at least 24 hours or until the pipeline has been adequately backfilled to prevent buoyancy. No embankment material shall be placed in standing water. The Contractor shall be responsible for obtaining all water discharge permits as required. No water shall be discharged to areas or work built or under construction.
- C. Water shall be disposed of in such a manner as not to be a nuisance or menace to the public health and follows the requirements of the City of Tacoma Special Authorization to Discharge.
- D. Written permission shall be secured from the Engineer before locating any wells, well points, or drain lines for purposes of dewatering within the limits of an excavation. The Engineer shall have the right to require that any dewatering well, line, or trench drains left in place within the excavation limits be filled with concrete or grout as herein specified, and shown on the Record Drawings.
- E. Dewatering of excavations must be controlled to prevent damage from settlement due to possible lowering of the adjacent groundwater table.
- F. Dewatering discharge to City sewer to occur after hours. Contractor to provide appropriate traffic control while discharge pipe is blocking Alexander Ave.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Work herein covers trenching, backfilling and compaction required for installation of the permeable reactive barrier trench. Trench excavation and backfill shall include all excavation, biopolymer slurry, backfilling, disposal of removed material and all other work incidental to the construction of the permeable reactive barrier trench.

1.02 SITE CONDITIONS

- A. The Port has subsurface investigations made at and near the proposed project site. The information is available for review by the Contractor as described in Section 00 31 00 - Available Project Information.
- B. The Contractor should anticipate the presence of groundwater ranging from 9 to 11 feet elevation MLLW in the Work area. The groundwater elevation varies depending upon proximity to the shoreline, tidal conditions and weather.
- C. Anticipated soil condition information is available for review by the Contractor as described in Section 00 31 00 - Available Project Information.

1.03 QUALITY ASSURANCE

- A. The contractor shall submit Material Safety Data Sheets for the Bio-Polymer materials and additives. Test data shall be submitted to document the physical and chemical properties of the Bio-Polymer slurry and degraded slurry.
- B. The water used to make slurry shall be tested in accordance with API RP13B as established in Section 3.2.
- C. The slurry used in trenching shall be tested each shift in accordance with API RP13B to ensure the ability of the slurry to stabilize the trench. Samples of the slurry shall be obtained from both the trench and mixing plant for testing. Equipment and personnel for performing these tests shall be supplied by the contractor. The following tests shall be performed at the indicated minimum frequencies:
 - 1. Viscosity 2 per shift
 - 2. Density 2 per shift
 - 3. pH 2 per shift

1.04 SUBMITTALS

- A. The Contractor shall submit a PRB Construction Plan which outlines the methods of PRB construction to include:Biopolymer slurry
 - 1. Means and methods of excavation and managing excavated soils.
 - 2. Preliminary schedule of excavation and backfill activities identifying the sequencing and area of open trench at any given time.
 - 3. Area and methods for storing, mixing, and staging mixed ZVI and sand backfill on Site.
 - 4. Biopolymer slurry methods and equipment.
 - 5. Biopolymer slurry quality tests as noted in paragraph 1.03(C).
 - 6. Chemical and physical properties and characteristics of any proposed additives shall be submitted with the required product submittals.

- B. The Contractor shall maintain onsite an as-built profile of the permeable reactive barrier trench dimensions, which will be submitted with final as-built submittal.

PART 2 – PRODUCTS

2.01 BACKFILL MATERIAL

- A. Refer to Section 31 00 00 – Earthwork

2.02 BIODEGRADABLE BIO-POLYMER SLURRY

- A. The slurry for supporting the trench shall consist of a stable suspension of biodegradable bio-polymer in water. It is the responsibility of the Contractor to insure that the slurry meets the necessary properties and monitor the slurry and the trench during excavation. The gel strength of the slurry shall be maintained at a high level so that hydrostatic pressure is transferred from the slurry to the trench walls.
- B. The slurry shall naturally degrade to a nontoxic water solution once backfilling of trench is complete. Admixtures of softening agents, preservatives, or dispersants may be added to the slurry to permit efficient use of and proper workability of the slurry. Any additives used must be biodegradable and broken down once backfilling of trench is complete.
- C. The slurry must be free of contaminants or hazardous substances and any substances prohibited by local, state or federal law.

2.03 SLURRY PLANT

- A. The Contractor shall provide a slurry mixing plant containing the necessary equipment for preparing the bio-polymer slurry including a high-shear colloidal mixer with a static agitator capable of producing a stable suspension of bio-polymer in water. Pumps, valves, hoses, storage supply lines and other equipment shall be provided as required to adequately supply bio-polymer slurry to the trench. Hydration ponds shall not be permitted.

PART 3 – EXECUTION

3.01 STOCKPILING AND DISPOSAL

- A. All excavated material shall be temporarily stockpiled as it is removed or direct loaded for contaminated soil disposal in accordance with Section 01 74 16 Soil Characteristics and Waste Management.
- B. All free draining liquids from excavated material shall be collected by the Contractor or routed back to the trench.

3.02 TRENCH EXCAVATION

- A. The Contractor shall maintain, at all times during the execution of this work, safe and stable excavations. All trench excavation and preparation shall comply with Section 7-08.3(1) of the Washington State Department of Transportation Standard Specifications, most recent edition.
- B. Materials removed during trench excavation shall be handled as specified in 01 74 16 - Soil Characteristics and Waste Management.
- C. A permeable reactive barrier trench shall be constructed to the lines, grades and cross sections as indicated on the drawings. The trench shall have essentially vertical walls, a minimum width of 24 inches and shall extend at least 6 inches into the low permeability clay unit.
- D. Equipment for excavating the permeable reactive barrier trench shall be earthmoving equipment such as a backhoe and/or clamshell capable of performing the indicated work on the drawings and/or as specified herein. The equipment shall develop a live load surcharge that will produce

no significant contribution to the instability of the trench or damage the concrete surface to remain in place. The equipment shall be capable of excavating to the required trench depth from the working platform. It shall be capable of excavating the required minimum width of trench in a single pass of the excavating equipment.

- E. The Contractor shall make measurements of the trench depth at least every 25 lineal ft. All trench depth measurements shall be made from the working platform to the bottom of the trench. The Engineer will approve each excavated depth measurement before the Contractor proceeds with backfill.

3.03 TRENCH STABILITY

- A. The contractor shall be responsible for maintaining the stability of the permeable reactive barrier trench for its full length and depth and shall be responsible for maintaining slurry densities and levels in accordance with Paragraph 3.04.
- B. The Contractor shall control surcharges from excavation and backfilling equipment, waste, berm construction, temporary stockpiles of excavated material or backfill, and any other loading situations that may affect trench stability. It is the Contractor's responsibility to ensure that any stockpiles do not affect the open trench stability and that open trench stability is maintained at all times.
- C. In the event of failure of the trench walls prior to completion of backfilling, the Contractor shall at their expense re-excavate the trench and remove all material displaced into the trench and take corrective action to prevent further trench failure as directed by the Engineer.

3.04 MIXING AND PLACING SLURRY

- A. After the removal of the roller compacted concrete and underlying crushed surfacing base course, the slurry shall then be introduced into the trench at the time excavation begins. The level of the slurry in the open trench shall be maintained at a level sufficient to maintain trench stability and no more than 3 ft below the top of trench until the placement of backfill material is complete.
- B. The bio-polymer slurry shall be prepared by mixing water and biodegradable polymer. No slurry shall be made within the trench. The bio-polymer slurry shall be prepared in the slurry plant and hydrated in a tank with circulation until the resulting slurry appears homogeneous and meets quality assurance requirements in Paragraph 1.03 at all times, including periods of work stoppage
- C. It is the responsibility of the Contractor to monitor the slurry and the trench during excavation. The gel strength of the slurry shall be maintained at a high level so that hydrostatic pressure is transferred from the slurry to the trench walls.
- D. Additives may be added at the slurry plant. The slurry shall be constantly agitated until introduced into the trench. Slurry shall be supplied to the trench through pipelines which shall be extended as necessary to supply the excavation.
- E. The Contractor shall have sufficient personnel, equipment, slurry storage equipment and stored slurry materials ready to raise the slurry level in the trench during construction.
- F. The water used in preparing the bio-polymer slurry shall be fresh or salt water. The water shall be free of excessive amounts of oil, acid, alkali, organic matter and other deleterious substances which could adversely affect the properties of the bio-polymer. Water sources shall be tested by the Contractor prior to beginning trench excavation to assure that water of suitable characteristics for slurry preparation shall be used. Water used in preparing the bio-polymer slurry shall have the following minimum properties:

1. pH between 6 and 8.
 2. total dissolved solids less than 1,000 mg/l.
 3. total hardness less than 250 mg/l.
- G. Additives approved by the Engineer may be added to the slurry to permit efficient use of and proper workability of the slurry. The bio-polymer slurry may be modified as required for successful trench excavation. Any additives used must be biodegradable and broken down upon completion of trench backfill.
- H. Degraded biodegradable bio-polymer shall not materially reduce permeable reactive barrier trench transmissivity. The biodegradable bio-polymer shall not form a filter cake on the permeable reactive barrier trench walls which might decrease the transmissivity of the drainage trench/alluvium interface.
- I. Unused biodegradable bio-polymer slurry shall convert to water containing a minute residual of nontoxic material once the PRB trench is completed. The Contractor is responsible for managing slurry at the completion of the project in accordance with all local and state requirements. See Section 31 23 19 – Dewatering

3.05 BACKFILLING

- A. Backfilling of the trench shall commence after Engineer approval of the excavated trench depth and be continuous to minimize the area of trench supported only by slurry.
- B. The contractor shall backfill continuously from the beginning of the trench in the direction of the excavation to the end of the trench. The backfill shall be placed into the trench in a manner that avoids trapping pockets of slurry and segregation of the mixed ZVI and sand backfill. Free dropping of backfill through the slurry is not permitted.
- C. The permeable reactive barrier trench shall be backfilled as specified in Section 31 00 00 Earthwork and as shown on the Drawings. The mixed ZVI and sand backfill shall be placed at the bottom of trench to an elevation of 14 ft MLLW. The sand backfill shall be placed from elevation 14 ft MLLW to elevation 22.5 ft MLLW.
- D. Layers of trench backfill shall not exceed eight inches in loose thickness and may be compacted by tamping with the excavator bucket. There are no compaction testing requirements for the permeable reactive barrier trench backfill.

3.06 SLURRY BREAKDOWN AND ACTIVATION

- A. After completion of backfilling, the slurry shall be degraded to water and residual material. Slurry modifiers shall be added as necessary to destroy the viscosity and filtrate properties of the slurry. The broken slurry shall be oxygenated and pH adjusted to promote slurry degradation and drain activation.
- B. The degraded slurry and water in the trench shall be tested by the contractor to demonstrate that the slurry has been broken. The Contractor shall test and monitor the viscosity and pH of the slurry to verify degradation.
- C. Water shall be flushed through the trench backfill material in order to remove residual material and to insure satisfactory hydraulic conductivity through the trench media. The contractor shall flush the trench until the pore volume of the trench has been circulated at least three times.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. This Section describes the work necessary to furnish, place, maintain and remove shoring required for all structure and trench excavations greater than four (4) feet deep, excluding PRB trenching. Shoring shall be provided in accordance with Section 2-09.3(3) D Shoring and Cofferdams of the Washington State Department of Transportation Standard Specifications for Road, Bridge and Municipal Construction, most recent Edition and applicable local, State and Federal safety codes.
- B. Design, approvals, and construction of all shoring are the exclusive responsibility of the Contractor. A Professional Engineer, licensed in the State of Washington, shall be used to design all aspects of the shoring.

1.02 SUBMITTALS

- A. The Contractor should anticipate encountering groundwater at or near the existing ground surface at much of the project site (9 to 11 FT MLLW). The groundwater elevation varies depending upon proximity to the shoreline, tidal conditions and weather.
- B. The Contractor shall ascertain to their own satisfaction the extent and method in which shoring will be required to meet all required safety codes based on the nature of the material in which it will appear, and the extent to which such occurrence of water shall affect their bid.

1.03 SUBMITTALS

- A. Shoring methods and construction details.

PART 2 – PRODUCTS

2.01 GENERAL

2.02 PRODUCTS THAT ARE REQUIRED TO ACCOMPLISH, OR TO BE INCORPORATED INTO, THE WORK OF THIS SECTION SHALL BE AS SELECTED BY THE CONTRACTOR, SUBJECT TO REVIEW BY THE ENGINEER.

PART 3 – EXECUTION

3.01 GENERAL

- A. The method of shoring shall be according to the Contractor's design. The design, planning, installation and removal, if required, of sheeting and bracing shall be accomplished in such a manner as to maintain the required excavation or trench section and to maintain the undisturbed state of soils below and adjacent to the excavation.
- B. Damages resulting from improper support or from failure to support excavations shall be the sole responsibility of the Contractor.
- C. In trenching operations, the use of horizontal strutting below the barrel of pipe or the use of pipe as support for trench bracing will not be permitted.
- D. Sheet piling and timbers in trench excavations shall be withdrawn in a manner so as to prevent subsequent settlement of the pipe or additional backfill loading which might overload the pipe.
- E. That portion of cribbing or sheeting extending below the springline of pipe shall be left in place unless satisfactory means of reconsolidating bedding or side support disturbed by cribbing or sheeting removal can be demonstrated.

- F. If a movable box is used in lieu of cribbing or sheeting, and the bottom cannot be kept above the spring line of the pipe, the bedding or side support shall be carefully reconsolidated behind the movable box prior to placing initial backfill.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The work includes the requirements for furnishing, transporting and delivering crushed surfacing, Work includes producing, transporting, and delivering base courses in conformance with these Specifications.

1.02 CHARACTERIZATION TESTING, REPORTING, AND CERIFICATION OF FURNISHED MATERIAL

- A. Off-site borrow source characterization and testing shall be performed by the Contractor to assure that furnished materials are natural, native, virgin materials, free of contaminants, including debris or recycled materials, and meet the requirements of the contract documents.
- B. Each source of sands and gravels shall be tested once per calendar year for metals.
- C. The Engineer maintains the right to reject any materials that have been determined to be substandard for any reason. In the event of rejection, it shall be the responsibility of the Contractor to remove all stockpiles of rejected material from the site.
 - 1. General
 - a. Materials shall be of the quality, size, shape, gradation, or equal to that manufacture as specified herein. The Contractor shall submit a characterization of any and all imported material prior to any material delivery. The characterization will include source identification, analyses of a material source sample, and a source inspection report. The material shall not be delivered until approved by the Engineer. Once approved and delivered to the Port, the Contractor shall perform an on-site inspection of the material to verify that it is the material sampled for characterization and approval.
 - 2. Source Identification
 - a. The Contractor shall provide documentation of the origin of imported materials and maps identifying specific location(s) of material source(s). Physical and chemical characterization reports available from the material supplier shall be provided to the Engineer.
 - 3. Inspection of Source
 - a. The Contractor shall inspect all material sources. During such inspection, the Contractor shall assure that materials to be delivered to the jobsite are likely to meet the appropriate specifications. The Contractor shall provide the Engineer two weeks notice of such inspections. The Engineer or a designated representative may accompany the Contractor to witness such inspections. This witnessing shall in no way release the Contractor from complying with the specifications and in no way shall be construed as approval of any particular source of material.
 - 4. Inspection of Materials at the Jobsite
 - a. The Contractor shall visually inspect import material upon delivery. Materials shall be inspected for presence of foreign, recycled, or reprocessed material. The Engineer may at any and all times perform an independent inspection. Material may be tested at the Engineer's discretion. Material may be rejected due to the presence of deleterious substances or as a result of substandard test results.
 - 5. The Contractor shall provide characterization and testing as described below for furnished materials. Testing results shall meet the Port of Tacoma Import Material Screening Criteria

to be considered acceptable. The Contractor is responsible for all testing costs associated with characterization of furnished materials.

6. Characterization and testing shall include:

a. Physical Properties:

- 1) Grain Size Distribution (ASTM D 422-63)
- 2) Maximum Dry Density (ASTM D1557)
- 3) Sieve analyses for all materials specified in accordance with ASTM C 136.
- 4) Los Angeles Wear (ASTM C131)
- 5) Degradation Factor (WSDOT Test Method T 113)

b. Metals and Chemicals:

- 1) Import Material Screening Criteria as indicated in Table 31 00 00 - 1 – Import Material Screening Criteria

TABLE 31 00 00 - 1 - IMPORT MATERIAL SCREENING CRITERIA		
CHEMICAL / METAL NAME	GRAVEL/ROCK CRITERIA (MG/KG)	SOIL CRITERIA (MG/KG)
METALS (EPA METHOD 6010/6020/7041)		
ARSENIC	13.8	13.8
CADMIUM	2.0	2.0
CHROMIUM (TOTAL)	113	113
CHROMIUM (VI)	-	0
COPPER	136	136
LEAD	250	250
MERCURY	0.14	0.14
NICKEL	61	61
ZINC	100	100

PART 2 – PRODUCTS

2.01 CRUSHED SURFACING

- A. Crushed surfacing base course and top course shall comply with Section 9-03.9(3) of the Washington State Department of Transportation Standard Specifications for Road, Bridge and Municipal Construction most recent edition.

PART 3 – EXECUTION

3.01 EQUIPMENT

- A. All equipment necessary for the satisfactory installation of crushed surfacing shall meet the requirements of Section 4-04.3(1) of the Washington State Department of Transportation Standard Specifications for Road, Bridge and Municipal Construction, most recent Edition, as amended to provide for the following:
 1. Equip grading machines or trimmers with a spirit level or other type slope indicator which will continuously indicate the average, transverse slope of the screed. Bubble or indicator movement should be no less than 1/8 inch for each 0.1 percent change in transverse slope.

3.02 PREPARATION AND PROTECTION OF SUBGRADE

- A. Prepare and protect subgrade as specified in Section 31 00 00 – Earthwork and obtain approval of the Engineer before placing crushed surfacing materials.

3.03 PLACEMENT OF CRUSHED SURFACING AGGREGATES

- A. Prior to placement Contractor shall blend the various source materials to create a homogenous, well graded, mixture.
- B. Equipment necessary for the satisfactory performance of this construction shall be on the project and approved by the Engineer prior to beginning work. If central-mix-plant methods are used, the central mixing plant shall comply with the applicable portions Section 4 04.3(3) of the WSDOT Standard Specifications, most recent edition.
- C. Prepare subgrades as specified above and obtain approval of the Engineer before placing base course or surfacing materials.
- D. Mixing: After each layer of material is placed, mix the material by motor graders or other approved equipment until the mixture is uniform throughout. Add water as directed by the Engineer to facilitate mixing and compacting.
- E. Placing and Spreading: Spread each layer of material by means of approved spreading equipment. Such equipment may be bottom-dump hauling equipment with transverse spreading facilities; self-propelled spreading and leveling machines; or spreader boxes equipped with wheels or so constructed as to preclude damage to the subgrade or underlying courses. Spreading in small areas of less than 2,000 square yards or in areas irregular in shape may be accomplished by other means as directed by the Engineer. Material shall be placed in layers not exceeding six inches.
- F. Shaping and Compacting: Immediately following spreading and shaping, compact each layer to at least ninety five percent (95%) of the maximum dry density determined in accordance with ASTM D-1557 before the next succeeding layer is placed thereon. When the thickness of the base course is less than 0.15 feet, density testing may not be required and the Engineer will determine the number of coverage's required for the particular compaction equipment available.
- G. Vibratory compactors or rollers shall be adequate in design and number to provide compaction and obtain the specified density for each layer while still moist. Apply a mist spray of water as needed to replace moisture lost by evaporation. The completed layer shall have a smooth, tight, uniform surface true to the line, grade and cross section indicated on the Drawings.
- H. Variations in the surface of the top course shall be a maximum of 1/4 inch in 10 feet. Shave off or fill in variations greater than the allowable and recompact that area.
- I. Surface Maintenance: Maintain the surface of each layer of material true to line, grade and cross section by blading, watering and rolling until placing the succeeding course. Place the first course of material on all available subgrade before placing the succeeding course unless otherwise authorized by the Engineer. Should irregularities develop in any surface during or after compaction, remedy by loosening the surface and correcting the defects, then thoroughly recompact the entire area, including the surrounding surface. In the event that additional materials are necessary to make the repairs, they shall be provided at no additional cost to the Port.
- J. Route hauling equipment over the roadway in such a manner as to be most effective in the compacting of the material. Hauling over the surfacing in the process of construction will not be permitted when, in the opinion of the Engineer, the effect will be detrimental.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE

- A. The work covered by this Section includes the furnishing of all labor, materials, equipment and necessary services to construct asphalt pavements to the sections and at the locations as specified in this Section and as indicated on the Contract Drawings.

1.02 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 320 – Performance-Graded Asphalt Binder
 - 3. AASHTO M 323 - Superpave Volumetric Mix Design
 - 4. AASHTO T 11 - Materials Finer Than 75 μ m (No. 200) Sieve in Mineral Aggregates by Washing
 - 5. AASHTO T 27 - Sieve Analysis of Fine and Coarse Aggregates
 - 6. AASHTO T 89 - Determining the Liquid Limit of Soils
 - 7. AASHTO T 90 - Determining the Plastic Limit and Plasticity Index of Soils
 - 8. AASHTO T 96 - Resistance to Degradation of Small-Size Coarse Aggregate and Impact in the Los Angeles Machine
 - 9. AASHTO T 112 - Clay Lumps and Friable Particles in Aggregate
 - 10. AASHTO T164 - Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)
 - 11. AASHTO T168 – Sampling Hot Mix Asphalt Paving Mixtures
 - 12. AASHTO T 176 - Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test
 - 13. AASHTO T 304 - Uncompacted Void Content of Fine Aggregate
 - 14. AASHTO T308 - Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method
 - 15. AASHTO T 312 -) Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyrotory Compactor
 - 16. AASHTO T 329 – Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
 - 17. 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 D2041 – Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures

3. ASTM D2726 – Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Asphalt Mixtures
 4. ASTM D4791 - Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
- 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

1.03 SUBMITTALS

1.04 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 and certificate of manufacturer's rated production rate.
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 320, Table 1.
 - c. Elastic recovery requirements in accordance with WSDOT 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. Angularity.
 - c. Bulk specific gravity.
 - d. Flat and elongated particles.
 - e. Soundness.
 - f. 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. Recycled Asphalt Pavement Test Reports (if used)
 7. Anti-strep agent:
 - a. Certification
 - b. Amount used
 8. Optimum Asphalt Determination (in accordance with ASTM D 5581 or ASTM D 6927, as appropriate).
 - a. Compactive effort (75 or 112 blows applied to specimen, each face, as appropriate).
 - b. Actual specific gravity and unit weight of each specimen.
 - c. Percentage of asphalt in each specimen.
 - d. Theoretical specific gravity of each specimen calculated.
 9. Percentage and grade of performance graded asphalt binder
 10. Proportions and percentage of each aggregate stockpile.
 11. Temperature of mix when discharged from the mixer.
 12. Compaction temperature
 13. Plot of the blended aggregate gradation and gradation control points on the Federal Highway Administration (FHWA) 0.45 power gradation curve.
 14. Maximum specific gravity at the target binder content.
 15. Gyrotory compaction curve for Nmax.
 16. Bulk specific gravity at Ndesign gyrations.
 17. Percent theoretical maximum density at Ninitial, Ndesign, and Nmax gyrations.
 18. Voids in mineral aggregate at Ndesign gyrations.
 19. Voids filled with asphalt at Ndesign gyrations.
 20. Dust to binder ratio
 21. Flow value
 22. Stability
 23. Actual unit weight of laboratory compacted mixture.
 24. 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.
 25. Tensile strength ratio (TSR), strength of conditioned samples, and worksheets.
- 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 of 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
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. Submit smoothness measurements and surface grade survey results to the Engineer prior to application for payment.
- F. Equipment List: The Contractor shall submit a list of equipment to be used for placing asphalt concrete to the Engineer prior to utilization on the job.
- G. Moisture content of asphalt.
- H. Flangeway detail: Shop drawing detailing method of providing flange way block out in asphalt placed around the rail. Plan to be approved by the Engineer before paving around rail begins.

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 resource program. Mixtures on WSDOT's QPL are considered to be certified.
- 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. For all Quality Control testing performed by Contractor, information and data determined through that testing shall be made available for inspection by Engineer upon request. In no case, however, will Contractor's Quality Control test data be used by Engineer for acceptance or payment purposes.
- D. 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.
- E. 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 45 00 - Quality Control.
- C. The Contractor may obtain copies of results of tests performed by the Engineer, 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. Do not place asphalt beginning October 1st through March 31st of the following year, without written concurrence from the Engineer.
 - 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 dry. 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. All lids, vaults, frames, grates, and other appurtenances shall be set to final grade and accepted by the Engineer paving. 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 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 320 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 Sections 9-03.8(1), 9-03.8(2), 9-03.8(3), and 9-03.8(6), and AASHTO M 323, as modified below:

Test	Specification
Flat and Elongated Particles (ASTM D 4791, using a ratio of 5:1, maximum to minimum dimension)	8%, maximum
Coarse Aggregate Angularity (AASHTO T 335)	95% with 2 or more fractured faces, 100% with 1 or more fractured faces
LA Abrasion Wear (AASHTO T 96, 500 revolutions)	40% Maximum

- 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 Sections 9-03.8(1), 9-03.8(2), 9-03.8(3), and 9-03.8(6), and AASHTO M 323, as modified below:

Test	Specification
Sand Equivalent (AASHTO T 176)	45%, minimum
Uncompacted Void Content (AASHTO T 304, Method A)	45%, minimum
Deleterious Materials (AASHTO T 112)	2%, maximum

- C. Mineral filler, when used, shall conform to the requirements of AASHTO M 17.
- D. Crushed slag aggregates shall not be used.
- E. 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 measured by total weight of HMA.
 - 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, fine aggregate angularity, and flat-and-elongated requirements. 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.

F. 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 T11 and T27. Design gradation requirements are as follows:

Sieve Size (Percent Passing)	1/2-inch NMAS
1-1/2"	-
1"	-
3/4"	100
1/2"	90-100
3/8"	75-90
No. 4	46-66
No. 8	33-45
No. 30	13-29

No. 200	3.0-7.0
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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.
4. Blended Aggregates:
 - a. Fine aggregates and coarse aggregates when blended shall not contain more than 2 percent by mass, clay and other friable particles as determined by AASHTO T 112.
 - b. Each gradation contains maximum and minimum control points. Job mix formula gradations must fall within control points for the specified mix. The combined aggregate shall conform to the gradation requirements shown here when tested in accordance with AASHTO C117 and C136.

2.03 HOT MIX ASPHALT (HMA) MIX DESIGN

- A. Mix design shall be prepared by the Contractor in accordance with WSDOT SOP 732 as modified herein.
- B. Asphalt Binder: PG 70-22.
- C. Aggregate Gradation: 1/2-inch
- D. Gyration levels for mix preparation shall conform to the following:

Mix Designation	Ninitial	Ndesign	Nmax
1/2 inch	7	75	115

- E. The target air voids (Va) of the mix design at the design number of gyrations shall be as follows:

Mix Designation	Air Voids (Percent)
1/2 inch	4.0

- F. The voids filled with asphalt (VFA) at the target air void level shall be as follows:

Mix Designation	Voids Filled with Asphalt (Percent)
1/2 inch	65-75

- G. The voids in mineral aggregate (VMA) of the HMA design shall be as follows:

Mix Designation	Voids Filled with Mineral Aggregate (Percent)
1/2 inch	Minimum 14.0

*Note: VMA is not allowed to drop below minimum in production.

- H. The HMA design when compacted in accordance with AASHTO T 312, shall meet the density specified below at the initial, design, and maximum compaction levels.

Compaction Level (Number of Gyrations)	Required Density (% of Theoretical Maximum Specific Gravity)
Nini	%Gmm =< 89
Ndes	%Gmm =< 96

Nmax

%Gmm =< 98

- I. The dust to binder ratio (by weight ratio between the minus 200 sieve material and effective asphalt content) of the blended mix shall be between 0.6 and 1.4 for 1/2-inch mix.
- J. 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 optional freeze-thaw cycle. In addition, the mixture shall have a minimum wet tensile strength of 80 pounds per square inch (psi) and a maximum dry tensile strength of 175 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 of binder, anti-stripping additive conforming to the requirements of WSDOT Standard Specification Section 9-02.4.

2.05 TACKCOAT

- 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.

2.06 JOINT AND CRACK SEALANT

- A. Sealant material shall conform to the requirements of WSDOT Standard Specification Section 9-04.2(1)A2.

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. Materials Transfer Vehicle – The Contractor shall use a Materials Transfer Vehicle (MTV) to deliver the HMA from the hauling equipment to the paving equipment for any lift in or partially in the top 0.3 feet of the pavement section. MTVs shall conform to WSDOT Standard Specifications Section 5-04.3(3)D.
- E. Compaction Equipment – Operate rollers in accordance with the manufacturer's recommendations. Do not use rollers that crush aggregate, produce pickup or washboard,

unevenly compact surface, displace the mix, or produce other undesirable results.

F. 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.

G. Preparation of the Aggregates:

1. The aggregate for the mixture shall be heated and dried prior to introduction into the mixer. Aggregate shall be dry with no moisture content 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.

H. Preparation of Bituminous Mixture:

1. Asphalt plant shall not exceed production rate certified by manufacturer.
2. Mixing shall conform to WSDOT Standard Specifications Section 5-04.3(6), as modified herein.
3. The aggregates and the bituminous material shall be properly proportioned and introduced into the mixer in the amount specified by the job mix formula.
4. Job mix formula production tolerances shall conform to WSDOT Standard Specifications Section 9-03.8(7), except the tolerance limits for aggregate shall not exceed the limits of the control points specified herein.
5. The moisture content of all bituminous mix upon discharge shall not exceed one (1) percent. Asphalt sampling shall be performed in accordance with AASHTO T 168 and moisture content testing shall be performed in accordance with AASHTO T 329. Results of the moisture content testing shall be submitted to the Engineer.

I. Preparation of the Underlying Surface:

1. Preparation shall conform to WSDOT Standard Specifications Sections 5-04.3(4), and, 5-04.3(4)C as modified herein.
2. Asphalt materials shall not be placed until the underlying course has been tested and accepted by the Engineer.
3. The underlying surface shall be free of water, foreign material, and dust when the hot mix asphalt mixture is applied. Immediately before placing asphalt materials, clean all underlying 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), as modified herein. The Engineer 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 free of water, foreign material, dust, 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.
 - e. Residual asphalt coating shall be 0.06 to 0.08 gallons per square yard on compacted subgrade.
 - f. Tack coat shall be applied to all vertical surfaces of existing pavement, curbs, gutters, utility structures, concrete edge of the wharf, and construction joints in the asphalt against which additional material is to be placed.
 - g. Exposed surfaces of utility vault lids, frames, grates, valve boxes, inlets and other appurtenances within the area to be paved shall be protected from tack coating.
5. Manholes, and lids, and other appurtenances within the area to be paved shall be adjusted to final grade as shown on the Contract Drawings, shall be in place during paving operations, and shall not be paved over as part of the paving operation. Permanent curbs, gutters, and other supports shall be constructed and backfilled prior to placing asphalt. All contact surfaces shall be coated with tack coat.

J. 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 five (5) times the nominal maximum aggregate size of the asphalt mix.
- 5. The hot mix asphalt mixture shall not be placed during unsuitable weather or when the surface temperature of the underlying course is less than that specified below. Asphalt shall not be placed unless the atmospheric temperature is at least 50 degrees F and rising. 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	40
2	45
T<2	55

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.
 - a. For density determination, each day's production will be treated as a lot. A minimum of ten sublots will be tested each day; 15 if production tonnage is expected to exceed 600 tons for that day. In no case shall the subplot size for density determination exceed 40 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 WAQTC TM 8. 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.
 - 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)B2 to assess segregation.
8. 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.
9. 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.
10. Formation of all joints shall be made to ensure a continuous bond between courses and obtain required density. Joints shall have same texture as other sections of course and meet requirements for smoothness and grade.

11. Roller shall not pass over unprotected transverse end of freshly laid mixture except when necessary to form a temporary stop. After a temporary stop, and prior to continuation of paving, the tapered edge shall be cut back to its full depth and width on a straight line, to expose a vertical face, before placing the adjacent lane.
12. Longitudinal joints which are irregular, damaged, uncompacted, or otherwise defective shall be cut back to expose a clean, vertical, sound, surface for the full depth of the course. Apply tack coat on all newly exposed contact surfaces before placing any fresh mixture against the joint.

3.02 COMPACTION OF MIXTURE

- A. After placing, the mixture shall be thoroughly and uniformly compacted by rolling. Surface shall be compacted as soon as possible when the mixture has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. Sequence of rolling operations and the type of rollers shall be at the discretion of the Contractor.
- B. Compaction shall be completed before the mixture cools below 175 degrees F, unless otherwise approved by the Engineer. Temperature shall be determined using an infrared thermometer by the Engineer.
- C. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any displacement occurring as a result of reversing the direction of the roller, or from any other cause, shall be corrected at once.
- D. In areas not accessible to the roller, the mixture shall be thoroughly compacted with mechanical tampers.
- E. Any mixture that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at Contractor's expense. Skin patching will not be allowed.
- F. Compaction of the asphalt mixture shall be in accordance with WSDOT Standard Specifications Section 5-04.3(10), as modified herein.
 1. For density determination, each day's production will be treated as a lot. A minimum of ten sublots will be tested each day; 15 if production tonnage is expected to exceed 600 tons for that day. In no case shall the subplot size for density determination exceed 40 tons. Random test locations will be determined according to WSDOT Test Method T 716.
 2. In-place density shall be a minimum of 93% of the reference theoretical maximum density as determined by WSDOT FOP for AASHTO T209. A minimum of two cores per day/lot will be taken by the Contracting Agency or their representative to confirm gauge calibration. At the Contracting Agencies discretion, cores can be used as the sole means of density acceptance with a testing frequency meeting the of Section F(1).
 3. 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.
 4. Engineer may evaluate cyclic density as described in WSDOT Standard Specifications Section 5-04.3(10)B to assess segregation.

3.03 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.

3.04 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).

3.05 FIELD QUALITY CONTROL

- A. Contractor shall backfill core holes with quickset concrete with a minimum compressive strength of 3,000 psi.
- B. Surface Grades: Grades shall conform to tolerance requirements specified herein, except where a closer tolerance is required for the proper functioning of appurtenant structures and drainage as determined by Engineer.
- C. After the curing, Contractor shall perform a flood test to check if there are any local depressions on the pavement. All asphalt pavement work where water ponds and does not run off within a reasonable amount of time, as determined by the Engineer, shall be fixed to provide proper drainage. Test shall be performed in the Engineer's presence.
- D. Quality Assurance Testing By Engineer:
 - 1. Contractor shall arrange for Engineer to have access to the mixing plant for verification of weights or proportions, character of materials used and determination of temperatures used in the preparation of asphalt concrete mix.
 - 2. Contractor shall provide reasonably safe and convenient access, acceptable to Engineer, for inspection and sampling of the AC, and shall cooperate in the inspection and sampling process when requested to do so.

3.06 ADJUSTING AND CLEANING

- A. The Contractor shall adjust manholes, utility vaults and boxes, and valve boxes to final grades.
- B. At the conclusion of the work and before final payment is made, Contractor shall remove all debris of every kind from the premises and leave the area broom clean.

3.07 PROTECTION

- A. After final rolling, the Contractor shall not permit vehicular traffic on pavement for a minimum of 24 hours until it has cooled and hardened.
- B. The Contractor shall erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The extent and location of "fence" work is indicated on the drawings. The work includes the removal, salvage, storage, and replacement of all items and components of a completely restored fence system with existing gates in conformance with these specifications and the dimensions and sections indicated on the drawings or as established by the Engineer. The contractor is responsible for providing replacement to all chain link fence and gate components that may be damaged in construction and all components shall be in conformance with Specifications.

1.02 SUBMITTALS

- A. Submit supplier's certificate certifying that products meet or exceed specified requirements for any replacement components.
- B. The Contractor shall submit shop drawings of fencing, gates and appurtenances for any replicant products. Shop drawings must be approved by the Engineer prior to fabrication or installation.

1.03 SITE CONDITIONS

- A. Existing Fence and Gate are post mounted to Roller Compacted Concrete and shall be fully removed and salvaged for reinstallation upon completion of the permeable reactive barrier construction and surface restoration,

PART 2 – PRODUCTS

2.01 CHAIN LINK FENCE

- A. The fence shall be chain link fabric supported on a steel frame, the posts of which are plate mounted. Barbed wire supported on brackets above the fabric portion shall be installed as indicated on the drawings. Materials shall be polymer coated heavy industrial chain link fencing in accordance with ASTM F1043, with the additional requirements as follows:
 - 1. General:
 - a. All steel fabric, framework and fittings shall be hot dipped galvanized and black polymer coated in accordance with the applicable ASTM specification.
 - 2. Fabric:
 - a. Fence fabric height shall match existing and shall be black PVC or polyolefin elastomer coated, 7 mil to 15 mil thickness, thermally fused to zinc-coated steel core wire per ASTM F668 Class 2b, and the wire shall be No. 9 gage and the fabric shall be twisted and barbed on both selvages.
 - 3. Framework:
 - a. Posts, rails and braces shall be in accordance with ASTM F1043, hot dip galvanized with minimum average 1.8 oz zinc coverage per square foot of coated surface area, with black PVC-coated finish of 10 to 15 mils, thermally fused.
 - 1) Line posts shall be 2.375 inch O.D., Schedule 40 pipe @ 3.65 pounds per foot, or "C" section @ 2.10 pounds per foot.
 - 2) End, corner, or pull posts shall be 2.875 inch O.D., Schedule 40 pipe @ 5.79 pounds per foot.

- 3) Swing gate posts shall be sized according to the following tabulation. Pipe sizes are nominal O.D. for Schedule 40 pipe.
- 4) Top rails and post braces shall be 1.66 inch O.D., Schedule 40 pipe @ 2.27 pounds per foot, or Type II "C" section as detailed on the drawings @ 1.35 pounds per foot.
- b. Tension Wire shall be No. 7 gage, coil spring, high tensile strength wire, Marcellled, and coated with not less than 0.80 oz. of zinc per square foot of uncoated wire surface and coated with thermally-fused black PVC or polyolefin elastomer in accordance with ASTM F1665.
- c. Ties shall be No. 9 gage thermally fused black polymer coated galvanized steel meeting the requirements of ASTM F626.
4. Fittings:
 - a. All fittings, accessories and hardware for Class 2b thermally fused black polymer coated galvanized chain link fence shall conform to the requirements of ASTM Designation F626 and other ASTM Designations listed therein.
5. Gates:
 - a. Chain link gates shall be constructed with chain link fabric fastened to the end bars of the gate frame by tension bars and fabric bands, and to the top and bottom bars of the gate frames by tie wires in the same manner as specified for the chain link fence fabric.
 - b. Gate frames shall be constructed in accordance with ASTM F 900. The corners of the gate frame shall be welded and coated with two coats of GALVACON or approved equal and two coats of manufacturer approved black polymer coating.
 - c. Cross trussing shall be 3/8 inch galvanized steel adjustable rods, galvanize and having class 2b thermally fused black PVC or polyolefin elastomer coating.
 - d. Each gate shall be provided complete with necessary hinges, gate keeper for each swing leaf, latch and drop bar locking device designed for the type of gate, posts and lock used.
 - e. Gates shall have positive type latching devices with provisions for padlocking. Padlocks will be furnished by the Port of Tacoma.
6. Other Materials:
 - a. Barbed Wire: Perimeter (Coast Guard) Fences: Each barbed wire shall conform to the requirements of ASTM F1665 and shall consist of two strands of 12-1/2-gauge having 0.007-inch minimum of class 2b thermally fused black polymer coating over 0.3-oz. of zinc coating per square foot of wire, twisted with 4-point, 14-gage barbs with the barbs spaced no more than five inches apart.
 - b. Concrete used in anchorage of posts shall be shall be Class B as specified in Section 03 30 00 – Cast-in-Place Concrete.
 - c. Barbed wire supporting arms (Coast Guard Perimeter Fences): Shall be black PVC-coated, minimum thickness of 0.006 inch, maximum thickness of 0.015 inch of the single, 45 degree outward angle 4-strand arm type and of the design required for the post furnished. Secure arms by top rail.

PART 3 – EXECUTION

3.01 GENERAL

- A. The location and alignment of the fence corners, angle points and gates is indicated on the Drawings. The Contractor shall locate all intermediate line posts.

3.02 INSTALLATION

- A. Fencing, gates and appurtenances shall be erected and installed by an organization regularly engaged in this business, employing labor skilled in this type of work to provide a complete security fencing system.
- B. Swing gates shall be fabricated to withstand wind and swing loads. They shall have locking bars to seat into keepers that are set in concrete in ground locations which will hold the gate rigidly in position when closed. Stops which will hold the gate open shall be provided and set in concrete at the location designated by the Engineer. Hinges shall be provided which will allow the gate to swing the entire arc indicated on the drawings. Install gates on gate posts only, do not install on buildings.
- C. Fabric shall be fastened to posts, the top rail and the bottom wire, with wire ties spaced as indicated on the drawings.
- D. Top rails shall be continuous. The Contractor shall provide for expansion or contraction of the continuous rail. Expansion and contraction spring couplings shall be installed at intervals of 100 feet maximum.
- E. Posts shall be installed vertically in the pre-existing spacing and with bolted plate anchors.
- F. Minor damage to galvanizing of fabric and fence appurtenances shall be repaired by thorough cleaning of the damaged surfaces and the application of "GALVACON," or approved equal, in strict accordance with the manufacturer's recommendations. Upon completion of the fence, the Contractor shall clean the fence of all soiled places and repair marred or abraded areas.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The extent and location of "Cured-in-Place Pipe (CIPP) Lining" work is indicated on the drawings. The work includes the following:
1. Bypass pumping as required for completion of the work
 2. Cleaning of all sections of pipe to be CIPP lined
 3. Pre-cleaning, pre-lining and post-lining closed circuit television (CCTV) inspection of pipe
 4. Installation of a resin-impregnated flexible fabric tube that, when cured, shall extend the full length of the original pipe and provide a structurally sound, smooth, jointless and watertight pipe.
 5. Site clean-up upon completion of the work.

1.02 REFERENCES

A. Reference Standards

1. Reference standards cited in this Specification refer to the current reference standard published at the time of the latest revision date of this Specification.
2. Reference standards include but are not limited to the following:
 - a. American Association of State Highway and Transportation Officials (AASHTO)
 - b. American Society for Testing and Materials (ASTM)
 - 1) ASTM D543 Test Method for Resistance of Plastics to Chemical Reagents
 - 2) ASTM D578 Standard Specification Glass Fiber Strands
 - 3) ASTM D638 Standard Test Method for Tensile Properties of Plastics
 - 4) ASTM D790 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
 - 5) ASTM D2122 Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
 - 6) ASTM D2990 Standard Test Methods for Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics
 - 7) ASTM D3567 Standard Practice for Determining Dimensions of "Fiberglass" (Glass-Fiber-Reinforced Thermosetting Resin) Pipe and Fittings
 - 8) ASTM D3681 Standard Test Method for Chemical Resistance of "Fiberglass" (Glass Fiber Reinforced Thermosetting Resin) Pipe in a Deflected Condition
 - 9) ASTM D5813 Standard Specification for Cured-In-Place Thermosetting Resin Sewer Piping Systems
 - 10) ASTM F1216 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
 - 11) ASTM F1743 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)

- 12) ASTM F2019 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Pulled-in-Place Installation of Glass Reinforced Cured-in-Place Resin Pipe (CIPP)
- c. National Associated of Sewer Service Companies (NASSCO)
 - 1) Cured-In-Place (CIPP) Installation Performance Specification Guideline (PSG)
 - 2) Recommended Specifications for Sewer Collection System Rehabilitation

1.03 SUBMITTALS

- A. The Contractor shall submit a Bypass Pumping Plan, if required, for each location in accordance with this Specification. The Contractor's Bypass Pumping Plan shall be reviewed by the Port before the Contractor will be allowed to commence bypass pumping. At a minimum, the Bypass Pumping Plan for each location shall include the following:
 1. Location of pumps and generators
 2. Method, type, and size of plugs
 3. Size, Material, location, and method of installation of suction piping
 4. Size, material, location, and method of installation of discharge piping
 5. Bypass pump sizes, capacity, number of each to be on site
 6. Calculations of static lift, friction losses, and flow velocity, including pump performance curves showing pump operating range
 7. Power generator and standby size and location
 8. Method of noise control for pumps and generators to co ply with the City's noise ordinance, Tacoma Municipal Code Chapter 8.122 if necessary
 9. Calculations for selection of bypass pumping pipe sizes
 10. Method of protecting discharge location from erosion or damage
 11. All backup equipment including pumps, hoses, generators, and pipe
 12. Contractors 24-hour emergency contact name and phone number
 13. Description of proposed contingency plan and clean up method for any spills that may occur.
- B. The Contractor shall submit a Pipe Pre-Installation Cleaning Plan for each location in accordance with this Specification. The Contractor's Pipe Pre-Installation Cleaning Plan shall be reviewed by the Port before the Contractor will be allowed to commence pipe cleaning. At a minimum the Pipe Pre-Installation Cleaning Plan for each location shall include the following:
 1. Proposed method of cleaning pipes including testing and disposal of all sediment generated as part of the cleaning process
 2. Location and type of cleaning equipment and all incidental equipment
 3. Location and type of equipment necessary to detain all cleaning water and to settle solids prior to disposal
 4. Method, type, and size of plugs
 5. Method of noise control for pumps and generators to co ply with the City's noise ordinance, Tacoma Municipal Code Chapter 8.122 if necessary

6. All backup equipment including pumps, hoses, generators, and pipe
 7. Contractors 24-hour emergency contact name and phone number
 8. Description of proposed contingency plan and clean up method for any spills that may occur.
- C. Sediment Testing and Disposal Documentation
1. The Contractor shall submit all documentation associated with testing and disposal of sediment for each storm drain main segment to be lined.
- D. The Contractor shall submit a CCTV Inspection Plan for each location in accordance with this Specification. The Contractor's CCTV Inspection Plan shall be reviewed by the Port before the Contractor will be allowed to commence with pipe lining. At a minimum the CCTV Inspection Plan for each location shall include the following.
1. Submittals Prior to Work:
 - a. Example CCTV Inspection. CCTV inspection work must be completed by certified National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) trained operator(s) using established PACP coding and observations. Coding and observations results shall be recorded and presented on a per "asset" basis, manhole-to-manhole. A pipe "asset" is defined as one continuous pipe from the upstream manhole to the downstream manhole or point of discharge.
 - b. Prior to performing CCTV inspections for this project, the Contractor shall submit examples of prior CCTV inspection work. This submittal shall include a Pre-Installation CCTV inspection, PACP database, and associated Inspection Report, and a Post-Installation CCTV inspection, PACP database, and associated Inspection Report. These shall be submitted and will be reviewed by the Engineer to determine if the quality of the CCTV image and the content of the inspection report is acceptable and if defects were properly identified and documented on the Inspection Report.
 - c. The video files shall be recorded and submitted in MPEG-2 format and include an unmodified NASSCO- PACP Certified Access Database conducted entirely in digital format with electronic reference to survey. The PACP database shall include the Port's storm drain line segment ID as shown on the Plans. No other file format will be accepted unless approved by the Engineer.
 - d. If the Contractor hires any portion of this work out to a subcontractor, the subcontractor shall submit examples as described above. The videos and reports shall be prepared by the Contractor who will actively be performing the work.
 - e. The Contractor or subcontractor shall be responsible for modifications to equipment, software, and/or inspection procedures necessary to achieve report material of acceptable quality. No CIPP work shall commence prior to approval of the examples by the Engineer. Once accepted, the report material shall serve as a standard for the remaining work.
 - f. The CCTV Inspection shall include the following information:
 - 1) Continuous Display
 - 2) Date of Inspection
 - 3) Storm Drain Main segment number

- 4) Corresponding plan sheet number
- 5) Upstream and downstream manhole numbers or ID
- 6) Current distance along the mainline
- g. The Inspection Report shall include the following information:
 - 1) Date of Inspection
 - 2) Corresponding plan sheet number for segment
 - 3) Storm Drain Main segment number
 - 4) Upstream and Downstream Manhole Numbers or ID
 - 5) Location
 - 6) Setup (Normal or Reverse Flow)
 - 7) Pipe size and material
 - 8) Location, length, and depth of water of sags
 - 9) Location and description of defects
 - 10) Confirmation of ability or inability to rehabilitate the subject sewer main segment using CIPP
- 2. Submittals After Each Video Inspection:
 - a. Pre-Installation Inspection Reports
 - 1) The Contractor shall provide the Engineer with the Pre-Installation Inspection and associated Inspection Report for each storm drain main segment.
 - 2) The Pre-Installation Inspection and associated Inspection Report for a storm drain pipe segment shall be submitted to the Engineer at least five (5) working days prior to requesting "wet-out" for that storm drain main segment.
 - E. The Contractor shall submit, prior to the installation or use of any lining materials or equipment, satisfactory written guarantee of their intent to comply with the manufacturer's standards for all materials and techniques being used in CIPP process. Any proposed modifications to the manufacturer's recommended standards shall be approved by the Engineer prior to installation of the product.
 - F. The Contractor shall submit, prior to the installation or use of any lining materials or equipment, certified test results from the manufacturers which indicate that all materials conform to the applicable requirements.
 - G. Chemical resistance submittals – The Contractor shall submit CIPP test results that meet the chemical resistance requirements of ASTM F1216 and ASTM F1743. CIPP samples tested shall be of fabric tube and the specific resin proposed for actual construction. It is required that CIPP samples without plastic coating meet these chemical testing requirements. The chemical resistance tests should be completed in accordance with ASTM Test Method D543. Exposure should be for a minimum of one month at 73.4 degrees F. During this period, the CIPP test specimens should lose no more than 20 percent of their initial flexural strength and flexural modulus when tested in accordance with ASTM F1216 and ASTM F1743, whichever is applicable, when subjected to the following solutions:

Chemical Solution	Concentration, percent
Tap Water (pH 6-9)	100
Nitric Acid	5
Phosphoric Acid	10
Sulfuric Acid	10
Gasoline	100
Vegetable Oil	100
Detergent	0.1
Soap	0.1

The Contractor shall be responsible for all costs associated with the chemical resistance tests.

- H. CIPP Field Samples –The Contractor shall submit test results from previous field installations of the same resin system and tube materials as proposed for the actual installation. Field sampling procedure shall be in accordance with ASTM F1216 or ASTM F1743 and in accordance with ASTM D5813.
- I. MSDS Sheets – The Contractor shall submit Material Safety Data Sheets for all resins, and other additives such as accelerants, colorants, and lubricants utilized in the pipe liner/lining process.
- J. Manufacturer’s Design Life Certification – The Contractor shall submit a Certification that all lining products provide a 50 year design life, stamped by a Washington State licensed Professional Engineer (P.E.).
- K. Manufacturer’ Certification of Training – The Contractor shall submit a manufacturer’s certification of training completion for personnel performing CIPP lining utilizing the manufacturer’s products.
- L. Statement of Qualifications – The Contractor shall submit a Statement of Qualifications to document that assigned installers performing the work meet the following minimum experience criteria to be deemed commercially acceptable.

Product	Unit	Minimum Requirement for Installer
Main Line	EA	200

- 1. For installers to be considered commercially proven, the above referenced minimum number of units of successful collection system installations must be documented to the satisfaction of the Engineer to assure commercial viability of the proposed liner system.
 - 2. The Installer (the licensed company or subcontractor) must meet the minimum requirements. The Contractor must have installed the same product (in the same constructed configuration) proposed for a minimum of one year. Installers who have less than one year installation experience can qualify by having a manufacturer’s representative present during installation.
- M. All pipe rehabilitation products and data submitted for approval must provide third party test results supporting the long-term performance and structural strength of the product. Test results are to include the sewer main and main to structure connection materials. Test samples shall be prepared so as to simulate installation methods and trauma of the product.

1.04 SITE CONDITIONS

- A. Existing concrete pipes are 30" and 36" diameter and require cleaning prior to CIPP work completed. All solids shall be removed from the pipe and proper preparation of inner pipe surface is required. The work area is tidally influenced.

PART 2 – PRODUCTS

2.01 FABRIC TUBE

- A. Liner Assembly - The liner assembly shall be continuous in length and consist of one or more layers of absorbent needle punched felt, circular knit, circular braid or an equivalent nonwoven or woven material, or a combination of nonwoven and woven materials that meet the requirements of ASTM F1216 and ASTM D5813. No intermediate or encapsulated elastomeric layers shall be in the textile that may cause delamination in the CIPP. The textile tube and sheet shall be constructed to withstand installation pressures, have sufficient strength to bridge missing pipe segments, and flexibility to fit irregular pipe sections. The resin saturated textile tube and sheet shall meet ASTM F1216 and the tube shall have 5% to 10% excess resin distribution (full resin contact with the host pipe) that when compressed and cured will meet or exceed the design thickness.
- B. Main Liner Tube - The main liner tube shall be formed from a flat sheet of resin absorbent material suitable for CIPP. The forming of the tube shall be accomplished by one end of the textile sheet overlapping the second end and sized accordingly to create a circular lining equal to the inner diameter of the lined main pipe.

2.02 RESIN

- A. The Contractor shall submit a list of all admixtures that will be used in the resin.
- B. The resin/liner system shall conform to ASTM D5813 Section 8.2.2. Strain Corrosion Requirements, a 10,000 hour test.
- C. The resin shall be a corrosion resistant polyester, vinyl ester or epoxy resin and catalyst system that when properly cured within the composite liner assembly, meets the requirements of ASTM F1216, the physical properties herein, and those which are to be utilized in the design of the CIPP, for this project.
- D. The resin shall produce a CIPP, which will comply with the structural and chemical resistance requirements of ASTM F1216.

2.03 CIPP STRUCTURAL REQUIREMENTS

- A. The thickness of each liner installed shall be determined using calculation methods that are consistent with industry standards, Port design requirements, and the requirements of all applicable ASTMs. The Contractor's Design Engineer shall submit stamped and signed designs prior to the installation of any liner. The design calculations shall be stamped and submitted by an engineer within the State of Washington. The designs shall include a step-by-step calculation that shows all equations, defines all variables, lists all assumptions, and clearly indicates all values used for the design.
- B. The design engineer shall set the long term (50 year extrapolated) Creep Retention Factor at 50% of the initial design flexural modulus as determined by ASTM D790 test method.
- C. The cured in place pipe material (CIPP) shall conform to the structural properties as listed below.

MINIMUM PHYSICAL PROPERTIES

Property	Test Method	Cured Composite
Wall Thickness	ASTM D2122	Per ASTM F1216
Flexural Modulus of Elasticity	ASTM D-790(short term)	250,000 psi
Flexural Strength	ASTM D-790	4,500 psi

D. The required structural CIPP wall thickness shall be based as a minimum on the physical properties indicated above, the Design Equations in the appendix of ASTM F1216, ASTM F2019, or ASTM F1743 as applicable and the following design parameters:

Design Safety Factor	2.0
Creep Retention Factor	50%
Ovality	2%
Modulus of passive soil reaction	1,000 psi
Groundwater Depth	Assume at surface
Soil Depth (above the crown)	See Plan Set
Live Load	H-20 (Highway Loading)
Soil Load (assumed)*	134 lb/cu. Ft.
Pipe Condition	Fully Deteriorated
Minimum service life	50 years

* No soils investigation related to this project has been performed.

- E. The CIPP shall be designed per ASTM F1216, ASTM F2019, or ASTM F1743 as applicable.
- F. The CIPP design for the lateral tube and main sheet shall assume no bonding to the original pipe.

PART 3 – EXECUTION

3.01 GENERAL

- A. The CIPP liner shall be installed and cured in the host pipe per the manufacturer’s specifications as described and submitted in Section 1.03.
- B. Access Safety - Prior to entering access areas such as manholes, performing inspection or cleaning operations, an evaluation of the atmosphere to determine the presence of toxic or flammable vapors or lack of oxygen shall be undertaken in accordance with local, state, or federal safety regulations.
- C. Cleaning and Inspection – The existing host pipe shall be cleaned just prior to insertion of liner. After the cleaning is complete, a final camera pass shall be made to verify the cleanliness of the line. The final pass shall be completed in the presence of the Engineer and accepted as "clean". The final video inspection shall be videotaped and submitted with the Post Installation Inspection and associated Inspection Report to the Engineer.
- D. Plugging – During the lining process, the upstream side of the manhole shall be plugged during insertion and curing of the liner assembly to ensure no flow enters the pipe. When required, bypass pumping of the storm drain flow shall be in accordance with this Specification. The downstream end of the pipe shall be plugged to ensure no flow enters the pipe.
- E. Line Obstructions - The existing pipe shall be clear of obstructions that prevent the proper insertion and expansion of the lining system.

- F. Resin Impregnation (Wet-Out) -The liner assembly shall be wet-out per manufacturer's recommendations. The volume of resin used shall be sufficient to fill all voids in the textile lining material at nominal thickness and diameter. The volume shall be adjusted by adding 5% to 10% excess resin for the change in resin volume due to polymerization and to allow for any migration of resin into the cracks and joints in the original pipe. No dry or unsaturated area in the mainline sheet or lateral tube shall be acceptable upon visual inspection.
- G. Liner Insertion – The liner shall be installed per manufacturers recommendations and per ASTM F2019, ASTM F1216, or ASTM F1743 as applicable.

3.02 PIPE CLEANING

- A. Prior to conducting CCTV inspection, the Contractor shall clean the sewer main segment. Clean shall be defined as the removal of all accumulations including sludge, dirt, sand, rocks, asphalt, concrete, grout, grease, roots, and any other solid or semi-solid material existing in the pipe with 100% debris removal. It will be the Contractor's responsibility to make as many cleaning passes as necessary to meet the above definition of clean.
- B. All roots shall be removed from the pipe. Special attention shall be used during the cleaning operation to assure removal of roots from the joints. Procedures may include the use of mechanical equipment such as rodding machines, root cutters, porcupines, and high-velocity hydro-jet cleaners. Precautions shall be taken by the Contractor in the use of cleaning equipment to avoid any damage to the existing pipe. Any damage of the pipe resulting from the Contractor's cleaning operations, regardless of the existing condition of the pipe, shall be the responsibility of the Contractor.
- C. Liquid, sludge, roots, dirt, sand, rocks, grease, and other solids or semi-solid material resulting from the cleaning operation shall be removed at the downstream end of the segment being cleaned and shall be captured and discharged to sanitary sewer after passing through a sediment removal system in accordance with Paragraph D below or captured and disposed of offsite.
- D. In stormwater segments only, all water generated from cleaning efforts both from initial cleanings and the final cleaning just prior to liner installation shall be discharged to a Sediment Removal System and discharged to the sanitary sewer system as described in Paragraph E below.
- E. Cleaning water shall not be discharged back to the storm system or receiving waters. All water generated from cleaning the stormwater segments shall be captured and discharged to the sanitary sewer after passing through a sediment removal system. Prior to discharging to the sanitary sewer, the cleaning water shall meet the minimum conditions established in a Special Approved Discharge (SAD) permit. The SAD permit is located in Appendix G. It shall be the Contractor's responsibility to maintain compliance with the SAD permit.
- F. The sediment removal system shall be comprised of a minimum 18,000 weir tank followed by a 25-yard filter box with a 150-micron sock filter. Cleaning water shall be pumped into the weir tank then flow by gravity into the filter box. The water from the filter box shall be discharged to a sanitary sewer manhole at a maximum flow rate as allowed by the SAD, or as directed by the Engineer.
- G. The Contractor shall determine volume of the water discharged to the sanitary sewer by a pre-approved method as outlined in the SAD Permit. This measurement along with physical characteristics (presence of sheen, color or odor) must be logged daily during discharge on the Stormwater Cleaning Log sheet found in the SAD permit. The Contractor shall submit the Stormwater Cleaning Log sheets to the Engineer daily.

- H. Analytical monitoring of the water discharging to the sanitary sewer will be performed by the Port in accordance with the SAD permit. The Contractor shall coordinate with the Port for testing to occur prior to all discharge to the sanitary sewer.

3.03 CCTV INSPECTION

- A. The Contractor shall perform CCTV inspection after cleaning the sewer lines to document the condition of the host pipe and verify the lines were cleaned in accordance with these specifications.
- B. Video footage shall be taken from center of manhole to center of manhole or to point of discharge. If any amount of the complete footage for the said segment is missing, the submittal will be rejected and the Contractor shall re-inspect the segment to capture the full footage.
- C. In order to allow for an accurate analysis of the condition of the existing storm drain main/host pipe, the Contractor shall ensure that the entire surface of the storm drain main under inspection is clearly visible. When the depth of water, which may be caused by existing defects such as sags, offsets, voids, etc., obstructs the ability of the Engineer to clearly view the storm drain main/host pipe surface, the Contractor shall halt the inspection and remove the water from the main using high velocity jetting machines, or other non-destructive methods acceptable to the Engineer. Once the main section under inspection is clear of water the inspection may resume.
- D. If the incoming flows are sufficient to obstruct the ability of the Engineer to clearly view the entire surface of the storm drain main/host pipe under inspection, the Contractor shall temporarily plug all incoming flows to the upstream manhole, and bypass pump around the plugged segment and the storm drain main segment under inspection. Bypass pumping from the upstream manhole shall be utilized in accordance with this Specification.
- E. If the Contractor should find rocks and sediments, grease, grout, protruding laterals, or other obstructions that would otherwise prevent the installation of a liner, they shall halt the inspection and remove said obstructions prior to completing the CCTV inspection.
- F. The Contractor shall maintain a clean and clear lens for the duration of the CCTV inspection. Should the lens become soiled, or fogged, or otherwise impaired to any degree that impedes the ability to clearly see the condition of the pipe, the Contractor shall halt the inspection and clean/clear the lens of any foreign matter impeding the visual inspection. No additional compensation will be made for re-inspections required by the Engineer due to soiled, fogged, or otherwise impaired camera lenses.
- G. The Contractor shall maintain sufficient light levels within the main to allow for visual inspection of the pipe walls for a minimum distance of three (3) feet in front of the camera lens for all 8" to 10" pipe, and four (4) feet for all pipe sizes 12" and larger. Additionally, the Contractor shall make certain that the light levels are not so bright that visual inspection is impeded.
- H. Should the camera get stuck in the storm drain main, the Contractor shall be responsible for all costs in extracting it. Costs related to difficulties encountered during internal video inspection are incidental to the contract, and claims will not be considered.
- I. Lining Feasibility
 - 1. The Contractor shall assess the existing condition of the host pipe and the ability to line a storm drain main segment.
 - 2. Pre-Installation Inspection Report Review
 - a. Prior to approving a storm drain main segment for CIPP lining, the Contractor shall review all information in the Pre-Installation Inspection Report. The CCTV Inspection

for each storm drain main segment shall be viewed in its entirety to ensure there were no missed service connections or pipe defects during the CCTV inspection.

3. Minimum Acceptable Conditions

- a. The Contractor is responsible for determining whether or not a storm drain main segment is suitable for CIPP lining by viewing the complete pre-installation inspection videos and reports. The Contractor shall not install a CIPP liner in any pipe segment with existing defects that interfere with or cause a reduction in hydraulic capacity, or which may interfere with future CCTV Inspection operations, or which may hinder in any way the quality of installation of the CIPP liner system. If a storm drain main segment is not suitable for lining it shall be noted on the Video Inspection Report and presented to the Engineer.
- b. The following pipe defects and conditions shall be considered as guidelines when performing CCTV Inspection review and making lining feasibility assessments.
 - 1) Sags: Any section of a pipe segment that has a sag which causes water levels to continuously reach half pipe or greater, and which is longer than ten (10) feet in length shall be noted on the Video Inspection Report and presented to the Engineer. The Engineer shall make the final determination of whether the sag is acceptable or needs repair prior to lining.
 - 2) Bends and Curves: If, in the opinion of the Contractor, there exists a section in the sewer main segment with bends or curves which may prevent lining operations, or future CCTV inspections after a liner has been installed, or which may hinder in any way the quality of installation of the CIPP liner system, it shall be noted on the Video Inspection Report and presented to the Engineer.
 - 3) Offset Joints: Any joint that is offset by more than one half ($\frac{1}{2}$) of an inch in an 8-inch diameter pipe or one (1) inch in a 10-inch diameter pipe or larger shall be noted on the Video Inspection Report and presented to the Engineer. The Engineer shall review the defect and make a final determination of whether the offset is acceptable or needs to be repaired prior to lining.
 - 4) Roots: The Contractor is required to remove all roots within the storm drain main pipe as a part of the cleaning operations. The Contractor shall note these occurrences on the Video Inspection Report.
 - 5) Other Defects: Any other defects in a storm drain main segment that, in the Contractor's opinion, will impede the Contractor's ability to clean and or line to the level of quality required within this Contract shall be noted on the Video Inspection Report and presented to the Engineer.

3.04 CURING PROCESS

- A. Curing - After the liner has been fully deployed into the host pipe the liner shall be expanded and cured per the manufacturer's recommendations. Pressure shall be maintained pressing the liner firmly against the inner pipe wall until the liner is cured. Curing at ambient temperatures, by steam, or by UV is acceptable.
- B. If curing is by steam, the heating equipment shall be capable of delivering a mixture of steam and air throughout the liner assembly to uniformly raise the liner temperature above the temperature required to cure the resin. The curing of the CIPP shall take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of the soil). The heat source temperatures shall be monitored and logged during the cure and cool down cycles. The manufacturer's recommended cure schedule

shall be submitted and followed.

- C. If curing is by UV the glass fiber liner shall be cured with UV light sources at a constant inner pressure. When inserting the curing equipment in the liner, care shall be taken to not damage the inner film material.
 - 1. The UV light sources shall be assembled according to the manufacturer's specifications for the liner diameter. For the liner to achieve required water tightness and specified mechanical properties, the following parameters shall be controlled during the entire curing process, giving the Engineer a record of the curing parameters over every segment of the entire length of the liner to demonstrate that the entire liner is cured properly. The recording shall include:
 - a. Curing speed
 - b. Light source working and wattage
 - c. Inner air pressure
 - d. Curing temperatures
 - e. Date and time
 - f. Length of liner
 - 2. Data recording shall be accomplished using a computer and database that are tamper proof. During the curing process, infrared sensors shall be used to record curing data that will be submitted to the Engineer with the Post Installation CCTV Inspection report.
 - 3. The optimal curing speed, or travel speed of the energized UV light sources, shall be determined for each length of liner based on inner diameter, liner thickness, and exothermic reaction temperature. Curing speed shall be as recommended by the manufacturer and determined by the Contractor based on site specific field conditions.
 - 4. If the liner is manufactured with a removeable inner film, the inner film material shall be removed and discarded after curing to provide optimal quality of the final product.
- D. CIPP Processing - Curing shall be complete without pressure interruption with air or a mixture of air and steam for the proper duration of time per the resin manufacturer's recommendations. The curing process is complete when the temperature of the CIPP falls back to 100 degrees Fahrenheit or less.
- E. The Contractor shall submit the cure and cool down periods as recommended by the resin manufacturer. During the cure and cool down process, the Contractor shall keep logs, charts and/or graphs of the liner temperatures at the specified locations to ensure that proper temperatures and cure times have been achieved. Certified cure logs and cool down schedules shall be submitted for each installed liner.

3.05 FINISHED PIPE LINER

- A. The finished lining shall be a homogenous CIPP liner assembly. The lining shall be smooth with minimal wrinkling and shall increase flow rate. The lining shall be free of dry spots, lifts, and delamination.
- B. The resin saturated liner tube and the main sheet shall place the resin in full contact with the host pipe. The cured liner shall provide coating on the interior of main piping for an improved flow rate.
- C. The liner shall be smooth and have an average roughness coefficient "n" factor of 0.013 or lower.

3.06 FINAL ACCEPTANCE

- A. The Contractor shall perform a CCTV inspection in accordance with this Specification after installation of the CIPP liner. The quality of the Post-Installation CCTV inspection shall be held to the same standards as the Pre-Installation CCTV inspection. During the CCTV inspection the pipe invert shall be clear of any standing water and the pipe shall be continuously visible during the inspection.
- B. The Contractor shall submit to the Engineer, for acceptance and approval, the unedited post-installation video, PACP database file, and associated inspection report for each side sewer lateral within 10 working days of the liner installation via the e-Builder process for each pipe main. The inspection report shall note the inspection date, debris, as well as any other defects in the liner, including, but not limited to, gouges, cracks, bumps, or bulges.
- C. The finished product shall provide non-leaking connection between the host pipe and the storm drain main pipe.
- D. The Post-Installation and Inspection Report submittals shall be reviewed by the Engineer within 10 working days of receipt.
- E. Immediately prior to conducting the post-installation CCTV inspection, the Contractor shall thoroughly clean the newly installed liner. Acceptance of the line as 'clean', (as previously defined in this Specification), shall be determined by the Engineer based upon the subsequent CCTV inspection of the line.
- F. If the CCTV inspection reveals any deficiencies in the cleaning, the Contractor shall immediately correct these deficiencies.

3.07 CLEAN-UP

- A. After the liner installation has been completed and inspected, the Contractor shall clean up the entire project area. All excess material and debris shall be disposed of by the Contractor in accordance with State and Federal laws and regulations. The project area affected by the Contractor's operations shall be reinstated.

3.08 SAMPLING AND LABORATORY TESTING

- A. Sampling - As designated in the contract, the preparation of a CIPP sample is required. The sample shall be prepared by securing a flat plate mold using the textile tube material and resin system as used for the rehabilitated pipe.
- B. Pressure - The pressure applied on the plate sample will be equal to the normal pressure exerted on the lateral tube during the cure process.
- C. Length - The minimum length of the sample must be able to produce at least five specimens for testing in accordance with ASTM D790-03.
- D. Conditioning - Condition the test specimens at $73.4 \pm 3.6^\circ \text{ F}$ ($23 \pm 2^\circ \text{ C}$) and $50 \pm 5\%$ relative humidity for not less than 40 hours prior to test in accordance with Practice ASTM D618, for those tests where conditioning is required.
- E. Short-Term Flexural (Bending) Properties – The initial tangent flexural modulus of elasticity and flexural stress shall be measured for gravity and pressure pipe applications in accordance with Test Method D790 and shall meet the minimum requirements of Table 1.

3.09 WARRANTY

- A. All CIPP liners shall be certified by the manufacturer for specified material properties for the repair. The manufacturer warrants the liner to be free from defects in raw materials for ten years

from the date of installation. During the warranty period, any defects which affect the integrity, strength or water tightness of the installed pipe shall be repaired at the contractor's expense.

- B. The Contractor shall provide the Port a non-pro-rated, full labor and materials warranty to be in force and effect for a period of two (2) years from the date of substantial completion of the project. The warranty shall cause the Contractor to repair or replace the liner should failures or damage result from faulty material or installation.
- C. Extended warranties shall be considered for portions of the project that have not met the requirements of the contract or are defective or have been repaired.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The location and extent of the "Storm Drainage Utilities" work is indicated on the Drawings. The work includes the requirements for furnishing and installing storm drain pipes, storm drain structures, and vaults.

1.02 QUALITY ASSURANCE

- A. Except as specified in article 3.07 of this Section, the Port will provide testing and inspection service to the satisfaction of the Engineer. The Contractor may obtain test results from the Engineer at no cost. Tests conducted for the sole benefit of the Contractor, or before a product is approved, shall be at the Contractor's expense.
- B. Qualification of Workmen: Employ at least one person who shall be present at all times during execution of this portion of the work, shall have all portions of the Drawings and Specifications applicable to that portion of the contract, shall be thoroughly familiar with the type of materials being installed and the best methods for their installation, and shall direct all work performed under this Section.
- C. Codes and Standards: The Contractor shall comply with the applicable provisions of all pertinent codes and regulations. References made herein for manufactured materials such as pipes, fittings, and specialties refer to designations for the latest edition of materials published by the American Association of State Highway and Transportation Officials (AASHTO), the American Society for Testing Materials (ASTM), the American Public Works Association (APWA) Standard Specification for Municipal Public Works Construction, and the WSDOT/APWA 2018 Standard Specifications for Road, Bridge and Municipal Construction.

1.03 SUBMITTALS

- A. Manufacturer's literature on pipe and fitting materials.
- B. Manufacturer's certificates of compliance for pipe and fitting materials.
- C. Manufacturer's literature on the metal castings for manholes, catch basins and cleanouts.
- D. Check Valve manufacturer's flow test data from an accredited hydraulics laboratory.
- E. Certificates of compliance with AASHTO HS-25 load rating requirements for precast structures and metal castings.
- F. Shop drawings for precast catch basins and manholes.

PART 2 – PRODUCTS

2.01 STORM DRAINAGE PIPE

- A. Corrugated Polyethylene Pipe (CPEP) with diameters less than or equal to 30 inches shall be smooth interior annular exterior corrugations and shall meet or exceed the specifications of ASTM F2736 and AASHTO MP-21. CPEP with diameter greater than 30 inches shall have smooth interior and annular exterior corrugations and shall meet or exceed the specifications of ASTM F2881 and AASHTO MP-21. Polypropylene shall be an impact modified copolymer.

2.02 MANHOLES AND CATCH BASINS

- A. Manholes and catch basins shall be of precast concrete and shall be made up from the components indicated on the Drawings and shall conform to the Washington State Department of Transportation Standard Plans for Road, Bridge and Municipal Construction, most recent edition for dimensions and functionality.

- B. Metal frame and grate or cover for catch basins and manholes shall be ductile iron of the size and style indicated on the Drawings.
- C. Ladders and other steel components and hardware shall be coated with HDPE.
- D. Mortar shall be mixed 1:1; Type I cement and sand.

2.03 STORMWATER VAULT

- A. Stormwater Vaults shall be owner furnished.

2.04 PIPE COUPLING

- A. Pipe couplings for joining new pipe to existing pipe shall conform to the performance requirements of ASTM C 1173 and shall include a PVC gasket, stainless steel clamps and stainless steel shear ring. Gasket shall conform to ASTM D 5926 with a minimum tensile strength of 1000 psi and minimum elongation at rupture of 250 percent. Shear ring shall be designed to resist heavy earth loads and shear forces, and retain pipe alignment. Shear ring shall be stainless steel, 0.012 inch or greater thickness.

2.05 INLINE CHECK VALVE

- A. Inline check valve shall be all rubber and the flow operated check type with slip-in cuff connection. The valve shall be ply reinforced throughout the body, saddle and bill, which is cured and vulcanized into a one-piece unibody construction. A separate valve body or pipe used as the housing is not acceptable. The valve shall be manufactured with no metal, mechanical hinges or fasteners, which would be used to secure any component of the valve to a valve housing. The port area of the saddle shall contour into a circumferential sealing area (the "bill") that is concentric with the pipe which shall allow passage of flow in one direction while preventing reverse flow. The entire valve shall fit within the pipe inside diameter. The saddle area of the valve must be flat, not conical, and integral with the rubber body above centerline in order to not produce any areas or voids that can collect or trap debris. The valve must be easily installed in pipes with poor end condition without the need to modify or utilize the headwall or structure to seal and anchor the valve.
- B. The CheckMate Ultraflex Valve or WASTOP Valve shall incorporate multiple concave grooves molded integrally into the flat saddle wall thickness extending longitudinally a minimum of 80% of the length of the saddle to reduce opening resistance and reduce headloss.
- C. The valve shall incorporate a custom shaped notch in the end of the bill to reduce cracking pressure. The notch shall be at the invert/bottom of the bill and symmetrical about the valve centerline. The longitudinal length of the notch shall be no greater than half the length of the bill.
- D. The outside diameter of the upstream and downstream sections of the valve must be circumferentially in contact with the inside diameter of the pipe.
- E. Manufacturer must have flow test data from an accredited hydraulics laboratory to confirm pressure drop and hydraulic data.
- F. Company name, plant location, valve size patent number, and serial number shall be bonded to the check valve.

PART 3 – EXECUTION

3.01 GENERAL

- A. It shall be the Contractor's responsibility to verify the actual locations (horizontal and vertical) of all utilities prior to beginning trench excavation. If utilities are to remain in place, provide protection from damage during construction operations.

3.02 EARTHWORK

- A. Excavation, bedding, and backfilling shall be as specified in Section 31 00 00, Earthwork, of these Specifications.

3.03 SURVEYS

- A. Layout of alignment and grade of site drainage piping shall be established by a Land Surveyor State licensed in Washington. Check the line and grade during installation to ensure that the Work is within the following allowable tolerances:
 - 1. Fine grade and prepare bedding so the pipe can be initially placed with a variation from true line or grade, measured at each joint, of not more than 1/32 inch per inch diameter or 1/2 inch maximum, provided that:
 - a. A resulting level or backsloping length of pipe does not occur; and
 - b. No more than one half of the permissible variation shall be accumulated between successive joints.
 - c. Pipe laid within these tolerances shall not be subjected to any further adjustment. Measurement for grade shall be taken at the pipe invert, NOT TOP OF PIPE. Eccentricity of pipe barrels, with respect to jointing surfaces, shall not produce grade interruption adverse to flow of more than 1/4 inch maximum.

3.04 INSTALLATION OF UNDERGROUND PIPE

- A. Contractor shall hold a pre-construction conference onsite with culvert manufacturer and Engineer a minimum of 2 weeks prior to beginning culvert installation.
- B. Furnish all necessary machinery for the work and pump, bail, or otherwise remove any water which accumulates in the trench. Perform all work necessary to keep the trench clear of water while the foundation and the masonry are being constructed or the pipe is being laid.
- C. Placing: Place the pipe from downstream to upstream with the bells pointing upstream in appropriate bedding graded to conform with the grades and alignment indicated on the Drawings and prepared as specified. Ensure that the pipe has a full, solid bearing along its entire length. Provide small depressions for pipe bells when utilized. Make minor adjustments to line and grade by scraping away, or filling in with, bedding material. Do not support pipes on blocks or mounds of any nature.
- D. Jointing: Take care to properly align the pipe and clean the bell and spigot or tongue of the pipe. Gaskets must be straight, properly lubricated and without twist. The pipe shall be partially supported by hand, sling, or crane, as required, to minimize lateral pressure on the gasket and to maintain concentricity until the pipe has been forced into final longitudinal position in accordance with the manufacturer's recommendations. Pipe handling, after the gasket has been affixed, shall be carefully controlled to avoid bumping the gasket and, thus, knocking it out of position or loading it with dirt or other foreign material. Gaskets so disturbed shall be removed, cleaned, relubricated and replaced before the joint is attempted.
- E. Apply sufficient restraint to the line to ensure that the joints, once home, are held so by tamping fill material under and alongside the pipe. At the end of the day's work, block the last pipe in such a manner as may be required to prevent creep during down time.

3.05 INSTALLATION OF MANHOLES AND CATCH BASINS

- A. Furnish all necessary labor, materials, or equipment to pump, bail, or otherwise dewater the trench or pit for the duration of the construction and backfill period.

B. Manholes/Catch Basins

1. Place manholes/catch basins at the elevation and location indicated on the Drawings upon the appropriate bedding prepared in accordance with Section 31 00 00 – “Earthwork”.
2. Carefully place precast manholes/catch basins on the quarry spall and structural fill bedding so as to be fully and uniformly supported in true alignment, making sure that all entering pipes can be inserted on proper grade.
3. All lift holes and all joints between precast elements shall be thoroughly wetted and then completely filled with mortar, smoothed and point both inside and out, to ensure watertightness.
4. Place precast sections and align to provide vertical sides and vertical alignment of the ladder rungs. The completed catch basin shall be rigid, true to dimensions and watertight.
5. In precast manhole/catch basin sections where steel loops have been provided in lieu of lift holes, remove the loops flush with the inside wall surface after the catch basin has been completed. No sharp cutoff protrusions will be permitted. If concrete spalling occurs as a result of the loop removal, restore the spalled area with mortar to a uniformly smooth surface.

C. Grade Adjustment: The manhole/catch basin casting frame or casting ring may be either cast into a concrete collar or set flange down on pre-cast concrete adjustment rings and mortared, as directed by the Engineer. It shall not, in any case, be grouted to final grade until the final elevation of the pavement in which it is to be placed has been established and permission has been given by the Engineer to grout the casting in place. Provide not less than eight inches or more than 16 inches between the top of the cone or slab and the underside of the manhole casting ring for adjustment of the casting ring to grade. Bricks for grade adjustment shall not be used. Location of manholes/catch basins will be staked by the Contractor.

D. Pipe Connections: Place all pipes entering or leaving the structure on firmly compacted bedding, particularly within the area of the structure excavation, which normally is deeper than that of the sewer trench. All openings in the walls of catch basins constructed with precast sections for the insertion of pipe connections and outlet trap castings shall, after pipe or castings have been placed to their final position, be grouted tight in place to present a smooth uniform surface inside and outside. Pipe placed through walls to which connections will be made shall be so placed that the socket end of the pipe is backed against the outside surface of the catch basin as closely as practicable for the angle of entrance. The spigot end of the pipe shall be cut square with the last point of contact with the inside wall surface. Provide flexible joints within 12 inches of the catch basin structure.

E. Backfill: Hand place backfill around the manhole, extending at least one pipe length into each trench and tamp with selected material up to an elevation of six inches above the crown of all entering pipes. Conform to the applicable provisions of Section 31 00 00 – “Earthwork”.

3.06 PRECAST CONCRETE STORMWATER VAULTS

- A. Set pre-cast vaults and catch basins on aggregate base material that has been placed in maximum 12-inch lifts, loose thickness, and compacted to at least 95-percent of the maximum dry density as determined by the standard Proctor compaction test, ASTM D698, at moisture content of +/-2% of optimum water content.
- B. Inlet and outlet pipes shall be stubbed in and connected to pre-cast concrete vault shown on the drawings. If grout is used, Contractor to grout all inlet and outlet pipes flush with or protruding up to 2 inches into interior of vault.

3.07 INSTALLATION OF INLINE CHECK VALVE

- A. Valve shall be installed in accordance with manufacturer's written Installation and Operation Manual and approved submittals.
- B. Manufacturer's authorized representative shall be available for customer service during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

3.08 ACCEPTANCE TESTING

- A. After completion of the following, authorization from the Engineer shall be required before the Contractor can perform acceptance testing:
 - 1. Acceptable placement of applicable pipe, bedding, and backfill material.
 - 2. Acceptable completion of all applicable manhole channels and grout work.
 - 3. Acceptable debris removal, cleaning, and flushing of all applicable pipes and structures.
- B. Contractor shall perform testing as required by Section 7-17.3 (2) Cleaning and Testing of the WSDOT Standard Specifications for Road Bridge and Municipal Construction, 2018 Edition. Infiltration Testing shall be required where the pipe is installed below the ground water table.
- C. Before final acceptance, the Contractor shall inspect all drainage lines by the use of a television camera, utilizing a Port approved independent inspection service company. The television inspection requirements shall include the provisions of:
 - 1. A color analog/digital camera with pan and tilt capacity in order to view all main lines, lateral lines, and structures including channels.
 - 2. A dye solution to be introduced in sufficient quantity to travel from the structure that is the highest point of inspection to the downstream terminus of the inspection limits. Red or purple dye shall be used for PVC pipe and green dye for ductile iron and concrete pipe.
 - 3. A one-inch reference ball to be mounted to the camera in order to drag along the bottom of the pipe during the entire inspection procedure.
 - 4. Linear measure references to be measured from the center of the beginning structure to the center of the next inline structure and include the direction of flow. The locations of lateral pipes and all distinctive pipe conditions shall be referenced to the centerline of the beginning structure. All structure references shall utilize the designated structure reference numbers shown on the plans.
- D. The following television inspection information shall be provided to the Engineer:
 - 1. A clear movie format on DVD which encompasses the limits of the inspection area and including all reference data as described herein. A tape reference time and date for the start of each run shall also be indicated.
 - 2. A written report shall be provided corresponding to the taped inspection and including all reference data as described herein. The report shall consist of a written narrative of all distinctive pipe conditions including ponding areas in excess of 1/4 inch.

END OF SECTION

APPENDIX A
PORT OF TACOMA
CONSTRUCTION SWPPP
SHORT FORM

CONSTRUCTION SWPPP SHORT FORM

The threshold for using the Port of Tacoma’s (Port) short form is a project that proposes to clear or disturb less than one acre of land. Projects falling within this threshold may use this short form instead of preparing a professionally designed Construction Stormwater Pollution Prevention Plan (SWPPP). If project disturbance quantities exceed this threshold, you must prepare of formal Construction SWPPP as part of your submittal package. If your project is within the threshold and includes—or may affect—a critical area, please contact the Port to determine if the SWPPP short form may be used.

CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN SHORT FORM

Project Name:

Address:

Contact/Owner:

Phone:

Erosion Control Supervisor:

Phone:

Cell:

Pager:

Emergency (After hours) Contact:

Phone:

Permit No.:

Parcel No.:

Required Submittals

A Construction SWPPP consists of both a project narrative and a site plan. The project narrative describes existing conditions on the site, the proposed conditions, and how construction site runoff will be managed until final site stabilization is achieved. Any additional relevant information should be included in the project narrative. All Best Management Practices (BMPs) that will be utilized onsite must be included as part of the project narrative and provided (electronically or hard copy) as part of the submittal package. If additional BMPs beyond those included in the Washington Department of Ecology's (Ecology) Western Washington Stormwater Management Manual (Ecology SWMM) or the City of Tacoma's (City) Stormwater Management Manual (City SWMM) are proposed to be used, a narrative and appropriate details describing the BMP (its function, installation method, and maintenance activities) will be required.

The site plan is a drawing which shows the location of the proposed BMPs to control erosion and sedimentation during and after construction activities.

PROJECT NARRATIVE

The Construction SWPPP Short Form narrative must be completed at part of the submittal package. Any information described, as part of the narrative, should also be shown on the site plan.

Note: From October 1 through April 30, clearing, grading, and other soil disturbing activities shall only be permitted by special authorization from the Port.

A. Project Description (Check all that apply)

- | | | |
|--|--|---|
| <input type="checkbox"/> New Structure | <input type="checkbox"/> Building Addition | <input type="checkbox"/> Grading/Excavation |
| <input type="checkbox"/> Paving | <input type="checkbox"/> Utilities | <input type="checkbox"/> Other: |

1. Total project area (square feet)
2. Total proposed impervious area (square feet)
3. Total existing impervious area (square feet)
4. Total proposed area to be disturbed (square feet)
5. Total volume of cut/fill (cubic yards)

Additional Project Information:

B. Existing Site Conditions (Check all that apply)

1. Describe the existing vegetation on the site. (Check all that apply)

<input type="checkbox"/> Forest	<input type="checkbox"/> Pasture/field grass	<input type="checkbox"/> Pavement	<input type="checkbox"/> Landscaping	<input type="checkbox"/> Brush
<input type="checkbox"/> Trees	<input type="checkbox"/> Other:			
2. Describe how surface water (stormwater) drainage flows across/from the site. (Check all that apply)

<input type="checkbox"/> Sheet Flow	<input type="checkbox"/> Gutter	<input type="checkbox"/> Catch Basin	<input type="checkbox"/> Ditch/Swale	<input type="checkbox"/> Storm Sewer
<input type="checkbox"/> Stream	<input type="checkbox"/> Other:			
3. Describe any unusual site condition(s) or other features of note.

<input type="checkbox"/> Steep Grades	<input type="checkbox"/> Large depression	<input type="checkbox"/> Underground tanks	<input type="checkbox"/> Springs
<input type="checkbox"/> Easements	<input type="checkbox"/> Existing structures	<input type="checkbox"/> Existing utilities	<input type="checkbox"/> Other:

C. Adjacent Areas (Check all that apply)

1. Check any/all adjacent areas that may be affected by site disturbance and fully describe below in item 2:

- Streams* Lakes* Wetlands* Steep slopes*
 Residential Areas Roads Ditches, pipes, culverts Other:

** If the site is on or adjacent to a critical area (e.g., waterbody), the Port may require additional information, engineering, and other permits to be submitted with this short form.*

2. Describe how and where surface water enters the site from properties located upstream:

3. Describe the downstream drainage path from the site to the receiving body of water (minimum distance of 0.25 mile [1320 feet]). (E.g., water flows from the site into a curb-line, then to a catch basin at the intersection of X and Y streets. A 10-inch pipe system conveys water another 1000 feet to a wetland.) Include information on the condition of the drainage structures.

D. Soils (Check all that apply)

The intent of this section is to identify when additional soils information may be required for applicants using this short form. There are other site-specific issues that may necessitate a soils investigation or more extensive erosion control practices. The Port will determine these situations on a case-by-case basis as part of their review.

1. Does the project propose infiltration? Infiltration systems require prior Port approval.

- Yes No

2. Does the project propose construction on or near steep slopes (15% or greater)?

- Yes No

If infiltration is proposed for the site or steep slopes (15% or greater) have been identified, the Port will require soils information as part of project design. The applicant must contact a soil professional or civil engineer that specializes in soil analysis and perform an in-depth soils investigation. If the Yes box is checked for either question, the Port may not permit the use of this short form.

E. Construction Sequencing/Phasing

1. Construction sequence: the standard construction sequence is as follows:
 - Mark clearing/grading limits.
 - Install initial erosion control Best Management Practices (BMPs) (e.g., construction entrance, silt fence, catch basin inserts, etc.).
 - Clear, grade, and fill project site as outlined in the site plan while implementing and maintaining proper temporary erosion and sediment control BMPs simultaneously.
 - Install permanent erosion protection as described in the specifications (e.g., impervious surfaces, landscaping, etc.).
 - Remove temporary erosion control methods as permitted. Do not remove temporary erosion control until permanent erosion protection is fully established.

List any changes from the standard construction sequence outlined above:

2. Construction phasing: if construction is going to occur in separate phases, please describe:

F. Construction Schedule

1. Provide a proposed construction schedule (dates construction starts and ends, and dates for any construction phasing.)

Start Date:

End Date:

Interim Phasing Dates:

Wet Season Construction Activities: Wet season occurs from October 1 to April 30. Please describe construction activities that will occur during this time period.

Note: Additional erosion control methods may be required during periods of increased surface water runoff.

2. Site plan (see Figure 1, page 6)

A site plan, to scale, must be included with this checklist that shows the following items:

- a. Address, Parcel Number, Permit Number, and Street Names
- b. North Arrow
- c. Indicate boundaries of existing vegetation (e.g., tree lines, grassy areas, pasture areas, fields, etc.)
- d. Identify any onsite or adjacent critical areas and associated buffers (e.g., wetlands, steep slopes, streams, etc.).
- e. Identify any FEMA base flood boundaries and Shoreline Management boundaries.
- f. Show existing and proposed contours.
- g. Delineate areas that are to be cleared and/or graded.
- h. Show all cut and fill slopes, indicating top and bottom of slope catch lines.
- i. Show locations where upstream run-on enters the site and locations where runoff leaves the site.
- j. Indicate existing surface water flow direction(s).
- k. Label final grade contour and indicate proposed surface water flow direction and surface water conveyance systems (e.g., pipes, catch basins, ditches, etc.).
- l. Show grades, dimensions, and direction of flow in all (existing and proposed) ditches, swales, culverts, and pipes.
- m. Indicate locations and outlets of any dewatering systems (usually to sediment trap).
- n. Identify and locate all erosion control methods to be used during and after construction.

ONSITE FIELD VERIFICATION OF ACTUAL CONDITIONS IS REQUIRED.

Figure 1. (to be worked out with Engineering Dept.)

GUIDELINES FOR EROSION CONTROL ELEMENTS

This SWPPP must contain the 12 required elements, as required by Ecology. Check off each element as it is addressed in the SWPPP short form and/or on your site plan.

- 1. Mark Clearing Limits
- 2. Establish Construction Access
- 3. Control Flow Rates
- 4. Install Sediment Controls
- 5. Stabilize Soils
- 6. Protect Slopes
- 7. Protect Drain Inlets
- 8. Stabilize Channels and Outlets
- 9. Control Pollutants
- 10. Control Dewatering
- 11. Maintain BMPs
- 12. Manage the Project

The following is a brief description of each of the 12 required elements of a SWPPP. If an element does not apply to the proposed project site, please describe why the element does not apply. Applicable BMPs are listed with each element and in Table 1. Please note that this list is not a comprehensive list of BMPs available for small construction projects, but erosion and sediment control techniques most pertinent to small construction sites are included here. More detailed information on construction BMPs can be found in Ecology's SWMM Volume II and the City's SWMM Volume II (Ecology 2005; City of Tacoma 2012). Please provide hard copies of the BMPs that will be used for the project and include as part of this Construction SWPPP. BMPs that may be used if needed can be noted as being contingent in the event additional erosion control is needed. Describe any additional BMPs that will be utilized onsite and add them to the SWPPP short form.

For phased construction projects, clearly indicate erosion control methods to be used for each phase of construction.

Element #1 – Mark Clearing Limits

All construction projects must clearly mark any clearing limits, sensitive areas and their buffers prior to beginning any land disturbing activities, including clearing and grading. Clearly mark the limits both in the field and on the site plans. Limits shall be marked in such a way that any trees or vegetation that is to remain will not be harmed.

Applicable BMPs include:

- BMP C101: Preserving Natural Vegetation
- BMP C102: Buffer Zones
- BMP C103: High Visibility Plastic or Metal Fence
- BMP C104: Stake and Wire Fence

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #2 – Establish Construction Access

All construction projects subject to vehicular traffic shall provide a means of preventing vehicle “tracking” soil from the site onto streets or neighboring properties. Limit vehicle traffic on- and off-site to one route if possible. All access points shall be stabilized with a rock pad construction entrance or other Port-approved BMP. The applicant should consider placing the entrance in the area for future driveway(s), as it may be possible to use the rock as a driveway base material. The entrance(s) must be inspected weekly, at a minimum, to ensure no excess sediment buildup or missing rock.

Applicable BMPs include:

- BMP C105: Stabilized Construction Entrance
- BMP C106: Wheel Wash
- BMP C107: Construction Road/Parking Area Stabilization

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #3 – Control Flow Rates

Protect properties and waterways downstream of the project site from erosion due to increases in volume, velocity, and peak flow of stormwater runoff from the project site.

Permanent infiltration facilities shall not be used for flow control during construction unless specifically approved by the Environmental Department. Sediment traps can provide flow control for small sites by allowing water to pool and allowing sediment to settle out of the water.

Applicable BMPs include:

- BMP C207: Check Dams
- BMP C240: Sediment Trap

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element 4 – Install Sediment Controls

Surface water runoff from disturbed areas must pass through an appropriate sediment removal device prior to leaving a construction site or discharging into a waterbody. Sediment barriers are typically used to slow stormwater sheet flow and allow the sediment to settle out behind the barrier.

Sediment controls must be installed/constructed prior to site grading.

Applicable BMPs include:

- BMP C208: Triangular Silt Dike
- BMP C232: Gravel Filter Berm
- BMP C233: Silt Fence
- BMP C235: Straw Wattles

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #5 – Stabilize Soils

Stabilize exposed and unworked soils by applying BMPs that protect the soils from raindrop impact, flowing water, and wind.

From October 1 through April 30, no soils shall remain exposed or unworked for more than 2 days. From May 1 to September 30, no soils shall remain exposed or unworked for more than 7 days. This applies to all soils whether at final grade or not.

Applicable BMPs include:

- BMP C120: Temporary and Permanent Seeding
- BMP C121: Mulching
- BMP C122: Nets and Blankets
- BMP C123: Plastic Covering
- BMP C140: Dust Control

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #6 – Protect Slopes

Protect slopes by diverting water at the top of the slope. Reduce slope velocities by minimizing the continuous length of the slope.

Applicable BMPs include:

- BMP C200: Interceptor Dike and Swale
- BMP C204: Pipe Slope Drains
- BMP C207: Check Dams

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #7 – Protect Drain Inlets

All operable storm drain inlets must be protected during construction so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment. Install catch basin protection on all catch basins within 500 feet downstream of the project.

Applicable BMPs include:

- BMP C220: Storm Drain Inlet Protection

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #8 – Stabilize Channels and Outlets

Stabilize all temporary onsite conveyance channels. Provide stabilization to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches at the conveyance system outlets.

Applicable BMPs include:

- BMP C202: Channel Lining
- BMP C209: Outlet Protection

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #9 – Control Pollutants

Handle and dispose of all pollutants, including demolition debris and other solid wastes in a manner that does not cause stormwater contamination. Provide cover and containment for all chemicals, liquid products (including paint), petroleum products, and other materials. Handle all concrete and concrete waste appropriately.

Applicable BMPs include:

- BMP C150: Materials on Hand
- BMP C151: Concrete Handling
- BMP C152: Sawcutting and Surface Pollution Prevention
- BMP C153: Material Delivery, Storage and Containment

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #10 – Control Dewatering

Clean, non-turbid dewatering water, such as groundwater, can be discharged to the stormwater system provided the dewatering flow does not cause erosion or flooding of receiving waters.

Applicable BMPs include:

- BMP C150: Materials on Hand

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #11 – Maintain BMPs

Maintain and repair temporary erosion and sediment control BMPs as needed. Inspect all BMPs at least weekly and after every storm event.

Remove all temporary erosion and sediment control BMPs within 30 days after final site stabilization or if the BMP is no longer needed. Any sediment trapped during construction activities should be removed or stabilized onsite. No sediment shall be discharged into the stormwater drainage system or any natural conveyance system (e.g., streams).

Applicable BMPs include:

- BMP C160: Certified Erosion and Sediment Control Lead

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #12 – Manage the Project

Phase development projects to prevent soil erosion and the transport of sediment from the project site during construction. Coordinate all work prior initial construction with subcontractors and other utilities to ensure no areas are worked prematurely.\

A designated erosion and sediment control person is required for all construction projects. This person is responsible for ensuring that the project’s erosion and sediment control BMPs are appropriate for the site and are functioning properly. They are also responsible for updating the SWPPP as necessary as site conditions warrant. They must be available 24 hours a day to ensure compliance.

Applicable BMPs include:

- BMP C160: Certified Erosion and Sediment Control Lead
- BMP C162: Scheduling
- BMP C180: Small Project Construction Stormwater Pollution Prevention

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Table 1. Applicable BMPs for the 12 Elements of a SWPPP

Element #1 – Mark Clearing Limits		
BMP C101	Preserving Natural Vegetation	
BMP C102	Buffer Zones	
BMP C103	High Visibility Plastic and Wire Fence	
BMP C104	Stake and Wire Fence	
Element #2 – Establish Construction Entrance		
BMP C105	Stabilized Construction Entrance	
BMP C106	Wheel Wash	
BMP C107	Construction Road/Parking Area Stabilization	
Element #3 – Control Flow Rates		
BMP C207	Check Dams	
BMP C240	Sediment Trap	
Element #4 – Install Sediment Controls		
BMP C208	Triangular Silt Trap	
BMP C232	Gravel Filter Berm	
BMP C233	Silt Fence	
BMP C235	Straw Wattles	
Element #5 – Stabilize Soils		
BMP C120	Temporary and Permanent Seeding	
BMP C121	Mulching	
BMP C122	Nets and Blankets	
BMP C123	Plastic Covering	
BMP C140	Dust Control	
Element #6 – Protect Slopes		
BMP C200	Interceptor Dike and Swale	
BMP C204	Pipe Slope Drains	
BMP C207	Check Dams	
Element #7 – Protect Drain Inlets		
BMP C220	Storm Drain Inlet Protection	
Element #8 – Stabilize Channels and Outlets		
BMP C202	Channel Lining	
BMP C209	Outlet Protection	
Element #9 – Control Pollutants		
BMP C150	Materials on Hand	

Element #9 – Control Pollutants, cont.		
BMP C151	Concrete Handling	
BMP C152	Sawcutting and Surfacing Pollution Prevention	
BMP C153	Materials, Delivery, Storage and Containment	
Element #10 – Control Dewatering		
BMP C150	Materials on Hand	
Element #11 – Maintain BMPs		
BMP C160	Certified Erosion and Sediment Control Lead	
Element #12 – Manage the Project		
BMP C160	Certified Erosion and Sediment Control Lead	
BMP C162	Scheduling	
BMP C180	Small Project Construction Stormwater Pollution Prevention	

REFERENCES

City of Tacoma. 2012. Stormwater Management Manual 2012 Edition. Public Works/ Environmental Services, Maintenance Division, Tacoma, Washington.

Washington State Department of Ecology (Ecology). 2005. Stormwater Management Manual for Western Washington. Water Quality Program, Lacey, Washington.

APPENDIX B
CULTURAL RESOURCE
ASSESSMENT



WILLAMETTE
CULTURAL RESOURCES ASSOCIATES, LTD.



Cultural Resources Assessment for the Port of Tacoma Parcel 15 (Portac) Cleanup Phase 1, Tacoma, Pierce County, Washington

**Cultural Resources Assessment for the
Port of Tacoma Parcel 15 (Portac) Cleanup Phase 1,
Tacoma, Pierce County, Washington**

Prepared by
Julia Kunas, MS
Althea Fitzpow
Austin Jenkins, MS

April 15, 2022

WillametteCRA Report No. 21-140
Seattle, Washington

Prepared for
Port of Tacoma
Tacoma, Washington



WILLAMETTE
CULTURAL RESOURCES ASSOCIATES, LTD.

Report Details

Project Name:	Port of Tacoma Parcel 15 (Portac) Cleanup Phase 1
SHPO/DAHP Number	2021-07-04616
Agency:	Washington State Department of Ecology
Client:	Port of Tacoma
Project Undertaking:	Site Remediation
Regulatory Framework:	State Environmental Policy Act (SEPA)
County:	Pierce
Legal Description:	Township 20 North, Range 3 East, Section 1
USGS Quad	<i>Poverty Bay 7.5-minute</i>
Project Acreage:	5.8 acres
Survey Acreage:	5.8 acres
Permit Number:	N/A
Accession Number:	N/A
Curation Location:	N/A
Field Note location:	WillametteCRA, Seattle Office
Fieldwork Type:	Monitoring
Fieldwork Dates:	November 16-17, 2021
Field Personnel:	Julia Kunas
Findings:	No cultural resources
Recommendations:	Monitoring of Specific Project Activities

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Introduction

Willamette Cultural Resources Associates, LTD (WillametteCRA) is contracted with Aspect Consulting to provide the Port of Tacoma (Port) with a Cultural Resources Assessment for the Parcel 15 (Portac) Cleanup Phase 1 Project (Project). The Project is located in Section 1, Township 20 North, Range 3 East, in the City of Tacoma, Pierce County, Washington (Figure 1). The Port entered Agreed Order No. DE 15816 (Agreed Order) with the Washington State Department of Ecology (Ecology) on June 23, 2021, to implement the Project.

This Cultural Resources Assessment is limited to Phase 1 cleanup activities. The Project is intended remove arsenic in groundwater before it reaches Wapato Creek and prevent arsenic impacted groundwater from seeping into stormwater conveyance. Phase 1 includes construction of a permeable reactive barrier (PRB), slip lining two existing stormwater conveyance pipes and replacing two stormwater vaults (Figure 2). Existing outfall structures where the pipes discharge to Wapato Creek will also be repaired. Future Phase 2 contingency actions may include groundwater treatment and/or a low-permeability cap. Phase 2 concepts are not meaningfully developed, are dependent upon future site development, and have no clear timeline; therefore, Phase 2 activities cannot be meaningfully analyzed for potential impacts to cultural resources at this time.

This Cultural Resources Assessment included background research and review of subsurface conditions to determine the potential for deposits to bear cultural resources. Due to extensive fill on site and challenges with accessing subsurface deposits with traditional archaeological testing, the investigation consisted of observing drilling activities during the Pre-Remedial Design Investigation and reviewing its geotechnical data. No cultural resources were observed during the Cultural Resources Assessment. Archaeological monitoring of PRB construction, as well as storm vault removals and preparation of the pits for the proposed vaults is recommended.

Project Setting

The Project is located at the Portac property east of Alexander Avenue East and south of 4th Street East, Tacoma. The site is paved for use as short-term parking of imported cars and for queuing trucks accessing the Pierce County Terminal. A portion of the site was a former log yard; it is now covered by a low permeability environmental cap.

Regulatory Context

The Project is subject to review under the State Environmental Policy Act (SEPA). Ecology approved a SEPA checklist, requiring adherence to the agency's standard Inadvertent Discovery Plan (IDP). The Port's ongoing coordination with the Puyallup Tribe of Indians Tribal Historic Preservation staff identified the need for a Cultural Resources Assessment to determine



Figure 1. Project Location on USGS 7.5' Topographic Quadrangle.



Figure 2. Project Location on Aerial Photograph.

whether the IDP should also include a monitoring component, as a Monitoring and Inadvertent Discovery Plan (MIDP).

Additionally, the Project requires completion of a Joint Aquatic Resource Permit Application (JARPA). Some Project activities are anticipated to require permitting from the United States Army Corps of Engineers (Corps), which would make the project subject to Section 106 of the National Historic Preservation Act (Section 106). The Corps may review this report, at its discretion, to consider potential effects to historic properties under Section 106.

Other Washington state laws apply to archaeological resources and Native American burials located on private and non-federal public lands. The Archaeological Sites and Resources Act (RCW 27.53) prohibits knowingly excavating or disturbing prehistoric and historic archaeological sites. The Indian Graves and Records Act (RCW 27.44) prohibits knowingly destroying American Indian graves and provides a process for notifications and consultation in cases of inadvertent discoveries of human remains. To prevent the looting or depredation of sites, any maps, records, or other information identifying the location of archaeological sites, historic sites, artifacts, or the site of traditional ceremonial, or social uses and activities of Indian Tribes are exempt from public disclosure (RCW 42.56.300).

Natural and Cultural Background

Natural Setting

The Project is located within the Puget Lowlands region, which is defined as the low-lying area between the Cascade Mountains and the Olympic Mountains (DNR 2021). Puget Lowland landscapes were shaped through various Quaternary glaciations that advanced through the area as the Puget Lobe of the Cordilleran Ice Sheet (Booth et al. 2003; DNR 2021). Glacial advances and retreats over a period of approximately 18,000 to 15,000 years resulted in the topography of the Puget Lowlands, in addition to more recent processes such as erosion, landslides, and volcanic eruptions (Booth et al. 2003).

The recent historic tidelands condition of the Project Location does not represent the environment conditions throughout human history on Commencement Bay. The glacial and deglacial processes and volcanic history in the Puget Lowlands contribute to a complicated relationship between the Project Location and water levels. During the last glacial maximum, although global sea level was considerably lower, mass from the ice sheets depressed the underlying land (Booth et al. 2003). Vast amounts of local fresh water, isostatic rebound, rising global sea level and sedimentation within the Puyallup River Valley resulted in the significant variations in hydrologic conditions at the Project Location. Shorelines were well below modern levels from 13,500 to 9,000 years ago (Booth et al. 2003) and the embayment of what is now Commencement Bay, reached the City of Puyallup until 5,700 years ago (Dragovich et al.

1994). Following the Osceola Mudflow, valley bottom and deltas would more closely approximate their present location (Dragovich et al. 1994).

The Project is situated near Commencement Bay, east of the current channelized Wapato Creek (see Figure 2) and immediately north of its most recent natural course (Figure 3). The surface geology near the Project is dominated by tidal influence and deltaic features. The area is mapped as Holocene alluvial deposits (Qa) (Schuster et al. 2015). These deposits are described as loose, fluvial silt, sand, and gravels that are typically rounded and well sorted (Schuster et al. 2015).

The Project was filled to facilitate development at the Port (Figure 4). Fill episodes at the Port took place over several decades throughout the twentieth century and coincided with the channelizing of Wapato Creek (see Figure 4). Soils are mapped as Urban land, 0 to 5 percent slopes (NRCS 2022), as is common in areas with extensive fill and substantial modification. The surrounding soils are predominantly Sultan silt loam, which has a parent material of alluvium and consists of silt loam over stratified sand to silty clay loam (NRCS 2022).

The Project is located within the *Tsuga heterophylla* vegetation zone, which is characteristic of most of western Washington (Franklin and Dyrness 1988). Native flora in this woodland area was dominated by western red cedar, Douglas fir, western hemlock, red alder, and big leaf maple over an understory including evergreen blackberry, Oregon grape, and oceanspray and ferns. Fauna found throughout the region include black-tailed deer, cougars, coyotes, beavers, grouse, and various waterfowl species. Common native fish species include trout, whitefish, suckers and multiple Pacific salmon species (Pietsch and Orr 2015).

Cultural Setting

Precontact Archaeological Context

The Project is within a region that has been used by humans for at least 10,000 years. The history of Native American settlement and subsistence in the nearby uplands, and river valleys both before and after European American contact reveals important patterns that speak to the potential for archaeological resources and culturally important places.

Not much is known, archaeologically about human activity in the Puget Lowlands during the Late Pleistocene to early Holocene periods. The Bear Creek Site (45KI839) north of the Project in Redmond provides one of the main sources of information on human activity during this period, with cultural deposits dating from approximately 10,000 and 12,500 years ago (Kopperl 2016). Olcott sites, usually referred to as sites in the region older than 4,000 years before present (YBP), are more common and are often located on Puget Lowland glacial outwash surfaces and inland foothill valleys (Chatters et al. 2011; Croes et al. 2008; Kidd 1964). Olcott sites are characterized by large, leaf-shaped stemmed points made from local cobbles, and have been interpreted as a reliance on highly mobile hunting and gathering resource

acquisition. This trend appears to have lasted for at least 6,000 years until a shift towards the increasing use of marine and riverine resources (Taylor 2021).

After 5,000 years ago growing populations in the region resulted in a greater number of archaeological sites that often reflected the diverse array of resources available to people. Full-scale development of marine-oriented cultures on the coast and inland hunting, gathering, and riverine fishing traditions as represented in the ethnographic record are apparent after about 2,500 years ago (Blukis Onat 1987). Large semi-sedentary populations occupied cedar plank houses at river mouths and confluences and on protected shorelines (Ames and Maschner 1999; Blukis Onat 1987; Matson and Coupland 1995). European contact in the late eighteenth century led to drastic changes in Native American populations and community structures, primarily caused by disease pandemics, as well as major changes in native economies (Boyd 1999).

Native Peoples

The Project is located within the traditional lands of the Puyallup Tribe of Indians and is within the external boundary of the Puyallup Tribe's reservation. The Puyallup are a Lushootseed speaking group whose homeland ranges from the foothills of Mount Rainier (called *təqʷuʔmaʔ/təqʷuʔbəd* by the Puyallup) to the Puget Sound (Puyallup Tribe of Indians 2022).

Several traditional names are used by the Puyallup for places near the Project. The flats between Hylebos Creek and Wapato Creek were known as *Kalka'laqʷ*, meaning "place around which the water passes" (Waterman 2001:248). The Project is located on these flats. Wapato Creek just to the west of the project was called *Qa'1qalEqʷ*, meaning "making many turns", *Spiyaaqo'ts*, or "Indian potato", and *Sto'lagwali*, which means "where the river used to be" (Waterman 2001:248). Hylebos Creek to the northeast of the Project was called *XaxtL!*, which means "brushy" (Waterman 2001:248).

Treaty Period

On December 24, 1854, the Treaty of Medicine Creek was signed by Governor Isaac I. Stevens and representatives of the Nisqually, Puyallup, Steilacoom, Squawskin, S'Homamish, Stehchass, T'Peeksin, Squi-aitl, and Sa-heh-wamish tribes and bands of Indians (Governor's Office of Indian Affairs 2022). Tribal representatives were invited to the treaty council under the impression that it was a potlatch and were instead pressured to sign the treaty papers despite many not being able to speak or read English (Puyallup Tribe of Indians 2022). The Treaty had the signing groups cede possession of their traditional lands to the United States Government for \$32,500 (Governor's Office of Indian Affairs 2022). The Treaty established reservations at Puyallup, Nisqually, and on Squaxin Island that people had to move to within a year of its signing. Additionally, the Treaty secured tribal rights for certain practices.

1931

City of Tacoma

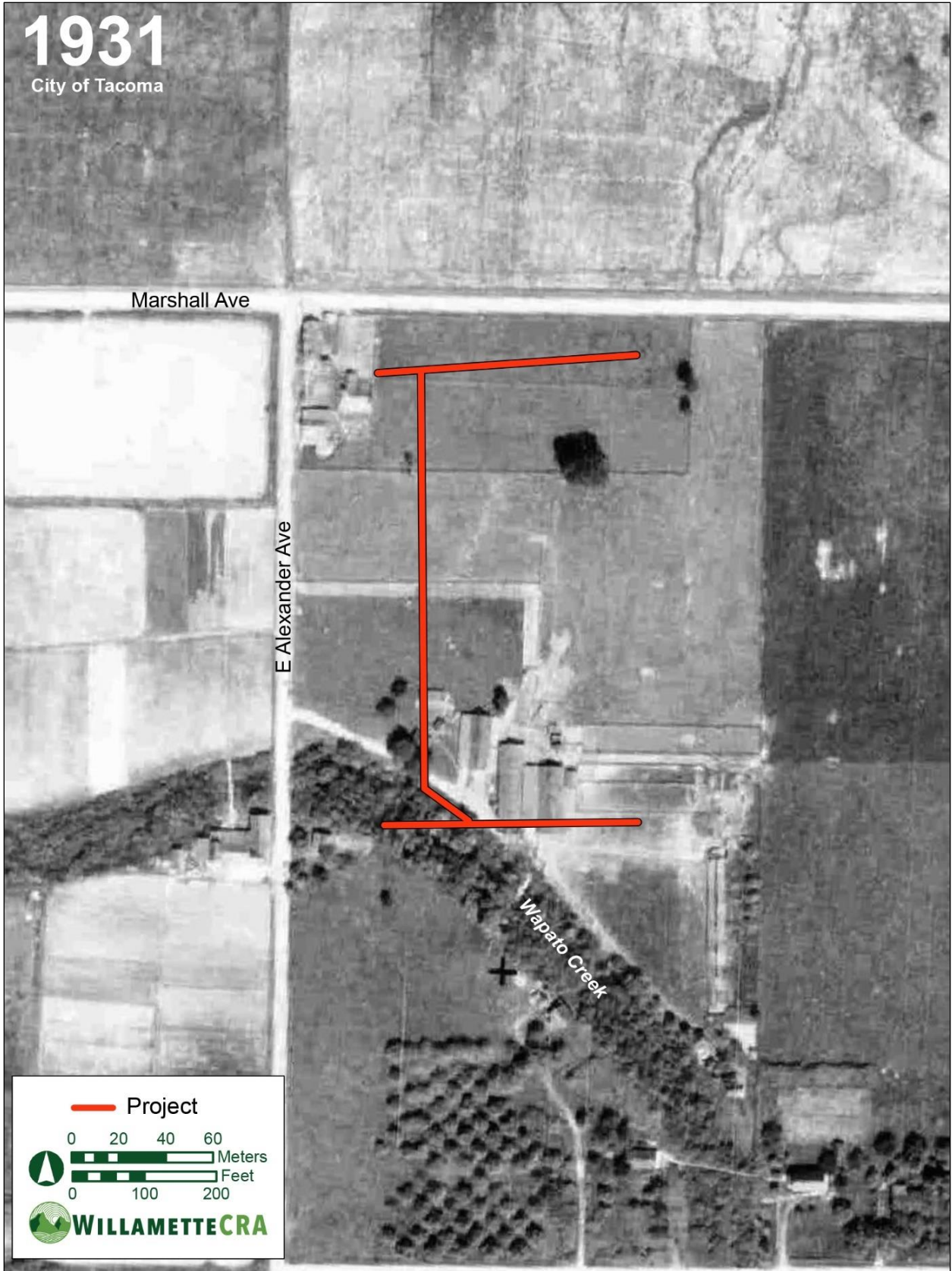


Figure 3. Project Location on 1931 Aerial Photograph.



Figure 4. Project Location on 1973 Aerial Photograph.

The reservations established by the Treaty of Medicine Creek were too small for the local populations and were located far from the resources they traditionally relied on. Because of this the Puyallup Tribe and other groups participated in the Treaty Wars (also known as the Indian Wars) that occurred from 1855 to 1856. In August 1856, Isaac Stevens, representing the U.S. Government, renegotiated the treaty at the Fox Island Council, where Puyallup Chief Squatahan led renegotiations that resulted in expansion or relocation of existing reservations and the formation of the Muckleshoot Reservation (Puyallup Tribe of Indians 2022).

Court Cases and Land Claims Settlement

Private land claims were made within the Puyallup Reservation following the 1854 Treaty (Figure 5). After the renegotiations of the Fox Island Council, the Puyallup reservation was further defined by executive orders in 1857 and 1873, granting the Tribe lands within modern-day Puyallup, Fife, Milton, and Tacoma (Douglas 2016). The General Allotment Act (also known as the Dawes Act) of 1887 allowed the federal government to break up tribal lands to sell to non-Native U.S. citizens, leading to the Tribe losing most of this land (National Park Service 2021). The Project land was claimed by Mary Sloan, an enrollee of the Puyallup Tribe (see Puyallup Indian Commission 1892; Figure 6). Sloan's patent is dated 1886 (BLM 2022) and she appears to have died in 1906. Although the extent of her activities at the claim is unclear, she appears to have lived at the site for three decades, constructing a home and several outbuildings prior to the homestead's eventual demolition and burial by fill.

The Puyallup Tribe began asserting its rights to the lands originally designated under the Medicine Creek Treaty. The "Fishing Wars" of the 1960s and 1970s led to the 1974 Boldt decision, which reaffirmed the fishing rights of American Indians in Washington State (U.S. Department of Justice 2017). This legal victory led the Puyallup Tribe to pursue their claim to their original reservation land promised in the Medicine Creek Treaty, over 20,000 acres of land in the Tacoma region (Douglas 2016). The 1978 case *Andrus v. City of Tacoma* upheld the Secretary of the Interior's practice of restoring Trust status of land within the external boundaries of the Puyallup Indian Reservation.

The 1983 Ninth Circuit court case *Puyallup Indian Tribe v. Port of Tacoma* recognized the Puyallup Tribe's rights to 12 acres of land along the Puyallup River exposed when the river was rechanneled. In 1984 the Puyallup Tribe filed a formal complaint against the Port of Tacoma and the Union Pacific Railroad to regain ownership of 120 acres of tideland along Commencement Bay and the Puyallup River (Douglas 2016). The lands claimed by the Tribe encompassed lands with industrial and harbor lands, as well as some segments of state highways. The U.S. House of Representatives report on the proposed Puyallup Land Claims Settlement estimated the claimed land to be worth approximately \$750 million (Douglas 2016). Negotiations between the Tribe and non-native entities took place throughout the 1980s, and in 1990 the Puyallup Tribe accepted the settlement package called the Puyallup Land Claims Settlement. The

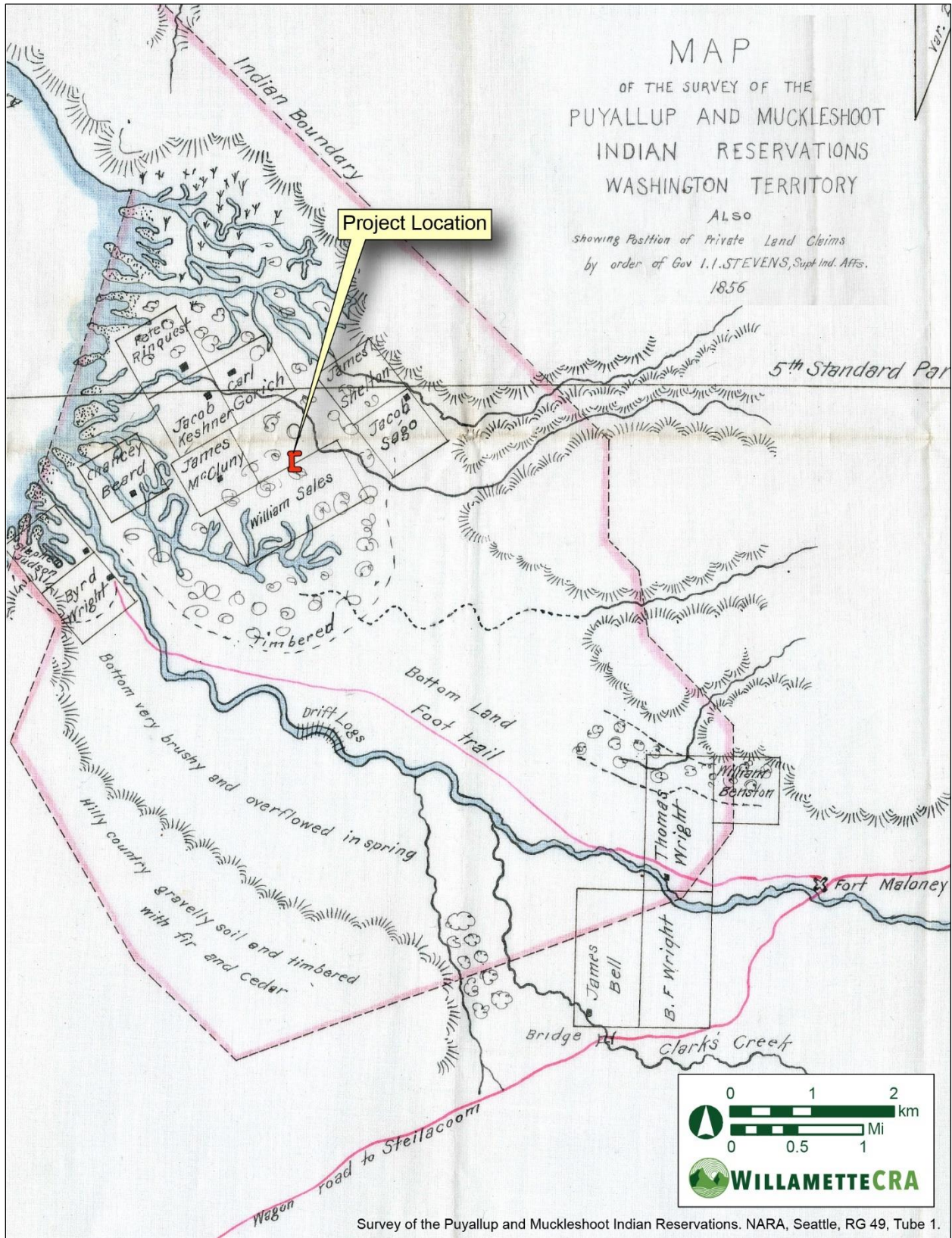


Figure 5. Project Location on 1856 Survey of the Puyallup Reservation.

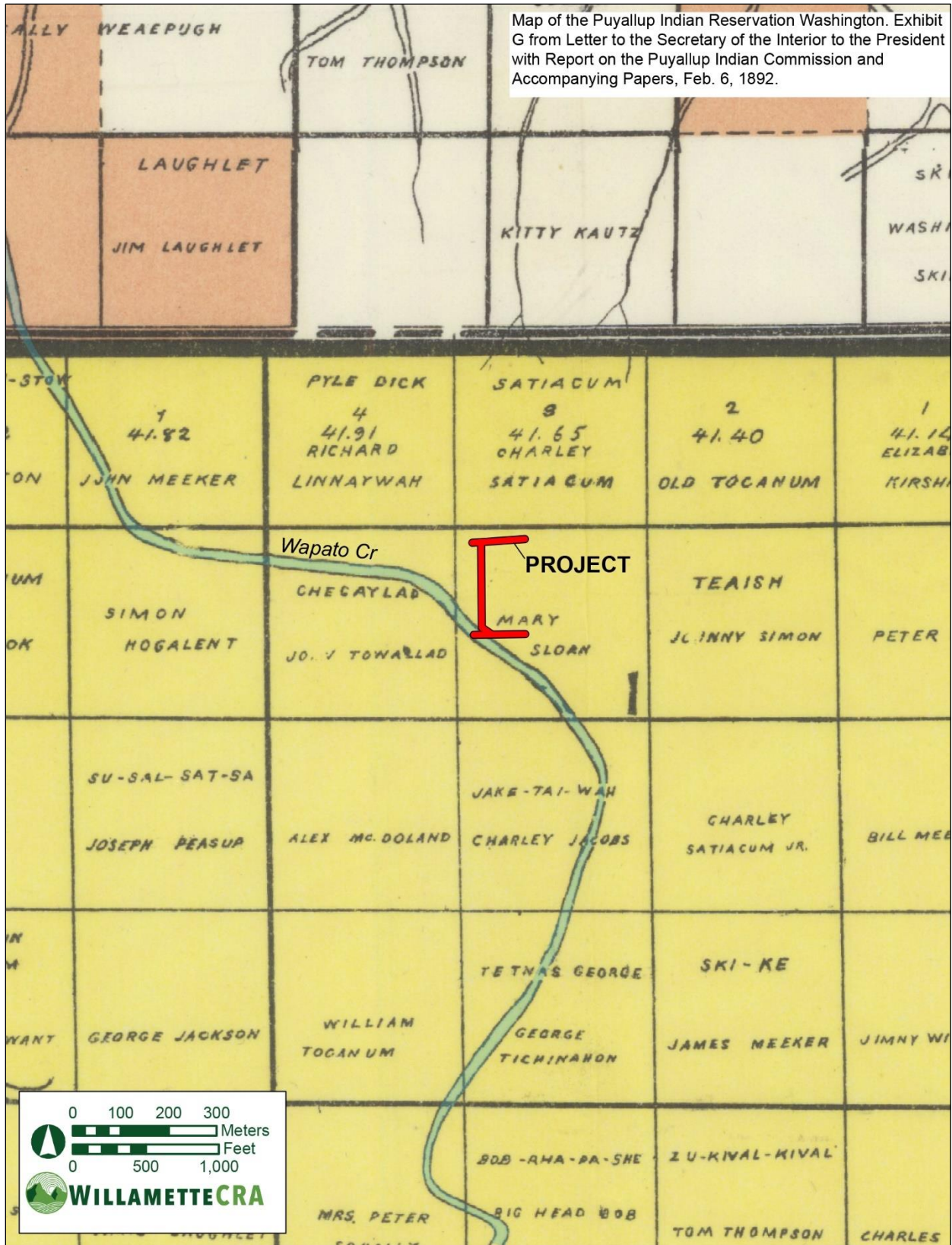


Figure 6. Project Location on 1892 Map of Puyallup Indian Reservation.

settlement included roughly \$162 million in land, fisheries, and development. The Tribe received approximately 900 acres of land, and a trust fund created by the federal government that provided health, social, and welfare services to Tribal members (Douglas 2016). The settlement also gave each government entity the right to enforce environmental laws within their jurisdictions (Douglas 2016).

Recent History and Land Ownership

Aerial photographs of the Project Location taken between 1940 and 2017 show changes that have been made to the landscape during the latter half of the twentieth century. By 1940, small farmsteads were scattered throughout the Project vicinity, and cultivated fields and orchards abutted the natural, meandering course of Wapato Creek (NETR 1940). By 1968, the entire landscape surrounding the Project Location had been completely cleared and levelled, and all aboveground buildings and structures had been removed. By this time, Wapato Creek had been channelized and State Route 509 had been constructed to the south of the Project (NETR 1968). A forest products processing facility was in place to the east of the Project and north of State Route 509 by 1980 (NETR 1969; 1980). This facility was removed between 2006 and 2009 (NETR 2006, 2009).

Previous Archaeological Investigations

WillametteCRA reviewed records on file with the Washington State Department of Archaeology and Historic Preservation (DAHP) online database (WISAARD) to identify previous cultural resources studies and archaeological or historical resources recorded through March 29, 2022, in the Project vicinity. The WISAARD review indicated six cultural resources studies within 0.5 miles of the Project Area (Table 1) and found none within the Project Area. Six archaeological sites are recorded within one mile of the Project Area (Table 2). Eight historic properties are recorded within 0.5 miles of the Project Area (Table 3). Due to the quantity of historic properties, the search was limited to a 0.5-mile radius.

The closest cultural resources investigation to the Project was conducted by Parvey and Miss (2005). This investigation included monitoring test pit excavations for the Blair Waterway Infrastructure Improvements Project. The investigation did not include archaeological fieldwork in the Blair Waterway due to extensive fill deposits and industrial development (Parvey and Miss 2005). The investigation primarily took place within the mitigation area away from the Portac. It included 110 test pits were excavated to approximately 6 to 15 feet below surface. Monitors observed the top of recent landfill deposits between 1 foot below surface (fbs) and 5.5 fbs underneath fill, and fine silt and sand was observed directly underneath landfill deposits at depths ranging from 2 to 12 fbs (Parvey and Miss 2005). Besides landfill material, no other cultural materials were observed.

Numerous additional archaeological investigations have been conducted within 1 mile of the Project. Most of these investigations are related to Port construction and expansion, infrastructure and road improvements, utility installation, and habitat mitigation. The archaeological sites recorded within one mile of the Project were identified by these investigations.

The nearest archaeological site to the Project, 45PI724, is a historic debris scatter likely representing a single dumping event (Cooper 2005). Historic artifacts recovered from a shovel test probe (STP) included machine cut square head nails, broken bottle glass, faunal bone fragments, brick fragments, charcoal, and white porcelain fragments, all likely dating from the 1920s-1950s (Cooper 2005). The site is unevaluated.

The closest precontact archaeological site to the project is 45PI974, the Hylebos Estuarine Restoration Midden Site. The midden was identified approximately 2.14 meters below surface, buried by alluvium and fill (Shantry 2009). The shell midden includes fire-modified rock (FMR), a bone point, and mammal and avian bone (Shantry 2009). The site was left buried and has not been given a determination of eligibility.

Table 1. Previous Cultural Resource Studies within 0.5 Miles of the Project.

Author	Date	Project and Type of Investigation	Relation to Survey Area
Parvey and Miss	2005	Monitoring: Cultural Resources Assessment for the Port of Tacoma's Blair Waterway Infrastructure Improvements Project and Gog-le-hi-e II Mitigation Action Area, Pierce County, Washington	0.09 mi
Parvey	2007	Monitoring: Summary of 2006 Archaeological Monitoring Activities for the Blair Inner Reach Turning Basin Expansion Area and Southwest Corner Cutback	0.45 mi
Diedrich	2012	Monitoring: Archaeological Monitoring for Parcel 14, the East-West Road and Alexander Avenue, Tacoma, Pierce County, Washington	0.44 mi
Pierson and Johnson	2020	Monitoring: Results of Cultural Resources Monitoring for the Port of Tacoma – Parcel 14 Lower Wapato Combined Habitat Project Geotechnical Study, Pierce County, Washington	0.46 mi
Viloudaki and Amell	2019	Monitoring: Cultural Resource Monitoring of the Port of Tacoma Harbor Dredged Material Characterization Project, Tacoma, Pierce County, Washington	0.14 mi
Yamamoto et al.	2015	Survey: Cultural Resources Investigations for the Washington State Department of Transportation's SR 167 Tacoma to Puyallup New Freeway, Pierce County, Washington	0.5 mi

Table 2. Recorded Archaeological Sites within 1.0 Mile of the Project.

Site No.	Site Name	Site Type	Relation to Survey Area	Significance
45PI724	Wapato Creek Historic Debris Site	Historic Debris Scatter/Concentration	0.68 mi	No Determination
45PI974	Hylebos Estuarine Restoration Midden Site	Precontact Shell Midden	0.80 mi	No Determination
45PI047	Wapato Creek Fish Weir	Precontact Fish Weir	0.82 mi	No Determination
45PI1203	Sit'-chum	Precontact Camp	0.83 mi	No Determination
45PI1188	Kli'-e-ton	Precontact Projectile Point Isolate	0.89 mi	No Determination
45PI917	1 st Wapato Creek Site	Historic Artifact Scatter	0.92 mi	No Determination

There are eight previously recorded historic structures within 0.5 miles of the Project. The only Property determined eligible for listing in the National Register of Historic Places (NRHP) is the Tacoma Bonneville Power Administration (BPA) Substation, located 0.31 miles north of the Project area. The Substation includes the Control House, Condenser Building, and Switchyard. The property was determined eligible due to its original location and ability to convey association with the 1940s time period and BPA's Master Grid (Day 2016).

Expectations

The DAHP predictive model for precontact cultural materials classifies the Project Area as having Very High Risk to contain archaeological resources. The Project is known to be located atop large quantities of fill overlying likely alluvium and deltaic deposits. Additionally, development prior to the mid-twentieth century filling episodes included homesteading by a Puyallup Tribal member and potentially an early private land claim. Deposits including privy or refuse disposal, or architectural remains from these homesteading and land claimants or earlier use on the tidelands may be present beneath fill.

Fieldwork Methods

Monitoring occurred from November 16 to 17, 2021. Documentation included recording observations of the environmental setting, field conditions, contacts, and sediments

encountered on standard forms. The parking lot asphalt capping soils was cut and removed prior to drilling. Extracted soils were examined visually and photographed before geological samples were taken. Julia Kunas completed monitoring, and Austin Jenkins coordinated with the Project team and directed work. Digital photographs of the location and various stages of drilling were taken and recorded on photograph logs. All forms and photographs are on file at WillametteCRA, Seattle.

Results

Cascade Environmental drilled Monitoring Well 14 (MW-14) and Soil Borings (AB) 1, 2, 3, 4, 5, and 6 over two days, and Aspect Consulting took geological samples from the cores. MW-14 and AB-4 were drilled on November 16, 2021, and AB-1, 2, 3, 5, and 6 were drilled on November 17, 2021. All monitoring wells and borings were drilled with a Geoprobe 7822DT. MW-14 was drilled with a 6-inch wide auger (Figure 7), while all of the borings were taken with a direct-push drill (Figure 8). The borings taken were in 5-foot-long cores, 2 inches wide. Kunas observed and photographed AB sediments prior to sampling. Spoils for MW-14 from 12 to 25 fbs were set aside for Kunas' observation. All ABs and MW-14 were drilled to a final depth of 25 fbs, so each AB required 5 cores for sampling.

Cultural Materials

No artifacts, features or other indications of human activity were observed during archaeological monitoring.

Stratigraphy

WCRA referred to the Aspect boring logs for stratigraphic information. Six soil borings and one monitoring well were excavated within the Project area, reaching up to 25 fbs. In general, all borings had a fill/slag deposit from 0 to approximately 7 fbs. Silty sand to silt deposits were observed from approximately 7 to 20 fbs, and silty clay to clay deposits from about 20 to 25 fbs. AB-1 had a sandy silt deposit from 13 to 17 fbs, overlying a medium coarse black sand from 17 to 25 fbs (Figure 9) that appears consistent with alluvial creek deposits seen elsewhere on Commencement Bay. Woody organic materials were observed in the silt/clay in ABs 2-6 around 21 to 24.5 fbs (Figure 10). This deposit was approximately 6" thick, and generally appeared to be stringy woody debris. AB-1 had intact wood pieces in the coarse sand at 25 fbs (Figure 11), and the driller informed the sampling crew that the drilling was slower in that boring likely due to a log in the way. No cultural materials were observed within the native sediments.

Table 3. Prev. Identified Historic Properties Extant within 0.5 Mile of the Project Area.

Resource ID	Resource Name	Site Type	Relation to Project Area	Significance
721803	Switchyard, BPA Tacoma Substation	Historic Energy Facility	0.27 mi	No Determination
721836	Switchyard, BPA Tacoma Substation	Historic Hydroelectric Power Transmission	0.31 mi	No Determination
705968	Tacoma BPA Substation	Historic Hydroelectric Power Transmission	0.31 mi	Determined Eligible
721801	Control House, BPA Tacoma Substation	Historic Energy Facility	0.35 mi	No Determination
721802	Maintenance (Old Condenser Building), BPA Tacoma Substation	Historic Energy Facility	0.36 mi	No Determination
90826	Naval Reserve Training Center, Building 33	Naval Facility	0.45 mi	Not Eligible
721397	N/A	Single Family House	0.5 mi	No Determination
721399	N/A	Single Family Home	0.5 mi	No Determination



Figure 7. Drilling MW-14 with 6-inch auger and shoveling spoils for inspection. View northwest.



Figure 8. Boring for AB-2 with direct push drill. View northwest.



Figure 9. Woody debris in AB-4, from approximately 24.5-25 fbs.

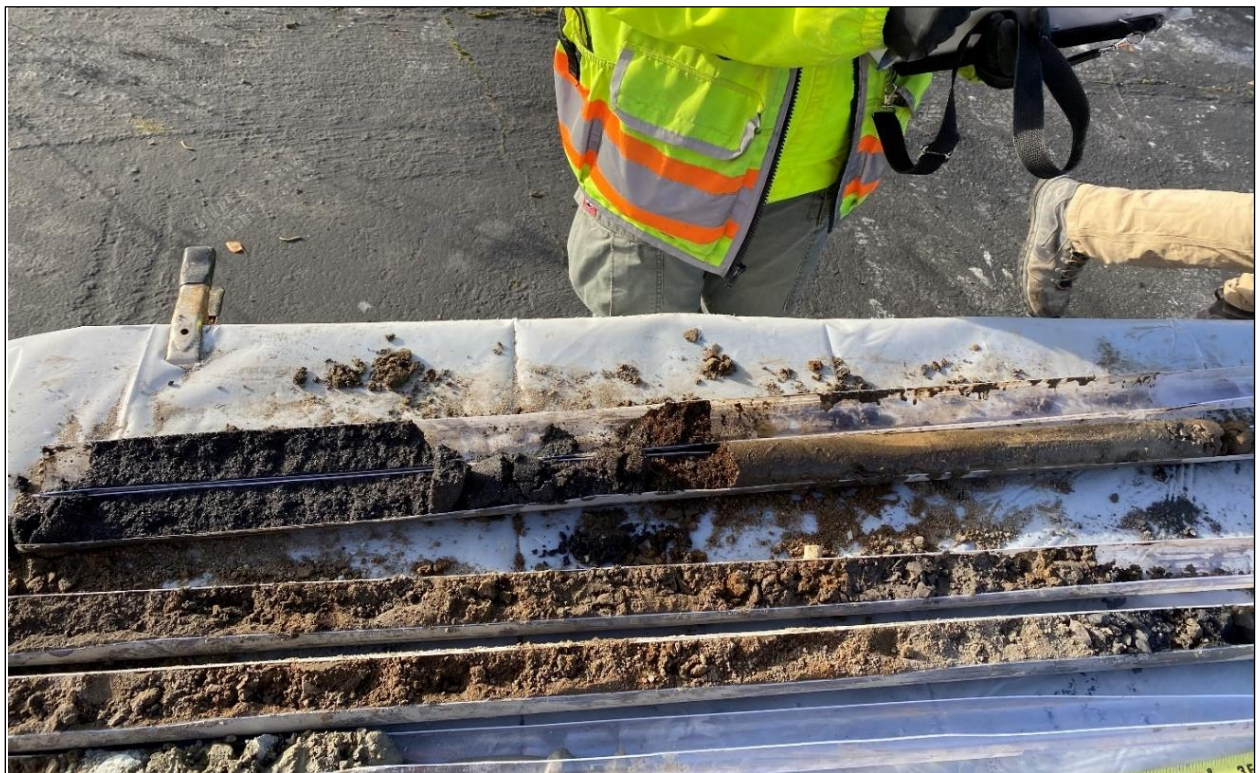


Figure 10. Core taken from AB-1, 15-20 fbs (top). Note transition from sandy silt (right) to coarse dark sand (left).



Figure 11. Wood debris from AB-1, taken from bottom of probe at 25 fbs.

Summary and Recommendations

WillametteCRA completed background research and observed drilling activities associated with the Pre-Remedial Design Investigation for the Project. Our staff reviewed project plans, attended construction meetings for the duration of monitoring, reviewed the results of geotechnical exploration and the extracted sediments with the consulting geologist, and documented the progress of drilling. No cultural resources were identified in the course of the work.

WillametteCRA recommends that archaeological monitoring should occur where ground disturbance for the permeable reactive barrier will extend below existing fill and above restrictive clay. The southern vault replacement is expected to be located more closely to historic land claims. Due to the elevated potential for vault removal and any preparation of the pit for the future vault, WillametteCRA recommends monitoring vault removal and any leveling or excavation within the resultant pit. No additional work is recommended for the outfall restoration or slip lining activity, unless the slip lining requires additional excavation not otherwise associated with vault replacements.

Should the proposed work change from that depicted in Figure 1, these recommendations may not apply, and the changes should be reviewed by a professional archaeologist.

In the unlikely event that human remains are encountered at any time, the law (RCW 27.44.055) requires all activity to cease that may cause further disturbance to those remains, and the area of the find secured and protected from further disturbance. The finding of human skeletal remains will be reported to the City of Tacoma and Puyallup Tribal Police Departments immediately, as well as the Pierce County Medical Examiner. The remains will not be touched, moved, or further disturbed. The Medical Examiner will assume jurisdiction over the human skeletal remains and determine whether those remains are forensic or non-forensic. If the Medical Examiner determines the remains are non-forensic, they will report that finding to the DAHP, who will take jurisdiction over the remains. The DAHP will notify any appropriate cemeteries and all affected tribes of the find. The State Physical Anthropologist will determine whether the remains are Indian or Non-Indian, and report that finding to any appropriate cemeteries and the affected tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

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APPENDIX C
INADVERTANT DISCOVERY
PLAN



INADVERTENT DISCOVERY PLAN PLAN AND PROCEDURES FOR THE DISCOVERY OF CULTURAL RESOURCES AND HUMAN SKELETAL REMAINS

To request ADA accommodation, including materials in a format for the visually impaired, call Ecology at 360-407-6000 or visit <https://ecology.wa.gov/accessibility>. People with impaired hearing may call Washington Relay Service at 711. People with a speech disability may call TTY at 877-833-6341.

Site Name(s): Location:

Project Lead/Organization: County:

If this Inadvertent Discovery Plan (IDP) is for multiple (batched) projects, ensure the location information covers all project areas.

1. INTRODUCTION

The IDP outlines procedures to perform in the event of a discovery of archaeological materials or human remains, in accordance with applicable state and federal laws. An IDP is required, as part of Agency Terms and Conditions for all grants and loans, for any project that creates disturbance above or below the ground. An IDP is not a substitute for a formal cultural resource review (Executive 05-05 or Section 106).

Once completed, **the IDP should always be kept at the project site** during all project activities. All staff, contractors, and volunteers should be familiar with its contents and know where to find it.

2. CULTURAL RESOURCE DISCOVERIES

A cultural resource discovery could be prehistoric or historic. Examples include (see images for further examples):

- An accumulation of shell, burned rocks, or other food related materials.
- Bones, intact or in small pieces.
- An area of charcoal or very dark stained soil with artifacts.
- Stone tools or waste flakes (for example, an arrowhead or stone chips).
- Modified or stripped trees, often cedar or aspen, or other modified natural features, such as rock drawings.
- Agricultural or logging materials that appear older than 50 years. These could include equipment, fencing, canals, spillways, chutes, derelict sawmills, tools, and many other items.
- Clusters of tin cans or bottles, or other debris that appear older than 50 years.
- Old munitions casings. **Always assume these are live and never touch or move.**
- Buried railroad tracks, decking, foundations, or other industrial materials.
- Remnants of homesteading. These could include bricks, nails, household items, toys, food containers, and other items associated with homes or farming sites.

The above list does not cover every possible cultural resource. When in doubt, assume the material is a cultural resource.

3. ON-SITE RESPONSIBILITIES

If any employee, contractor, or subcontractor believes that they have uncovered cultural resources or human remains at any point in the project, take the following steps to **Stop-Protect-Notify**. If you suspect that the discovery includes human remains, also follow Sections 5 and 6.

STEP A: Stop Work.

All work must stop immediately in the vicinity of the discovery.

STEP B: Protect the Discovery.

Leave the discovery and the surrounding area untouched and create a clear, identifiable, and wide boundary (30 feet or larger) with temporary fencing, flagging, stakes, or other clear markings. Provide protection and ensure integrity of the discovery until cleared by the Department of Archaeological and Historical Preservation (DAHP) or a licensed, professional archaeologist.

Do not permit vehicles, equipment, or unauthorized personnel to traverse the discovery site. Do not allow work to resume within the boundary until the requirements of this IDP are met.

STEP C: Notify Project Archaeologist (if applicable).

If the project has an archaeologist, notify that person. If there is a monitoring plan in place, the archaeologist will follow the outlined procedure.

STEP D: Notify Project and Washington Department of Ecology (Ecology) contacts.

Project Lead Contacts

Primary Contact

Name: Adam Griffin
Phone: 206-780-7746
Email: jporter@aspectconsulting.com

Alternate Contact

Name: Jeremy Porter
Phone: 206-838-5835
Email: jporter@aspectconsulting.com

Ecology Contacts (completed by Ecology Project Manager)

Ecology Project Manager

Name: Andrew Smith
Program: Toxics Cleanup
Phone: 360-407-6316
Email: ansm461@ECY.WA.GOV

Alternate or Cultural Resource Contact

Name: Heather May
Program: Toxics Cleanup
Phone: 360-407-6084
Email: Hmay461@ecy.wa.gov

STEP E: Ecology will notify DAHP.

Once notified, the Ecology Cultural Resource Contact or the Ecology Project Manager will contact DAHP to report and confirm the discovery. To avoid delay, the Project Lead/Organization will contact DAHP if they are not able to reach Ecology.

DAHP will provide the steps to assist with identification. DAHP, Ecology, and Tribal representatives may coordinate a site visit following any necessary safety protocols. DAHP may also inform the Project Lead/Organization and Ecology of additional steps to further protect the site.

Do not continue work until DAHP has issued an approval for work to proceed in the area of, or near, the discovery.

DAHP Contacts:

Name: Rob Whitlam, PhD
Title: State Archaeologist
Cell: 360-890-2615
Email: Rob.Whitlam@dahp.wa.gov
Main Office: 360-586-3065

Human Remains/Bones:

Name: Guy Tasa, PhD
Title: State Anthropologist
Cell: 360-790-1633 (24/7)
Email: Guy.Tasa@dahp.wa.gov

4. TRIBAL CONTACTS

In the event cultural resources are discovered, the following tribes will be contacted. See Section 10 for Additional Resources.

Tribe:	<input type="text" value="Puyallup Tribe of Indians"/>	Tribe:	<input type="text"/>
Name:	<input type="text" value="Brandon Reynon"/>	Name:	<input type="text"/>
Title:	<input type="text" value="Cultural Resources"/>	Title:	<input type="text"/>
Phone:	<input type="text" value="253-573-7986"/>	Phone:	<input type="text"/>
Email:	<input type="text" value="brandon.reynon@puyalluptribe-nsn.gov"/>	Email:	<input type="text"/>
Tribe:	<input type="text"/>	Tribe:	<input type="text"/>
Name:	<input type="text"/>	Name:	<input type="text"/>
Title:	<input type="text"/>	Title:	<input type="text"/>
Phone:	<input type="text"/>	Phone:	<input type="text"/>
Email:	<input type="text"/>	Email:	<input type="text"/>

Please provide contact information for additional tribes within your project area, if needed, in Section 11.

5. FURTHER CONTACTS (if applicable)

If the discovery is confirmed by DAHP as a cultural or archaeological resource, or as human remains, and there is a partnering federal or state agency, Ecology or the Project Lead/Organization will ensure the partnering agency is immediately notified.

Federal Agency:

Agency:	
Name:	
Title:	
Phone:	
Email:	

State Agency:

Agency:	
Name:	
Title:	
Phone:	
Email:	

6. SPECIAL PROCEDURES FOR THE DISCOVERY OF HUMAN SKELETAL MATERIAL

Any human skeletal remains, regardless of antiquity or ethnic origin, will at all times be treated with dignity and respect. Follow the steps under **Stop-Protect-Notify**. For specific instructions on how to handle a human remains discovery, see: [RCW 68.50.645: Skeletal human remains—Duty to notify—Ground disturbing activities—Coroner determination—Definitions](#).

Suggestion: If you are unsure whether the discovery is human bone or not, contact Guy Tasa with DAHP, for identification and next steps. Do not pick up the discovery.

Guy Tasa, PhD State Physical Anthropologist

Guy.Tasa@dahp.wa.gov

(360) 790-1633 (Cell/Office)

For discoveries that are confirmed or suspected human remains, follow these steps:

1. Notify law enforcement and the Medical Examiner/Coroner using the contacts below. **Do not call 911** unless it is the only number available to you.

Enter contact information below (required):

- Local Medical Examiner or Coroner name and phone:

Pierce County Medical Examiner; 253-798-6494

- Local Law Enforcement main name and phone:

City of Tacoma; 253-591-5000

- Local Non-Emergency phone number (911 if without a non-emergency number):

253-287-4455

2. The Medical Examiner/Coroner (with assistance of law enforcement personnel) will determine if the remains are human or if the discovery site constitutes a crime scene and will notify DAHP.
3. **DO NOT speak with the media, allow photography or disturbance of the remains, or release any information about the discovery on social media.**
4. If the remains are determined to be non-forensic, Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection and to shield them from being photographed by others or disturbed.

Further activities:

- Per [RCW 27.44.055](#), [RCW 68.50](#), and [RCW 68.60](#), DAHP will have jurisdiction over non-forensic human remains. Ecology staff will participate in consultation. Organizations may also participate in consultation.
- Documentation of human skeletal remains and funerary objects will be agreed upon through the consultation process described in [RCW 27.44.055](#), [RCW 68.50](#), and [RCW 68.60](#).
- When consultation and documentation activities are complete, work in the discovery area may resume as described in Section 8.

If the project occurs on federal lands (such as a national forest or park or a military reservation) the provisions of the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) apply and the responsible federal agency will follow its provisions. Note that state highways that cross federal lands are on an easement and are not owned by the state.

If the project occurs on non-federal lands, the Project Lead/Organization will comply with applicable state and federal laws, and the above protocol.

7. DOCUMENTATION OF ARCHAEOLOGICAL MATERIALS

Archaeological resources discovered during construction are protected by state law [RCW 27.56](#) and assumed eligible for inclusion in the National Register of Historic Places under Criterion D until a formal Determination of Eligibility is made.

The Project Lead/Organization must ensure that proper documentation and field assessment are made of all discovered cultural resources in cooperation with all parties: the federal agencies (if any), DAHP, Ecology, affected tribes, and the archaeologist.

The archaeologist will record all prehistoric and historic cultural material discovered during project construction on a standard DAHP archaeological site or isolate inventory form. They will photograph site overviews, features, and artifacts and prepare stratigraphic profiles and soil/sediment descriptions for minimal subsurface exposures. They will document discovery locations on scaled site plans and site location maps.

Cultural features, horizons, and artifacts detected in buried sediments may require the archaeologist to conduct further evaluation using hand-dug test units. They will excavate units in a controlled fashion to expose features, collect samples from undisturbed contexts, or to interpret complex stratigraphy. They may also use a test unit or trench excavation to determine if an intact occupation surface is present. They will only use test units when necessary to gather information on the nature, extent, and integrity of subsurface cultural deposits to evaluate the site's significance. They will conduct excavations using standard archaeological techniques to precisely document the location of cultural deposits, artifacts, and features.

The archaeologist will record spatial information, depth of excavation levels, natural and cultural stratigraphy, presence or absence of cultural material, and depth to sterile soil, regolith, or bedrock for each unit on a standard form. They will complete test excavation unit level forms, which will include plan maps for each excavation level and artifact counts and material types, number, and vertical provenience (depth below

surface and stratum association where applicable) for all recovered artifacts. They will draw a stratigraphic profile for at least one wall of each test excavation unit.

The archaeologist will screen sediments excavated for purposes of cultural resources investigation through 1/8-inch mesh, unless soil conditions warrant 1/4-inch mesh.

The archaeologist will analyze, catalogue, and temporarily curate all prehistoric and historic artifacts collected from the surface and from probes and excavation units. The ultimate disposition of cultural materials will be determined in consultation with the federal agencies (if any), DAHP, Ecology, and the affected tribe(s).

Within 90 days of concluding fieldwork, the archaeologist will provide a technical report describing any and all monitoring and resultant archaeological excavations to the Project Lead/Organization, who will forward the report to Ecology, the federal agencies (if any), DAHP, and the affected tribe(s) for review and comment.

If assessment activities expose human remains (burials, isolated teeth, or bones), the archaeologist and Project Lead/Organization will follow the process described in **Section 6**.

8. PROCEEDING WITH WORK

The Project Lead/Organization shall work with the archaeologist, DAHP, and affected tribe(s) to determine the appropriate discovery boundary and where work can continue.

Work may continue at the discovery location only after the process outlined in this plan is followed and the Project Lead/Organization, DAHP, any affected tribe(s), Ecology, and the federal agencies (if any) determine that compliance with state and federal laws is complete.

9. ORGANIZATION RESPONSIBILITY

The Project Lead/Organization is responsible for ensuring:

- This IDP has complete and accurate information.
- This IDP is immediately available to all field staff at the sites and available by request to any party.
- This IDP is implemented to address any discovery at the site.
- That all field staff, contractors, and volunteers are instructed on how to implement this IDP.

10. ADDITIONAL RESOURCES

Informative Video

Ecology recommends that all project staff, contractors, and volunteers view this informative video explaining the value of IDP protocol and what to do in the event of a discovery. The target audience is anyone working on the project who could unexpectedly find cultural resources or human remains while excavating or digging. The video is also posted on DAHP's inadvertent discovery language website.

[Ecology's IDP Video](https://www.youtube.com/watch?v=ioX-4cXfbDY) (<https://www.youtube.com/watch?v=ioX-4cXfbDY>)

Informational Resources

[DAHP \(https://dahp.wa.gov\)](https://dahp.wa.gov)

[Washington State Archeology \(DAHP 2003\)](https://dahp.wa.gov/sites/default/files/Field%20Guide%20to%20WA%20Arch_0.pdf)

[\(https://dahp.wa.gov/sites/default/files/Field%20Guide%20to%20WA%20Arch_0.pdf\)](https://dahp.wa.gov/sites/default/files/Field%20Guide%20to%20WA%20Arch_0.pdf)

[Association of Washington Archaeologists \(https://www.archaeologyinwashington.com\)](https://www.archaeologyinwashington.com)

Potentially Interested Tribes

[Interactive Map of Tribes by Area](https://dahp.wa.gov/archaeology/tribal-consultation-information)

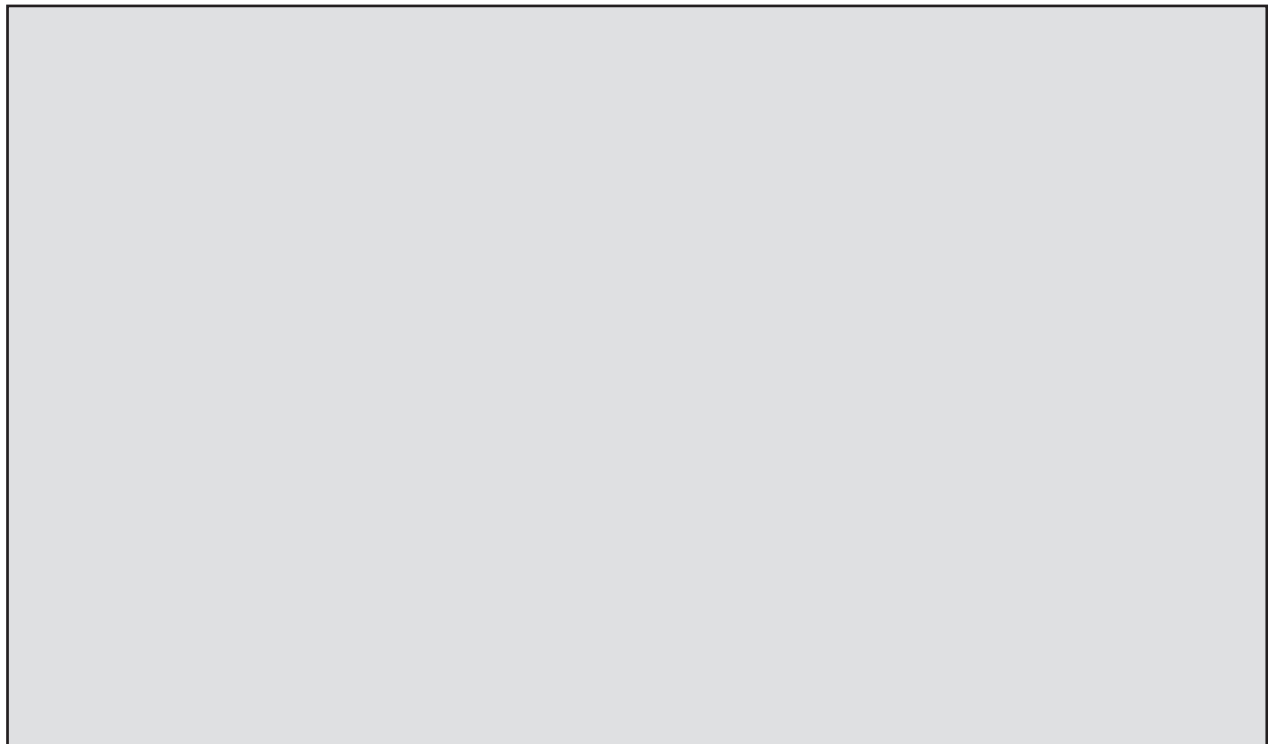
[\(https://dahp.wa.gov/archaeology/tribal-consultation-information\)](https://dahp.wa.gov/archaeology/tribal-consultation-information)

[WSDOT Tribal Contact Website](https://wsdot.wa.gov/tribal/TribalContacts.htm)

[\(https://wsdot.wa.gov/tribal/TribalContacts.htm\)](https://wsdot.wa.gov/tribal/TribalContacts.htm)

11. ADDITIONAL INFORMATION

Please add any additional contact information or other information needed within this IDP.



Implement the IDP if you see...

Chipped stone artifacts.

Examples are:

- Glass-like material.
- Angular material.
- "Unusual" material or shape for the area.
- Regularity of flaking.
- Variability of size.



Stone artifacts from Oregon.



Stone artifacts from Washington.



Biface-knife, scraper, or pre-form found in NE Washington. Thought to be a well knapped object of great antiquity. Courtesy of Methow Salmon Rec. Foundation.

Implement the IDP if you see...

Ground stone artifacts.

Examples are:

- Unusual or unnatural shapes or unusual stone.
- Striations or scratching.
- Etching, perforations, or pecking.
- Regularity in modifications.
- Variability of size, function, or complexity.



Above: Fishing Weight - credit [CRITFC Treaty Fishing Rights website](#).



Artifacts from unknown locations (left and right images).

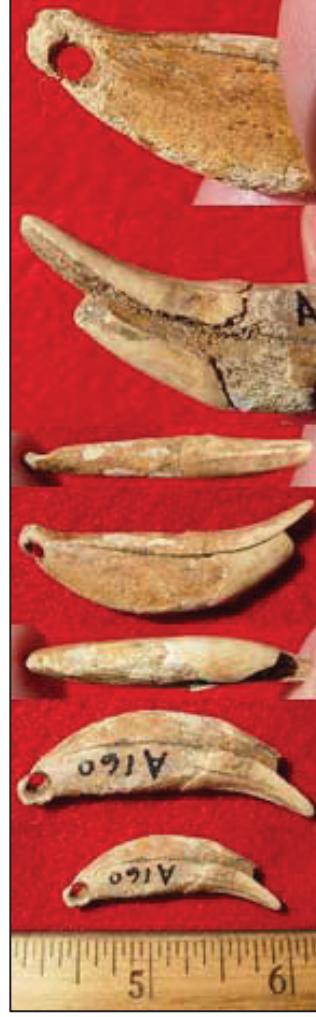


Implement the IDP if you see...

Bone or shell artifacts, tools, or beads.

Examples are:

- Smooth or carved materials.
- Unusual shape.
- Pointed as if used as a tool.
- Wedge shaped like a “shoehorn”.
- Variability of size.
- Beads from shell () or tusk.



Upper Left: Bone Awls from Oregon.

Upper Center: Bone Wedge from California.

Upper Right: Plateau dentalium choker and bracelet, from Nez Perce National Historical Park, 19th century, made using *Antalis pretiosa* shells Credit: Nez Perce - Nez Perce National Historical Park, NEPE 8762, [Public Domain](#).

Above: Tooth Pendants. Right: Bone Pendants. Both from Oregon and Washington.



Implement the IDP if you see...

Culturally modified trees, fiber, or wood artifacts.

Examples are:

- Trees with bark stripped or peeled, carvings, axe cuts, de-limbing, wood removal, and other human modifications.
- Fiber or wood artifacts in a wet environment.
- Variability of size, function, and complexity.



Left and Below: *Culturally modified tree and an old carving on an aspen tree (Courtesy of DAHP).*

Right, Top to Bottom: *Artifacts from Mud Bay, Olympia: Toy war club, two strand cedar rope, wet basketry.*



Implement the IDP if you see...

Strange, different, or interesting looking dirt, rocks, or shells.

Human activities leave traces in the ground that may or may not have artifacts associated with them. Examples are:

- “Unusual” accumulations of rock (especially fire-cracked rock).
- “Unusual” shaped accumulations of rock (such as a shape similar to a fire ring).
- Charcoal or charcoal-stained soils, burnt-looking soils, or soil that has a “layer cake” appearance.
- Accumulations of shell, bones, or artifacts. Shells may be crushed.
- Look for the “unusual” or out of place (for example, rock piles in areas with otherwise few rocks).



Shell Midden pocket in modern fill discovered in sewer trench.



Underground oven. Courtesy of DAHP.



Hearth excavated near Hamilton, WA.

Shell midden with fire cracked rock.



Implement the IDP if you see...

Historic period artifacts (historic archaeology considered older than 50 years).

Examples are:

- Agricultural or logging equipment. May include equipment, fencing, canals, spillways, chutes, derelict sawmills, tools, etc.
- Domestic items including square or wire nails, amethyst colored glass, or painted stoneware.



Left: Top to Bottom: Willow pattern serving bowl and slip joint pocket knife discovered during Seattle Smith Cove shantytown (45-KI-1200) excavation.

Right: Collections of historic artifacts discovered during excavations in eastern Washington cities.



Implement the IDP if you see...

Historic period artifacts (historic archaeology considered older than 50 years).

Examples are:

- Railway tokens, coins, and buttons.
- Spectacles, toys, clothing, and personal items.
- Items helping to understand a culture or identity.
- Food containers and dishware.



Main Image: Dishes, bottles, workboot found at the North Shore Japanese bath house (ofuro) site, Courtesy Bob Muckle, Archaeologist, Capilano University, B.C. This is an example of an above ground resource.



Right, from Top to Bottom:
Coins, token, spectacles
and Montgomery Ward
pitchfork toy discovered
during Seattle Smith Cove
shantytown (45-KI-1200)
excavation.



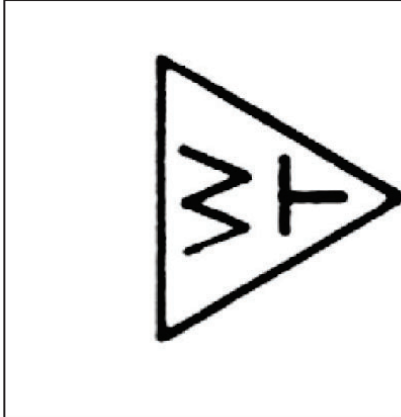
Implement the IDP if you see...

- Old munition casings – if you see ammunition of any type – **always assume they are live and never touch or move!**
- Tin cans or glass bottles with an older manufacturer's technique – maker's mark, distinct colors such as turquoise, or an older method of opening the container.



Far Left: .303 British cartridge found by a WCC planting crew on Skagit River. Don't ever touch something like this!
Left: Maker's mark on bottom of old bottle.

Right: Old beer can found in Oregon. ACME was owned by Olympia Brewery. Courtesy of Heather Simmons.



Logo employed by Whithall Tatum & Co. between 1924 to 1938 (Lockhart et al. 2016).



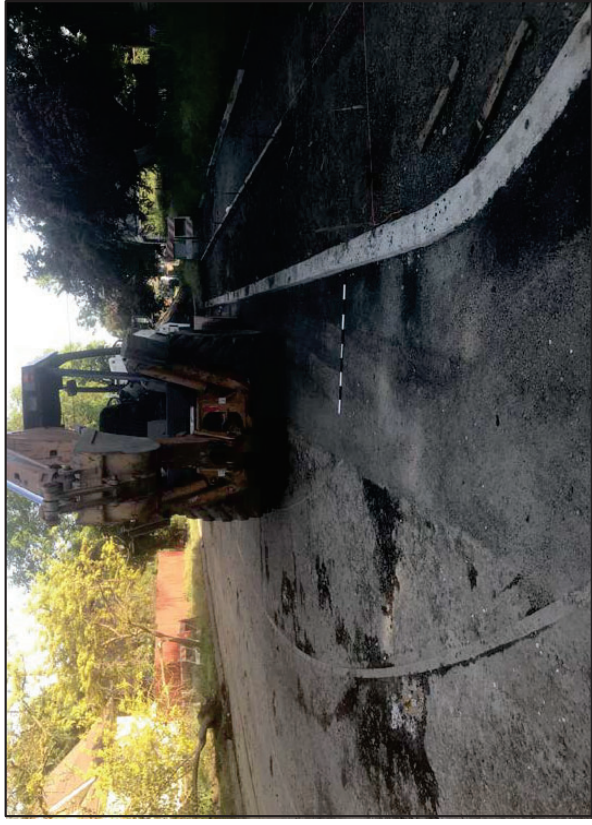
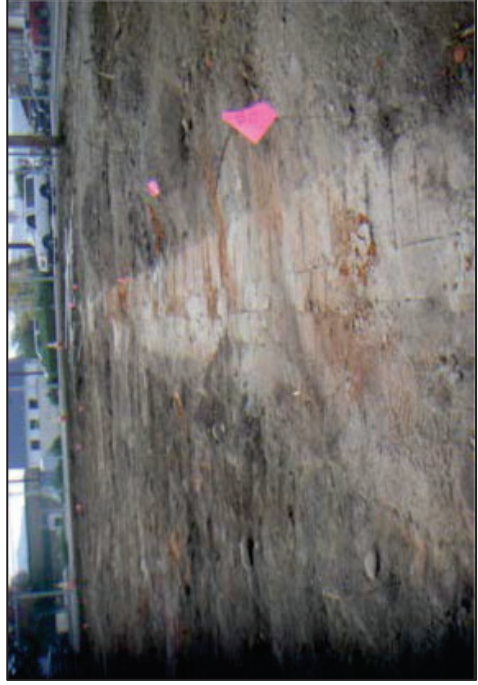
Can opening dates, courtesy of W.M. Schroeder.

Implement the IDP if you see...

You see historic foundations or buried structures.

Examples are:

- Foundations.
- Railroad and trolley tracks.
- Remnants of structures.



Counter Clockwise, Left to Right: Historic structure 45K1924, in WSDOT right of way for SR99 tunnel. Remnants of Smith Cove shantytown (45-KI-1200) discovered during Ecology CSO excavation, City of Spokane historic trolley tracks uncovered during stormwater project, intact foundation of historic home that survived the Great Ellensburg Fire of July 4, 1889, uncovered beneath parking lot in Ellensburg.

Implement the IDP if you see...

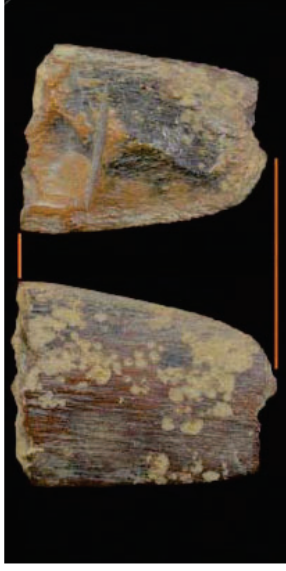
Potential human remains.

Examples are:

- Grave headstones that appear to be older than 50 years.
- Bones or bone tools--intact or in small pieces. It can be difficult to differentiate animal from human so they must be identified by an expert.
- These are all examples of animal bones and are not human.

Center: *Bone wedge tool, courtesy of Smith Cove Shantytown excavation (45K11200).*

Other images (Top Right, Bottom Left, and Bottom Center: Courtesy of DAHP.



Directly Above: This is a real discovery at an Ecology sewer project site.

What would you do if you found these items at a site? Who would be the first person you would call?

Hint: Read the plan!

U.S. Army Corps of Engineers, Seattle District

Primary Contacts (regular business hours/days):

Regulatory Branch, Archeologist, Chris Jenkins, 206-764-6941

Regulatory Branch, Section Chief, Jacalen Printz, 206-764-6901

Non-business hours/days:

Regulatory Branch Chief, Muffy Walker, 206-200-9954

Tacoma Police Department

3701 South Pine Street, Tacoma, WA 98409

Lead Representative: Don Ramsdell, Chief of Police, 253-591-5900

Pierce County Medical Examiner's Office

3619 Pacific Avenue, Tacoma, Washington 98418

Lead Representative: Thomas Clark, M.D., Chief Medical Examiner, 253-798-6494

City of Tacoma Historic Preservation Office

747 Market Street

Tacoma, WA 98402-3793

Primary Contact: Reuben McKnight, Historic Preservation Officer, 253-591-5220

Lauren Hoogkamer, Assistant Historic Preservation Officer, 253-591-5254

Subsurface Investigation Contacts

Willamette Cultural Resources Associates, LTD

655 S. Orcas St., Ste. 220

Seattle, Washington 98108

Office: 206-397-1487

Project Manager: Paula Johnson (paula@willamettecra.com; Cell: 206-706-1659)

Monitor/Archaeologist: Scott Pierson (scott@willamettecra.com; Cell: 360-448-1307)

GeoEngineers, Inc.

Primary Contact: Joe Callaghan

1101 Fawcett Ave, Suite 200

Tacoma, Washington 98402

Office: 253-383-4940

Field Contact: Stuart Thielmann (sthielmann@geoengineers.com; Cell: 805-252-4960)

**Puyallup Tribe of Indians
Project Notice and IDP**

Adam Griffin

From: Austin Jenkins <austin@willamettecra.com>
Sent: Friday, November 5, 2021 10:05 AM
To: Brandon Reynon; Jennifer M. Keating
Cc: ssasser@portoftacoma.com; ngilbert@portoftacoma.com; Adam Griffin
Subject: Parcel 15 CRA and Cleanup Action Plan
Attachments: Parcel 15 IDP_AttA.docx

Good morning Brandon and Jennifer,

The Port of Tacoma (Port) is implementing the first phase of a Cleanup Action Plan (CAP) at the Parcel 15 (Portac) property, east of Alexander Avenue and south of East 4th Street. The Port and the Washington State Department of Ecology (Ecology) entered Agreed Order No. DE 15816 (Agreed Order) on June 23, 2021, requiring implementation of the Portac Cleanup Phase 1 project (referred to as "Phase 1 Cleanup").

The cleanup construction activities are planned to occur in summer 2022. Pre-remedial design investigation (PRDI) activities are planned for the remedial design. The PRDI subsurface investigations are scheduled to begin the week of November 15, 2021.

The Phase 1 Cleanup activities appear to have potential to affect cultural resources, if present, at Parcel 15. Due to the depth to native soils, anticipated depth of the project, and the high water table relative to the project's vertical extents, an archaeological survey utilizing more traditional shovel probes would not be an effective means of identifying cultural resources. Any field-based Cultural Resources Assessment (CRA) would require mechanical excavation of soil borings to characterize the presence of resources. Since the planned PRDI activities includes soil borings, we propose that the CRA methodology consists of monitoring soil borings. Observations of potential cultural resources and other information would further inform our recommendations for either the development of a Monitoring & Inadvertent Discoveries Plan (MIDP) or Inadvertent Discoveries Plan (IDP) for cleanup construction activities. At this point, I'm attaching a project summary and contacts in the draft Attachment A that usually accompanies the Port's IDP for their projects coordinated with your office.

Additional Project Information

The Phase 1 Cleanup consists of two construction elements – stormwater conveyance system improvements and construction of a permeable reactive barrier (PRB) along Wapato Creek. The stormwater conveyance system improvements include the installation of tide gates, reconfiguration/removal of stormwater vaults, and installation of slip lining or other trenchless pipe technology of two stormwater lines and outfalls at the Parcel 15 property. The goal of these actions is to eliminate preferential pathways between groundwater and Wapato Creek.

The PRB will be installed in conjunction with the stormwater conveyance system improvements. The goal of the PRB is to remove arsenic in groundwater as it flows through the PRB. The PRB will be installed parallel to Wapato Creek along the westernmost boundary of the cap and along a portion of the northwestern boundary. The PRB extent and design will be determined based on the results of the PRDI soil borings installed on the proposed PRB alignment.

Potential Cultural Resources

The project site's environmental setting has potential to contain archaeological resources related to the use of the delta and tidelands. Further, the project area is located on historic land patents claimed by members of the Puyallup Tribe of Indians. Structural remains of residences along Wapato Creek may remain onsite.

Proposed Next Steps

As noted above, the PRDI is scheduled to begin on November 15, 2021. It is anticipated to take up to 5 days to complete this phase of investigation. One archaeologist would be on hand to observe these activities throughout the duration of the investigation and may screen sampled volumes if potential risks can be controlled using common PPE.

Would you like to discuss this at the upcoming meeting on the 10th (as Mark sent out earlier)? Also, let me know if you're interested in visiting the site or would like any updates along the way, I'm happy to coordinate a visit or anything else that might be informative.

Austin Jenkins



655 S. Orcas Street, Ste. 220 | Seattle, WA 98108

C: (360) 241-6900

www.willamettecra.com



SECTION 2 - INADVERTENT DISCOVERY PLAN

(Cultural Resources Investigation Information methods/Results) In the event that cultural resources are encountered during construction-related activities, this document serves as the plan for dealing with the inadvertent discoveries of human remains, artifacts, sites, or any other cultural resources during the project.

Instructions: Please insert responsible official in blanks.

This plan will provide the Puyallup Tribe of Indians (PTOI) Employees, Port of Tacoma (Port) and any involved contractors and their employees with the appropriate protocols and procedures so they can:

Utilize as guidance for treatment, Chapter 27.44 Indian Graves and Records, Chapter 27.53 Archaeological Sites and Resources, and Chapter 68.60 Section 68.60.050 Protection of Historic Graves of the Revised Code of Washington (RCW);

- Describe to regulatory and review agencies the procedures the PTOI And Port of Tacoma will follow to prepare for and deal with inadvertent discoveries; and,
- Understand and follow the procedures and protocols established in this document should an inadvertent discovery occur.

Procedures for the Discovery of Cultural Resources

1. If any PTOI or Port employee, contractors or subcontractors suspects the inadvertent discovery of a cultural resource, all ground disturbing, construction or other activities around the immediate area of the discovery shall cease. A cultural resource may include an archaeological or historical resource.

An **archaeological resource** is defined in RCW 27.53.040 as:

All sites, objects, structures, artifacts, implements, and locations of prehistoric or archaeological interest, whether previously recorded or still unrecognized, including, but not limited to, those pertaining to prehistoric and historic American Indian or aboriginal burials, campsites, dwellings, and habitation sites, including rock shelters and caves, their artifacts and implements of culture such as projectile points, arrowheads, skeletal remains, grave goods, basketry, pestles, mauls and grinding stones, knives, scrapers, rock carvings and paintings, and other implements and artifacts of any material that are located in, on, or under the surface of any

PUYALLUP TRIBE OF INDIANS
DEVELOPMENT & CONSTRUCTION PERMIT APPLICATION



lands or waters owned by or under the possession, custody, or control of the state of Washington or any county, city, or political subdivision of the state are hereby declared to be archaeological resources.

A historical resource is defined in RCW 27.53.030 (11):

... mean[ing] those properties which are listed in or eligible for listing in the Washington State Register of Historic Places (Washington Heritage Register [WHR]) (RCW 27.34.220) or the National Register of Historic Places (NRHP) as defined in the National Historic Preservation Act of 1966 (Title 1, Sec. 101, Public Law 89-665; 80 Stat. 915; 16 U.S.C. Sec. 470) as now or hereafter amended.

Cultural resources may qualify for the WHR and/or the NRHP listing if they are intact, aged at least 50 years old, and at least one of the following:

- Are associated with events that have made a significant contribution to the broad patterns of our history; or
 - Are associated with the lives of persons significant in our past; or
Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
 - Have yielded, or may be likely to yield, information important in prehistory or history.
2. Upon discovery of a cultural resource, Port of Tacoma shall secure the area with a perimeter of not less than thirty (30) feet until all procedures are completed and the parties agree that activities can resume. If such a perimeter would materially impact agency functions mandated by law, related to health, safety or environmental concerns, then the secured area shall be of a size and extent practicable to provide maximum protection to the resource under the circumstances. Work in the immediate area will not resume until all procedures are completed and the parties agree that activities can resume.
 3. The qualified archaeologist, in coordination with the Department of Archaeology and Historic Preservation (DAHP), will evaluate all inadvertently discovered cultural resources that may be considered eligible for listing in the National Register of Historic Places (NRHP) and recommend whether the cultural resource is eligible for listing in the NRHP. If the discovery is considered eligible, the DAHP and the concerned Indian Tribe(s) will consult to determine appropriate treatment, including but not limited to, photography, mapping, sampling, etc.
 4. Port of Tacoma shall ensure that its appropriate personnel contractors and permittees follow procedures stipulated in this Agreement and treat all human remains, cultural items and potential historic properties with respect.

Human Remains and Associated Funerary Objects

5. If human remains are found, Port of Tacoma shall immediately notify Tribal Police who will contact the tribal archaeologist, the Tacoma Police Department, and/or the County Coroner to determine whether the remains are Native American and to eliminate the



PUYALLUP TRIBE OF INDIANS
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site as a crime scene. Any potential or actual human remains and/or associated funerary objects shall remain in place, unwashed, un-cleaned and without analysis, with minimal disturbance and left in the original location until the remains can be determined to not be of significant cultural value by a professional archaeologist qualified to identify human skeletal remains.

- 6. If the human skeletal remains are determined to be Native American, PTOI will notify the DAHP and the concerned Indian Tribe(s). PTOI shall continue to maintain the remains and any associated funerary objects in place, unwashed, unexamined and undisturbed until the concerned Indian Tribe(s), the DAHP determine an appropriate treatment. All parties shall give due consideration to and honor, to the extent possible, requests by the Tribe to leave the remains and/or other cultural items undisturbed and in place. Should the Tribe request to conduct ceremonies or other traditional activities with respect to the remains at the site where the remains were found, PTOI will accommodate such requests to the maximum and practical extent possible.
- 7. If human remains, funerary objects and/or artifacts are inadvertently collected during any archaeological investigation and identified as Native American in the field or in the laboratory, COT will notify and return the remains, objects and/or artifacts to concerned Indian Tribe(s) within twenty-four (24) hours of the identification, to the extent possible. Such human remains, funerary objects and/or artifacts shall remain unwashed and without further analysis.

Confidentiality of Information

- 8. All involved parties shall make its best efforts to ensure that its appropriate personnel, contractors, and permittees keep the discovery of all inadvertent discoveries confidential, including but not limited to, refraining from contacting the media or any third party or otherwise sharing information regarding the discovery with any member of the public. Prior to any release, COT, concerned Tribe(s), and the DAHP, shall concur on the amount of information, if any, to be released to the public, any third party, and the media and the procedures for such a release, to the extent permitted by law.

Contact Information (Agencies, Companies, Departments)

See Attachment A.

Signature of Applicant:

**Attachment A - Monitoring & Contact Information For
Inadvertent Discovery Plan
Port of Tacoma Parcel 15 (Portac) Cleanup Phase 1
Pre-Remedial Design Investigation
Tacoma, Washington
October 20, 2021**

The Port of Tacoma (Port) is implementing the first phase of a Cleanup Action Plan (CAP) at the Parcel 15 (Portac) property required by Agreed Order No. DE 15816 (Agreed Order) with the Washington State Department of Ecology (Ecology). The Parcel 15 (Portac) Cleanup Phase 1 project consists of two construction elements – stormwater conveyance improvements and construction of a permeable reactive barrier (PRB).

The stormwater conveyance system improvements include the installation of tide gates, removal or modification of stormwater vaults, and installation of slip lining or other trenchless pipe technology of two stormwater lines and outfalls at the Parcel 15 property. The goal of these actions is to eliminate preferential pathways between groundwater and Wapato Creek. The PRB will be installed in conjunction with the stormwater conveyance system improvements. The goal of the PRB is to remove arsenic in groundwater as it passes through the PRB. The PRB will be installed parallel to Wapato Creek along the westernmost boundary of the cap and along a portion of the northwestern boundary.

The PRB design will be determined based on the results of a pre-remedial design investigation (PRDI) consisting of installing soil borings on the proposed PRB alignment. This investigation is scheduled to begin the week of November 15, 2021. The construction activities are scheduled to occur in summer 2022.

Monitoring

The subsurface investigation performed during the PRDI will be overseen by Port of Tacoma's consultant, Aspect Consulting, LLC, with cultural resources monitoring conducted by Willamette Cultural Resources Associates, LTD (Willamette CRA). A qualified Archaeologist from Willamette CRA will observe all ground disturbing activities.

Contacts

Upon any discovery, immediately contact Port of Tacoma and the Puyallup Tribe and secure the area.

Port of Tacoma

P.O. Box 1837, Tacoma, WA 98401

Primary Contact: Stanley Sasser, Environmental Project Manager, 253-441-5644

Puyallup Tribe

Attention: Tribal Chairman, 3009 Portland Ave, Tacoma, Washington 98404

Primary Contact: Brandon Reynon, Tribal Historic Preservation Officer, 253- 573-7986

Secondary Contact: Jennifer Keating, Tribal Land Use Planner & Asst THPO, 253-549-5397

Washington Department of Archaeology and Historic Preservation

PO Box 48343, Olympia, Washington 98504-8343

Lead Representative: Allyson Brooks, State Historic Preservation Officer, 360-480-6922

Primary Contact: Stephanie Jolivette, Local Government Archaeologist, 360-628-2755

Tacoma Police Department

3701 South Pine Street, Tacoma, WA 98409

Lead Representative: Don Ramsdell, Chief of Police, 253-591-5900

Pierce County Medical Examiner's Office

3619 Pacific Avenue, Tacoma, Washington 98418

Lead Representative: Karen Cline-Parhamovich, DO, Chief Medical Examiner, 253-798-6494

City of Tacoma Historic Preservation Office

747 Market Street

Tacoma, WA 98402-3793

Primary Contact: Reuben McKnight, Historic Preservation Officer, 253-591-5220

Assistant Historic Preservation Officer: Lauren Hoogkamer, 253-591-5254

Subsurface Investigation Contacts

Willamette Cultural Resources Associates, LTD

655 S. Orcas St., Ste. 220

Seattle, Washington 98108

Office: 206-397-1487

Project Manager: Austin Jenkins (austin@willamettecra.com; Cell: 360-241-6900)

Aspect Consulting, LLC

710 2nd Ave, Suite 550

Seattle, WA 98104

Primary Contact: Adam Griffin, PE, Associate Engineer, 865-696-7658

APPENDIX D
STATE ENVIRONMENTAL
POLICY ACT – DNS



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • 360-407-6300
Call 711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

STATE ENVIRONMENTAL POLICY ACT
DETERMINATION OF NONSIGNIFICANCE

Date of Issuance: March 25, 2021

Lead agency: Department of Ecology, Toxics Cleanup Program, Southwest Region

Agency Contact: Andrew Smith, Cleanup Project Manager, andrew.smith@ecy.wa.gov;
(360) 407-6316

Permit Number: Not applicable. Work is to be performed under the authority of a Model Toxics Control Act Agreed Order No. DE 15616

Description of proposal:

The project will modify the stormwater conveyance system on the project site and install a permeable reactive barrier (PRB) in the subsurface parallel to Wapato Creek in an effort to reduce concentrations of arsenic contaminated groundwater entering Wapato Creek. If it is determined based on monitoring data that concentrations of arsenic in the groundwater have not reduced to the desired levels, then additional contingent remedial actions will be employed.

During the first two years, work to be performed includes improvements to the conveyance system including: 1) removal of significant accumulated debris in the site stormwater system that discharges at outfalls OF-2 and OF-3 and installation of tide gates at outfalls OF-2 and OF-3, and; 2) removal of the spill containment vaults in the conveyance system and slip lining the conveyance pipes (or other trenchless pipe repair) between Wapato Creek and the removed vaults. A section of pipe or stormwater vault will be installed in place of each of the existing vaults.

During year four, the Port of Tacoma will construct a PRB parallel to Wapato Creek along the westernmost boundary of the Log Yard cap and along a portion of the northwestern boundary. The PRB will extend to below the streambed of Wapato Creek and will be expected to key into the underlying low permeability silts. It will be backfilled with reactive media to treat dissolved arsenic in the groundwater passing through the PRB. A low-permeability material to inhibit surface water infiltration and provide structural strength would be placed atop the reactive media to restore the grade to pre-excavation conditions. The PRB performance will be monitored and evaluated to determine effectiveness and the reactive media replenishment schedule. Monitoring wells will be installed within and downgradient of the PRB during its construction and will be used to assess the effectiveness of the PRB.

DETERMINATION OF NONSIGNIFICANCE

Page 2 of 3

March 25, 2021

If it is determined additional remedial actions are needed based on groundwater monitoring data, then additional contingent groundwater treatment will be employed consisting of collecting subsurface perched water with a French drain type system. The collected perched water would be treated in-situ in vaults with reactive media and then allowed to infiltrate into a more permeable deeper soil layer. Additional contingent remedial actions associated with the conveyance system may be employed including slip lining or sealing additional sections of stormwater conveyance piping upstream of the removed vaults.

Location of proposal: The work will be employed along the western portion of the property at 4215 SR 509 E. Frontage Rd., Tacoma, WA 98421-3998.

Applicant/Proponent: Port of Tacoma

Project Representative: Rob Healy, Senior Manager, Environmental Programs
E-MAIL: rhealy@portoftacoma.com
PHONE: (253) 428-8643
ADDRESS: 1 Sitcum Plaza, Tacoma, WA 98421-3000

Ecology has determined that this proposal will not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). We have reviewed the attached Environmental Checklist, as well as the Remedial Investigation, Feasibility Study, Feasibility Study Addendum and public review draft Cleanup Action Plan. These documents are available at: <https://apps.ecology.wa.gov/gsp/sitepage.aspx?csid=3642>

This determination is based on the following findings and conclusions:

- The project will reduce concentrations of arsenic entering Wapato Creek.
- Engineering design documents will be prepared and approved by Ecology to ensure all onsite work will be performed in accordance with applicable standards and use of best management construction and erosion control practices.
- Contaminated soils will be managed in accordance with a previously-approved (by Ecology) soils testing and disposal plan.
- The work will be conducted under the requirements of a construction stormwater NPDES permit, which requires adherence with a stormwater pollution prevention plan.
- The Ecology cleanup project manager will provide oversight during project construction.

The comment period for this DNS corresponds with the comment period for the Remedial Investigation, Feasibility Study, Feasibility Study Addendum, Public Review Draft Cleanup Action Plan and associated Agreed Order. The comment period begins on April 22, 2021 and ends on May 23, 2021.

DETERMINATION OF NONSIGNIFICANCE

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Responsible official:

Rebecca S. Lawson, P.E., LHG
Section Manager
Toxics Cleanup Program
Southwest Region
Department of Ecology
P.O. Box 47775
Olympia, WA 98504-7600
360-407-6241

Signature

A handwritten signature in blue ink that reads "Rebecca S. Lawson". The signature is written in a cursive style and is positioned above a horizontal line.

Date

March 25, 2021



P.O. Box 1837
Tacoma, WA, 98401
Tel: 253-383-5841

<https://www.portoftacoma.com/>

ENVIRONMENTAL CHECKLIST

Port of Tacoma Parcel 15 Cleanup

PURPOSE

The State Environmental Policy Act (SEPA), Chapter 43.21 RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. The purpose of this checklist is to provide information to help identify impacts from the proposal (and to reduce or avoid impacts, if possible) and to help the Lead Agency to make a SEPA threshold determination.

A. Background

1. Name of proposed project, if applicable:

Port of Tacoma Parcel 15 Cleanup

2. Name of applicant:

Rob Healy, Senior Environmental Project Manager

3. Address and phone number of applicant and contact person:

Port of Tacoma
PO Box 1837
Tacoma, WA, 98401

253-428-8643

4. Date checklist prepared:

February 24, 2021

5. Agency requesting checklist:

Department of Ecology

6. Proposed timing or schedule (including phasing, if applicable):

The final remedy will be implemented in two discrete phases:

- **Phase 1 Cleanup:** Phase 1 implementation will be initiated following finalization of the Cleanup Action Plan (CAP) and execution of an Agreed Order (AO). This work will include the following:
 - Development of an engineering design report, including supporting plans (Compliance Monitoring and Contingency Response Plan (CMCRP), Contaminated

- Media Management Plan (CMMP), and an Operations Monitoring and Maintenance Plan (OMMP) for the existing cap
- Design and permitting for the Phase 1 cleanup
 - Construction of the Phase 1 cleanup, including construction of the Permeable Reactive Barrier (PRB) and storm drain improvements
 - Development of a Completion Report for Phase 1 construction
 - Implementation of ongoing cap maintenance activities as defined in the OMMP
 - Groundwater monitoring and data evaluation as defined in the CMCRP (including, if applicable, the implementation of a contingent remedy [conveyance system improvements and perched groundwater treatment]).
- **Phase 2 Cleanup:** Construction of the future low-permeability cap requires verification of land use planning assumptions and coordination with future redevelopment activities. This work will be implemented under a separate future AO Amendment or Consent Decree, and will include the following:
 - Development of a Phase 2 engineering design report, including supporting plans (Phase 2 OMMP for the upgraded cap)
 - Design and permitting for the Phase 2 cleanup
 - Construction of the Phase 2 cleanup, including construction of the low-permeability cap
 - Development of a Completion Report for Phase 2 construction
 - Implementation of cap maintenance activities as defined in the Phase 2 OMMP
 - Ongoing groundwater monitoring and data evaluation as defined in the CMCRP

Phase 2 will be part of a larger redevelopment and included in that SEPA action.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Parcel 15 will continue to be used to support port-industrial activities by the Port of Tacoma and Northwest Seaport Alliance. While there are currently no redevelopment plans, it is likely the site will under-go some type of redevelopment in the future.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

A comprehensive summary of previous environmental investigations prior to the remedial investigation (RI) (GSI 2017) is provided in the Remedial Investigation Report. Table 1 provides a summary of documents representing the primary investigations and evaluations. RI activities were conducted during 2016 and 2017 consistent with an Ecology-approved RI Work Plan (GSI, 2016; Ecology, 2016). The

investigation approach for the RI entailed testing for arsenic concentrations and redox chemistry across the Site, with additional testing near Wapato Creek for geochemical conditions affecting arsenic mobility and attenuation. Additional constituents, such as pentachlorophenol (PCP), were analyzed in historical source areas in the Sawmill. Data collection included groundwater sampling, soil sampling, test pit explorations, porewater sampling, surface water sampling, outfall discharge sampling, sediment sampling, and a tidal study in the adjacent Wapato Creek. In addition, the following Ecology-approved activities were conducted beyond the scope of work described in the RI work plan:

- Conducted a video survey of stormwater lines.
- Visually inspected and surveyed the invert elevations in the spill containment vaults located adjacent to Manholes #1 and #6.
- Installed transducers to evaluate water level fluctuations in response to precipitation seepage through the cap.
- Abandoned monitoring well HC-1 to prevent it from acting as a potential conduit for rainwater to migrate into the underlying fill containing slag.

Post-RI studies conducted have included the following:

- Preparing a MTCA feasibility study (FS) (GSI, 2018) that screened potentially viable remedial technologies; considered potential effects of climate change; analyzed different remedial alternatives, including five for the Log Yard and three for the Sawmill; and identified preferred remedial alternatives for each area following completion of a disproportionate cost analysis.
- Preparing a FS addendum (GSI, 2019a) that evaluated a refined remedial alternative for the Log Yard.
- Performing additional groundwater monitoring in February 2019 (GSI 2019b), with a second event in August 2019.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known other than this CAP.

10. List any government approvals or permits that will be needed for your proposal, if known.

Cleanup Action Plan and implemented through an Agreed Order.
Rivers and Harbors Act Section 10 for the tide gate.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

The selected cleanup remedies include the following components:

- **Log Yard Remedy:** The selected Log Yard remedy uses a two-phased approach. The first phase of cleanup will be implemented following finalization of this CAP and will include maintenance of the existing cap, improvements to the stormwater conveyance system, installation and operation of a permeable reactive barrier (PRB) along Wapato Creek, environmental monitoring, and implementation of institutional controls (ICs). The second phase of cleanup will be implemented following completion of land use planning and in parallel with future Site redevelopment. The second phase includes replacement of the existing cap with a low-permeability geosynthetic clay liner (GCL) cap or an alternate cap achieving the same or better infiltration control performance. The remedy also includes contingent remedial actions to be used in the event that Site remediation levels are not met.
- **Sawmill Remedy:** The selected remedy for the Sawmill uses natural attenuation processes to treat residual PCP in groundwater, within the former dip tank area. The remedy incorporates natural attenuation monitoring, institutional controls, and contingent remedial actions.

The cleanup will be implemented in two phases. Compliance monitoring will ensure that cleanup standards are met.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

Parcel 15 consists of an approximately triangular parcel of about 52 acres of land owned by the Port. The Site is located at 4215 State Route (SR) 509 – North Frontage Road in an industrial area between Interstate 5 and Commencement Bay, in Tacoma, Washington. The Site is bounded by East 4th Street (northern boundary), Alexander Avenue East (western boundary), and North Frontage Road (SR 509) (southeastern boundary). Wapato Creek is situated between Alexander Avenue East and the western edge of the property, and empties into the Blair Waterway through a culvert under East 4th Street. The Blair Waterway is in the southern portion of Commencement Bay, one of multiple industrial waterways developed in the 1900s to support international commerce. See CAP for vicinity map.

B. Environmental Elements

1. Earth

a. General description of the site:

(circle one): Generally flat.

The site does border Wapato creek which has some nearly vertical banks.

b. What is the steepest slope on the site (approximate percent slope)?

Remediation area is nearly flat. Bank of Wapato Creek can approach 1:1 in places.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The subsurface lithology at the Site is divided into the following units:

Fill Containing Slag – Near-surface material placed since industrial development of the Site began in 1974 (e.g., includes a mixture of sand, silt, slag, and bark fill material). This unit is overlain by the capping materials.

Dredged Sediment Fill – This represents the silty sand material that is situated above the fine-grained native alluvial deposits and likely originated from sediment that was dredged during construction of the adjacent Blair Waterway and deposited onto the Site and surrounding area between 1959 and 1965.

Native Alluvium – The natural deposits from the Puyallup River wetlands consists of a mixture of interbedded silt, sand, and clay and may be hard to distinguish from the overlying dredged sediment fill.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

The soils are generally stable. The banks of Wapato Creek are generally stable with occasional small erosional features, but that does not threaten the remediation area.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Cleanup actions such as the installation of the permeable reactive barrier will require excavation along its length. Excavation quantities will be developed as the design is refined. Suitable soils will be replaced in the trench. Any soil removed from the site will be disposed of at a licensed landfill. Any imported soils will be from an approved source and tested prior to placement on site.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion is very unlikely as a result of the cleanup plan.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

There will be no change in the percentage of impervious surfaces as a result of this cleanup. The remediation area will remain nearly 100% impervious.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Appropriate Temporary Erosion and Sediment Control best management practices will be installed prior to construction, maintained during construction, and modified as necessary to comply with NPDES requirements.

2. Air [\[help\]](#)

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Minor temporary air emissions will occur as a result of operating equipment during construction. There will be no air emissions as a result of project operations. Minor air emissions are likely when equipment is used to maintain the cap over time.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Contractors are required to follow the Port's anti-idling policy during on-site construction/maintenance.

3. Water

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes, Wapato Creek is on the western boarder of the site. It flows into Commencement Bay.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes, cleanup activities will occur within 200' of Wapato Creek. No work is proposed within the creek.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

No fill or dredge material will be placed within a wetland or surface water.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

No surface water withdrawals or diversions are proposed.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

No, only Wapato Creek is in the floodplain and remedial activities will not occur in that area.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

No.

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.**

No groundwater will be withdrawn from a well for drinking water or other purposes. As a contingency measure perched groundwater may be extracted from a horizontal drain and treated prior to discharge either to surface water or groundwater. The quantity of water would be estimated during project design.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

No waste material is proposed to be discharged. The purpose of this cleanup action is to control historic contamination.

c. Water runoff (including stormwater):



- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The existing on site stormwater system will be improved (tight lined) to ensure contaminants in the soils and groundwater are not discharged through the storm system.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

The purpose of this project is to ensure legacy waste materials do not leave the site.

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No. The proposal tight lines the existing drainage system. The volume of water leaving the site will not change.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

As part of the cleanup action, the existing drainage system will be improved to segregate stormwater from onsite groundwater and soils

4. Plants

- a. Check the types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other: ornamentals
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- orchards, vineyards or other permanent crops.
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other: non-native milfoil, marine algae and phytoplankton
- other types of vegetation

- b. What kind and amount of vegetation will be removed or altered?

No vegetation is proposed for removal or alteration.

- c. List threatened and endangered species known to be on or near the site.



None known.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

No landscaping or measures to preserve or enhance vegetation are proposed as part of the cleanup.

e. List all noxious weeds and invasive species known to be on or near the site.

Tansy, poison hemlock, Himalayan Blackberry. Likely others depending on the year.

5. Animals

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

X birds: hawk, heron, eagle, songbirds, other: falcon, osprey, resident, and migration waterfowl

X mammals: Rodents, small mammals

X fish: Salmon, trout (in Wapato Creek).

b. List any threatened and endangered species known to be on or near the site.

Threatened and endangered species are known to occur on or near the Port properties. These include:

Species	Federal Status	Action Areas	Critical Habitat Within Action Area
Puget Sound Chinook salmon <i>Oncorhynchus tshawytscha</i>	Threatened	All aquatic areas (freshwater, estuarine and marine)	All areas waterward of OHW or HTL
Puget Sound steelhead <i>Oncorhynchus mykiss</i>	Threatened	All aquatic areas (freshwater, estuarine and marine)	All areas waterward of OHW or HTL
Coastal-Puget Sound bull trout <i>Salvelinus confluentus</i>	Threatened	All aquatic areas (freshwater, estuarine and marine)	All areas waterward of OHW or HTL
Killer whale: Southern Resident <i>Orcinus orca</i>	Endangered	Marine only	All waters in Puget Sound deeper than 20 ft (6.1 m)

Species	Federal Status	Action Areas	Critical Habitat Within Action Area
Humpback whale <i>Megaptera novaeangliae</i>	Endangered (Central America), Threatened (Mexico)	Marine only	No critical habitat has been designated for the humpback whale
Marbled murrelet <i>Brachyramphus marmoratus</i>	Threatened	Marine only	No critical habitat designated within the action areas. Marine environments were not designated.
Eulachon <i>Thaleichthys pacificus</i>	Threatened	Marine only	No critical habitat designated within the action areas.
Bocaccio <i>Sebastes paucispinis</i>	Endangered	Marine/Estuarine only	Nearshore and deep water habitat
Yelloweye rockfish <i>Sebastes ruberrimus</i>	Threatened	Marine only	Deepwater habitat (>30 m)

c. Is the site part of a migration route? If so, explain.

Wapato Creek is a migratory route for anadromous salmonids. The Tideflats are part of the Pacific Flyway.

d. Proposed measures to preserve or enhance wildlife, if any:

No adverse impacts to wildlife are anticipated and thus no enhancement measures are proposed.

e. List any invasive animal species known to be on or near the site.

None known.

6. Energy and Natural Resources [\[help\]](#)

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The completed project will not require any additional or different energy sources to operate.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Energy conservation is one of the three main themes overarching the objectives in the *Northwest Ports Clean Air Strategy 2020 Strategy Update*: port authorities will continue to advance policies that promote efficiency and phase out old, high emitting equipment in favor of new equipment. Under this objective, the Port of Tacoma and the NWSA will focus on reducing fuel and energy use across the sectors to reduce air and greenhouse gas emissions. Additionally, actions within the Port Administration section promote energy conservation. These actions include continually advancing efficiency in port authority fleets, facilities, and lighting, as well as setting an objective to have zero emission buildings and high efficiency lighting in place by 2050.

7. **Environmental Health** [\[help\]](#)

a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.**

As a remediation effort exposure to certain contaminants is possible for the construction crews. See below.

Crews will use diesel powered equipment and there is a chance for fuels spill or hydraulic line leaks.

1) Describe any known or possible contamination at the site from present or past uses.

Log Yard

Before installation of the cap, infiltration or precipitation through the fill containing slag, and subsequent discharge of stormwater to Wapato Creek (via the former central drainage ditch, subsurface drains, and direct overland flow), served as a direct pathway for metals migration to surface water and potentially groundwater. The cap in the Log Yard was installed between late 1988 and early 1989 with the intention of cutting off surficial and shallow subsurface stormwater drainage through the fill containing slag. However, observations of ongoing perched water in a number of wells confirmed that there are portions of the Site where fill containing slag is still saturated, and thus leaching of metals from the slag still serves as an ongoing source of arsenic to groundwater. Although the cap significantly reduced infiltration and groundwater flux to the creek, seepage of ponded stormwater through the cap appears to be the primary source of the ongoing perched water.

Arsenic in groundwater has the potential to be transported toward Wapato Creek via either the groundwater-to-porewater-to-surface water pathway, or through infiltration into the storm drain system. Because the Log Yard has been capped, surface soil migration through water and wind erosion is not a significant release mechanism in the Log Yard portion of the Site. Further details on these pathway mechanisms are provided in the RI report (GSI, 2017).

Sawmill

PCP was used historically at the former sawmill to prevent sap stain, applied in a water-

based solution using spray booths and a dip tank. In previous remedial actions, PCP sources and contaminated soil were removed. Some PCP contamination persists in groundwater in the immediate vicinity of the former dip tank, although it has not migrated to porewater or surface water at concentrations above screening levels. Decreases in PCP concentration have been observed over time due to natural degradation. However, elevated pH values in groundwater have been observed at the same well as the highest PCP detections (well MW-2R). The alkaline conditions in groundwater in the former dip tank excavation area are likely the result of the recycled concrete aggregate that was used for backfill (University of Wisconsin-Madison, 2012). The alkaline groundwater conditions are considered to be localized in the concrete aggregate backfill, given that a high pH was not observed in the three wells (MW-1, MW-3, and MW-4) located adjacent to the former dip tank excavation area.

Alkaline groundwater conditions can inhibit biological activity and reduce the adsorptive capacity of PCP, resulting in a localized increase in PCP mobility. However, PCP concentrations have continued to naturally attenuate over time.

In addition, two wells north of the former dip tank area (MW-1 and MW-3) have arsenic concentrations above the natural background concentrations. Groundwater arsenic concentrations in this range are likely caused by arsenic desorption from naturally occurring minerals, a process promoted under the reducing geochemical conditions and the nearby alkaline conditions in the former dip tank area (see the RI report for further details). Methane gas is also present in those wells

Main Contaminants of Concern

The site-associated contaminants identified for cleanup are arsenic and PCP, with arsenic the primary driver in the Log Yard, and PCP the primary driver in the Sawmill. In addition, methane gas is identified as a site-associated contaminant in the Log Yard and portions of the Sawmill that will be managed through institutional controls (IC)s.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

No known hazardous transmission lines are under the cap. The whole point of the design is to reduce risks from on-site contaminants.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Fuels and lubricants for construction will be on site during active construction. Equipment and certain cargo will have fuel to operate/move the equipment/cargo.

4) Describe special emergency services that might be required.

No special emergency services are expected to be required.

5) Proposed measures to reduce or control environmental health hazards, if any:

The remedial construction will be conducted by a contractor trained and certified for conducting such work. Work will be conducted per the Cleanup Action Plan.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Port areas are highly industrialized and are affected by a wide range of noise sources, such as traffic, trucks, trains, cargo handling equipment, and vessels. These noise sources will not affect the project.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Noise will be generated by construction equipment during active remediation. Post remediation noise level will not change appreciably from their current levels.

3) Proposed measures to reduce or control noise impacts, if any:

The contract will adhere to the City of Tacoma's noise ordinance.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The site and surrounding areas are used for port industrial activities. The proposal will not affect surrounding land uses.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

No.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

No.

c. Describe any structures on the site.

The site is paved with an existing environmental cap made of reinforced concrete. The site contains storm drainage and fencing.

d. Will any structures be demolished? If so, what?

Some pavement will be demolished and replaced once remedial activities are complete.



e. What is the current zoning classification of the site?

Port Maritime Industrial

f. What is the current comprehensive plan designation of the site?

Manufacturing Industrial Center.

g. If applicable, what is the current shoreline master program designation of the site?

S-10 Port Maritime Industrial

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

Yes. A portion of the site includes the critical area buffer for Wapato Creek.

i. Approximately how many people would reside or work in the completed project?

There is no housing on site nor will there be a change in jobs.

j. Approximately how many people would the completed project displace?

None

k. Proposed measures to avoid or reduce displacement impacts, if any:

None needed.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Site activities will not change as part of the remediation effort. It is an industrial area and will remain so.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

There are no ag or forest lands to protect.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing is proposed as part of this remediation.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing is proposed to be demolished.

c. Proposed measures to reduce or control housing impacts, if any:

No measures to reduce or control housing impacts are proposed.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

All work is at or below grade level including repaving.

b. What views in the immediate vicinity would be altered or obstructed?

No views are anticipated to be altered or obstructed.

c. Proposed measures to reduce or control aesthetic impacts, if any:

No measures to reduce or control impacts to aesthetics are proposed.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

There may be some light generated from construction equipment, but it will be temporary and minor if any.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Numerous recreational activities take place within or near the port study areas. These include mitigation and public access sites such as Dick Gilmur car-top boat launch, Sitcum observation tower, Gog Le Hi Ti Wetlands and Place of Circling Waters.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No displacement of existing recreational uses is anticipated as a result of this cleanup action.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

No measures are expected to be necessary.

13. *Historic and cultural preservation*

- a. **Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.**

None known.

- b. **Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.**

There are no known cultural resources on this site. However, the southern Port of Tacoma properties are of a higher risk of inadvertent discovery of cultural resources than are the northern properties. The site was covered in the Cultural and Historic Resource study conducted for the Blair Hylebos Terminal Redevelopment Project in 2008. The Port is currently procuring a firm to support remedial design and construction. Once a firm is selected, a 05-05 Ecology consult will be completed prior to initiating any sub-surface work at the site.

- c. **Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.**

The methodology for identifying cultural resources are described in detail in the report cited above. The Port of Tacoma is in routine contact with Puyallup Tribe of Indians cultural and historic resource staff on projects across the Port.

- d. **Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.**

The Port of Tacoma has traditionally used the Puyallup Tribe of Indians Inadvertent Discovery Plan as found on their website. However, the Port will use Ecology's template if required. The Port's general practice after consultation with the Tribe is to have cultural resource monitors on site during construction that involves excavation in native soils (through the fill layer). However, for higher risk sites the Port will have monitors on site while excavating in fill if requested by the Puyallup Tribe.

14. *Transportation* [\[help\]](#)

- a. **Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.**

SR 509 and Taylor Way.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?**

The site is not served by public transit. The closest area for transit would be Highway 99.

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?**

None and none.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).**

No.

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

All those modes of transportation exist in the area, but only roads are required to get equipment and crews to the site for active remediation.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?**

There will be no change in vehicle trips as a result of this project.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.**

No.

- h. Proposed measures to reduce or control transportation impacts, if any:**

None proposed.

15. Public Services [\[help\]](#)

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.**

No.

- b. Proposed measures to reduce or control direct impacts on public services, if any.**

No measures are necessary.

16. Utilities [\[help\]](#)

- a. Circle utilities currently available at the site:**



P.O. Box 1837
Tacoma, WA, 98401
Tel: 253-383-5841

<https://www.portoftacoma.com/>

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other stormwater utilities, commercial and solid waste collection

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No utilities are proposed as part of this project.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Robert Healy
Name of signee: Robert Healy
Position and Agency/Organization: Senior Manager, Port of Tacoma
Date Submitted: March 26, 2021



D. Supplemental sheet for nonproject actions [\[HELP\]](#)

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. How would the proposal be likely to deplete energy or natural resources?

Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

APPENDIX E

USACE

NWS-2021-950-WRD



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
4735 EAST MARGINAL WAY SOUTH, BLDG 1202
SEATTLE, WA 98134-2388

Regulatory Branch

May 20, 2022

Mr. Stanley Sasser
Port of Tacoma
P.O. Box 1837
Tacoma, Washington 98401

Reference: NWS-2021-950-WRD
Tacoma, Port of
(Parcel 15 Cleanup
Phase 1)

Dear Mr. Sasser:

We have reviewed your application to repair two stormwater outfalls as required by an Agreed Order with Washington Department of Ecology in Wapato Creek at Tacoma, Washington. Based on the information you provided to us, Nationwide Permit (NWP) 38, *Cleanup of Hazardous and Toxic Waste* (Federal Register December 27, 2021 Vol. 86, No. 245), authorizes your proposal as depicted on the enclosed drawings dated September 2021.

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *NWP 38, Terms and Conditions* and the following special conditions:

- a. You must implement and abide by the Endangered Species Act (ESA) requirements and/or agreements set forth in the No Effect Memo, dated September 30, 2021, in its entirety. The U.S. Army Corps of Engineers (Corps) made a determination of No Effect for all species and critical habitat based on this document. Failure to comply with the commitments made in this document constitutes non-compliance with the ESA and your Corps permit.
- b. 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.

We have reviewed your project pursuant to the requirements of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act and the National Historic Preservation Act. We have determined this project complies with the requirements of these laws provided you comply with all of the permit general and special conditions.

The authorized work complies with the Washington State Department of Ecology's (Ecology) Water Quality Certification (WQC) requirements and Coastal Zone Management (CZM) consistency determination decision for this NWP. No further coordination with Ecology for WQC and CZM is required.

You have not requested a jurisdictional determination for this proposed project. If you believe the U.S. Army Corps of Engineers does not have jurisdiction over all or portions of your project you may request a preliminary or approved jurisdictional determination (JD). If one is requested, please be aware that we may require the submittal of additional information to complete the JD and work authorized in this letter may not occur until the JD has been completed.

Our verification of this NWP authorization is valid until March 14, 2026, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work for the NWP authorization has not been completed by that date and you have commenced or are under contract to commence this activity before March 14, 2026, you will have until March 14, 2027, to complete the activity under the enclosed terms and conditions of this NWP. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. You must also obtain all local, State, and other Federal permits that apply to this project.

You are cautioned that any change in project location or plans will require that you submit a copy of the revised plans to this office and obtain our approval before you begin work. Deviating from the approved plans could result in the assessment of criminal or civil penalties.

Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit*. All compliance reports should be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch electronically at nws.compliance@usace.army.mil. Thank you for your

cooperation during the permitting process. We are interested in your experience with our Regulatory Program and encourage you to complete a customer service survey. Referenced documents and information about our program are available on our website at www.nws.usace.army.mil, select "Regulatory Permit Information. If you have any questions, please contact Mr. Jason Sweeney at jason.t.sweeney@usace.army.mil or (206) 764-3450.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Bennett". The signature is written in a cursive, flowing style.

Matt Bennett, Section Chief
Regulatory Branch

Enclosures

cc:
Ecology (ecyrefedpermits@ecy.wa.gov)



US Army Corps
of Engineers ®
Seattle District

NATIONWIDE PERMIT 38

Terms and Conditions



2021 NWP's - Final 41; Effective Date: February 25, 2022

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- A. Description of Authorized Activities
 - B. U.S. Army Corps of Engineers (Corps) National General Conditions for All Final 41 NWP's
 - C. Seattle District Regional General Conditions
 - D. Seattle District Regional Specific Conditions for this Nationwide Permit (NWP)
 - E. 401 Water Quality Certification (401 WQC) for this NWP
 - F. Coastal Zone Management Consistency Response for this NWP
-

In addition to any special condition that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit (NWP) authorization to be valid in Washington State.

A. DESCRIPTION OF AUTHORIZED ACTIVITIES

38. Cleanup of Hazardous and Toxic Waste. Specific activities required to effect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Court ordered remedial action plans or related settlements are also authorized by this NWP. This NWP does not authorize the establishment of new disposal sites or the expansion of existing sites used for the disposal of hazardous or toxic waste.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authorities: Sections 10 and 404)

Note: Activities undertaken entirely on a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site by authority of CERCLA as approved or required by EPA, are not required to obtain permits under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act.

B. CORPS NATIONAL GENERAL CONDITIONS FOR ALL 2021 NWP's - FINAL 41

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWP's, or who is currently relying on an existing or prior permit authorization under one or more NWP's, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) 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 or her 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 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.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Structures and Fills. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>.

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated

critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWP.

(e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those

tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory

mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements)

may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual

coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

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

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to

satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) *Timing.* Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) *Contents of pre-construction notification:* The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of pre-construction notification*: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency coordination*: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity’s compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity’s adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity’s compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies’ concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

C. SEATTLE DISTRICT REGIONAL GENERAL CONDITIONS: The following conditions apply to the 2021 NWP - Final 41 NWP for the Seattle District in Washington State, as applicable.

RGC 1, Project Drawings

Drawings must be submitted with pre-construction notification (PCN). Drawings must provide a clear understanding of the proposed project, and how waters of the United States will be affected. Drawings must be originals and not reduced copies of large-scale plans. Engineering drawings are not required. Existing and proposed site conditions (manmade and landscape features) must be drawn to scale.

RGC 2, Aquatic Resources Requiring Special Protection

A PCN is required for activities resulting in a loss of waters of the United States in wetlands in dunal systems along the Washington coast, mature forested wetlands, bogs and peatlands, aspen-dominated wetlands, alkali wetlands, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons.

RGC 3, New Bank Stabilization in Tidal Waters of Puget Sound

Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the areas identified on Figures 1a through 1e) cannot be authorized by NWP.

RGC 4, Commencement Bay

No permanent losses of wetlands or mudflats within the Commencement Bay Study Area may be authorized by any NWP (see Figure 2).

RGC 5, Bank Stabilization

All projects including new or maintenance bank stabilization activities in waters of the United States where salmonid species are present or could be present, requires PCN to the U.S. Army Corps of Engineers (Corps) (see NWP general condition 32).

For new bank stabilization projects only, the following must be submitted to the Corps:

- a. The cause of the erosion and the distance of any existing structures from the area(s) being stabilized.
- b. The type and length of existing bank stabilization within 300 feet of the proposed project.
- c. A description of current conditions and expected post-project conditions in the waterbody.
- d. A statement describing how the project incorporates elements avoiding and minimizing adverse environmental effects to the aquatic environment and nearshore riparian area, including vegetation impacts in the waterbody.

In addition to a. through d., the results from any relevant geotechnical investigations can be submitted with the PCN if it describes current or expected conditions in the waterbody.

RGC 6, Crossings of Waters of the United States

Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts or bridges, requires submittal of a PCN to the U.S. Army Corps of Engineers (see NWP general condition 32).

If a culvert is proposed to cross waters of the U.S. where salmonid species are present or could be present, the project must apply the stream simulation design method from the Washington Department of Fish and Wildlife located in the *Water Crossing Design Guidelines* (2013), or a design method which provides passage at all life stages at all flows where the salmonid species would naturally seek passage. If the stream simulation design method is not applied for a culvert where salmonid species are present or could be present, the project proponent must provide a rationale in the PCN sufficient to establish one of the following:

- a. The existence of extraordinary site conditions.
- b. How the proposed design will provide equivalent or better fish passage and fisheries habitat benefits than the stream simulation design method.

Culverts installed under emergency authorization that do not meet the above design criteria will be required to meet the above design criteria to receive an after-the-fact nationwide permit verification.

RGC 7, Stream Loss

A PCN is required for all activities that result in the loss of any linear feet of streams.

RGC 8, Construction Boundaries

Permittees must clearly mark all construction area boundaries within waters of the United States before beginning work on projects that involve grading or placement of fill. Boundary markers and/or construction fencing must be maintained and clearly visible for the duration of construction. Permittees should avoid and minimize removal of native vegetation (including submerged aquatic vegetation) to the maximum extent possible.

RGC 9, ESA Reporting to NMFS

For any nationwide permit that may affect threatened or endangered species; Incidents where any individuals of fish species, marine mammals and/or sea turtles listed by National Oceanic and Atmospheric Administration Fisheries, National Marine Fisheries Service (NMFS) 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 NMFS, 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 the NMFS to collect specimens or take other measures to ensure that evidence intrinsic to the specimen is preserved.

D. SEATTLE DISTRICT REGIONAL SPECIFIC CONDITIONS FOR THIS NWP:

NWP 38 Specific Regional Condition:

1. Non-government project proponents must submit a copy of court ordered remedial plans or related settlements with the pre-construction notification.

E. 401 WATER QUALITY CERTIFICATION: Depending on the geographic region of the work authorized by this verification, the appropriate 401 certifying authority has made the following determinations:

Washington Department of Ecology (Ecology) (Projects in all areas except as described for the other certifying agencies listed below): General and Specific WQC Conditions

A. State General Conditions for all Nationwide Permits

In addition to all of the U.S. Army Corps of Engineers' (Corps) national and Seattle District's regional permit conditions, the following state general Water Quality Certification (WQC) conditions **apply to all NWPs whether granted or granted with conditions** in Washington where Ecology is the certifying authority.

Due to the lack of site specific information on the discharge types, quantities, and specific locations, as well as the condition of receiving waters and the quantity of waters (including wetlands) that may be lost, Ecology may need to review the project if one of the following state general conditions is triggered.

This case-by-case review may be required, and additional information regarding the project and associated discharges may be needed, to verify that the proposed project would comply with state water quality requirements and if an individual WQC is required or if the project meets this programmatic WQC.

1. **In-water construction activities.** Ecology WQC review is required for projects or activities authorized under NWPs where the project proponent has indicated on the Joint Aquatic Resource Permit Application (JARPA) question 9e that the project or activity will not meet State water quality standards, or has provided information indicating that the project or activity will cause, or

may be likely to cause or contribute to an exceedance of a State water quality standard (Chapter 173-201A WAC) or sediment management standard (Chapter 173-204 WAC).

Note: In-water activities include any activity within a jurisdictional wetland and/or waters.

2. **Projects or Activities Discharging to Impaired Waters.** Ecology WQC review is required for projects or activities that will occur in a 303(d) listed segment of a waterbody or upstream of a listed segment and may result in further exceedances of the specific listed parameter to determine if the project meets this programmatic WQC or will require individual WQC.

To determine if your project or activity is in a 303(d) listed segment of a waterbody, visit Ecology's Water Quality Assessment webpage for maps and search tools.

3. **Aquatic resources requiring special protection.** Certain aquatic resources are unique and difficult-to-replace components of the aquatic environment in Washington. Activities that would affect these resources must be avoided to the greatest extent practicable. Compensating for adverse impacts to high value aquatic resources is typically difficult, prohibitively expensive, and may not be possible in some landscape settings.

Ecology WQC review is required for projects or activities in areas identified below to determine if the project meets this programmatic WQC or will require individual WQC.

- a. Activities in or affecting the following aquatic resources:
 - i. Wetlands with special characteristics (as defined in the Washington State Wetland Rating Systems for western and eastern Washington, Ecology Publications #14-06-029 and #14-06-030):
 - Estuarine wetlands.
 - Wetlands of High Conservation Value.
 - Bogs.
 - Old-growth forested wetlands and mature forested wetlands.
 - Wetlands in coastal lagoons.
 - Wetlands in dunal systems along the Washington coast.
 - Vernal pools.
 - Alkali wetlands.
 - ii. Fens, aspen-dominated wetlands, camas prairie wetlands.
 - iii. Category I wetlands.
 - iv. Category II wetlands with a habitat score \geq 8 points.
- b. Activities in or resulting in a loss of eelgrass (*Zostera marina*) beds.

This state general condition does not apply to the following NWP:

- NWP 20 – Response Operations for Oil and Hazardous Substances
- NWP 32 – Completed Enforcement Actions
- NWP 48 – Commercial Shellfish Mariculture Activities

4. **Loss of More than 300 Linear Feet of Streambed.** For any project that results in the loss of more than 300 linear feet of streambed Ecology WQC review is required to determine if the project meets this programmatic WQC or will require individual WQC.
5. **Temporary Fills.** For any project or activity with temporary fill in wetlands or other waters for

more than six months Ecology WQC review is required to determine if the project meets this programmatic WQC or will require individual WQC.

6. Mitigation. Project proponents are required to show that they have followed the mitigation sequence and have first avoided and minimized impacts to aquatic resources wherever practicable. For projects requiring Ecology WQC review or an individual WQC with unavoidable impacts to aquatic resources, a mitigation plan must be provided.

- a. Wetland mitigation plans submitted for Ecology review and approval shall be based on the most current guidance provided in Wetland Mitigation in Washington State, Parts 1 and 2 (available on Ecology's website) and shall, at a minimum, include the following:
 - i. A description of the measures taken to avoid and minimize impacts to wetlands and other waters of the U.S.
 - ii. The nature of the proposed impacts (i.e., acreage of wetlands and functions lost or degraded).
 - iii. The rationale for the mitigation site that was selected.
 - iv. The goals and objectives of the compensatory mitigation project.
 - v. How the mitigation project will be accomplished, including construction sequencing, best management practices to protect water quality, proposed performance standards for measuring success and the proposed buffer widths.
 - vi. How it will be maintained and monitored to assess progress toward goals and objectives. Monitoring will generally be required for a minimum of five years. For forested and scrub-shrub wetlands, 10 years of monitoring will often be necessary.
 - vii. How the compensatory mitigation site will be legally protected for the long term.

Refer to Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Ecology Publication #06-06-011b) and Selecting Wetland Mitigation Sites Using a Watershed Approach (Ecology Publications #09-06-032 (Western Washington) and #10-06-007 (Eastern Washington)) for guidance on selecting suitable mitigation sites and developing mitigation plans.

Ecology encourages the use of alternative mitigation approaches, including credit/debit methodology, advance mitigation, and other programmatic approaches such as mitigation banks and in-lieu fee programs. If you are interested in proposing use of an alternative mitigation approach, consult with the appropriate Ecology regional staff person. Information on alternative mitigation approaches is available on Ecology's website.

- b. Mitigation for other aquatic resource impacts will be determined on a case-by-case basis.

7. Stormwater Pollution Prevention. All projects involving land disturbance or impervious surfaces must implement stormwater pollution prevention or control measures to avoid discharge of pollutants in stormwater runoff to waters.

- a. For land disturbances during construction, the applicant must obtain and

implement permits (e.g., Construction Stormwater General Permit) where required and follow Ecology's current stormwater manual.

- b. Following construction, prevention or treatment of on-going stormwater runoff from impervious surfaces shall be provided.

Ecology's Stormwater Management and Design Manuals and stormwater permit information are available on Ecology's website.

8. **Application.** For projects or activities that will require Ecology WQC review, or an individual WQC, project proponents must provide Ecology with a JARPA or the equivalent information, along with the documentation provided to the Corps, as described in national general condition 32, Pre-Construction Notification (PCN), including, where applicable:
 - a. A description of the project, including site plans, project purpose, direct and indirect adverse environmental effects the project discharge(s) would cause, best management practices (BMPs), and proposed means to monitor the discharge(s).
 - b. List of all federal, state or local agency authorizations required to be used for any part of the proposed project or any related activity.
 - c. Drawings indicating the OHWM, delineation of special aquatic sites, and other waters of the state. Wetland delineations must be prepared in accordance with the current method required by the Corps and shall include Ecology's Wetland Rating form. Wetland Rating forms are subject to review and verification by Ecology staff.

Guidance for determining the OHWM is available on Ecology's website.

- d. A statement describing how the mitigation requirement will be satisfied. A conceptual or detailed mitigation or restoration plan may be submitted. See state general condition 5.
- e. Other applicable requirements of Corps NWP general condition 32, Corps regional conditions, or notification conditions of the applicable NWP.

Ecology **grants with conditions Water Quality Certification (WQC)** for this NWP provided that Ecology individual WQC review is not required per the state general conditions (see above) and the following conditions:

Ecology Section 401 Water Quality Certification – Granted with conditions. Ecology individual WQC is required for projects or activities authorized under this NWP if:

The project or activity is not authorized through a Model Toxics Control Act (MTCA) order or a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) order

Environmental Protection Agency (EPA) (on Tribal Lands where Tribes Do Not Have Treatment in a Similar Manner as a State and Lands with Exclusive Federal Jurisdiction in Washington):

On behalf of the 28 tribes that do not have treatment in a similar manner as a state and for exclusive federal jurisdiction lands located within the state of Washington, EPA Region 10 has determined that CWA Section 401 WQC for the following proposed NWPs is granted with conditions. EPA Region 10 has determined that any discharge authorized under the following proposed NWPs will comply with water quality requirements, as defined at 40 C.F.R. 121.1(n), subject to the following conditions pursuant to CWA Section 401(d).

General Conditions:

EPA General Condition 1 – Aquatic Resources of Special Concern

Activities resulting in a point source discharge in the following types of aquatic resources of special concern shall request an individual project-specific CWA Section 401 WQC: mature forested wetlands; bogs, fens and other peatlands; vernal pools; aspen-dominated wetlands; alkali wetlands; camas prairie wetlands; wetlands in dunal systems along the Oregon or Washington Coast; riffle-pool complexes of streams; marine or estuarine mud-flats; salt marshes; marine waters with native eelgrass or kelp beds; or marine nearshore forage fish habitat. To identify whether a project would occur in any of these aquatic resources of special concern, project proponents shall use existing and available information to identify the location and type of resources, including using the U.S. Fish and Wildlife Service’s online digital National Wetland Inventory maps, identifying project location on topographical maps, and/or providing on-site determinations as required by the Corps. When a project requires a Pre-Construction Notification (PCN) to the Corps, project proponents shall work with the Corps to identify whether the project is in any of these specific aquatic resources of special concern.

EPA General Condition 2 – Soil Erosion and Sediment Controls

Turbidity shall not exceed background turbidity by more than 50 Nephelometric Turbidity Units (NTU) above background instantaneously or more than 25 NTU above background for more than ten consecutive days.⁸ Projects or activities that are expected to exceed these levels require an individual project-specific CWA Section 401 WQC.

The turbidity standard shall be met at the following distances from the discharge:

Wetted Stream Width at Discharge Point	Approximate Downstream Point to Sample to Determine Compliance
Up to 30 feet	50 feet
>30 to 100 feet	100 feet
>100 feet to 200 feet	200 feet
>200 feet	300 feet
Lake, Pond, Reservoir	Lesser of 100 feet or maximum surface distance

For Marine Water	Point of Compliance for Temporary Area of Mixing
Estuaries or Marine Waters	Radius of 150 feet from the activity causing the turbidity exceedance

Measures to prevent and/or reduce turbidity shall be implemented and monitored prior to, during, and after construction. Turbidity monitoring shall be done at the point of compliance within 24 hours of a precipitation event of 0.25 inches or greater. During monitoring and maintenance, if turbidity limits are exceeded or if measures are identified as ineffective, then additional measures shall be taken to come into compliance and EPA shall be notified within 48 hours of the exceedance or measure failure.

EPA General Condition 3 - Compliance with Stormwater Pollution Prevention and the National Pollutant Discharge Elimination System Permit Provisions

For land disturbances during construction that 1) disturb one or more acres of land, or 2) will disturb less than one acre of land but are part of a common plan of development or sale that will ultimately disturb one or more acres of land, the permittee shall obtain and implement Construction Stormwater General Permit requirements,⁹ including:

1. The permittee shall develop a Stormwater Pollution Prevention Plan (SWPPP)¹⁰ and submit it to EPA Region 10 and appropriate Corps District; and
2. Following construction, prevention or treatment of ongoing stormwater runoff from impervious surfaces that includes soil infiltration shall be implemented.

EPA General Condition 4 – Projects or Activities Discharging to Impaired Waters

Projects or activities are not authorized under the NWP if the project will involve point source discharges into an active channel (e.g., flowing or open waters) of a water of the U.S. listed as impaired under CWA Section 303(d) and/or if the waterbody has an approved Total Maximum Daily Load (TMDL) and the discharge may result in further exceedance of a specific parameter (e.g., total suspended solids, dissolved oxygen, temperature) for which the waterbody is listed or has an approved TMDL. The current lists of impaired waters of the U.S. under CWA Section 303(d) and waters of the U.S. for which a TMDL has been approved are available on EPA Region 10's web site at: <https://www.epa.gov/tmdl/impaired-waters-and-tmdls-region-10>.

EPA General Condition 5 – Notice to EPA

All project proponents shall provide notice to EPA Region 10 prior to commencing construction activities authorized by a NWP. This will provide EPA Region 10 with the opportunity to inspect the activity for the purposes of determining whether any discharge from the proposed project will violate this CWA Section 401 WQC. Where the Corps requires a PCN for an applicable NWP, the project proponent shall also provide the PCN to EPA Region 10. EPA Region 10 will provide written notification to the project proponent if the proposed project will violate the water quality certification of the NWP.

EPA General Condition 6 – Unsuitable Materials

The project proponent shall not use wood products treated with leachable chemical components (e.g., copper, arsenic, zinc, creosote, chromium, chloride, fluoride, pentachlorophenol), which result in a discharge to waters of the U.S., unless the wood products meet the following criteria:

1. Wood preservatives and their application shall be in compliance with EPA label requirements and criteria of approved EPA Registration Documents under the Federal Insecticide, Fungicide, and Rodenticide Act;
2. Use of chemically treated wood products shall follow the Western Wood Preservatives Institute (WWPI) guidelines and BMPs to minimize the preservative migrating from treated wood into the aquatic environment;
3. For new or replacement wood structures, the wood shall be sealed with non-toxic products such as water-based silica or soy-based water repellants or sealers to prevent or limit leaching. Acceptable alternatives to chemically treated wood include untreated wood, steel (painted, unpainted or coated with epoxy petroleum compound or plastic), concrete and plastic lumber; and
4. All removal of chemically treated wood products (including pilings) shall follow the most recent "EPA Region 10 Best Management Practices for Piling Removal and Placement in Washington State."

Federally recognized tribes located within the state of Washington

EPA Region 10 cannot certify that the range of discharges from potential projects authorized under this NWP will comply with water quality requirements, as defined in 40 CFR 121.1(n). Therefore, CWA Section 401 water quality certification is denied for this NWP and applicants must request an individual water quality certification, consistent with 40 CFR 121.5.

Lands of Exclusive Federal Jurisdiction

EPA Region 10 cannot certify that the range of discharges from potential projects authorized under this NWP will comply with water quality requirements, as defined in 40 CFR 121.1(n). Therefore, CWA Section 401 water quality certification is denied for this NWP and applicants must request an individual water quality certification, consistent with 40 CFR 121.5.

Specific Tribes with Certifying Authority (Projects in Specific Tribal Areas):

WQC was issued by the Swinomish Indian Tribal Community. WQC was waived by the Confederated Tribes of the Chehalis Reservation and Colville Indian Reservation, Kalispel Tribe of Indians, Port Gamble S'Klallam Tribe, Quinault Indian Nation, and the Spokane Tribe of Indians. WQC was denied by the Lummi Nation, Makah Tribe, Puyallup Tribe of Indians, and the Tulalip Tribes; therefore, individual WQC is required from these tribes.

F. COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY RESPONSE FOR THIS NWP:

Ecology's determination is that they concur with conditions that this NWP is consistent with CZMA.

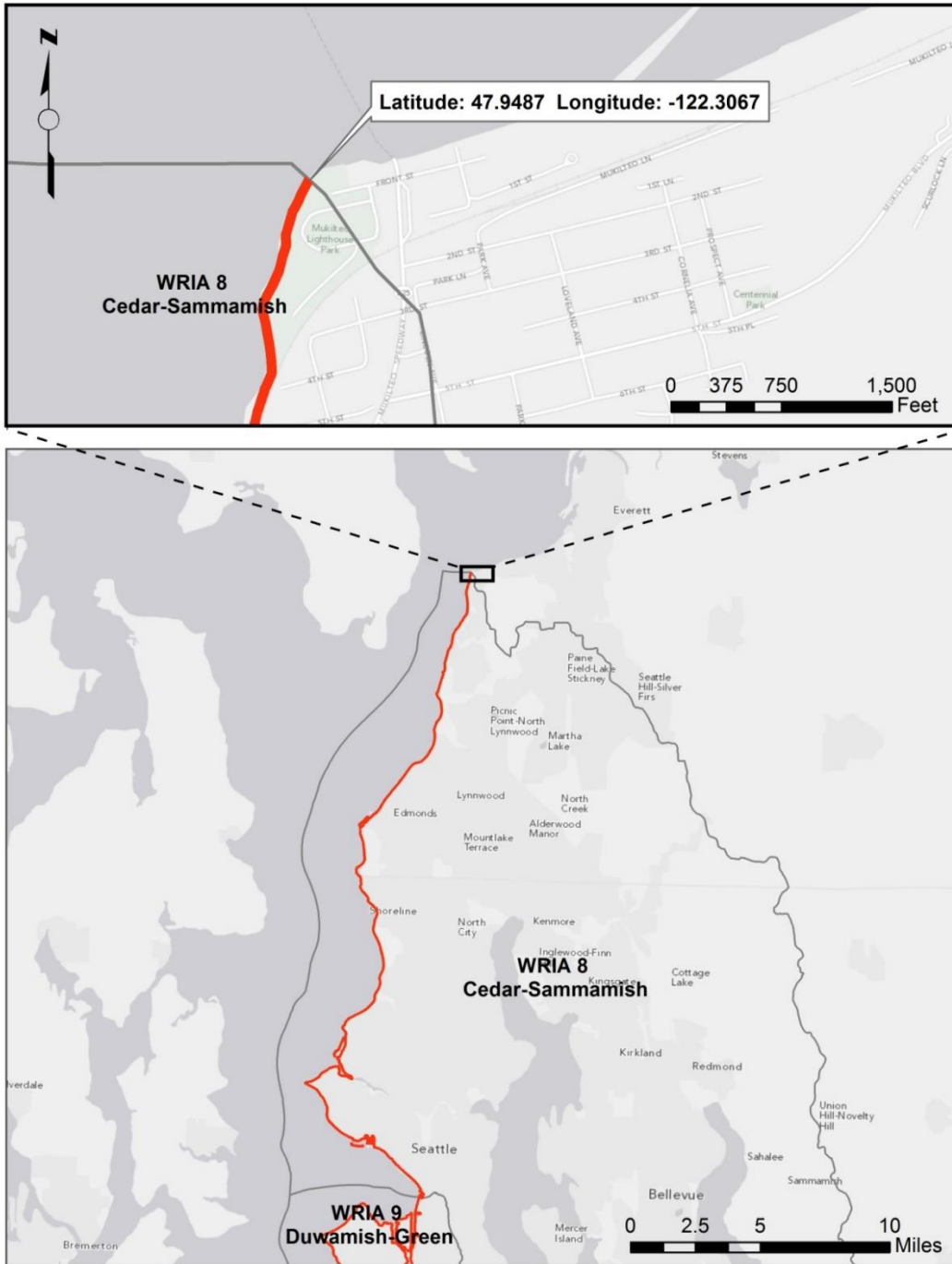
C M Federal Consistency Response – Concur with Conditions.

1. A CZM Federal Consistency Decision is required for projects or activities under this NWP if a State 401 Water Quality Certification is required.

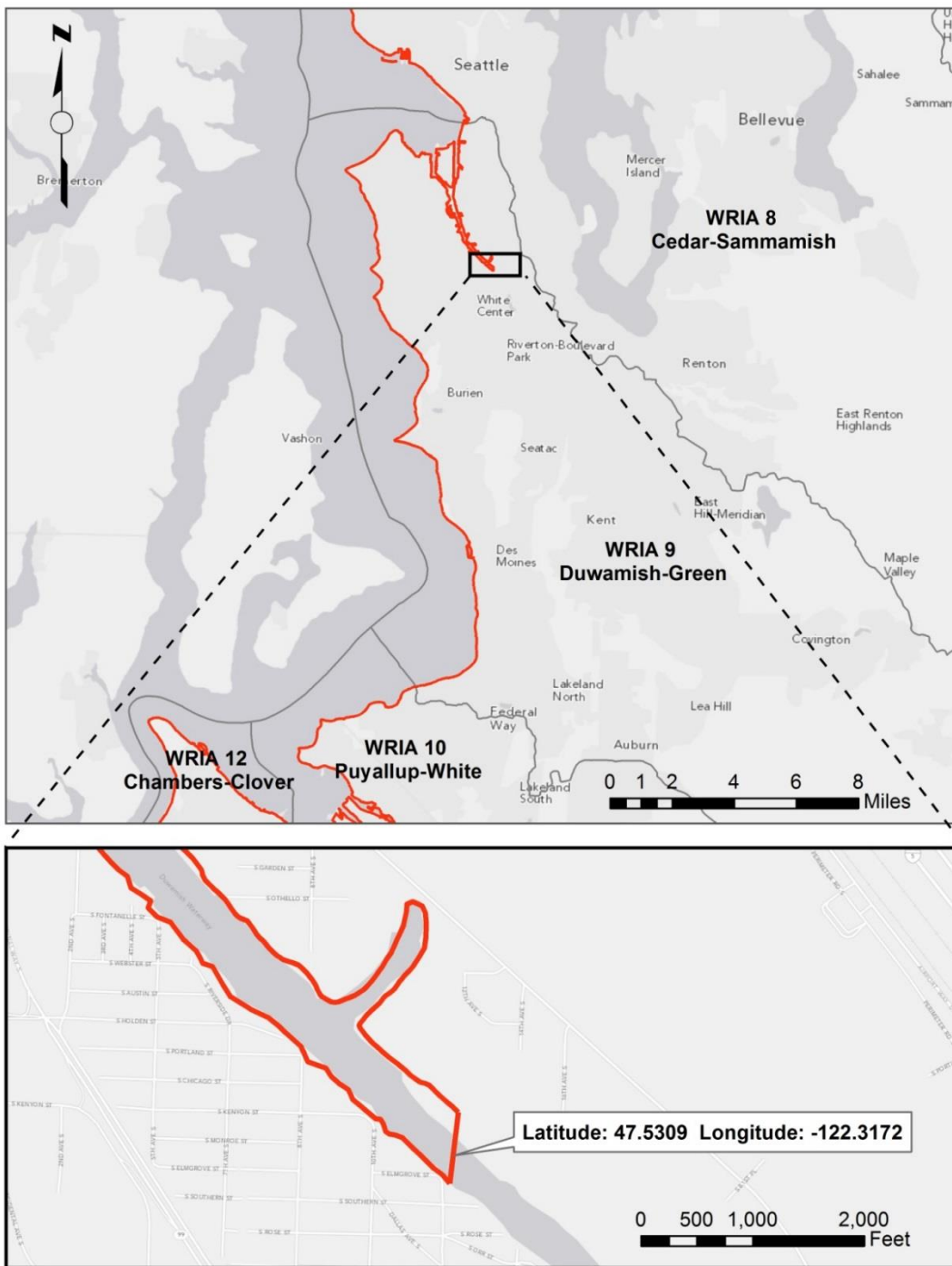
Seattle District Regional General Conditions - Figures

Figure 1: RGC 3 - WRIAs 8, 9, 10, 11, and 12

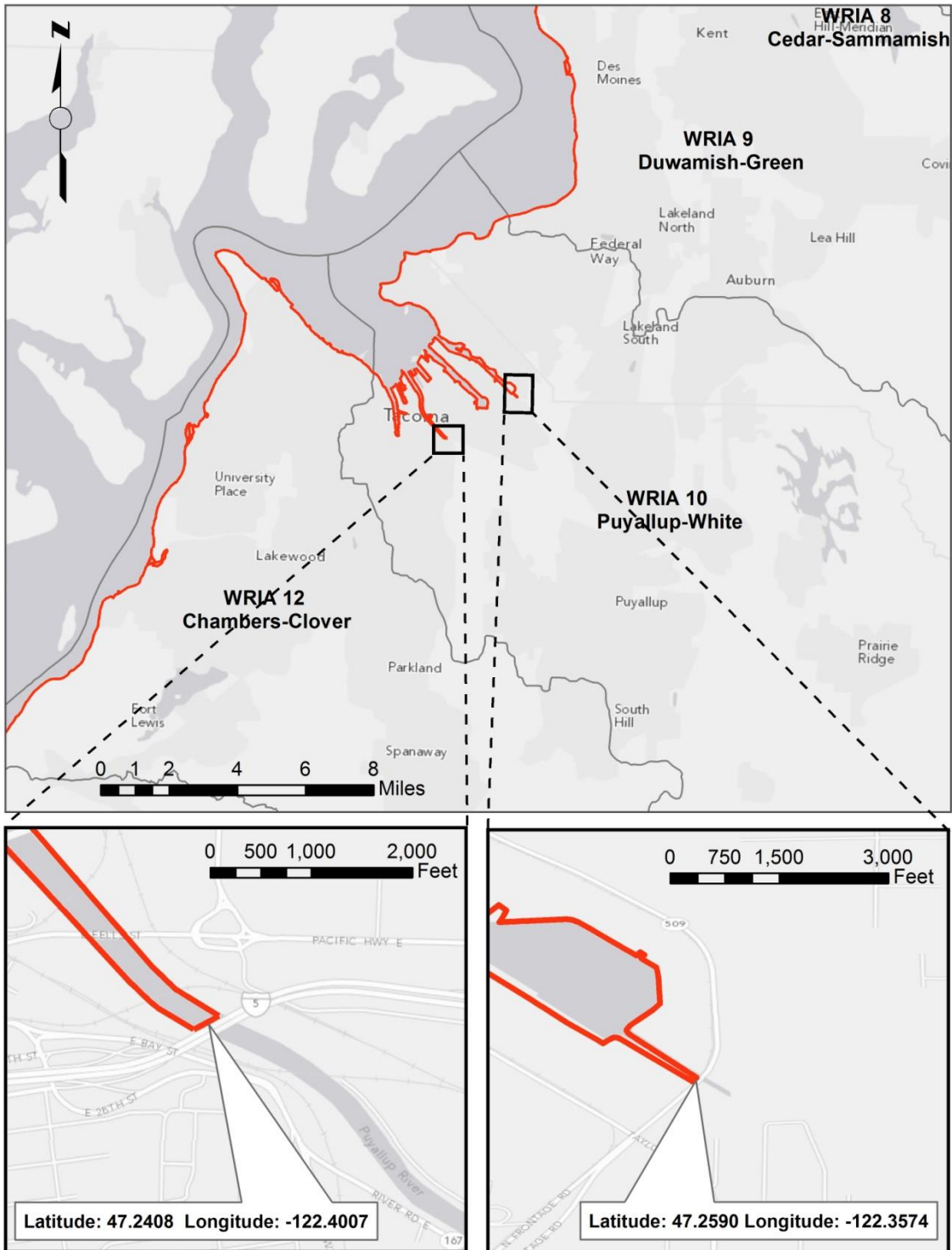
a. WRIA 8



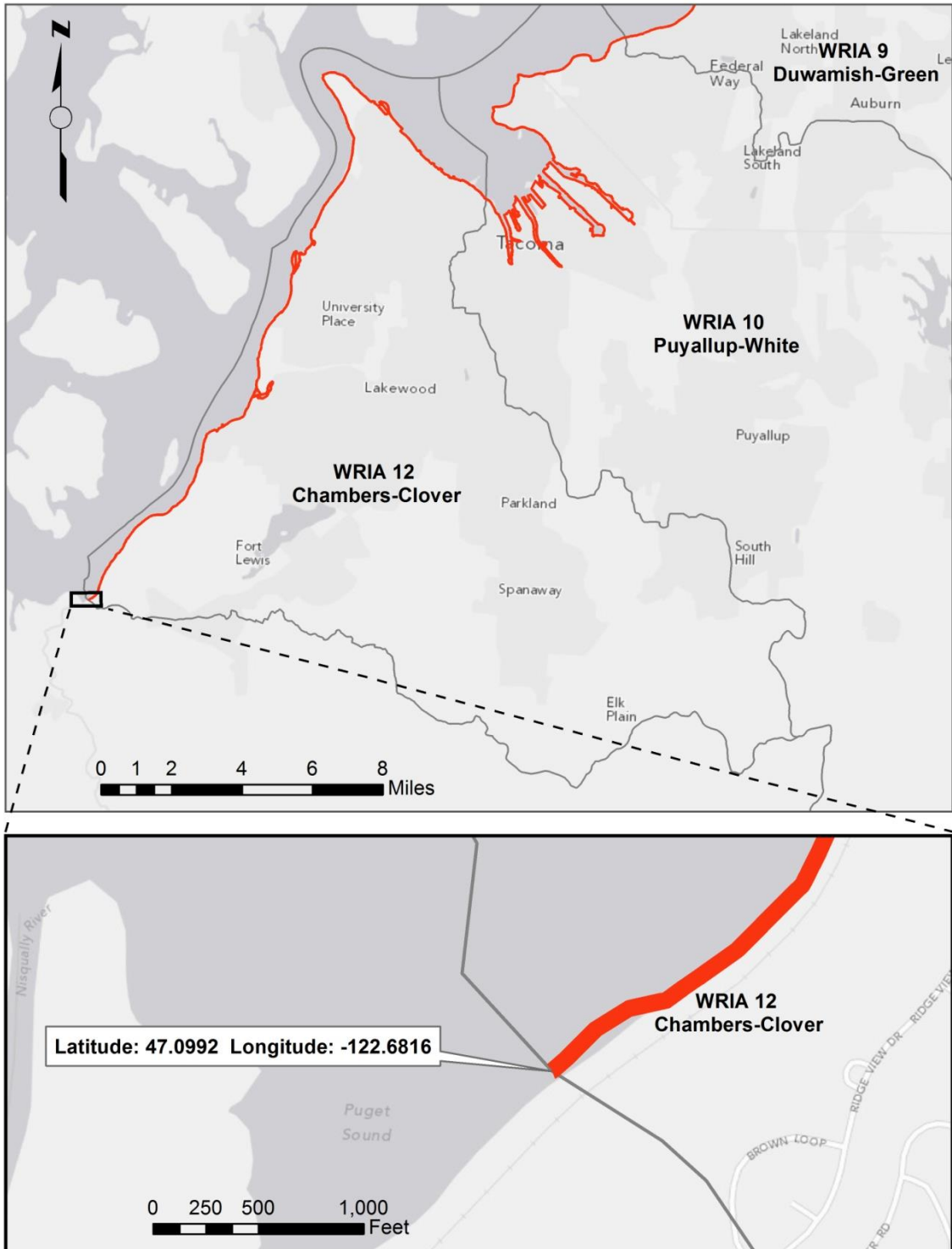
b. WRIA 9



c. WRIA 10



d. WRIA 12



e. WRIA 11

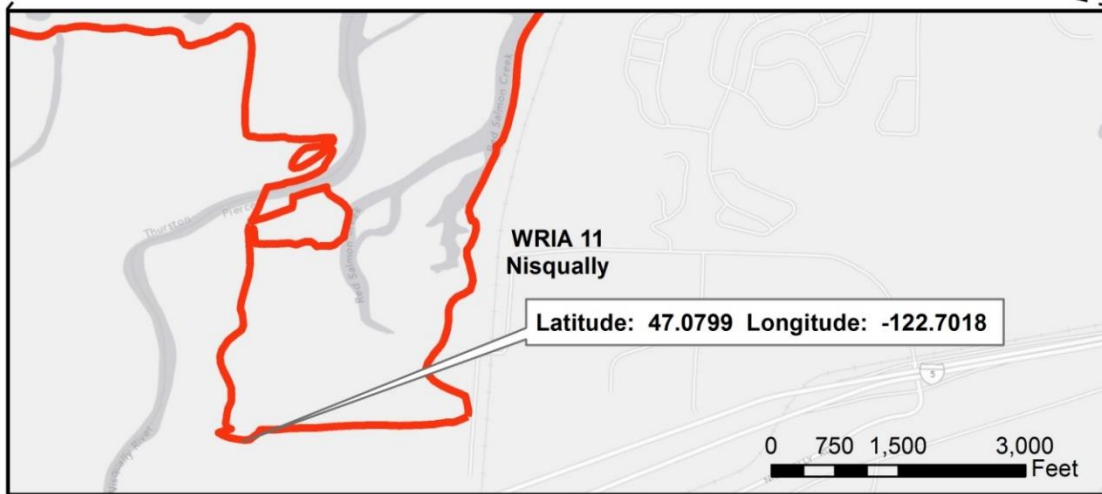
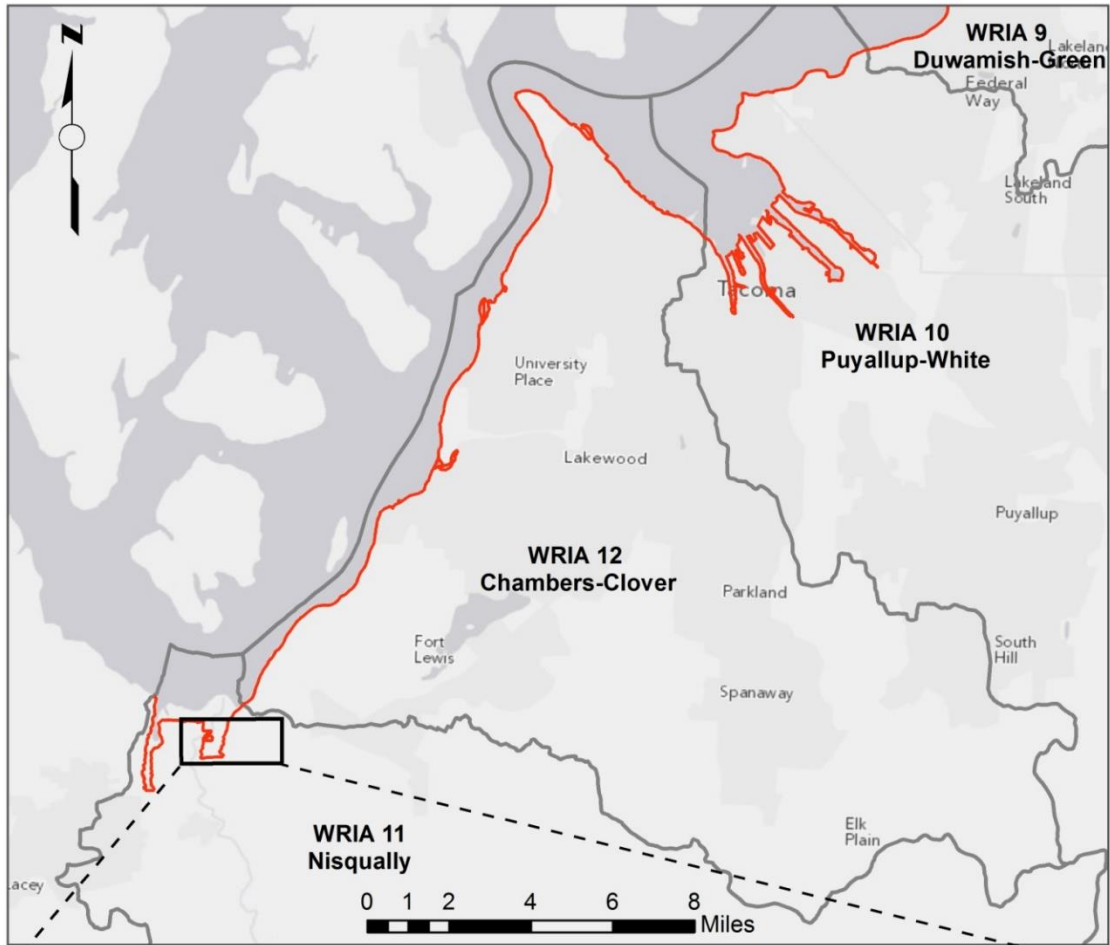
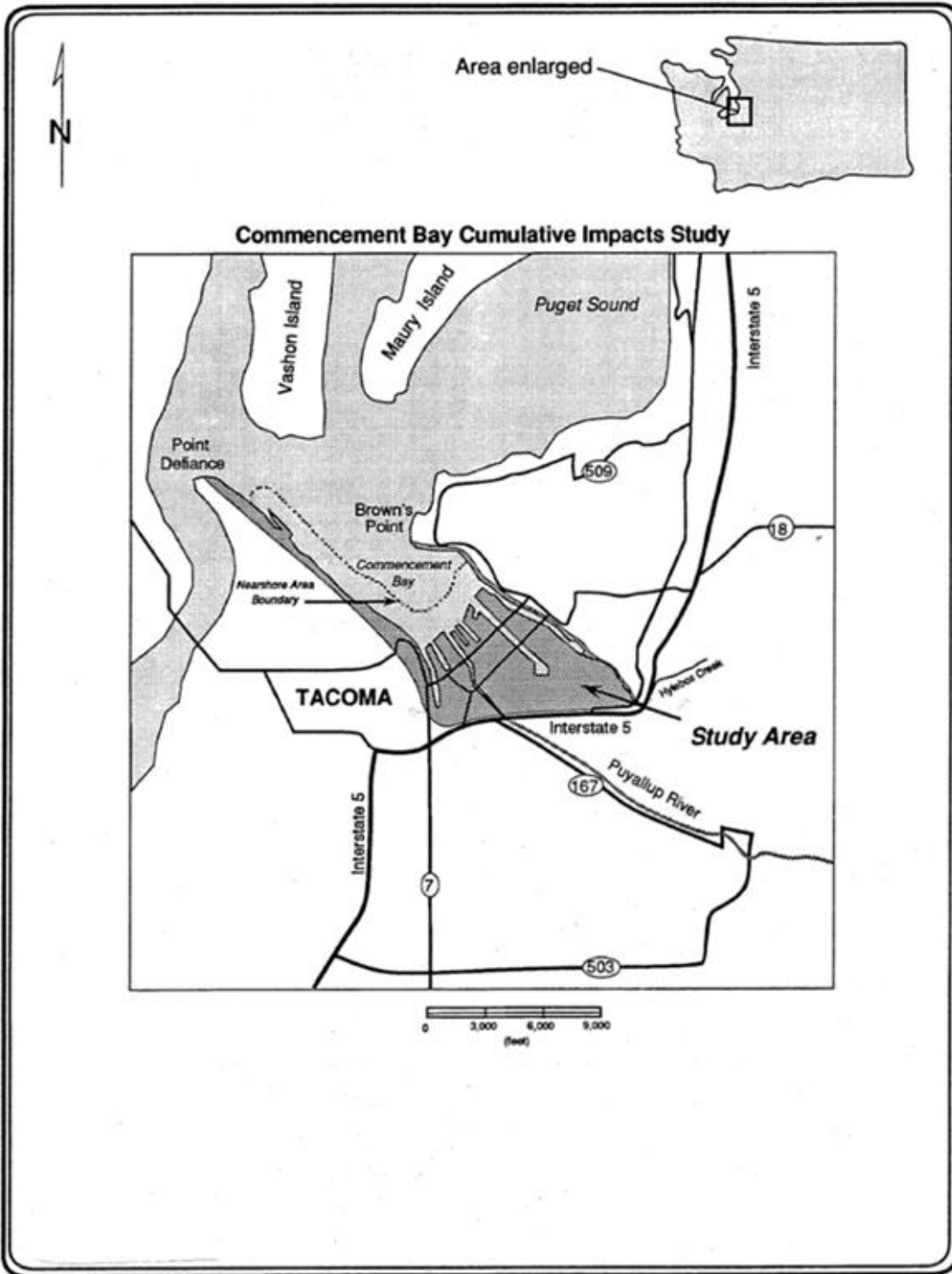


Figure 2. RGC 4 - Commencement Bay Study Area





US Army Corps
of Engineers ®
Seattle District

CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT



Permit Number: NWS-_____

Name of Permittee: _____

Date of Issuance: _____

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 email or mailing address:

NWS.Compliance@usace.army.mil

OR

Department of the Army
U.S. Army Corps of Engineers Seattle
District, Regulatory Branch
4735 E. Marginal Way S, Bldg 1202
Seattle, Washington 98134-2388

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

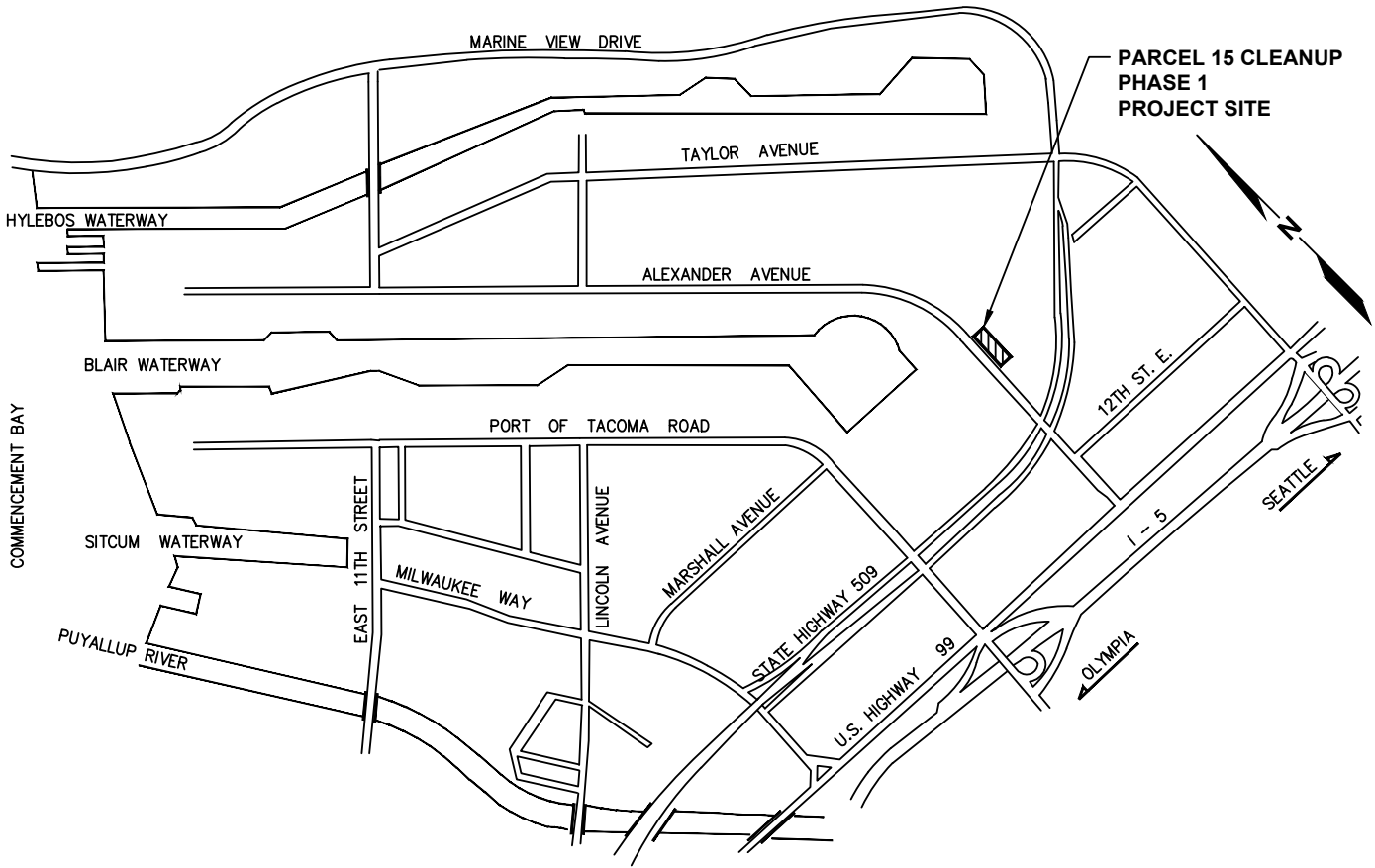
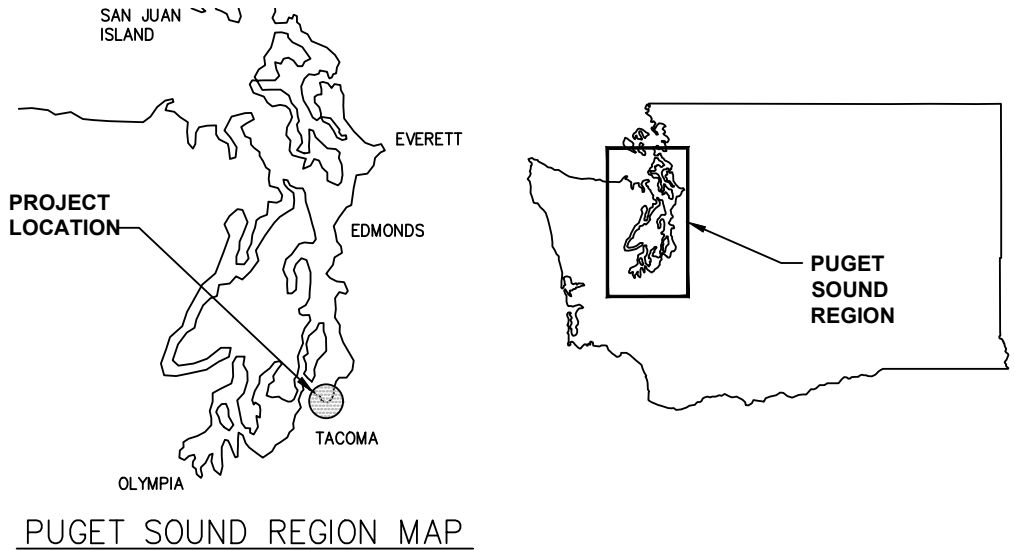
<input type="checkbox"/>	<p>If applicable, the mitigation required (e.g., construction and plantings) in the above-referenced permit has been completed in accordance with the terms and conditions of this permit (not including future monitoring).</p> <p>Date work complete: _____ <input type="checkbox"/>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

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

Printed Name: _____

Signature: _____

Date: _____



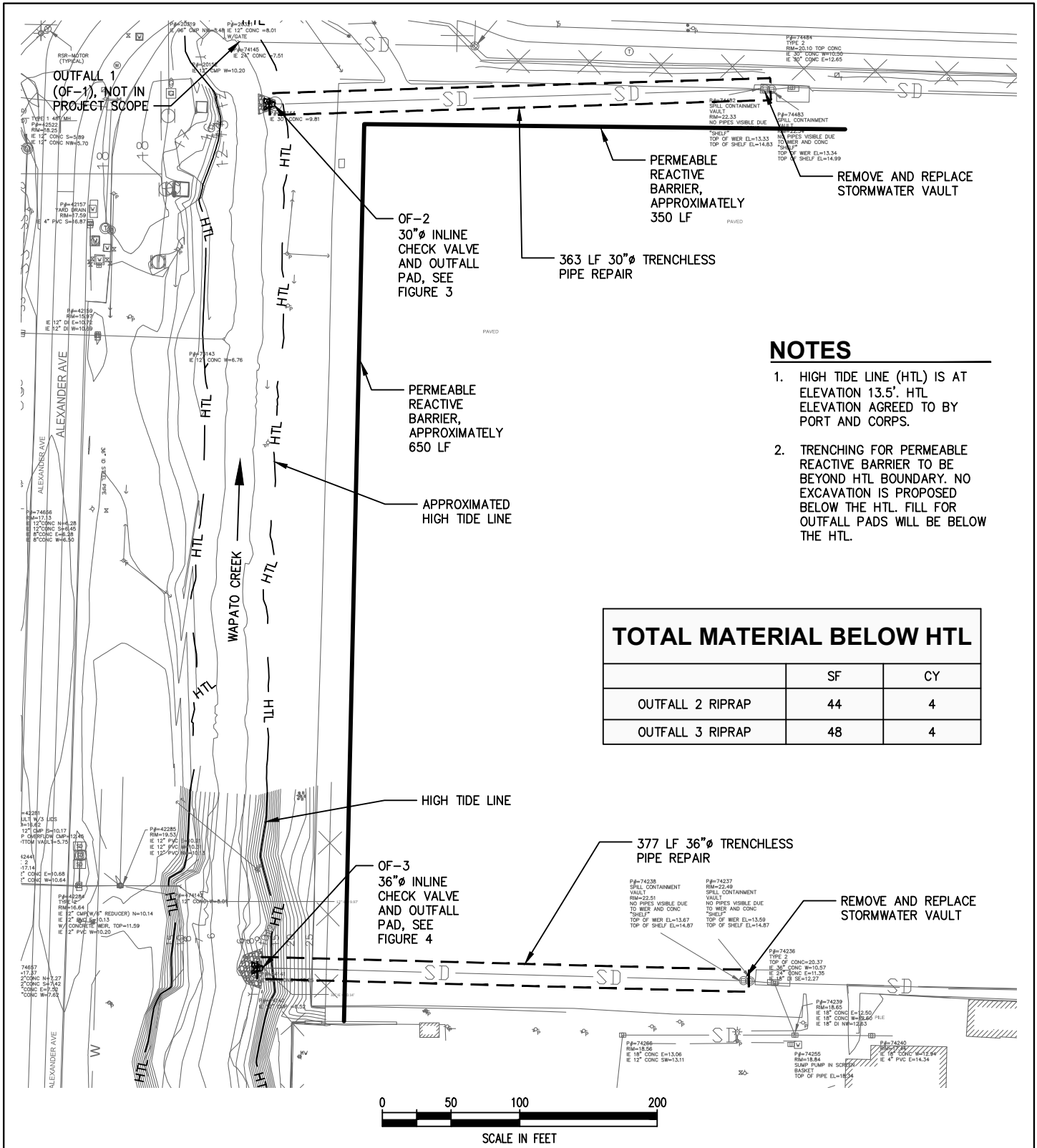
VICINITY MAP

NO SCALE

PORT OF TACOMA

<p>REFERENCE # NWS-2021-950-WRD</p> <p>PURPOSE: PHASE 1 ENVIRONMENTAL CLEANUP OF A FORMER LOGYARD</p> <p>DATUM: PORT OF TACOMA DATUM MLLW - ELEVATION 0.0' HTL - ELEVATION 13.5'</p> <p>ADJACENT PROPERTY OWNERS: PORT OF TACOMA</p>	<p>FIGURE 1 - VICINITY MAP</p> <p>APPLICATION BY: PORT OF TACOMA</p>	<p>PROJECT: PARCEL 15 CLEANUP PHASE 1 ADDRESS: 4215 SR 509 N FRONTAGE RD, TACOMA, WA 98421 LAT/LONG: 47.252639°N / 122.372089°W SECT/TOWN/RANGE: S01 T20N R3E IN: WAPATO CREEK NEAR/AT: CITY OF TACOMA COUNTY OF: PIERCE STATE OF: WA</p> <p>SHEET 1 OF 4</p> <p>SEPTEMBER 2021</p>
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Plotted: Sep 10, 2021 - 11:20am r1ambert Layout: VICINITY MAP
 C:\Users\r1ambert\appdata\local\temp\AcPublish_10528\ARPA-01-VICINITY MAP.dwg



REFERENCE #

PURPOSE: PHASE 1 ENVIRONMENTAL CLEANUP OF A FORMER LOGYARD

DATUM: PORT OF TACOMA DATUM
MLLW - ELEVATION 0.0'
HTL - ELEVATION 13.5'

ADJACENT PROPERTY OWNERS:
PORT OF TACOMA

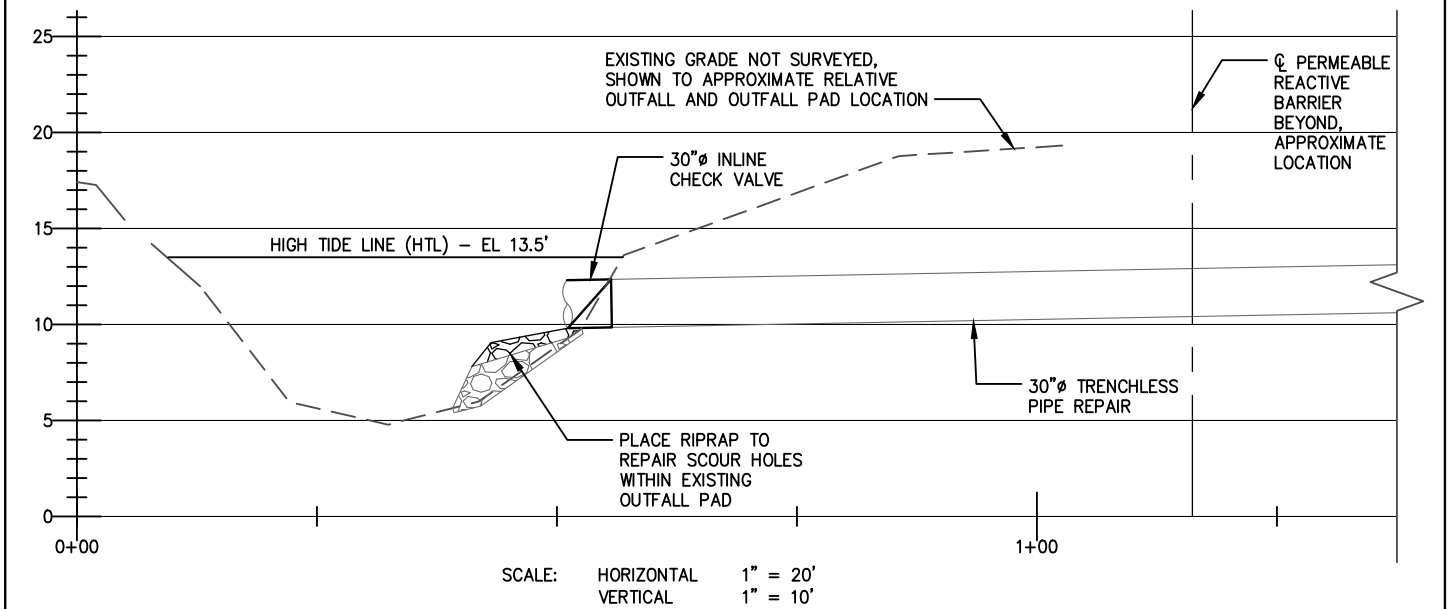
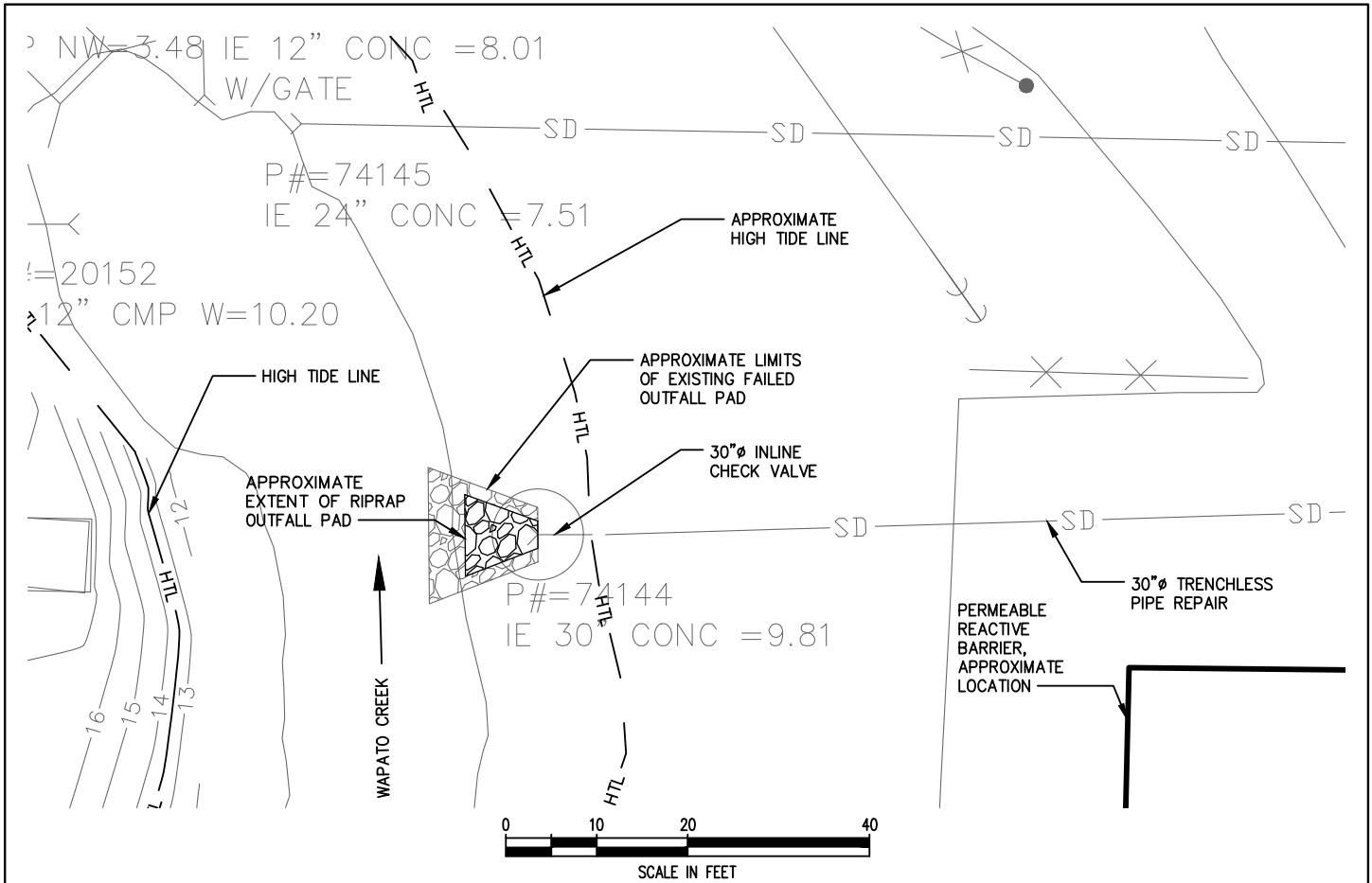
FIGURE 2 - SITE PLAN

APPLICATION BY: PORT OF TACOMA

PROJECT: PARCEL 15 CLEANUP PHASE 1
ADDRESS: 4215 SR 509 N FRONTAGE RD,
TACOMA, WA 98421
LAT/LONG: 47.252639°N / 122.372089°W
SECT/TOWN/RANGE: S01 T20N R3E
IN: WAPATO CREEK
NEAR/AT: CITY OF TACOMA
COUNTY OF: PIERCE
STATE OF: WA

SHEET 2 OF 4

SEPTEMBER 2021



REFERENCE #

PURPOSE: PHASE 1 ENVIRONMENTAL CLEANUP OF A FORMER LOGYARD

DATUM: PORT OF TACOMA DATUM
 MLLW - ELEVATION 0.0'
 HTL - ELEVATION 13.5'

ADJACENT PROPERTY OWNERS:
 PORT OF TACOMA

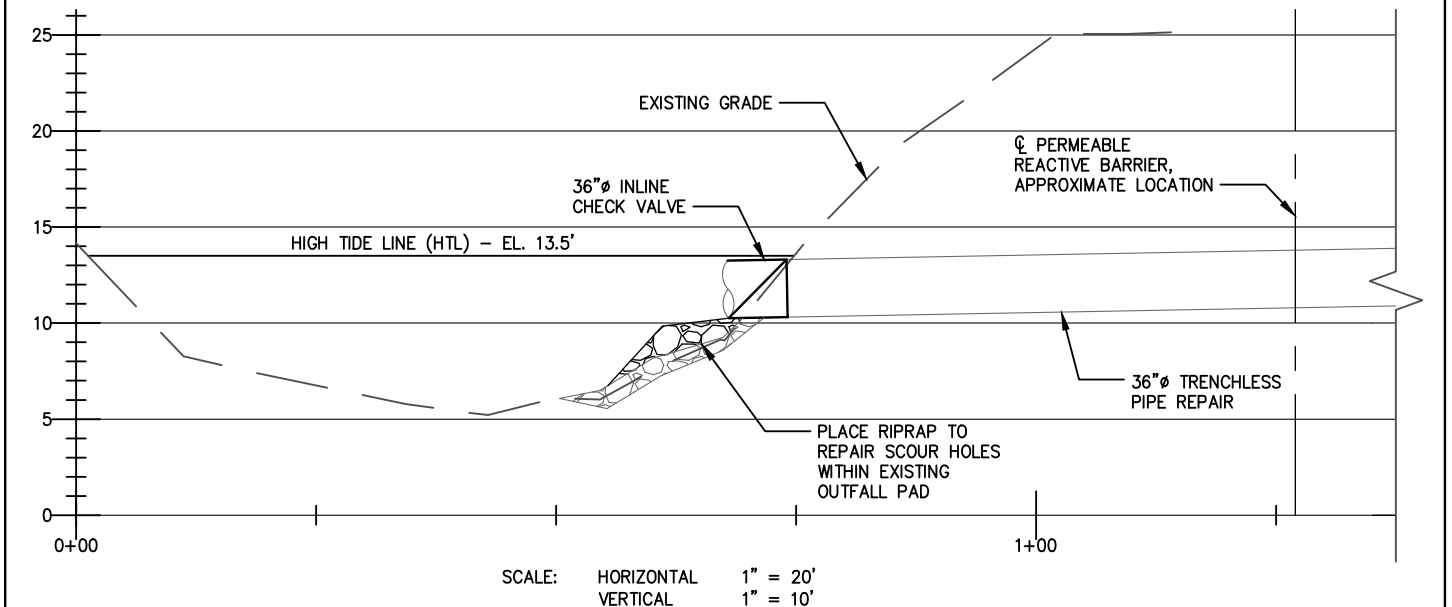
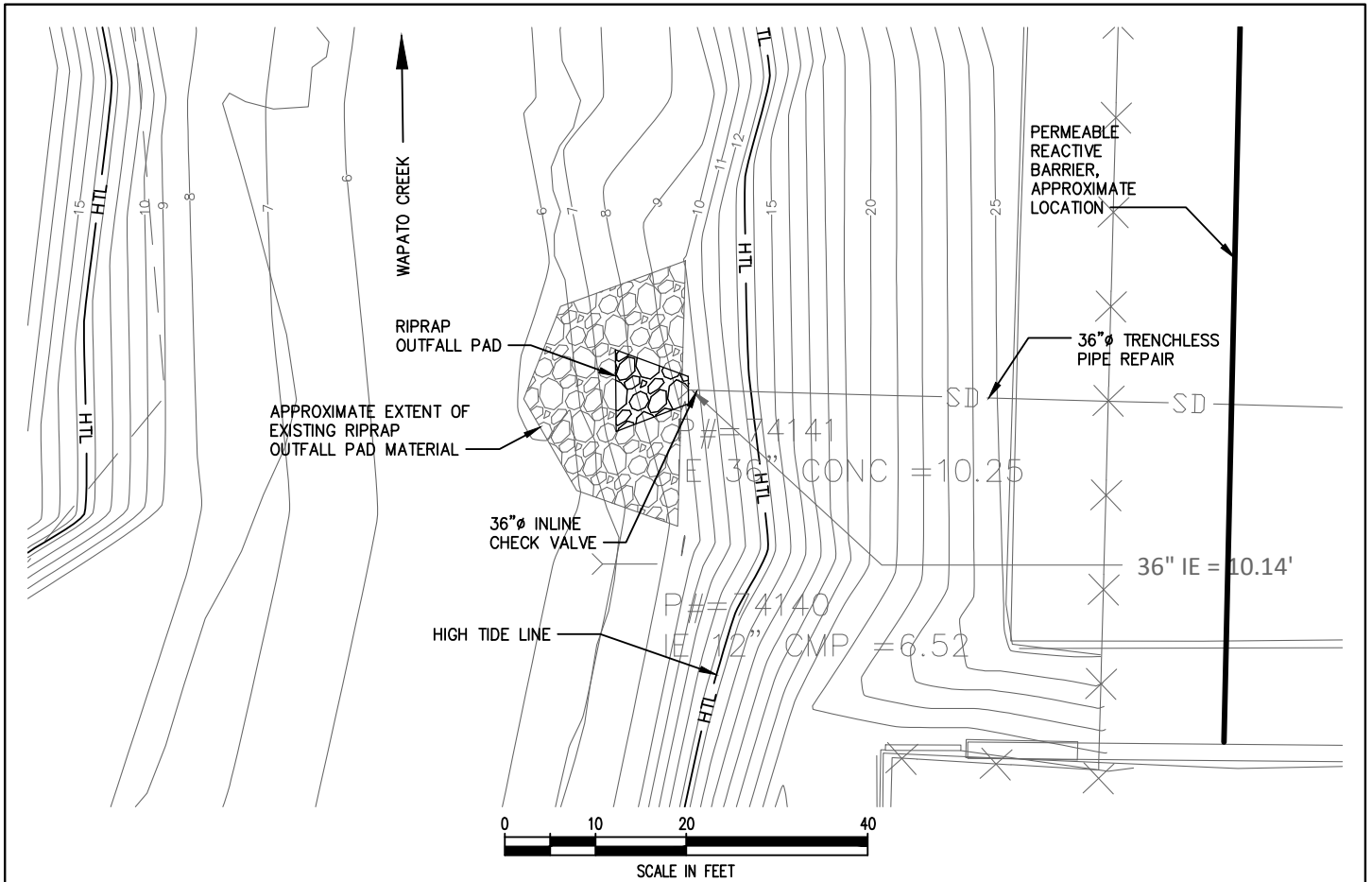
**FIGURE 3 - OUTFALL 2
 PLAN AND PROFILE**

APPLICATION BY: PORT OF TACOMA

PROJECT: PARCEL 15 CLEANUP PHASE 1
 ADDRESS: 4215 SR 509 N FRONTAGE RD,
 TACOMA, WA 98421
 LAT/LONG: 47.252639°N / 122.372089°W
 SECT/TOWN/RANGE: S01 T20N R3E
 IN: WAPATO CREEK
 NEAR/AT: CITY OF TACOMA
 COUNTY OF: PIERCE
 STATE OF: WA

SHEET 3 OF 4

SEPTEMBER 2021



REFERENCE #

PURPOSE: PHASE 1 ENVIRONMENTAL CLEANUP OF A FORMER LOGYARD

DATUM: PORT OF TACOMA DATUM
MLLW - ELEVATION 0.0'
HTL - ELEVATION 13.5'

ADJACENT PROPERTY OWNERS:
PORT OF TACOMA

**FIGURE 4 - OUTFALL 3
PLAN AND PROFILE**

APPLICATION BY: PORT OF TACOMA

PROJECT: PARCEL 15 CLEANUP PHASE 1
ADDRESS: 4215 SR 509 N FRONTAGE RD,
TACOMA, WA 98421
LAT/LONG: 47.252639°N / 122.372089°W
SECT/TOWN/RANGE: S01 T20N R3E
IN: WAPATO CREEK
NEAR/AT: CITY OF TACOMA
COUNTY OF: PIERCE
STATE OF: WA

SHEET 4 OF 4

SEPTEMBER 2021

APPENDIX F
DEPARTMENT OF ECOLOGY
CONSTRUCTION
STORMWATER
GENERAL PERMIT
WAR311448



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

June 14, 2022

Anita Fichthorn
Port of Tacoma
PO Box 1837
Tacoma, WA 98401

RE: Coverage under the Construction Stormwater General Permit

Permit number: WAR311448
Site Name: Port of Tacoma Parcel 15/Former Portac
Location: 4015 SR 509 N Frontage Rd
Tacoma, WA County: Pierce
Disturbed Acres: 0.03

Dear Anita Fichthorn:

The Washington State Department of Ecology (Ecology) received your Notice of Intent for coverage under Ecology's Construction Stormwater General Permit (CSWGP). This is your permit coverage letter. Your permit coverage is effective June 14, 2022.

Retain this letter as an official record of permit coverage for your site. You may keep your records in electronic format if you can easily access them from your construction site. You can get the CSWGP, permit forms, and other information at Ecology's [CSWGP eCoverage Packet webpage](#)¹. Contact your Permit Administrator, listed below, if you want a copy of the CSWGP mailed to you. Please read the permit and contact Ecology if you have any questions.

Electronic Discharge Monitoring Reports (WQWebDMR)

This permit requires you to submit monthly discharge monitoring reports (DMRs) for the full duration of permit coverage (from the first full month of coverage to termination). Your first sampling and reporting period will be for the month of **July** and your first DMR must be submitted by **August 15, 2022**.

¹ <http://www.ecology.wa.gov/eCoverage-packet>

Anita Fichthorn

June 14, 2022

Page 2

You must submit your DMRs electronically using Ecology's secure online system, WQWebDMR. To sign up for WQWebDMR go to Ecology's [WQWebPortal guidance webpage](#)². If you have questions, contact the portal staff at (360) 407-7097 (Olympia area), or (800) 633-6193/Option 3, or email WQWebPortal@ecy.wa.gov.

Appeal Process

You have a right to appeal coverage under the general permit to the Pollution Control Hearing Board (PCHB). Appeals must be filed within 30 days of the date of receipt of this letter. Any appeal is limited to the general permit's applicability or non-applicability to a specific discharger. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2). For more information regarding your right to appeal, please reference Ecology's Focus Sheet: [Appeal of General Permit Coverage](#)³.

Annual Permit Fees

RCW 90.48.465 requires Ecology to recover the costs of managing the permit program. Permit fees are invoiced annually until the permit is terminated. Termination conditions are described in the permit. For permit fee related questions, please contact the Water Quality Fee Unit at wqfeeunit@ecy.wa.gov or (800) 633-6193/Option 2.

Ecology Field Inspector Assistance

If you have questions regarding stormwater management at your construction site, please contact your Regional Inspector, Evan Wood of Ecology's Southwest Regional Office in Lacey at evan.wood@ecy.wa.gov, or (360) 706-4599.

Questions or Additional Information

Ecology is here to help. Please review our [Construction Stormwater General Permit webpage](#)⁴ for more information. If you have questions about the Construction Stormwater General Permit, please contact your Permit Administrator, Melinda Wilson at melinda.wilson@ecy.wa.gov, or (360) 870-8290.

Sincerely,



Jeff Killelea, Manager
Program Development Services Section
Water Quality Program

² <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance>

³ <https://apps.ecology.wa.gov/publications/summarypages/1710007.html>

⁴ www.ecology.wa.gov/constructionstormwaterpermit

APPENDIX G
SPECIAL APPROVED
DISCHARGE AUTHORIZATION
#22-007

APPENDIX H
SPECIAL WASTE DISPOSAL
AGREEMENT
#2637



SPECIAL WASTE DISPOSAL AGREEMENT



Customer Name and Billing Information

Name: Port of Tacoma
 Address: PO Box 1837
 City: Tacoma
 State: WA Zip: 98401-1837
 A/P Phone: 253-592-6758 Fax: 253-593-4570
 A/P Email: _____
 A/P Contact: Sharon Rothwell

Waste Connections Subsidiary ("Service Provider")

P.C.R.C.D. dba LRI
 17925 Meridian Street East
 Puyallup, WA 98375
 253-847-7555

WDA # 2637 Project Name: Parcel 15 log yard
 Project Address: _____
 County & State of origin: Pierce County, WA
 Additional Information: _____
 Project Contact Stanley Sasser Phone/Email: ssasser@portoftacoma.com

1. Rates for Disposal:

<u>Waste</u>	<u>Disposal Method</u>	<u>Disposal Rate:</u>	<u>Fees / Taxes / Misc.</u>	<u>Transporter</u>
<u>Soil</u>	<u>Landfill</u>	<u>\$55/ton</u>	<u>3.6% State Refuse</u>	<u>self</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Additional Information: _____

Customer shall also be liable for all taxes, fees, or other charges imposed by federal, state, local or provincial laws and regulations, if applicable to Customer and for which Customer is not otherwise exempt.

- Special Waste Service.** Subject to the terms and conditions contained herein, Service Provider and Customer agree to be legally bound hereby and Service Provider agrees to accept at its Facility, Acceptable Waste (hereinafter referred to as "Special Waste" or "Waste") delivered by Customer, and which is acceptable to Service Provider as herein provided.
- Acceptable Waste.** Only those Special Wastes described in Section 3 herein and in any Special Waste Profile(s) which number is identical to the contract number referenced above, and which Profile(s) are hereby incorporated by reference herein, and which Waste is subsequently approved by Service Provider and is otherwise in accordance with all laws, regulations and permits, shall be acceptable for disposal at the Facility ("Acceptable Waste").
- Incorporation by Reference.** In addition to Special Waste Profile(s) and the Terms and Conditions of Special Waste Disposal Agreement set forth on the following pages of this document, the following documents are incorporated by reference into this Agreement as if fully set forth herein.
 - _____
 - _____

4. **Term of Agreement.** This Agreement is effective for six (6) months commencing on July 1, 2022 and shall automatically be renewed month-to-month thereafter unless either party shall give written notice (via certified mail) of termination to the other party at least thirty (30) days prior written notice.

SERVICE PROVIDER AND CUSTOMER, IN CONSIDERATION OF THE MUTUAL OBLIGATIONS CONTAINED HEREIN, AGREE THAT THIS IS A LEGALLY BINDING AGREEMENT WHICH IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON THIS PAGE AND ON THE REVERSE SIDE OF THIS DOCUMENT.

X Stanley H Sasser
 CUSTOMER SIGNATURE (AUTHORIZED REPRESENTATIVE)

X Stanley H. Sasser, Program Manager
 CUSTOMER NAME AND TITLE (PLEASE PRINT)

X 5/02/2022
 DATE

X [Signature]
 SERVICE PROVIDER SIGNATURE (AUTHORIZED REPRESENTATIVE)

X JEFF BISHOP
 SERVICE PROVIDER NAME AND TITLE (PLEASE PRINT)

X 4/28/2022
 DATE



Rates and Details of Special Waste Disposal Agreement

For office use only
In system/Pierce Co.
Special Handling
Yes/No checkboxes

Customer Name and Billing Information

Name: Port of Tacoma
Address: PO Box 1837
City: Tacoma
State: WA Zip: 98401-1837
A/P Phone: 253-592-6758 Fax: 253-593-4570
A/P Email:
A/P Contact: Sharon Rothwell

WDA # 2637 Project Name: Parcel 15 log yard
Project Address:
County & State of origin: Pierce County, WA
Additional Information:
Project Contact Stanley Sasser Phone/Email: ssasser@portoftacoma.com

Timeline of project:

Table with 4 columns: Initial job/revisions, Date of first delivery, Date of last delivery, Estimated total tonnage

Customer: X

Service Provider: X [Signature]

Terms and Conditions of Special Waste Disposal Agreement

5. **The Agreement** This Special Waste Disposal Agreement (this "Agreement") for the disposal of Special Waste shall consist of this Agreement, riders to the Agreement (if any) and any application, permit and/or approval that may be applicable to such Waste.
6. **Waste Accepted at Facility** Customer represents, warrants and covenants that the Waste delivered to Service Provider at its Facility hereunder will be Acceptable Waste and will not contain any unacceptable quantity of hazardous materials or substances, radioactive materials or substances, or toxic waste or substances, as defined by applicable federal, state, local or provincial laws or regulations. Any Waste which does not meet these requirements shall hereinafter be referred to as "Unacceptable Waste". Customer shall in all matters relating to the collection, transportation and disposal of the Waste hereunder, comply with all applicable federal, state and local laws, regulations, rules and orders regarding the same. The word "Facility" shall mean any landfill, transfer station or other location used to transfer, process or otherwise dispose of such Waste.
7. **Special Waste** Customer represents, warrants and covenants that the Waste delivered to Service Provider hereunder (i) will not contain any Special Waste that is not specifically described on any application which is attached hereto or which is subsequently approved by Service Provider, (ii) will meet the material description as set forth in any application and otherwise in all significant respects and (iii) will not contain Unacceptable Waste. The parties may incorporate additional Special Waste as part of this Agreement if prior to delivery of such Waste to Service Provider, Customer has provided an application for such Waste and Service Provider has approved disposal of such Waste within the limitations and conditions contained in Service Provider's written notice of approval of Special Waste Disposal. Title to any and all (i) Special Waste (not specifically described on a Special Waste application submitted in connection herewith), and (ii) Unacceptable Waste, handled or disposed of by Service Provider shall at all times remain with Customer and any agent of Customer (if an agent is involved).
8. **Rights of Refusal/Rejection** Customer shall inspect all Waste at the place(s) of collection and shall remove any and all Unacceptable Waste. Service Provider has the right to refuse, or to reject after acceptance, any load(s) of Waste(s) delivered to its Facility including if Service Provider believes Customer has breached (or is breaching) its representations, warranties, covenants or agreements hereunder, or any applicable federal, state or local laws, regulations, rules or orders, even if only a portion of such Waste load is unacceptable. Service Provider shall have the right to inspect all vehicles and containers of Waste haulers, including Customer's vehicles, in order to determine whether the Waste is Acceptable Waste or Unacceptable Waste pursuant to this Agreement and all applicable federal, state and local laws, rules and regulations. Service Provider's exercise, or failure to exercise, its rights hereunder shall not operate to relieve Customer of its responsibilities or liability under this Agreement. Customer shall be responsible for, and bear all reasonable expenses and damages incurred by Service Provider, as a result of the Unacceptable Waste and in the reloading and removal of Unacceptable Waste disposed in the Facility. Service Provider, may also, in its sole discretion, require Customer to promptly remove the Unacceptable Waste.
9. **Limited License to Enter** This Agreement provides Customer with a license to enter the Facility for the limited purpose of, and only to the extent necessary for, off-loading Acceptable Waste at the Facility in the manner directed by Service Provider. Except in an emergency, Customer's personnel shall not leave the immediate vicinity of their vehicle. After off-loading the Waste, Customer's personnel shall promptly leave the Facility. Under no circumstances shall Customer or its personnel engage in any scavenging of Waste or other materials at the Facility. Service Provider reserves the right to make and enforce reasonable rules and regulations concerning the operation of the Facility, the conduct of the drivers and others on the Facility premises, quantities and sources of Waste, and any other matters necessary or desirable for the safe, legal and efficient operation of the Facility including, but not limited to, speed limits on haul roads imposed by Service Provider, and the wearing of hard hats and other personal protection equipment by all individuals allowed on the Facility premises. Customer agrees to conform to such rules and regulations as they may be established and amended from time to time. Service Provider may refuse to accept Waste from and shall deny an entrance license to, any of Customer's personnel whom Service Provider believes is under the influence of alcohol or other chemical substances. Customer shall be solely responsible for its employees and subcontractors performing their obligations in a safe manner when at the facility of Service Provider.
10. **Charges and Payment** Payment shall be made by Customer within thirty (30) days after receipt of invoice from Service Provider. In the event that any amount is overdue, Service Provider may terminate this Agreement. Customer agrees to pay a finance charge equal to the maximum interest rate permitted by law. Customer shall be liable for all taxes, fees, or other charges imposed upon the disposal of the Waste by federal, state, local or provincial laws and regulations. Service Provider, from time to time, may modify its rates upon thirty (30) days written notice to Customer.
11. **Termination** Customer's obligations, representations, warranties and covenants regarding the Waste delivered and all indemnities shall survive termination of this Agreement. Should Customer materially default in any of its obligations hereunder, then Service Provider may immediately terminate this Agreement and Customer shall be liable for all costs and damages incurred by Service Provider.
12. **Driver's Knowledge and Authority** Customer represents, warrants and covenants that its drivers who deliver Waste to Service Provider's Facility have been advised by Customer of Service Provider's prohibition on deliveries of hazardous materials or substances, radioactive materials or substances, or toxic waste or substances or any other Unacceptable Waste to the Facility of Service Provider's restrictions on deliveries of Special Waste to the Facility, of the definitions of "Hazardous Waste" and "Hazardous Substances" as provided by applicable federal, state and local law, rules and regulations and "Special Waste" as provided herein, and of the terms of this license to enter Service Provider's Facility.
13. **Indemnification** Customer shall indemnify, defend and hold harmless Service Provider and its subsidiaries, affiliates and parent corporations, as applicable, and their respective officers, directors, lenders, employees, subcontractors and agents from and against any and all claims, suits, losses, liabilities, assessments, damages, fines, costs and expenses, including reasonable attorneys' fees arising under federal, state or local laws, regulations or ordinances, or relating to the content of the Waste, or arising out of or in connection with any breach of this Agreement or arising out of the negligence or willful misconduct of Customer or Customer's employees, agents, subcontractors or representatives thereof, including, without limitation, the negligent collection, transportation and disposal of Waste by Customer or Customer's employees, agents, subcontractors or representatives thereof. Customer shall also be responsible for increased inspection, testing, study and analysis costs made necessary due to reasonable concerns of Service Provider as to the content of the Waste, following discovery of Unacceptable Waste. This indemnification and other obligations stated in this Section 13 shall survive the termination of this Agreement.
14. **Insurance** Customer shall maintain in full force and effect throughout the term of this Agreement the following types of insurance in at least the amounts specified below:

Coverages	Minimum Amounts of Insurance
Worker's Compensation	Statutory
Employer's Liability	\$1,000,000 per incident
General Liability	\$2,000,000 combined single limit
Automobile Liability	\$2,000,000 combined single limit

All insurance will be by insurers authorized to do business in the state in which the Facility is located. Prior to Customer's being allowed on Facility premises, Customer shall provide Service Provider with certificates of insurance or other satisfactory evidence that such insurance has been procured and is in force. Said

policies shall not thereafter be canceled, be permitted to expire or lapse, or be changed without thirty (30) days' advance written notice to Service Provider from Customer. All policies will name Service Provider as an additional insured (except Workers' Compensation), contain waivers of subrogation in favor of Service Provider, and be primary and non-contributory to any insurance policies carried by Service Provider. Customer warrants that it will secure the above minimum amounts of insurance from any transportation of the Waste to the Facility.

15. **Failure to Perform** Neither party hereto shall be liable for its failure to perform hereunder due to circumstances not its fault and beyond its reasonable control, including, but not limited to, strikes or other labor disputes, riots, protests, civil disturbances or sabotage, changes in law, fires, floods, compliance with government requests, explosions, accidents, weather, lack of required natural resources, or acts of God affecting either party hereto. In the event of any of the circumstances provided for in the preceding sentence, including, but not limited to, whether any federal, state or local court or governmental authority takes any action which would (i) close or restrict operations at the Facility, (ii) limit the quantity or prohibit the disposal of Waste at the Facility, or (iii) limit the ability of or prohibit Customer from delivering Waste to the Facility, Service Provider shall have the right, at its option, to reduce, suspend or terminate Customer's access to the Facility immediately, without prior notice and without any additional liabilities between the parties, other than Customer's payment obligation hereunder. Neither Party is required hereunder to settle any labor dispute against its own best judgment.

16. **Other Termination** The occurrence of any of the following events shall also constitute an event of default by Customer and shall give Service Provider the right to immediately terminate this Agreement:

- A petition for reorganization or bankruptcy filed by or against Customer.
- Failure by Customer to pay any amounts due to Service Provider.
- Any breach by Customer of any of its obligations pursuant to the Agreement.

Customer shall be liable for and shall indemnify, defend and hold harmless Service Provider from any losses, claims expenses or damages incurred by Service Provider as a result of termination hereunder.

17. **Assignment** Customer may not assign, transfer or otherwise vest in any other Service Provider, entity or person, in whole or in part, any of its rights or obligations under the Agreement without the prior written consent of Service Provider, provided, however, that Service Provider may without any such prior written consent, assign its rights and/or obligations under the Agreement to a subsidiary or affiliate corporation.
18. **Right of Disposal** This Agreement does not grant any rights to dispose of Acceptable Waste other than in accordance herewith. Additionally, the ability to dispose of Acceptable Waste at the Facility may be limited at any time, and from time to time, by Service Provider in connection with the Facility's permit(s), and capacity constraints, in addition to applicable laws, rules, and regulations. Service Provider reserves the right to immediately terminate access to the Facility by Customer and Customer's personnel in the event of breach or violation by Customer of any of the terms of this Agreement, Service Provider's operating rules or payment policies or any applicable laws or regulations.

19. **Continuing Compliance** Customer has a continuing obligation to inform Service Provider of any new information, or information not previously provided to Service Provider by Customer which may affect the acceptability of the Waste by Service Provider. Further, Customer shall comply with all Service Provider requests for evidence of Customer's continuing compliance with the terms of the Agreement including but not limited to the following: (i) providing new, updated Waste profiles on the Waste(s) offered for disposal or, (ii) providing appropriate certification that the Waste being offered for disposal is accurately reflected by the appropriate application or, (iii) re-sample the Waste at Customer's expense if reasonable cause exists as to its acceptability under the terms of this Agreement or, (iv) allow Service Provider to re-sample the Waste if reasonable cause exists as to its acceptability under the terms of this Agreement (and Customer shall be responsible for all costs and expenses associated with such sampling if such Waste is determined to be Unacceptable Waste), or (v) all of the above.

20. **Notices** All notices herein provided for shall be considered as having been given upon being placed in the mail, certified postage prepaid addressed to Service Provider or Customer at the address herein set forth in this Agreement or to such other address as may be given to the other party in writing.

21. **Miscellaneous**

- This Agreement shall be governed by the laws of the State in which the Facility is located.
- No waiver of a breach of any of the obligations contained in the Agreement shall be construed to be a waiver of any prior or succeeding breach of the same obligation or of any other obligation of this Agreement.
- No modification, release, discharge or waiver of any provision or obligation hereof shall be of any force, or effect, unless in writing signed by all parties to this Agreement.
- Customer shall treat as confidential and not disclose to others during or subsequent to the terms of this Agreement, except as is necessary to perform this Agreement, or to comply with any applicable law or regulation any information (including any technical information, experience or data) regarding Service Provider's plans, programs, plants, processes, products, costs, equipment or operations which may come within the knowledge of Customer or its employees in the performance of this Agreement, without in each instance securing the prior written consent of Service Provider.
- If any term, phrase, obligation or provision of this Agreement shall be held to be invalid, illegal or unenforceable in any respect, this Agreement shall remain in effect and be construed without regard to such term, phrase, obligation or provision.
- This Agreement constitutes the entire understanding between the parties, replacing and amending any prior agreements between the parties, and shall be binding upon all parties hereto, their successors, heirs, representatives and assigns. Any provision, term or condition in any acknowledgement, purchase order or other response by Customer which is in addition to or different from the provisions of this Agreement shall be deemed objected to by Service Provider and shall be of no effect.
- Customer represents, warrants and covenants that it is and, during the term of this Agreement will remain, in compliance with and will perform its obligations pursuant to all applicable laws and regulations and shall indemnify, defend and hold harmless Service Provider from any breach thereof.
- It is the understanding and agreement of the parties that Service Provider is an independent contractor, and is not an agent, nor an authorized representative of Customer.
- If any dispute between or among either of the parties hereto or any of their respective affiliates should result in litigation, the prevailing party or parties in such dispute shall be entitled to recover from the other party or parties all reasonable fees, costs and expenses of enforcing any right of the prevailing party or parties, including, without limitation, reasonable attorneys' fees and expenses.

Customer: X _____

Service Provider: X  _____