City of Hoquiam

Project Manual

for

Hoquiam Watershed Bridges: Crossing #12582 & #12607

March, 2016

Prepared by:

Berglund, Schmidt & Associates, Inc.
2323 Bay Avenue
Hoquiam, WA 98550

Issue Date: March 17, 2016

Bid Due Date: 11:00 a.m. April 19, 2016

City of Hoquiam

Project Manual for
Hoquiam Watershed Bridges: Crossing #12582 & #12607

C E R T I F I C A T I O N

These Bid Documents and form of Contract Documents have been prepared under the direction of the Registered Professional Engineer as indicated below.

Kyle Freeman, P.E.
Berglund, Schmidt & Associates, Inc.
2323 Bay Avenue
Hoquiam, WA 98550
(360) 532-7630

03/07/16

KYLE FREEMAN
STATE OF WASHINGTON
46358
REGISTERED
PROFESSIONAL ENGINEER

TABLE OF CONTENTS

Engineer's Certification 2
Table of Contents (This Section) 3
General Project Information 5

PART I BIDDING REQUIREMENTS

Advertisements for Bids 8
Information for Bidders 9
Bidders Checklist 10
Non-Collusion Affidavit 11
Bidders Construction Experience 12
List of Proposed Sub-Contractors 13
Bid Form 14
Bid Bond 16

PART II CONTRACT FORMS

Contract 18
Performance and Payment Bond 21
Certificate of Insurance ..... [provided by bidder]
Special Provisions and Project Details 22

PART III GENERAL REQUIREMENTS

01 2000 Price and Payment Procedures 24
01 2200 Unit Prices 26
01 3000 Administrative Requirements 28
01 4000 Quality Requirements 31
01 5000 Temporary Facilities and Controls 34
01 5713 Temporary Erosion and Sediment Control 35
01 7000 Execution and Closeout Requirements 37
01 7800 Closeout Submittals 40

PART IV TECHNICAL SPECIFICATIONS

02 4100 Demolition 42
31 1000 Site Clearing 43
31 2316 Excavation 44
31 2323 Fill 46
31 3700 Riprap 50
32 1123 Aggregate Base Courses 51
32 3423 Fabricated Roadway Bridges 54
32 7300 Simulated Streambeds 57

PART V PROJECT PERMITS

WA Dept. of Natural Resources Forest Practices Permit (FPA) 62

PART VI GEOTECHNICAL DATA

Soils Logs.....65
Laboratory Test Results.....66

PART VII CONSTRUCTION DRAWING SHEETS (SEPARATE COVER)

C-1: Title Sheet / Vicinity Maps
C-2: Crossing #12582 - Plan View
C-3: Crossing #12582 - Profile Views
C-4: Crossing #12582 - Bridge Schematics
C-5: Crossing #12582 - Erosion Control & Stream Diversion Plan
C-6: Crossing #12607 - Plan View
C-7: Crossing #12607 - Profile Views
C-8: Crossing #12607 - Bridge Schematics
C-9: Crossing #12607 - Erosion Control & Stream Diversion Plan
C-10: Details - Road & Bridge
C-11: Details - Erosion Control & Notes

PROJECT INFORMATION

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

A. Project Name: Hoquiam Watershed Bridges: Crossing #12582 & #12607, located along the Davis Creek 1000 Mainline, within the City of Hoquiam Watershed.

B. Project Number: 15.019.

C. The Owner, hereinafter referred to as Owner: City of Hoquiam.

D. Owner's Project Manager: Mr. Brian Shay.
City Administrator, City of Hoquiam.
609 8th Street.
Hoquiam, WA 98550.
Phone/Fax: (360) 538-3893/(360) 538-0938.
E-mail: BShay@cityofhoquiam.com.

E. Owner's Project Representative: Mr. Loren Hiner.
City Forester, City of Hoquiam.
609 8th Street.
Hoquiam, WA 98550.
Phone/Cell: (360) 249-5424 / (360) 581-1193
E-mail: lhiner@montesano.us.

1.02 PROJECT DESCRIPTION

A. Crossing #12582 within the project consists of, but is not limited to, providing all materials, labor and equipment for:

- Removal of a 72 inch diameter by 70 foot long corrugated metal pipe (CMP) culvert
- Installation of a 16 foot wide by 72 foot long bridge structure including barriers and signage
- Road approach reconstruction

Crossing #12607 within the project consists of, but is not limited to, providing all materials, labor and equipment for:

- Removal of a 72 inch diameter by 50 foot long corrugated metal pipe (CMP) culvert
- Installation of a 16 foot wide by 72 foot long bridge structure including barriers and signage
- Road approach reconstruction

The project includes site preparation, storm pipe demolition, excavation, fill, streambed construction, embankment stabilization (riprap), aggregate placement, surfacing, bridge construction, guard rail barriers, signing, and erosion control.

1.03 PROJECT CONSULTANTS

A. Owner's Design Criteria Consultant: Berglund, Schmidt & Associates, Inc.
1. Contact: Kyle Freeman, P.E.
2. Address: 2323 Bay Avenue.
3. City, State, Zip: Hoquiam, WA 98550.
4. Phone/Fax: (360) 532-7630/ 1-877-419-9683.
5. E-mail: kfreeman@berglundschmidt.com.

1.04 PROCUREMENT TIMETABLE

A. Contract Time: To be stated in bid documents.

B. Desired Construction Start: Not later than June 1, 2016.

C. Desired Substantial Completion Date: Not later than 75 calendar days from Notice to Proceed.

D. Desired Final Completion Date: Not later than 90 calendar days from Notice to Proceed.

E. The Final Completion Date shall be no later than September 30, 2016 in accordance with project permit approvals and the Owner's requirements.

F. The Owner reserves the right to change the schedule or terminate the entire procurement process at any time.

1.05 PROCUREMENT DOCUMENTS

A. Availability of Documents: Complete sets of procurement documents may be obtained in digital download format from the City of Hoquiam in the manner set forth within the ADVERTISEMENT FOR BIDS.

1.06 PRJECT BIDDING PHASE

A. The City of Hoquiam will maintain a current Plan Holders List during the bidding phase.

B. Questions about the project during bidding shall be submitted to the Project Representative, Loren Hiner, via email. Answers will be answered and issued to all plan holders within 48 hours of receipt. All questions must be submitted prior to **Friday, April 15th at 5:00 p.m.** to allow time for issuance of a final addendum if necessary.

C. All addenda to the Project Documents will be issued, by email, to all plan holders.

1.07 PROJECT PERMITTING

A. All construction and other activities associated with this project shall conform to the requirements specified in the attached
   1. Washington State Department of Natural Resources Forest Practices Permit (FPA) – mainly, in-water work shall be limited to between July 1, 2016 and September 30, 2016.

1.08 BID SECURITY

A. Bids shall be accompanied by a security deposit as follows:
   1. Bid Bond in the amount of 5% of the Bid amount.

END OF SECTION

SECTION I

CITY OF HOQUIAM

CALL FOR SEALED BIDS
Hoquiam Watershed Bridges: Crossing #12582 & 12607

NOTICE is given that the City of Hoquiam will receive sealed bids for the "Hoquiam Watershed Bridges: Crossing #12582 & #12607" project.

To receive a copy of the bid specifications, please contact Tracy Wood at twood@cityofhoquiam.com. Sealed bids will be received at the Office of the Finance Director, Hoquiam City Hall, 609 - 8th Street, Hoquiam, Washington, 98550, until 11:00 am on Tuesday, April 19th, at which time they will be publicly opened and read aloud. Bids received after the day and hour indicated will not be accepted and will not receive consideration.

Pre-qualification of the contractor's proposed bridge supplier is required and qualifications must be received by the City of Hoquiam no later than April 4th (15 days prior to the bid due date) for verification and approval.

Each bid shall be accompanied by a bid proposal deposit in the form of cash, a certified check, cashier's check, postal money order or surety bond payable to the City of Hoquiam, in the amount of not less than five percent (5%) of the amount of the bid, and no bid shall be considered unless accompanied by such bid proposal deposit. Should the successful bidder fail to enter into such contract within ten days from the date at which he or she is notified that he or she is the successful bidder, the bid proposal deposit shall be forfeited to the City of Hoquiam.

The City of Hoquiam reserves the right to reject any and all bids or waive any informalities in the bidding, and select whichever bid the City of Hoquiam determines to be from the lowest responsible bidder.

Required Project Completion Date: September 30, 2016

Publish: March 17, 2016: *The Vidette*

Project Description:

Removal of two existing fish-barrier culverts, of which one is a 72" diameter by 70' long corrugated metal pipe (Crossing #12582) and the other is a 72" diameter by 50' long corrugated metal pipe (Crossing #12607), and the replacement with two concrete fish-passage bridges, of which one is 16' wide by 72' long (#12582) and the other is 16' wide by 60' long (#12607). The project includes site preparation, storm pipe demolition, excavation, fill, streambed construction, embankment stabilization (riprap), aggregate placement, surfacing, bridge construction, guard rail barriers, signing, and erosion control.

Pre-Bid Conference:

A MANDITORY pre-bid meeting has been scheduled for April 4, 2016 at 9:30 A.M. Please meet at the City of Hoquiam Water Treatment Plant located at 881 US Highway 101, Hoquiam, WA 98550.

Directions: From downtown Hoquiam, follow Lincoln St./US-101 north, turn left onto Perry Ave./US-101 and continue to follow US-101 for approx. 5.95 miles. The treatment plant entrance will be on your left at approx. mile post 94.5; just before the West Fork Hoquiam River bridge.

INFORMATION FOR BIDDERS AND CHECKLIST

Sealed bids will be received by the City of Hoquiam (herein called "Owner"), at 609 8th Street, Hoquiam, Washington 98550, until the time and date as stated in the ADVERTISEMENT FOR BIDS or as amended through addendum, and then at said office publicly opened and read aloud. Each bid shall be received by the Owner in the manner set forth in the ADVERTISEMENT FOR BIDS. Each bid must be submitted in a sealed envelope, so marked as to indicate its contents without being opened, and addressed in conformance with the instructions of the ADVERTISEMENT FOR BIDS.

Pre-qualification of the contractor's proposed bridge supplier is required and qualifications must be received by the Owner no later than 15 days prior to the bid due date. The Owner and the Owner's consulting engineer will evaluate the submitted documentation and make a determination as to whether the qualifying criteria has been met. The final decision will be made to the Contractor no later than 5 days prior to the bid due date. Information outlining the required submittal documentations can be found in this project manual under TECHNICAL SPECIFICATION SECTION 32 3423: FABRICATED ROADWAY BRIDGES.

Each bid shall be submitted on the required bid form contained in the project manual and shall be submitted attached to the project manual with which it was originally bound. All blank spaces for bid prices must be filled in, in ink or typewritten, and the bid form must be fully completed and executed when submitted. Only one copy of the bid form is required. BIDS MAY NOT BE READ if detached from the project manual with which they were originally bound, nor shall any of the accompanying papers be detached therefrom, but the entire package (project manual without the plans), including addendums, must be unbroken, in good order, and enclosed in a sealed envelope, endorsed with the name of the work. Each bid shall be accompanied by a bid deposit in the form of a cashier's check, postal money order, or surety bond to the City of Hoquiam for a sum of not less than 5% of the amount of the bid, and no bid will be considered unless accompanied by such bid deposit.

The Owner may waive any informalities or minor defects or reject any and all bids. Any bid may be withdrawn prior to the scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder will be permitted to withdraw its bid between the closing time for receipt of bids and the execution of contract, unless the award is delayed for a period exceeding thirty (30) calendar days. A conditional or qualified bid will not be accepted. **The bid award will be made to the lowest responsible bidder.**

The work embraced in the project manual shall be under the supervision of the City of Hoquiam Public Works Department, subject to the acceptance and approval of the City Council. It shall be begun within ten (10) calendar days after notice to proceed from the Director of Public Works and shall be completed within the time as stated in the Advertisement for bids. The Owner may make such investigations as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid, if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.

The party to whom the contract is awarded will be required to execute the contract and obtain the performance and payment bond within ten (10) calendar days from the date the notice of award is delivered to the bidder. Such bond(s) shall be on the form provided by the Owner, specify the name, contact phone, and address of the surety, and shall include a power of attorney appointing the signatory of the bond(s) as the person authorized to execute it (them). The notice of award will be accompanied by the necessary contract and bond forms. In case of failure of the bidder to execute the contract, the Owner may, at its option, consider the bidder in default, in which case the bid bond accompanying the bid shall become the property of the Owner.

The Owner, within ten (10) calendar days of receipt of acceptable performance bond, payment bond, and contract signed by the party to whom the contract was awarded, shall sign the contract and return to such party an executed duplicate of the contract. Should the Owner not execute the contract within such period, the bidder may, by written notice, withdraw its signed contract. Such notice of withdrawal shall be effective upon receipt of the notice by the Owner.

The notice to proceed shall be issued within ten (10) calendar days of the execution of the contract by the Owner. Should there be reasons why the notice to proceed cannot be issued within such period, the time may be extended by mutual agreement between the Owner and contractor. If the notice to proceed has not been issued within the ten (10) calendar day period or within the period mutually agreed upon, the contractor may terminate the contract without further liability on the part of either party. All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout.

BIDDERS CHECKLIST

1. Have you submitted your bridge supplier qualifications for pre-approval by the required deadline?
2. Has a bid deposit in the form of a surety bond in the proper form, postal money order, or cashier's check been enclosed with your bid?
3. Is the amount of the bid deposit at least five percent (5%) of the total amount of the bid?
4. Have the bid forms been properly signed?
5. Do the written amounts of the bid forms agree with the amounts shown in figures?
6. Have you bid on all items?
7. Has the non-collusion affidavit been properly executed?
8. Have you shown your contractor's state license number on the bid form?
9. Have you listed <u>all</u> sub-contractors that you will use for the project?
10. Have you included the bridge supplier approval letter from the Owner?
11. Have you filled out the bidder's construction experience form?

The following forms are to be executed after the contract is awarded:

A. Contract - To be executed by the successful bidder and the City.
B. Performance bond - To be executed on the form provided by Owner, by the successful bidder and its surety company. <u>To include name, contact and phone number, and address of surety and power of attorney of signatory.</u>
C. Insurance certificate(s).

NON-COLLUSION AFFIDAVIT

STATE OF WASHINGTON)
)
COUNTY OF _____)

The undersigned, being first duly sworn on oath, says that the bid herewith submitted is a genuine and not a sham or collusive bid, or made in the interest or on behalf of any person not therein named; and she/he further says that the said bidder has not directly or indirectly induced or solicited any bidder on the above work or supplies to put in a sham bid, or any other person or corporation to refrain from bidding, and that said bidder has not in any manner sought by collusion to secure to him/her self an advantage over any other bidder or bidders.

_____
Signature of Bidder/Contractor

Subscribed and sworn to before me this _____ day of _____,
20_____.

Notary Public in and for the
State of Washington.
Residing at _____
My Comm. Exp.: _____

DO NOT REMOVE THIS PAGE FROM PROJECT MANUAL

BIDDER'S CONSTRUCTION EXPERIENCE

Answer all questions and provide clear and comprehensive information.

1. Name of bidder: _____

   Registration No. _____

2. Permanent main office address: _____
3. When organized: _____
4. Where incorporated: _____
5. How many years have you been engaged in the contracting business under your present firm name?

6. * Contracts on hand. (Schedule these, showing gross amount of each contract and the approximate anticipated dates of completion), contact name and phone number.

7. * General character of work performed by your company:

8. * Have you ever failed to complete any work awarded to you? _____
   If so, where and why? _____
9. * Have you ever defaulted on a contract? _____
10. * List the more important projects recently completed by your company, stating approximate cost for each, the month and year completed, contact name and phone number.

11. * List your major equipment available for this contract:

12. * Experience of bidder in construction similar to this project in work and importance:

13. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the City? _____

**** Add separate sheets if necessary.***

The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information requested by the City of Hoquiam.

Bidder Signature: _____ Date: _____

Print Name:_____

Title: _____

DO NOT REMOVE THIS PAGE FROM PROJECT MANUAL

LISTING OF PROPOSED SUB-CONTRACTORS

Bidder shall list **all** subcontractors proposed to be used on the project. **FAILURE TO LIST SUB-CONTRACTORS SHALL BE CONSIDERED TO BE A NON-RESPONSIVE BID.** If there are no sub-contractors, write NO SUB-CONTRACTORS WILL BE USED.

NAME AND ADDRESS	DESCRIPTION OF WORK

SIGNATURE and TITLE"_____

DO NOT REMOVE THIS PAGE FROM PROJECT MANUAL

BID FORM

Honorable Mayor and City Council
Hoquiam City Hall
609 8th Street
Hoquiam, WA 98550

BIDDER: _____ REGISTRATION NO._____

DATE:

The undersigned, hereinafter called the bidder, declares that the only person(s) interested in this bid are those named herein; that the bid is in all respects fair and without fraud; and that it is made without any connection or collusion with any other person making a bid on this project.

The bidder further declares that it has carefully examined the plan, specifications, and contract documents, hereinafter referred to as the project manual, for the construction of the proposed project improvement(s); that it has personally inspected the site(s); that it has satisfied itself as to the types and quantities of materials, the types of equipment, the conditions of the work involved, including the fact that the description of and the quantities of work and materials, the types of equipment, the conditions of and the work involved as included herein, are brief and are intended only to indicate the general nature of the work and to identify the said quantities with the corresponding requirements of the project manual; and that this bid is made in accordance with the provisions and the terms of the contract included in the project manual.

The bidder further agrees that it has exercised its own judgment regarding the interpretation of surface information and has utilized all data which it believes is pertinent from the Project Engineer, hereinafter also referred to as the City or Owner, and such other source of information as it determined necessary in arriving at its conclusion.

The bidder further certifies that the subcontracting firms or businesses submitted on the LISTING OF PROPOSED SUB-CONTRACTORS will be awarded subcontracts for the described portions of the work:

If the bidder is awarded a construction contract on this bid, the name and address of the surety who will provide the performance bond is:

_____	_____
Surety	Agent:
_____	_____
Surety address	Agent Address:
_____	_____
Surety Contact and Phone Number	Agent Contact and Phone Number:

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BID FORM
Hoquiam Watershed Bridges: Crossing #12582 & #12607

Item No.	Item Description	Approximate Quantity	Unit	AMOUNT	
				Unit Prices	Amount
1	Mobilization & Demobilization	LS	LS	LUMP SUM	
2	Bridge Crossing #12582: (Culvert Removal, Bridge Installation)	LS	LS	LUMP SUM	
3	Bridge Crossing #12607: (Culvert Removal, Bridge Installation)	LS	LS	LUMP SUM	
4	Simulated Streambed Construction: Crossing #12582	LS	LS	LUMP SUM	
5	Simulated Streambed Construction: Crossing #12607	LS	LS	LUMP SUM	
6	Footing Overexcavation & Backfill: Crossing #12582	1,000	CY		
7	Footing Overexcavation & Backfill: Crossing #12607	500	CY		
TOTAL					

Total $_____

WA STATE RETAIL SALES/USE TAX
This project, in its entirety, is subject to the WA Department of Revenue Rule 171 (WAC 458-20-171). Applicable retail sales and/or use tax shall be paid on applicable materials, equipment and supplies used or consumed in the performance of this contract. The Contractor shall include for compensation the amount of any taxes paid, under this Rule, into the Unit Bid prices or other Contract amounts.

ADDENDA ACKNOWLEDGEMENT
The bidder hereby acknowledges that it has received Addenda Nos. _____
to this project manual.

The name of the bidder submitting this bid and its business phone number and address, to which address all communications concerned with this bid and with the contract shall be sent is listed below.

Bidder's firm name _____

Complete address _____
(Street address) (State) (Zip)

Tele. No. (_____) _____

Signed by _____ Title _____

Printed Name: _____

NOTE: (1) If the bidder is a partnership, so state, giving firm name under which business is transacted.
(2) If the bidder is a corporation, this bid must be executed by its duly authorized officials.

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BID BOND FORM

Herewith find deposit in the form of a cashiers check, postal money order or bid bond in the amount of $_____ which amount is not less than five (5%) percent of the total bid.

_____ SIGN HERE

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____ as Principal and _____ as Surety, are held and firmly bound unto the CITY OF HOQUIAM as Oblige, in the penal sum of _____ Dollars, for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by these presents.

The condition of this obligation is such that if the Oblige shall make any award to the Principal for:

according to the terms of the proposal or bid made by the Principal, therefore, 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 so to do, 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____.

Principal _____

Surety _____

Dated:_____

Received return of deposit in the sum of $_____.

Signature _____

SECTION 2

CITY OF HOQUIAM - PUBLIC WORKS CONTRACT

THIS AGREEMENT is made and entered into this ____ day of_____, by and between the **CITY OF HOQUIAM (** "the City"), and **(**"the Contractor").

WITNESS:

THEREFORE, in consideration of the terms and conditions in this agreement, the parties covenant and agree as follows:

1. The Contractor shall do all work and furnish all tools, materials, and equipment for construction and completion of the **Hoquiam Watershed Bridges: Crossing #12582 & #12607** Project, located in Hoquiam, Washington, as set forth in the plans and specifications on file in the Public Works Director's office, 609 8th Street, Hoquiam, WA, 98550, which are hereby incorporated into this contract by reference, and the Contractor shall further perform any alterations in or additions to the work in accordance with the contract documents. The Contractor shall provide and bear the expense of all equipment, work and labor that may be required for the transferring of materials, construction, and completion of the work provided for in this contract, except as expressly provided in the specifications to be furnished by the City.

2. The Contractor agrees to secure all necessary City and State permits, *and* a City of Hoquiam business license. The Contractor further agrees to file with the City Finance Director a performance bond in the amount of $_____ , that shall provide for the completion of this Contract pursuant to the following specified conditions in addition to the plans and specifications above-mentioned:

a. The Contractor shall commence construction of the project on or before , _____, and shall complete construction of the project within ____90____ working days from the date of execution of the contract. The Contractor agrees to pay the City liquidated damages of **$ 500.00 per day** for each day the work is not completed beyond the date set forth in this contract. It is further agreed that the City shall deduct the amount of any applicable liquidated damages from the final payment to the Contractor.

b. The construction shall be completed in accordance with the provisions of all applicable ordinances, statutes, and regulations of the City, State, and Federal Governments, including the payment of "***prevailing wage***." The Contractor and all Sub-Contractors who work on the project shall provide to the City forms approved by the State Department of Labor and Industries certifying that prevailing wages have been paid to Contractor's and Sub-Contractor's employees as required.

c. The job site shall be posted at all times "**DO NOT ENTER,**" and at no time shall material or equipment be allowed to block a public right-of-way. The work area shall be cleaned at the end of each work day, with no material stored or left in the way of City work crews. The City will agree to coordinate with the Contractor the moving of City vehicles so as not to be in the way of the Contractor.

d. The Contractor shall not discriminate against any employee or applicant for employment because of race, creed, national origin, gender, physical or mental handicap, or age. The Contractor shall, in all solicitations for employees, or job orders for employees placed with any employment agency, union, or other firm or agency, state that all qualified applicants will receive consideration for employment

without regard to race, creed, national origin, gender, physical or mental handicap, or age. The Contractor shall include the provisions of this section in every sub-contract or purchase order for goods or services which are the subject matter of this contract. If the Contractor fails to comply with any non-discrimination provision of this contract, the City has the right to cancel the contract in whole or in part. If the contract is canceled after partial performance, the City shall pay fair market value or the contract price, whichever is lower, for goods and services which have been received and accepted.

e. For contracts of twenty-five thousand dollars or less, at the option of the contractor the City shall, in lieu of bond, retain fifty percent of the contract amount for a period of thirty days after the date of final acceptance, or until receipt of all necessary releases from the department of revenue and the department of labor and industries and settlement of any liens filed against the project.

f. If work to be performed is within a public right-of-way, the Contractor shall be required to notify all adjacent property owners of the project prior to the beginning of construction of the project.

g. The Contractor shall utilize the Federal ***E-Verify*** program to verify that each employee of the Contractor and any Sub-Contractor who works on this project is legally authorized to be employed in the United States. Before a notice to proceed shall be issued by the City, the Contractor shall provide the City with a certification that the Contractor has enrolled in and implemented the ***E-Verify*** program to determine the employment eligibility of the employees who will perform work on behalf of the Contractor. Any Sub-Contractor must also provide a certification that the Contractor has enrolled in and implemented the ***E-Verify*** program to determine the employment eligibility of the employees who will perform work on behalf of the Contractor

3. A. No liability shall attach to the City by reason of entering into this contract, except as expressly provided in the contract. The Contractor shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or in connection with the performance of this Agreement, except for injuries and damages arising out of or in connection with the performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

B. Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Contractor and the City, its officers, officials, employees, and volunteers, the Contractor's liability hereunder shall be only to the extent of the Contractor's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Contractor's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.

4. A. Contractor shall maintain the following insurance limits:

1. Automobile Liability insurance with a minimum combined single limit for bodily injury and property damage of $1,000,000 per accident;

2. Commercial General Liability insurance shall be written with limits no less that $1,000,000 each occurrence, $2,000,000 general aggregate and a $2,000,000 products-completed operations aggregate limit.

3. Workers's Compensation coverage as required by the Industrial Insurance Laws of the State of Washington.

B. The Contractor's insurance coverage shall be primary insurance as respect the City. Any Insurance, self-insurance, or insurance pool coverage maintained by the City shall be excess of the Contractor's insurance and shall not contribute with it.

C. The Contractor's insurance shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.

D. Contractor shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the ***additional insured endorsement***, evidencing the insurance requirements of the Contractor before the commencement of the work.

E. All of the provisions set forth in Section 4, Subsections A – D, shall also apply to any and all Sub-Contractors who work on the project.

5. The parties agree that the Contractor engages in said work as an independent contractor. Nothing contained in this agreement shall be construed as making the Contractor the agent to the City for any purpose or as authorizing or empowering the Contractor to obligate or bind the City in any manner.

6. The Contractor for itself and for its heirs, executors, administrators, successors, or assignees, does agree to fully perform all the Contractor's covenants contained in this agreement.

7. The City agrees that upon completion of the terms and conditions of this Contract by the Contractor, and acceptance of the completed project by the City Council, the City will pay to the Contractor the sum of $_____(_____Dollars), which amount shall include sales and/or use tax as applicable to the Contractor. The City further agrees to release the Contractor's performance bond upon acceptance of the completed project by the City Council, on the day following the next regularly scheduled City Council meeting following the completion of the project and submission of all necessary documents required by law and this Contract.

Contractor

By:
Title:

CITY OF HOQUIAM

By_____
Jasmine Dickhoff – Mayor

ATTEST:

By
Mike Folkers – Finance Director

PERFORMANCE and PAYMENT BOND
Bond to the City of Hoquiam

Bond # _____

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, _____ as Principal, and a corporation, organized and existing under the laws of the State of Washington, as a surety corporation, and qualified under the laws of the State of Washington to become surety upon bonds of contractors with municipal corporations as surety, are jointly and severally held and firmly bound to the **City of Hoquiam** in the penal sum of $_____ for the payment of which sum on demand we bind ourselves and our successors, heirs, administrators or personal representatives, as the case may be.

This obligation is entered into pursuant to the statutes of the State of Washington and the ordinances of the City of Hoquiam.

Dated at _____, Washington, this ___ day of _____, 20__.

The conditions of the above obligation are such that:

WHEREAS, the City of Hoquiam has let or is about to let to the said _____
the above bounded Principal, a certain contract, the said contract being numbered _____, and providing for _____
(which contract is referred to herein and is made a part hereof as though attached hereto), and

WHEREAS, the said Principal has accepted, or is about to accept, the said contract, and undertake to perform the work therein provided for in the manner and within the time set forth; now, therefore,

If the said Principal,_____, shall faithfully perform all of the provisions of said contract in the manner and within the time therein set forth, or within such extensions of time as may be granted under said contract, and shall pay all laborers, mechanics, subcontractors and materialmen, and all persons who shall supply said Principal or subcontractors with provisions and supplies for the carrying on of said work, and shall indemnify and hold the City of Hoquiam harmless from any damage or expense by reason of failure of performance as specified in said contract or from defects appearing or developing in the material or workmanship provided or performed under said contract within a period of one year after its acceptance thereof by the City of Hoquiam, then and in that event, this obligation shall be void; but otherwise, it shall be and remain in full force and effect.

Signed this ___ day of _____, 20_____.

_____	_____
Surety	Principal
By_____	By_____
_____	_____
Title	Title
_____	_____
Surety Address	Agent Address
_____	_____
Surety Contact and Phone Number	Agent Contact and Phone Number

SPECIAL PROVISIONS and PROJECT DETAILS

PROJECT DESCRIPTION:
Crossing #12582 within the project consists of, but is not limited to, providing all materials, labor and equipment for:

- Removal of a 72 inch diameter by 70 foot long corrugated metal pipe (CMP) culvert
- Installation of a 16 foot wide by 72 foot long bridge structure including barriers and signage
- Road approach reconstruction

Crossing #12607 within the project consists of, but is not limited to, providing all materials, labor and equipment for:

- Removal of a 72 inch diameter by 50 foot long corrugated metal pipe (CMP) culvert
- Installation of a 16 foot wide by 72 foot long bridge structure including barriers and signage
- Road approach reconstruction

The project includes site preparation, storm pipe demolition, excavation, fill, streambed construction, embankment stabilization (riprap), aggregate placement, surfacing, bridge construction, guard rail barriers, signing, and erosion control.

BRIDGE SUPPLIER and STRUCTURAL ENGINEER PRE-QUALIFICATION:
Pre-qualification of the contractor's proposed bridge supplier, including the supplier's structural design engineer, is required and qualifications must be received by the Owner no later than 15 days prior to the bid due date. The Owner and the Owner's consulting engineer will evaluate the submitted documentation and make a determination as to whether the qualifying criteria has been met. The final decision will be made to the Contractor no later than 5 days prior to the bid due date. Information outlining the required submittal documentations can be found in this project manual under TECHNICAL SPECIFICATION SECTION 32 3423: FABRICATED ROADWAY BRIDGES. A copy of the Owner's approval of the proposed bridge supplier shall accompany the bid submittal. **Failure to submit the required documentation by the appropriate deadline, or failure to include the Owner's approval letter shall be considered a non-responsive bid and will be rejected.**

WASHINGTON STATE RETAIL SALES AND USE TAXES:
State Department of Revenue Rule 171 (WAC 458-20-171) and its related rules shall apply for this section. The project is located on land owned by the City of Hoquiam. Per this rule, the Contractor shall include Washington State retail sales taxes and/or use taxes in the unit Bid prices or other Contract amounts. These retail sales taxes shall include those the Contractor pays on purchase of materials, equipment, and supplies used or consumed in doing the work. Use taxes shall include those the Contractor pays for materials, equipment, and supplies used upon which the retail sales tax has not been paid.

All prospective bidders are strongly encouraged to make a site visit prior to bidding to make their own determination of the site conditions.

SECTION 3

SECTION 01 2000

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

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

B. Documentation of changes in Contract Sum and Contract Time.

1.02 RELATED REQUIREMENTS

A. Section 01 2200 - Unit Prices: Monetary values of unit prices, payment and modification procedures relating to unit prices.

1.03 SCHEDULE OF VALUES

A. Forms filled out by hand will not be accepted.

B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

C. Include in each line item, the amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

D. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Forms filled out by hand will not be accepted.

C. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Amount of applicable retail sales and/or use tax to be paid.
   9. Percentage of Completion.
   10. Balance to Finish.
   11. Retainage.

D. Execute certification by signature of authorized officer.

E. Submit three copies of each Application for Payment.

F. When Engineer requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Engineer will issue instructions directly to Contractor.

B. For other required changes, Engineer will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
   2. Promptly execute the change.

C. Contractor may propose a change by submitting a request for change to Engineer, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors.

D. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
   1. For change requested by Engineer for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
   2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Engineer.
   3. For pre-determined unit prices and quantities, the amount will based on the fixed unit prices.

E. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

F. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

G. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 01 7000.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2200
UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. List of unit prices, for use in preparing Bids.

B. Measurement and payment criteria applicable to Work performed under a unit price payment method.

C. Defect assessment and non-payment for rejected work.

1.02 COSTS INCLUDED

1.03 UNIT QUANTITIES SPECIFIED

A. LUMP SUM ITEMS: Quantities included for lump sum bid items are approximate and included for Contractor's convenience only. Measurement of lump sum bid items will be based on the value of work completed relative to the value of work remaining under the bid item.

B. UNIT PRICE ITEMS: Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.

C. For Unit Price Items, if the actual quantity of that item increases or decreases by more than 25 percent from the original Plan and/or Bid estimated quantity, it shall be considered a significant change in the character of the Work for that item and the unit Contract Price may be adjusted for that item.

1. The basis for the adjustment shall be agreed upon between the Contractor and the Owner and processed through a proposed change order by the Contractor.
2. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the Engineer may determine to be fair and equitable.

1.04 MEASUREMENT OF QUANTITIES

A. Measurement of lump sum bid items will be based on the value of work completed relative to the value of work remaining under the bid item.

B. Measurement of unit price bid items will be based on the Volume as measured by cubic, in-place dimensions. Measurement methods may be either neat line calculations or topographic survey volumes, as agreed upon between the Contractor and the Owner.

C. Assist by providing necessary equipment, workers, and personnel as required.

D. Owner will provide survey personnel as required.

1.05 PAYMENT

A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Engineer, multiplied by the unit price.

1.06 SCHEDULE OF UNIT PRICES

A. Bid Item #1 (Lump Sum for Mobilization and Demobilization) shall cover the costs of:

1. Moving all equipment to the job site and between sites.
2. Traffic control.
3. Cleaning up and removing any refuse.
4. Moving all equipment from the site.
5. Acquisition and payment for permits, fees, bonds and insurance.

B. Bid Item #2 (Lump Sum for Culvert Removal, Bridge Installation: Bridge Crossing #12582) shall cover the cost of all equipment, labor and materials required to construct the project as shown on the Plans and described in the specifications. Work shall include, but is not limited to:

1. Creating stream bypass and dewatering.
2. Clearing and grubbing.
3. Removal of existing structures.

4. Structure excavation.
5. Purchase, delivery and installation of the bridge and concrete footings.
6. Purchase, delivery and installation of bridge guard rails.
7. Purchase, delivery and installation of bridge delineator signage.
8. Purchase, delivery and placement of light loose riprap, quarry spalls and geotextile fabric for footing and embankment armoring.
9. Purchase, delivery, placement and compaction of crush rock for footing and road base and top course construction.
10. Reconstruction of stream channel.
11. Purchase, delivery and placement of materials for erosion control.

C. Bid Item #3 (Lump Sum for Culvert Removal, Bridge Installation: Bridge Crossing #12607) shall cover the cost of all equipment, labor and materials required to construct the project as shown on the Plans and described in the specifications. Work shall include, but is not limited to:
1. Creating stream bypass and dewatering.
2. Clearing and grubbing.
3. Removal of existing structures.
4. Structure excavation.
5. Purchase, delivery and installation of the bridge and concrete footings.
6. Purchase, delivery and installation of bridge guard rails.
7. Purchase, delivery and installation of bridge delineator signage.
8. Purchase, delivery and placement of light loose riprap, quarry spalls and geotextile fabric for footing and embankment armoring.
9. Purchase, delivery, placement and compaction of crush rock for footing and road base and top course construction.
10. Reconstruction of stream channel.
11. Purchase, delivery and placement of materials for erosion control.

D. Bid Item #4 (Lump Sum for Simulated Streambed Construction: Crossing #12582) shall cover the cost of all equipment, labor and materials required to construct the project as shown on the Plans and described in the specifications. Work shall include, but is not limited to:
1. Purchase, delivery, placement and compaction of cleaned washed rock for stream bed reconstruction.

E. Bid Item #5 (Lump Sum for Simulated Streambed Construction: Crossing #12607) shall cover the cost of all equipment, labor and materials required to construct the project as shown on the Plans and described in the specifications. Work shall include, but is not limited to:
1. Purchase, delivery, placement and compaction of cleaned washed rock for stream bed reconstruction.

F. Bid Item #6 (Unit Price for Footing Overexcavation & Backfill: Crossing #12582) shall cover the cost of all equipment, labor and materials required to construct the project as shown on the Plans and described in the specifications. Work shall include, but is not limited to:
1. Unsuitable foundation excavation, transport and disposal.
2. Excavation, transport, placement and compaction of embankment material for backfill of overexcavated subgrade.

G. Bid Item #6 (Unit Price for Footing Overexcavation & Backfill: Crossing #12582) shall cover the cost of all equipment, labor and materials required to construct the project as shown on the Plans and described in the specifications. Work shall include, but is not limited to:
1. Unsuitable foundation excavation, transport and disposal.
2. Excavation, transport, placement and compaction of embankment material for backfill of overexcavated subgrade.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preconstruction meeting.

B. Progress meetings.

C. Construction progress schedule.

D. Coordination drawings.

E. Submittals for review, information, and project closeout.

F. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 7000 - Execution and Closeout Requirements: Additional coordination requirements.

B. Section 01 7800 - Closeout Submittals: Project record documents.

1.03 PROJECT COORDINATION

A. Project Coordinator: Construction Manager.

B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for _____ access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.

F. Coordinate field engineering and layout work under instructions of the Project Coordinator.

G. Make the following types of submittals to Engineer through the Project Coordinator:
   1. Requests for interpretation.
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Project Coordinator will schedule a meeting after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Engineer.
   3. Contractor.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.

4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
5. Designation of personnel representing the parties to Contract, Construction Manager representing the City, Project Superintendent representing the Contractor and Engineer.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
7. Scheduling.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

A. A determination of need for progress meetings will be made during the preconstruction meeting, as well as the detailing thereof.

3.03 CONSTRUCTION PROGRESS SCHEDULE

A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.

B. If preliminary schedule requires revision after review, submit revised schedule within 2 days.

C. Within 5 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 2 days after joint review, submit complete schedule.

E. Submit updated schedule with each Application for Payment.

3.04 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.

B. Submit to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

C. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - Closeout Submittals.

3.05 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.

B. Submit for Engineer's knowledge as contract administrator or for Owner. No action will be taken.

3.06 SUBMITTALS FOR PROJECT CLOSEOUT

A. When the following are specified in individual sections, submit them at project closeout:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.

3.07 NUMBER OF COPIES OF SUBMITTALS

A. Documents for Review:

1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches (215 x 280 mm): Submit the number of copies that Contractor requires, plus two copies that will be retained by Engineer.
2. Larger Sheets, Not Larger Than 36 x 48 inches (910 x 1220 mm): Submit the number of reproductions that Contractor requires, plus one copy (half-size if greater than 11 x 17 inch) that will be retained by Engineer.

3.08 SUBMITTAL PROCEDURES

A. Transmit each submittal with a copy of approved submittal form.

B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

E. Schedule submittals to expedite the Project, and coordinate submission of related items.

F. For each submittal for review, allow 5 days excluding delivery time to and from the Contractor.

G. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

H. Provide space for Contractor and Engineer review stamps.

I. When revised for resubmission, identify all changes made since previous submission.

J. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

END OF SECTION

SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. Testing and inspection agencies and services.

D. Control of installation.

E. Tolerances.

F. Defect Assessment.

1.02 REFERENCE STANDARDS

A. ASTM C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation; 2014.

B. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.

C. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2014a.

1.03 SUBMITTALS

A. Design Data: Submit for Engineer's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Engineer and to Contractor.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Conformance with Contract Documents.
      k. When requested by Engineer, provide interpretation of results.

C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Engineer, in quantities specified for Product Data.
   1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.04 QUALITY ASSURANCE

A. Testing Agency Qualifications:
   1. Prior to start of Work, submit agency name, address, and telephone number, and names of full time specialist and responsible officer.

1.05 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Contractor shall employ and pay for services of an independent testing agency to perform specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

C. Contractor Employed Agency:
   1. Testing agency: Comply with requirements of ASTM E329, ASTM C1077, and ASTM D3740.
   2. Laboratory: Authorized to operate in Washington State.
   3. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 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. Have Work performed 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, and disfigurement.

3.02 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.

3.03 TESTING AND INSPECTION

A. Testing Agency Duties:
   1. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified standards.
   3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   4. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or products.
   5. Perform additional tests and inspections required by Engineer.
   6. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the Work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.

2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
3. Provide incidental labor and facilities:
   a. To provide access to Work to be tested/inspected.
   b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
   c. To facilitate tests/inspections.
   d. To provide storage and curing of test samples.
4. Notify Engineer and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Engineer.

E. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.04 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary sanitary facilities.

B. Security requirements.

C. Vehicular access and parking.

1.02 TEMPORARY UTILITIES

A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes.

1.03 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.

1.04 SECURITY

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.05 VEHICULAR ACCESS AND PARKING

A. Coordinate access and haul routes with governing authorities and Owner.

B. Provide and maintain access to fire hydrants, free of obstructions.

C. Provide means of removing mud from vehicle wheels before entering streets.

D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.06 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Final Application for Payment inspection.

B. Clean and repair damage caused by installation or use of temporary work.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 5713

TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Prevention of erosion due to construction activities.

B. Prevention of sedimentation of waterways and open drainage waysdue to construction activities.

C. Restoration of areas eroded due to insufficient preventive measures.

D. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractor.

1.02 RELATED REQUIREMENTS

A. Section 31 1000 - Site Clearing: Limits on clearing; disposition of vegetative clearing debris.

B. Section 31 3700 - Riprap: Temporary and permanent stabilization using riprap.

C. Section 32 1123 - Aggregate Base Courses: Temporary and permanent roadways.

1.03 REFERENCE STANDARDS

A. WADNR Forest Practices Board Manual, Section 5 - Guidelines for Forest Practices Hydraulic Projects: Washington State Department of Natural Resources; August 2013.

B. WADOE SWMMWW, Vol II - Construction Stormwater Pollution Prevention: Washington State Department of Ecology; August 2012.

1.04 PERFORMANCE REQUIREMENTS

A. Comply with all requirements of the WA Department of Natural Resources Forest Practices Board Manual BMPs for erosion and sedimentation control, as they apply to this project.

B. Where necessary, implement supplemental erosion control measures and methods specificed within the Department of Ecology's Stormwater Management Manual for Western Washington.

C. Timing: Put preventive measures in place as soon as possible after disturbance of surface cover and before precipitation occurs.

D. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this project. Install temporary erosion control measures such as filter fabric fence or straw wattles to prevent sediment transport to typed waters.

E. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
   1. Control movement of sediment and soil from temporary stockpiles of soil.
   2. Prevent development of ruts due to equipment and vehicular traffic.
   3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.

F. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways, etc.
   1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
   2. If sediment basins are used as temporary preventive measures, pump dry and remove deposited sediment after each storm.

G. Maintenance: Maintain temporary preventive measures until permanent measures have been established.

PART 2 PRODUCTS

2.01 MATERIALS

A. Mulch: Use one of the following:
   1. Straw or hay.
   2. Wood waste, chips, or bark.

3. Erosion control matting or netting.

B. Grass Seed For Temporary and Permanent Cover: Select a species appropriate to climate, planting season, and intended purpose.
   1. Consult with the Natural Resource Conservation Service or a State resource agency (DNR, Ecology, Agriculture), if necessary, to determine the type of seeds and/or plants to use.
   2. Consider using straw blankets or loose straw if soil moisture is low. Apply straw 3-6 inches thick.
   3. Seed during times of year that will allow germination without additional site visits to apply water.

C. Bales: Air dry, rectangular straw bales.
   1. Cross Section: 14 by 18 inches (350 by 450 mm), minimum.
   2. Bindings: Wire or string, around long dimension.
   3. Bale Stakes: Wood, 2 by 2 inches (50 by 50 mm) in cross section.

D. Silt Fence Fabric: Polypropylene geotextile resistant to common soil chemicals, mildew, and insects; non-biodegradable; in longest lengths possible.

E. Riprap: See Section 31 3700.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

3.02 PREPARATION

A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.

3.03 MAINTENANCE

A. Inspect preventive measures weekly, within 24 hours after the end of any storm that produces 0.5 inches (13 mm) or more rainfall at the project site, and daily during prolonged rainfall.

B. Repair deficiencies immediately.

C. Clean out temporary sediment control structures weekly and relocate soil on site.

D. Place sediment in appropriate locations on site; do not remove from site.

3.04 CLEAN UP

A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Engineer.

B. Clean out temporary sediment control structures that are to remain as permanent measures.

C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION

SECTION 01 7000

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Surveying for laying out the work.

C. Cleaning and protection.

D. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

B. Section 01 5713 - Temporary Erosion and Sediment Control: Additional erosion and sedimentation control requirements.

C. Section 01 7419 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

D. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties and bonds.

E. Section 02 4100 - Demolition: Demolition of whole structures and parts thereof; site utility demolition.

1.03 QUALIFICATIONS

A. For additional survey work, employ a land surveyor registered in the State in which the Project is located and acceptable to Engineer. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.

1.04 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

D. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

E. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.05 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

B. Examine and verify specific conditions described in individual specification sections.

C. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

3.02 LAYING OUT THE WORK

A. Three (3) survey control points have been provided at each of the project site locations. These points are identified by their coordinates and elevations on the relevant sheets within the construction drawing set.

B. Verify locations of survey control points prior to starting work.

C. Promptly notify Engineer of any discrepancies discovered.

D. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
   1. Exception: One control point, at each project site, has been placed in a location along side the existing road and directly above the crossing culvert structure. This point is expected to be destroyed/removed during construction and is not required to be replaced.
   2. Promptly report to Engineer the loss or destruction of any reference point or relocation required because of changes in grades or other reasons (other than those referenced above).

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

F. Contractor shall do all further surveying, staking and engineering to establish any additional horizontal and vertical control necessary to establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including stakes for grading, fill placement; slopes, foundation locations, and invert elevations.

G. Periodically verify layouts by same means.

H. Maintain a complete and accurate log of control and survey work as it progresses.

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.

3.04 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

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.

3.06 FINAL CLEANING

A. Clean site; sweep any accumulated gravel from paved bridge surfaces and wash off any tracked mud.

B. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.07 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Engineer and Owner.

B. Notify Engineer when work is considered ready for Engineer's Substantial Completion inspection.

C. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Engineer's Substantial Completion inspection.

D. Conduct Substantial Completion inspection and create Final Correction Punch List containing Engineer's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Engineer.

E. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

F. Notify Engineer when work is considered finally complete and ready for Engineer's Substantial Completion final inspection.

END OF SECTION

SECTION 01 7800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.

C. Individual Product Sections: Warranties required for specific products or Work.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed shop drawings, product data, and samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Product substitutions or alternates utilized.
   2. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Field changes of dimension and detail.
   2. Details not on original Contract drawings.

3.02 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 4

SECTION 02 4100
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of existing site elements - Corrugated Metal Pipe culvert removal and disposal.

1.02 RELATED REQUIREMENTS

A. Section 01 5713 - Temporary Erosion and Sediment Control.

B. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

C. Section 31 1000 - Site Clearing: Vegetation and existing debris removal.

D. Section 31 2316 - Excavation: Existing soils removal and disposal

E. Section 31 2323 - Fill: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: As specified in Section 31 2323 - Fill.

PART 3 EXECUTION

3.01 SCOPE

A. Remove items indicated, for recycling and disposal.

B. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 31 2323, except for those areas to remain open.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Use of explosives is not permitted.

B. Protect existing structures and other elements that are not to be removed.

3.03 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

END OF SECTION

SECTION 31 1000
SITE CLEARING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Clearing and protection of vegetation.

B. Removal of existing debris.

1.02 RELATED REQUIREMENTS

A. Section 01 5713 - Temporary Erosion and Sediment Control.

B. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products.

C. Section 02 4100 - Demolition: Removal of built elements and utilities.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SITE CLEARING

A. Comply with other requirements specified in Section 01 7000.

B. Minimize production of dust due to clearing operations; do not use water if that will result in ice, flooding, sedimentation of waterways, or other pollution.

3.02 VEGETATION

A. Remove only that vegetation necessary to complete the required work.

B. Vegetation Removed: Do not burn, bury, landfill, or leave on site, except as indicated.
   1. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.
   2. Trees: Marketable timber may not be removed without prior authorization and direction from the City of Hoquiam.
   3. Fill holes left by removal of stumps and roots, using suitable fill material, with top surface neat in appearance.

3.03 DEBRIS

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 31 2316
EXCAVATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Excavating for footings and stream bed reclamation.

1.02 RELATED REQUIREMENTS

A. Section 01 5713 - Temporary Erosion and Sedimentation Control: Slope protection and erosion control.

B. Section 02 4100 - Demolition: Existing culvert pipe removal.

C. Section 31 2323 - Fill: Fill materials, filling, and compacting.

D. Section 31 3700 - Riprap.

1.03 SUBMITTALS

A. Field Quality Control Submittals: Document visual inspection of load-bearing excavated surfaces.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench mark and intended elevations for the work are as indicated.

3.02 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Protect plants, rock outcroppings, trees, and other features to remain.

3.03 EXCAVATING

A. Excavate to accommodate new structures and construction operations.

B. Notify Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

C. Slope banks of excavations deeper than 4 feet (1.2 meters) to angle of repose or less until shored.

D. Do not interfere with 45 degree bearing splay of foundations.

E. Hand trim excavations. Remove loose matter.

F. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 2323.

G. Grade top perimeter of excavation to prevent surface water from draining into excavation.

H. Remove excavated material that is unsuitable for re-use from site and place in designated areas, as directed by the City of Hoquiam.

I. Stockpile excavated material to be re-used in area designated on site .

J. Remove excess excavated material from site and place in designated areas, as directed by the City of Hoquiam.

3.04 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.

B. Provide for visual inspection of load-bearing excavated surfaces before placement of foundations.

3.05 PROTECTION

A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.

END OF SECTION

SECTION 31 2323
FILL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Filling, backfilling, and compacting for footings.

1.02 RELATED REQUIREMENTS

A. Document Hoquiam Watershed Bridges Project Soil Logs, Dated 3/03/2015: Geotechnical test hole locations and findings of subsurface materials.

B. Section 01 5713 - Temporary Erosion and Sediment Control: Slope protection and erosion control.

C. Section 31 2316 - Excavation: Removal and handling of soil to be re-used.

D. Section 31 3700 - Riprap.

E. Section 32 1123 - Aggregate Base Courses: Fill aggregates for foundation bedding and road base and top courses.

F. Section 32 7300 - Simulated Streambeds: Fill aggregates for streambed construction.

1.03 DEFINITIONS

A. Finish Grade Elevations: Indicated on drawings.

B. Subgrade Elevations: Indicated on drawings.

1.04 REFERENCE STANDARDS

A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; 2010

B. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2014.

C. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)); 2012.

D. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2007.

E. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN m/m3)); 2012.

F. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2008.

G. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2011.

H. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 2005.

I. ASTM D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils; 2010.

J. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010.

1.05 SUBMITTALS

A. Submit samples of each type of fill material to testing laboratory or coordinate for sampling at the source location by the testing laboratory.

B. Materials Sources: To be one of the following;
   1. Onsite excavation subsoil, of suitable nature to be reused as embankment fill
   2. Excavated borrow from the City of Hoquiam borrow pit area
   3. Imported fill

C. Fill Composition Test Reports: Results of laboratory tests on actual materials used.

D. Compaction Density Test Reports.

1.06 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

B. When fill materials need to be stored on site, locate stockpiles where designated.
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.

PART 2 PRODUCTS

2.01 FILL MATERIALS

A. Suitable Material: Material from on-site excavation and/or permitted off-site sources that meets all of the specified requirements for its intended use and is not unsuitable. Wet subgrade material which meets other requirements for suitable material is suitable.

B. Unsuitable Material: Material that fails to meet requirements for suitable materials; or contains any of the following:
   1. Organic clay, organic silt, or peat; as defined in ASTM D2487.
   2. Vegetation, wood, roots, leaves, and organic, degradable material.
   3. Porous biodegradable matter, excavated pavement, construction debris, rubbish, or refuse.
   4. Ice, snow, frost or frozen soil particles.

C. Embankment Fill: Subsoil excavated on-site and suitable for reuse as embankment fill.
   1. Consisting of granular or nongranular soil and/or aggregate wich is free of deleterious material. Deleterious material includes wood, organic waste, or any other extraneous or objectionable material that may cause the material to be qualified as unsuitable.
   2. The material shall not contain more than 3 percent organic material by weight.
   3. The plasticity index shall be determined using test method AASHTO T89 and AASHTO T90 and meet one of the following for soil plasticity limits:
      a. 0 - 12 percent passing No. 200 sieve: Plasticity Index N/A
      b. 12.1 - 35 percent passing No. 200 sieve: 6 (or less) Plasticity Index
      c. Above 35 percent passing No. 200 sieve: 0 Plasticity Index

D. Embankment Fill: Excavated borrow from City of Hoquiam borrow pit and suitable for use as embankment fill.
   1. Meeting the same requirements for embankment fill as subsoil excavated on-site.

E. Embankment Fill: Imported fill suitable for use as embankment fill.
   1. Meeting the same requirements for embankment fill as subsoil excavated on-site.

F. Quarry Spalls: See Section 31 3700 - Riprap

G. Light, Loose Riprap: See Section 31 3700 - Riprap

H. 1 1/4 inch Minus Crush Rock: See Section 32 1123 - Aggregate Base Courses

I. 2 1/2 inch Minus Crush Rock: See Section 32 1123 - Aggregate Base Courses

J. Filler Material: See Section 32 7300 - Simulated Streambeds

K. Streambed Sediment: See Section 32 7300 - Simulated Streambeds

L. Streambed Cobbles: See Section 32 7300 - Simulated Streambeds

2.02 ACCESSORIES

A. Geotextile Fabric, for Soil Separation and Stabilization: Non-biodegradable, woven or non-woven, having the following properties:
   1. Apparent Opening Size (AOS): No. 40 maximum.
   2. Water Permittivity: 0.10 sec-1 minimum.
   3. Grab Tensile Strength: 315 lb. (woven) or 200 lb (non-woven) minimum.
   4. Grab Failure Strain: < 50 percent (woven) or > 50 percent (non-woven).
   5. Seam Breaking Strength: 270 lb (woven) or 180 lb (non-woven) minimum.

6. Puncture Resistance: 620 lb (woven) or 430 lb (non-woven) minimum.
7. Tear Strength: 112 lb (woven) or 79 lb (non-woven) minimum.
8. Ultraviolet (UV) Radiation Stability: 50 percent strength retained, minimum, after 500 hours in xenon arc device.

2.03 SOURCE QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for testing and analysis of soil material.

B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.

C. If tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.01 EXAMINATION

A. Identify required lines, levels, contours, and datum locations.

3.02 PREPARATION

A. Scarify subgrade surface to a depth of 6 inches (150 mm) or more to identify soft spots.

B. Unsuitable organic overburden and soils not capable of compaction in place shall be overexcavated until the underlying ground is firm and unyielding, or up to the maximum limits depicted in the drawings. Scarify subgrade surface to a depth of 6 inches (150 mm) and compact to achive 95 percent of the maximum proctor density before backfilling.

C. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

3.03 FILLING

A. Fill to contours and elevations indicated using unfrozen materials.

B. Employ a placement method that does not disturb or damage other work.

C. Place Embankment Fill in maximum 12 inch (300 mm) lifts and compact to 95% maximum proctor density unless otherwise indicated on the drawings.

D. Maintain optimum moisture content of fill materials to attain required compaction density.

E. Correct areas that are over-excavated.
   1. Bridge abutment embankments: Use embankment fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.

F. Reshape and re-compact fills subjected to vehicular traffic.

3.04 TOLERANCES

A. Top Surface of General Filling: Plus or minus 1 inch (25 mm) from required elevations.

3.05 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.

B. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, ASTM D3017, or ASTM D6938.

C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 ("standard Proctor"), ASTM D1557 ("modified Proctor"), or AASHTO T 180.

D. If tests indicate work does not meet specified requirements, remove work, replace and retest.

E. Frequency of Tests: _____
   1. Embankment Fill: A minimum two (2) tests of the initial lift placed and two (2) tests of the final lift placed. An additional two (2) tests shall be performed each time the fill material type changes.
   2. Aggregate Base Courses: A minimum of two (2) tests on the final lift placed.

3.06 CLEANING

A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

B. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION

SECTION 31 3700
RIPRAP

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Riprap .

1.02 RELATED REQUIREMENTS

A. Section 31 2323 - Fill: Embankment protection.

PART 2 PRODUCTS

2.01 MATERIALS

A. Quarry Spalls: Consisting of broken stone, solid and nonfriable, and shall be free of rock fines, soil or other extraneous material.
   1. Conforming to the following requirements for quality:
      a. Degredation Factor (WSDOT Test Method T113): 15 minimum.
      b. Los Angeles Wear, 500 Rev. (AASHTO T96): 50% maximum.
      c. Sepcific Gravity, SSD (AASHTO T85): 2.55 minimum.
   2. Conforming to the following requirements for grading:
      a. 8 inch sieve: 100 percent passing.
      b. 3 inch sieve: 40 percent maximum.
      c. 3/4 inch sieve: 10 percent maximum.

B. Light, Loose Riprap: Consisting of broken stone, solid and nonfriable, and shall be free of rock fines, soil or other extraneous material.
   1. Conforming to the following requirements for quality:
      a. Degredation Factor (WSDOT Test Method T113): 15 minimum.
      b. Los Angeles Wear, 500 Rev. (AASHTO T96): 50% maximum.
      c. Specific Gravity, SSD (AASHTO T85): 2.55 minimum.
   2. Conforming to the following requirements for grading:
      a. 300 lbs to 1 ton (2 cu.ft. to 1/2 cu.yd.): 20 percent to 90 percent.
      b. 50 lbs to 1 ton (1/3 cu.ft. to 1/2 cu.yd.): 15 percent to 80 percent.
      c. 3 inch (50 lbs spalls maximum size): 10 percent to 20 percent.

2.02 ACCESSORIES

A. Geotextile Fabric, for Soil Separation and Stabilization: Non-biodegradable, woven or non-woven, having the following properties:
   1. Apparent Opening Size (AOS): No. 40 maximum.
   2. Water Permittivity: 0.10 sec-1 minimum.
   3. Grab Tensile Strength: 315 lb. (woven) or 200 lb (non-woven) minimum.
   4. Grab Failure Strain: < 50 percent (woven) or > 50 percent (non-woven).
   5. Seam Breaking Strength: 270 lb (woven) or 180 lb (non-woven) minimum.
   6. Puncture Resistance: 620 lb (woven) or 430 lb (non-woven) minimum.
   7. Tear Strength: 112 lb (woven) or 79 lb (non-woven) minimum.
   8. Ultraviolet (UV) Radiation Stability: 50 percent strength retained, minimum, after 500 hours in xenon arc device.

PART 3 EXECUTION

3.01 PLACEMENT

A. Place geotextile fabric over substrate, lap edges and ends.

B. Place Light, Loose Riprap at embankment slopes as indicated.

C. Cap riprap with Quarry Spalls to fill voids and create a smoother surface.

D. Installed Thickness: 3 feet average.

END OF SECTION

SECTION 32 1123
AGGREGATE BASE COURSES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Aggregate base course.

1.02 RELATED REQUIREMENTS

A. Section 31 2323 - Fill: Compacted fill under base course.

1.03 REFERENCE STANDARDS

A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; 2010

B. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2014.

C. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)); 2012.

D. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2007.

E. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN m/m3)); 2012.

F. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2008.

G. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 2005.

H. ASTM D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils; 2010.

I. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010.

1.04 SUBMITTALS

A. Submit samples of each type of fill material to testing laboratory or coordinate for sampling at the source location by the testing laboratory.

B. Materials Sources: Submit name of imported materials source.

C. Aggregate Composition Test Reports: Results of laboratory tests on actual materials used.

D. Compaction Density Test Reports.

1.05 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

B. When aggregate materials need to be stored on site, locate where directed by Owner.

C. Aggregate Storage, General:
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.

PART 2 PRODUCTS

2.01 MATERIALS

A. 1 1/4 inch Minus Crush Rock: Consisting of crushed, processed or naturally occuring granular material. The material shall be free from wood, roots, bark and other extraneous material.
   1. Conforming to the following requirements for quality:
      a. Los Angeles Wear, 500 Rev. (AASHTO T96): 35 percent maximum.
      b. Degredation Factor (WSDOT Test Method T113): 25 minimum.

2. Conforming to the following requirements for grading:
    a. 1 1/4 inch sieve: 99 to 100 percent passing.
    b. 1 inch sieve: 80 to 100 percent passing.
    c. 5/8 inch sieve: 50 to 80 percent passing.
    d. No. 4 sieve: 25 to 45 percent passing.
    e. No. 40 sieve: 3 to 18 percent passing.
    f. No. 200 sieve: 7.5 percent maximum.
    g. Percent Fracture: 75 percent minimum.
    h. Sand Equivalent: 40 percent minimum.

B. 2 1/2 inch Minus Crush Rock: Consisting of crushed, processed or naturally occuring granular material. The material shall be free from wood, roots, bark and other extraneous material.
1. Conforming to the following requirements for quality:
    a. Los Angeles Wear, 500 Rev. (AASHTO T96): 35 percent maximum.
    b. Degredation Factor (WSDOT Test Method T113): 25 minimum.
2. Conforming to the following requirements for grading:
    a. 1 1/4 inch sieve: 99 to 100 percent passing.
    b. 1 inch sieve: 80 to 100 percent passing.
    c. 5/8 inch sieve: 50 to 80 percent passing.
    d. No. 4 sieve: 25 to 45 percent passing.
    e. No. 40 sieve: 3 to 18 percent passing.
    f. No. 200 sieve: 7.5 percent maximum.
    g. Percent Fracture: 75 percent minimum.
    h. Sand Equivalent: 40 percent minimum.

2.02 SOURCE QUALITY CONTROL

A. Where aggregate materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.

B. If tests indicate materials do not meet specified requirements, change material and retest.

C. Provide materials of each type from same source throughout the Work.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench marks and intended elevations for the work are as indicated.

B. Verify substrate has been inspected, gradients and elevations are correct, and is dry.

3.02 PREPARATION

A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.

B. Do not place aggregate on soft, muddy, or frozen surfaces.

3.03 INSTALLATION

A. Place crush rock aggregates in maximum 6 inch (150 mm) layers and mechanically compact to 95 percent of the maximum proctor density.

B. Level and contour surfaces to elevations and gradients indicated.

C. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.

D. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.

E. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.04 TOLERANCES

A. Flatness: Maximum variation of 1/4 inch (6.4 mm) measured with 10 foot (3 m) straight edge.

B. Variation From Design Elevation: Within 1/2 inch (12.8 mm).

3.05 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.

B. Perform compaction density testing on compacted aggregate base course in accordance with ASTM D1556.

C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 ("standard Proctor"), ASTM D1557 ("modified Proctor"), or AASHTO T180.

D. If tests indicate work does not meet specified requirements, remove work, replace and retest.

E. Frequency of Tests: A minimum of two (2) tests on the final lift of eacy type of material placed..

3.06 CLEANING

A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION

SECTION 32 3423

FABRICATED ROADWAY BRIDGES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fully engineered clear span bridge of reinforced concrete construction.

1.02 RELATED REQUIREMENTS

A. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance (O&M) data, warranties and bonds.

B. Section 32 1123 - Aggregate Base Courses

1.03 REFERENCE STANDARDS

A. AASHTO LRFD Bridge Design Specifications; 7th Edition with 2015 and 2016 Interim Revisions.

B. AASHTO LRFD Bridge Construction Specifications; 3rd Edition with 2011, 2012, 2014, 2015 and 2016 Interim Revisions.

C. AASHTO Guide Specifications for LRFD Seismic Bridge Design, 2nd Edition with 2012, 2014 and 2015 Interim Revisions.

1.04 SUBMITTALS

A. Supplier Qualifications: Each bidder is required to identify their intended bridge supplier as part of the bid submittal. The contractor must provide documentation, for any proposed supplier, a minimum of 15 days prior to bid. The Owner and Engineer will evaluate the submittal documentation and make a determination as to whether the qualifying criteria has been met. The final decision will be made to the Contractor at least 5 days prior to bid.

1. Representative project information for a minimum of five (5) successful bridge projects, of similar construction, each of which has been in service at least three (3) years, shall be submitted for review. The following documentation shall be provided:
   a. Project information including location, bridge size, owner and contact for reference.
   b. Name of the Engineer of Record for each project.
   c. Photographs of each bridge after final completion was reached.
   d. Representative design calculations for one of the projects.
   e. Representative drawings for one of the projects. Maximum paper size 11" x 17".
2. Engineer Qualifications: Submit representative project information, to the same extent required of the Supplier, to demonstrate qualifications.
   a. Exception: The engineer's qualification submittal is not required if they are the same Engineer of Record listed on the Supplier's projects submittal.

B. Submittal Drawings: Construction Shop Drawings shall be submitted to both the Owner and Engineer for review and approval. All required drawings shall bear the seal and signature of the responsible Professional Engineer, licensed in the State of Washington.

C. Submittal Calculations: Structural Calculations shall be submitted along with the Construction Shop Drawings. All calculations shall bear the seal and signature of the responsible Professional Engineer, licensed in the State of Washington.

1.05 QUALITY ASSURANCE

A. Supplier Qualifications:

1. Proposed suppliers must have a mimimum of five (5) years experience designing and manufacturing these types of structures.
2. A minimum of five (5) successful project examples, of similar dimensions and construction, each of which have been in service for a minimum of three (3) years shall be provided. Each project example shall include the location, size, owner and contact reference.

B. Professional Engineer Qualifications:

1. Engineer may be an employee of the supplier, or a subconsultant of the supplier, at the discretion of the supplier.

2. Engineer shall be licensed and qualified to perform work in the State of Washington.
3. A minimum of five (5) successful project examples, of similar dimensions and construction, each of which have been in service for a minimum of three (3) years shall be provided. Each project example shall include the location, size, owner and contact reference.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Freight roadway routing, delivery, unloading, laydown and installation requirements shall be coordinated fully between the Supplier and Contractor.

B. Locations for laydown of temporarily stored materials and components shall be coordinated with the City of Hoquiam.

C. For bridge components delivered and temporarily stored onsite, support and store per instructions of the supplier. Protect from damage due to ongoing construction operations or weather.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Provide a minimum one year manufacturer warranty for all supplied products.

PART 2 PRODUCTS

2.01 SUPERSTRUCTURE MATERIALS

A. Bridge superstructure shall be subtantially constructed of reinforced concrete materials.
1. Use of prestressing or post-tensioning of the concrete is allowed.

B. Bridge superstructure designed substantially of structural steel (e.g. structural steel girder, strutural steel plate, steel truss, etc.) is not allowed for this project.

2.02 SUBSTRUCTURE MATERIALS

A. Bridge substructure (footings) shall be constructed of reinforced concrete materials.

2.03 SURFACING

A. Bridge wearing surface shall be constructed of one of the following:
1. Cement concrete pavement with broomed finish

2.04 ACCESSORIES

A. Guard Railing: Consisting of materials conforming to accepted bridge railing designs, as established by the WA State Department of Transportation, US Federal Highway Administration, or AASHTO; with the following exceptions:
1. Due to the proximity of the site to a marine coastal environment, any proposed use of uncoated, Weathering Grade steel (i.e. COR-TEN) shall be evaluated by the manufacturer and accompanied by a letter certifying its use as compatible with the environment of the site(s).

PART 3 DESIGN

3.01 ENGINEERING

A. Structural design of the bridge structure(s) shall be performed by or under the direct supervision of a Licensed Professional Engineer and done in accordance with recognized engineering practices and principles.

3.02 DESIGN LOADS

A. All design loads shall be determined and specified by the designing Engineer in accordance with AASHTO LRFD Bridge Design Specifications and any other applicable design specifications, except as specifically listed in this section.

B. Vehicle Live Loads: Specified vehicle configuration loading, as determined by the Owner, shall be the worst case loading created by either an HL-93 combination load or U-80 overload vehicle. Vehicle configuration graphic representations have been provided on the Plans for designer reference.

C. Foundation Allowable Bearing Value: For the purpose of designing the bridge footings, an allowable bearing value of 2,500 psf may be assumed by the designer.

3.03 DESIGN AVERAGE DAILY TRUCK TRAFFIC

A. For purpose of design, the Average Daily Truck Traffic (ADTT) shall be taken as less than 100.

3.04 DESIGN LIFE CYCLE / EXPECTANCY

A. A design life expectancy of 75 years shall be utilized for design.

3.05 RAILINGS

A. Guard Railing: Meeting a minimum railing test level of TL-2.

END OF SECTION

SECTION 32 7300
SIMULATED STREAMBEDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Streambed simulation construction.

1.02 RELATED REQUIREMENTS

A. Section 01 4000 - Quality Requirements: Procedures for testing, inspection, mock-ups, reports, certificates; use of reference standards.

B. Section 01 5713 - Temporary Erosion and Sediment Control.

C. Section 02 4100 - Demolition: Selective demolition, site demolition, structure removal.

D. Section 31 2316 - Excavation: Removing and handling soils for streambed preparation.

E. Section 31 2323 - Fill: Fill materials, filling and compacting.

1.03 REFERENCE STANDARDS

A. Forest Practices Board Manual; Washington State Department of Natural Resources; Most Current Edition

B. Water Crossing Design Guidelines; Washington State Department of Fish and Wildlife; 2013.

C. Stream Simulation: *An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings*; U.S. Department of Agriculture, Forest Service; May 2008.

D. WSDOT M 41-10 - Standard Specifications for Road, Bridge, and Municipal Construction; Washington State Department of Transportation; 2016.

1.04 SUBMITTALS

A. Materials Sources: May include recovered materials from onsite excavation, commercially available sources, or a mix of both.

B. Develop and submit a bed-mix recipe based on the streambed material specifications and proportioning, as shown in the Plans. Include the
   1. Provide gradation data for each type of material that will be incorporated into the mix.
      a. Where recovered onsite material is proposed, submit samples of each type of material to the testing laboratory or coordinate for sampling at the source location by the testing laboratory.
   2. Include a plan for obtaining, proportioning, mixing and placing of the streambed simulation rock mix.

1.05 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

B. When aggregate materials need to be stored on site, locate where directed by Owner.

C. Aggregate Storage, General:
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.

PART 2 PRODUCTS

2.01 MATERIALS

A. Filler Material: Consisting of fine, granular or mostly granular soil and/or aggregate wich is free of deleterious material. Deleterious material includes wood, organic waste, or any other extraneous material.
   1. Conforming to the following requirements for grading:
      a. 1 inch Minus or the D16 value of the streambed mix design (as shown on the Plans), whichever is smaller.
      b. A minimum of 50 percent of the material shall pass the sieve representing the D5 value of the streambed mix design, as shown on the Plans.

B. Streambed Sediment: Consisting of naturally occurring water rounded aggregates. Aggregates from quarries, ledge rock, and talus slopes are not acceptable for this material application.
   1. Conforming to the following requirements for quality:
      a. Los Angeles Wear, 500 Rev. (AASHTO T96): 35 percent maximum.
      b. Degredation Factor (WSDOT Test Method T113): 25 minimum.
      c. Specific Gravity (AASHTO T85): 2.55 minimum.
   2. Conforming to the following requirements for grading:
      a. 2 1/2 inch sieve: 99 to 100 percent passing.
      b. 2 inch sieve: 65 to 95 percent passing.
      c. 1 inch sieve: 50 to 85 percent passing.
      d. No. 4 sieve: 26 to 44 percent passing.
      e. No. 40 sieve: 16 percent maximum.
      f. No. 200 sieve: 5 to 9 percent passing.

C. Streambed Cobbles: Consisting of naturally occurring water rounded gravel. Aggregates from quarries, ledge rock, and talus slopes are not acceptable for this material application.
   1. Conforming to the following requirements for quality:
      a. Los Angeles Wear, 500 Rev. (AASHTO T96): 35 percent maximum.
      b. Degredation Factor (WSDOT Test Method T113): 25 minimum.
      c. Specific Gravity (AASHTO T85): 2.55 minimum.
   2. Streambed Cobbles shall have a well-graded distribution of cobble sizes and conform to one or more of the following requirements for grading, as shown in the Plans:

Percent Passing					
Approx. Size	4" Cobbles	6" Cobbles	8" Cobbles	10" Cobbles	12" Cobbles
12"					99 - 100
10"				99 - 100	70 - 90
8"			99 - 100	70 - 90	
6"		99 -100	70 - 90		
5"		70 - 90			30 - 60
4"	99 - 100			30 - 60	
3"	70 - 90		30 - 60		
2"		30 - 60			
1 1/2"	20 -50				
3/4"	10 max.	10 max.	10 max.	10 max.	10 max.

      a. Approximate size can be determined by taking the average dimension of the three axes of the rock; Length, Width, and Thickness.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench marks and intended elevations for the work are as indicated.

B. Verify substrate has been inspected, gradients and elevations are correct, and is dry.

C. Engineer shall inspect the streambed mix material onsite prior to placement of any material. Contractor shall not proceed with the streambed construction until approval of the material by the Engineer is received.

3.02 PREPARATION

A. Prepare streambed substrate to correct gradient, elevation and compaction.

B. Correct irregularities in substrate by scarifying, reshaping, and re-compacting.

3.03 INSTALLATION

A. Place streambed rock on a prepared surface to form a well-graded, low-permeability mass. Mimic the appearance and texture of the adjacent natural streambed, as best possible.

B. Conduct placement of streambed rock mix by utilizing one or more of the following placement methods:
   1. Method A - Machine Placed:
      a. Place streambed material in one or more layers, not exceeding 6 inches or 1.5 x D84 (particle size), whichever is larger.
      b. Fill voids within each layer with filler material before placing the next layer.
      c. Do not place streambed material by methods that cause segregation or damage to the prepared subsurface.
      d. Place or rearrange individual rocks by mechanical methods to obtain a compact, low-permeability bed with a surface matching the streambed detail, as shown in the Plans.
      e. Place any individual channel rocks in the configurations and locations as shown in the Plans.
   2. Method B - End Dumped:
      a. Dump streambed material in one or more layers, not exceeding 6 inches or 1.5 x D84 (particle size), whichever is larger.
      b. Fill voids within each layer with filler material before placing the next layer.
      c. Distribute larger rocks throughout the mass of material.
      d. Obtain a uniformly dense, compact, low-permeability bed with a surface matching the streambed detail, as shown in the Plans.
   3. Method C - Hand Placed:
      a. Place streambed material by using hand labor.
      b. Material may be hand-carried or carried in wheelbarrows and end-dumped to obtain its full thickness or in layers, if the depth exceeds 24 inches.
      c. Fill voids within each layer with filler material before placing the next layer.
      d. Compact each load using hand-operated equipment to obtain a uniformly dense, compact, low-permeability bed with a surface matching the streambed detail, as shown in the Plans.

C. Place Filler Material as follows:
   1. Fill all voids between streambed rock, placed channel rocks, and streambed rock adjacent to any structures such as footings, concrete structures, or corrugated pipes with filler material.
   2. Use water pressure, metal tamping rods and similar had-operated equipment to force material into all surface and subsurface voids between the structure and rocks and between individual rocks.
   3. Extend fill to 100 percent of the rocks' height between layers and 67 percent of their height on the final bed surface.

3.04 TOLERANCES

A. All work performed and materials furnished shall be in reasonably close conformity with lines, grades, cross-sections, dimensions, and material requirements shown on the drawings, indicated in the specifications, or designated on the ground.

B. "Reasonably close conformity" shall be in compliance with what is reasonable and customary for construction tolerances.

3.05 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

B. Compaction effort shall be visually inspected and/or probed by the Engineer or Contractor's Testing Agency for verification of compaction level and acceptance.

C. If tests indicate work does not meet specified requirements, remove work, replace and retest.

3.06 CLEANING

A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

3.07 PROTECTION

A. Protect installed streambed from subsequent construction operations.

B. Upon completion of the project, or all in-water work, remove stream bypass measures in a controlled manner to allow gradual reintroduction of stream flow to the streambed site.

C. Displaced sediment and turbid water created by the reintroduction of stream flow shall be captured and discharged to a well vegetated area, or treated in an approved manner, prior to discharge downstream.

END OF SECTION

SECTION 5

ATTACHED:

WA Dept. of Natural Resources Forest Practices Permit (FPA) – Determination and Conditions ONLY.

A full copy of the FPA may be obtained by going to the DNR website (link below):

https://fortress.wa.gov/dnr/protection/fparssearch/FPARResult.aspx

and searching for **FPA #2613887**

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

FPA/N No:	2613887
Effective Date:	10/30/2015
Expiration Date:	10/30/2018
Shut Down Zone:	651N
EARR Tax Credit:	[ ] Eligible [x] Non-eligible
Reference:	City of Hoquiam Davis Creek Block

Forest Practices Application/Notification
Notice of Decision

Decision

[ ] Notification Operations shall not begin before the effective date.

[x] Approved This Forest Practices Application is subject to the conditions listed below.

[ ] Disapproved This Forest Practices Application is disapproved for the reasons listed below.

[ ] Closed Applicant has withdrawn FPA/N.

FPA/N Classification

[ ] Class II [x] Class III [ ] Class IVG [ ] Class IVS

Number of Years Granted on Multi-Year Request

[ ] 4 years [ ] 5 years

Conditions on Approval / Reasons for Disapproval

Project Timing Recommendations: Work may occur July 15 through September 30.

Issued By: Paul Mabey **Region:** Olympic

Title: Forest Practice Forester **Date:** 10/30/2015

Copies to: **[x] Landowner, Timber Owner and Operator.**

Issued in person: **[ ] Landowner [ ]Timber Owner [ ] Operator By:**_____

Appeal Information

You have thirty (30) days to appeal this Decision and any related State Environmental Policy Act determinations to the Pollution Control Hearings Board in writing at the following addresses:
Physical address: 1111 Israel Rd. SW, Ste 301, Tumwater, WA 98501
Mailing address: P.O. BOX 40903, OLYMPIA, WA 98504-0903
Information regarding the Pollution Control Hearings Board can be found at: http://www.eho.wa.gov/
At the same time you file an appeal with the Pollution Control Hearings Board, also send a copy of the appeal to the Department of Natural Resources' region office and the Office of the Attorney General at the following addresses:

Office of the Attorney General
Natural Resources Division
1125 Washington Street SE
PO Box 40100
Olympia, WA 98504-0100

And

Department Of Natural Resources
Olympic Region
411 Tillicum Lane
Forks, WA 98331

Other Applicable Laws

Operating as described in this application/notification does not ensure compliance with the Endangered Species Act, or other federal, state, or local laws.

Transfer of Forest Practices Application/Notification (WAC 222-20-010)

Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices website: **http://www.dnr.wa.gov/businesspermits/forestpractices**. Notify DNR of new Operators within 48 hours.

Continuing Forest Land Obligations (RCW 76.09.060, RCW 76.09.070, RCW 76.09.390, and WAC 222-20-055)

Obligations include reforestation, road maintenance and abandonment plans, conversions of forest land to non-forestry use and/or harvest strategies on perennial non-fish habitat (Type Np) waters in Eastern Washington.

Before the sale or transfer of land or perpetual timber rights subject to continuing forest land obligations, the seller must notify the buyer of such an obligation on a form titled "Notice of Continuing Forest Land Obligation". The seller and buyer must both sign the "Notice of Continuing Forest Land Obligation" form and send it to the DNR Region Office for retention. This form is available at DNR region offices.

If the seller fails to notify the buyer about the continuing forest land obligation, the seller must pay the buyer's costs related to continuing forest land obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forest land obligation against the seller.

Failure by the seller to send the required notice to the DNR at the time of sale will be prima facie evidence in an action by the buyer against the seller for costs related to the continuing forest land obligation prior to sale.

DNR affidavit of mailing:

On this day 10/30/2015, I placed in the United States mail at Forks, WA,
(date) (post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # 2613887
Connie L Sallee
(Printed name) (Signature)

SECTION 6

BERGLUND, SCHMIDT & ASSOCIATES, INC.
PROFESSIONAL ENGINEERS & LAND SURVEYORS

Hoquiam Watershed Bridges Project
City of Hoquiam
Hoquiam, WA

Date: 03/13/2015

SOIL LOGS

Notes:

1. Soil logs were recorded by Kyle Freeman, P.E. of Berglund, Schmidt & Associates, Inc.

CROSSING #12607

Test Pit #01 (Approx. ELEV. = 99')

0' – 5'	Brown silty sand w/some small cobble [Sample #15019-1A]
5' – 12'	Highly compact blue sand [Sample #15019-1B]

*Slow groundwater seep encountered at 5' below ground surface (BGS) and at bottom of pit at 12'

Test Pit #02 (Approx. ELEV. = 99')

0' – 3'	Loose brown silty sand (fill material)
3' – 9'	Loose, saturated blue-gray sand with some silt mix (fill material) [Sample #15019-2A]
9' – 12'	Compact blue sand

*Slow groundwater seep encountered at bottom of pit at 12'

CROSSING #12583

Test Pit #03 (Approx. ELEV. = 101')

0' – 6'	Loose brown silty sand and gravel
6' – 9'	Loose, saturated blue clay w/sand (fill material) [Sample #15109-3A]
9' – 13'	Blue-gray sand w/gravel and some cobble

*Fill material was loose/uncompacted causing the excavation to be unstable and the sidewalls to collapse.

Test Pit #04 (Approx. ELEV. = 97')

0' – 1'	Organic overburden
1' – 6'-6"	Brown silt sandstone (highly compact) [Sample #15109-4A]
6'-6" – 12'	Brownish-gray sand w/gravel and some cobble

NOTES:

1. Samples 15019-1A, 15019-2A, and 15019-3A were sent in for laboratory analysis. (Results Attached)
2. Results of the laboratory analysis, for the samples sent, indicated excessive water content and an inability to get accurate lab results. Conclusion is that the in-situ soils are not suitable for use as a foundation base.

LANDAU ASSOCIATES
ENVIRONMENTAL | GEOTECHNICAL | NATURAL RESOURCES

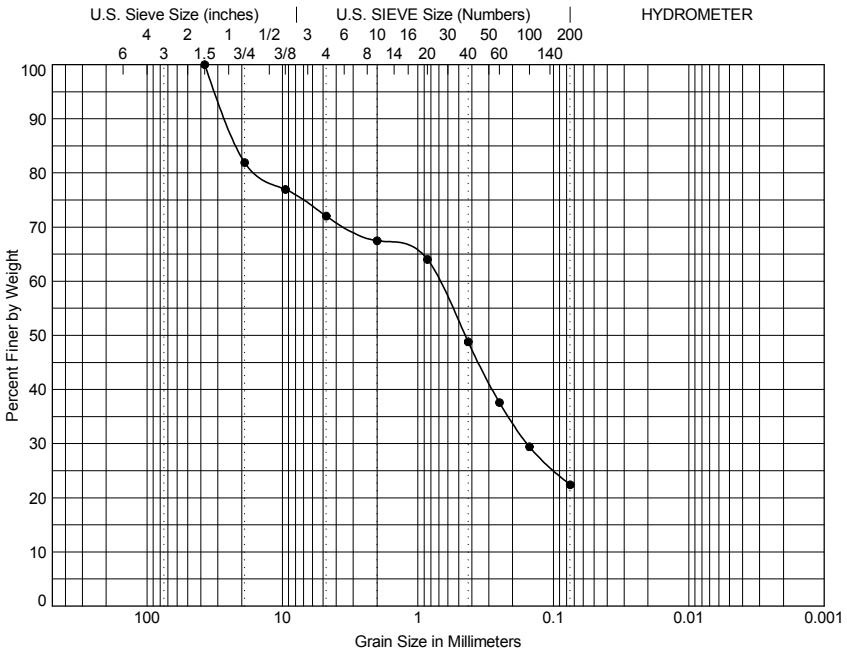
Grain Size Test Data

Project Name: City of Hoquiam Watershed
Project Number: 1529001.010
Location: Hoquiam, Washington
Date: 5/7/2015
Client: Berglund Schmidt
Landau Rep.:

Material Source: **1A Sample 1A**
Description: **Silty, gravelly, SAND (SM)**

Sieve Size	Cumulative Wt Retained	Percent Passing
3"		
2"		
1-1/2"	0	100
1"		
3/4"	102.18	81.9
1/2"		
3/8"	130.2	76.9
# 4	157.97	72.0
# 10	183.72	67.5
# 20	203.17	64.0
# 40	289.19	48.8
# 60	352.43	37.6
#100	398.62	29.4
#200	438.23	22.4

Dry Weight, Moisture Content, & 200 Wash		
	Dish ID	D-1
(1)	Tare Wt	147.92
(2)	Pre-wash Wet Soil + Tare Wt	921.61
(3)	Pre-wash Dry Soil + Tare Wt	712.65
(4)	Water Wt (2)-(3)	208.96
(5)	Pre-wash Dry Soil Wt (3)-(1)	564.73
(6)	Water Content % 100*(4)/(5)	37.0
(7)	Post-wash Dry Soil + Tare Wt	
(8)	Fines < #200 Wt (5)-(7)	
(9)	Fines from Wash % 100*(8)/(5)	



Cobbles	Gravel		Sand			Silt or Clay
	coarse	fine	coarse	medium	fine	

$C_c = D_{30}^2/(D_{60} * D_{10})$

$C_u = D_{60}/D_{10}$

For GW: $1 < C_c < 3$ and $C_u > 4$

For SW: $1 < C_c < 3$ and $C_u > 6$

C_c	
C_u	
D_{100}	37.5
D_{60}	0.708
D_{50}	0.449
D_{30}	0.156
D_{10}	

Summary		
Grain Size	% of Total Sample	
	Estimated	Actual
Cobbles		0.0
Gravel		28.0
Sand		49.6
Fines		22.4

LANDAU ASSOCIATES
ENVIRONMENTAL | GEOTECHNICAL | NATURAL RESOURCES

Grain Size Test Data

Project Name: City of Hoquiam Watershed
Project Number: 1529001.010
Location: Hoquiam, Washington
Date: 5/7/2015
Client: Berglund Schmidt
Landau Rep.:

Material Source: **2A Sample 2A**
Description: **Gravelly, very silty, SAND (SM)**

Sieve Size	Cumulative Wt Retained	Percent Passing
3"		
2"		
1-1/2"		
1"		
3/4"	0	100
1/2"		
3/8"	60.97	87.9
# 4	103.49	79.5
# 10	136.91	72.9
# 20	175.31	65.3
# 40	232.87	53.9
# 60	298.85	40.8
#100	330.89	34.5
#200	352.62	30.2

Dry Weight, Moisture Content, & 200 Wash		
	Dish ID	D-2
(1)	Tare Wt	143.44
(2)	Pre-wash Wet Soil + Tare Wt	995.65
(3)	Pre-wash Dry Soil + Tare Wt	648.28
(4)	Water Wt (2)-(3)	347.37
(5)	Pre-wash Dry Soil Wt (3)-(1)	504.84
(6)	Water Content % 100*(4)/(5)	68.8
(7)	Post-wash Dry Soil + Tare Wt	
(8)	Fines < #200 Wt (5)-(7)	
(9)	Fines from Wash % 100*(8)/(5)	

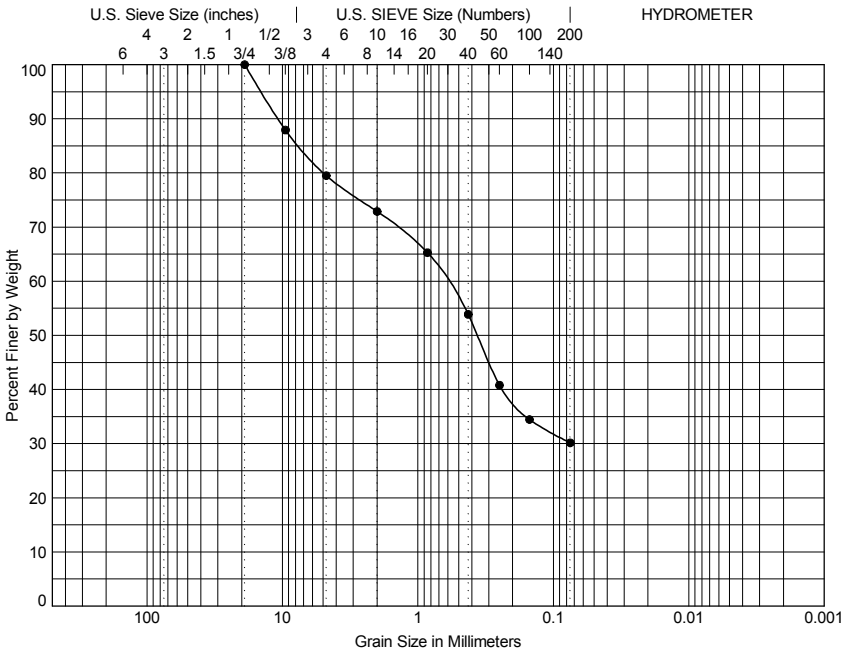
$C_c = D_{30}^2/(D_{60} * D_{10})$

$C_u = D_{60}/D_{10}$

For GW: $1 < C_c < 3$ and $C_u > 4$

For SW: $1 < C_c < 3$ and $C_u > 6$

C_c	
C_u	
D_{100}	19
D_{60}	0.617
D_{50}	0.363
D_{30}	
D_{10}	



Cobbles	Gravel		Sand			Silt or Clay
	coarse	fine	coarse	medium	fine	

Summary		
Grain Size	% of Total Sample	
	Estimated	Actual
Cobbles		0.0
Gravel		20.5
Sand		49.3
Fines		30.2

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Grain Size Test Data

Project Name: City of Hoquiam Watershed
Project Number: 1529001.010
Location: Hoquiam, Washington
Date: 5/7/2015
Client: Berglund Schmidt
Landau Rep.:

Material Source: **3A Sample 3A**
Description: **Gravelly, Very silty, SAND (SM)**

Sieve Size	Cumulative Wt Retained	Percent Passing
3"		
2"		
1-1/2"	0	100
1"		
3/4"	36.17	93.9
1/2"		
3/8"	96.52	83.6
# 4	151.32	74.3
# 10	193.94	67.0
# 20	215.98	63.3
# 40	239.8	59.2
# 60	263.79	55.2
#100	303.49	48.4
#200	340.54	42.1

Dry Weight, Moisture Content, & 200 Wash		
	Dish ID	D-3
(1)	Tare Wt	143.73
(2)	Pre-wash Wet Soil + Tare Wt	984.47
(3)	Pre-wash Dry Soil + Tare Wt	732.09
(4)	Water Wt (2)-(3)	252.38
(5)	Pre-wash Dry Soil Wt (3)-(1)	588.36
(6)	Water Content % 100*(4)/(5)	42.9
(7)	Post-wash Dry Soil + Tare Wt	
(8)	Fines < #200 Wt (5)-(7)	
(9)	Fines from Wash % 100*(8)/(5)	

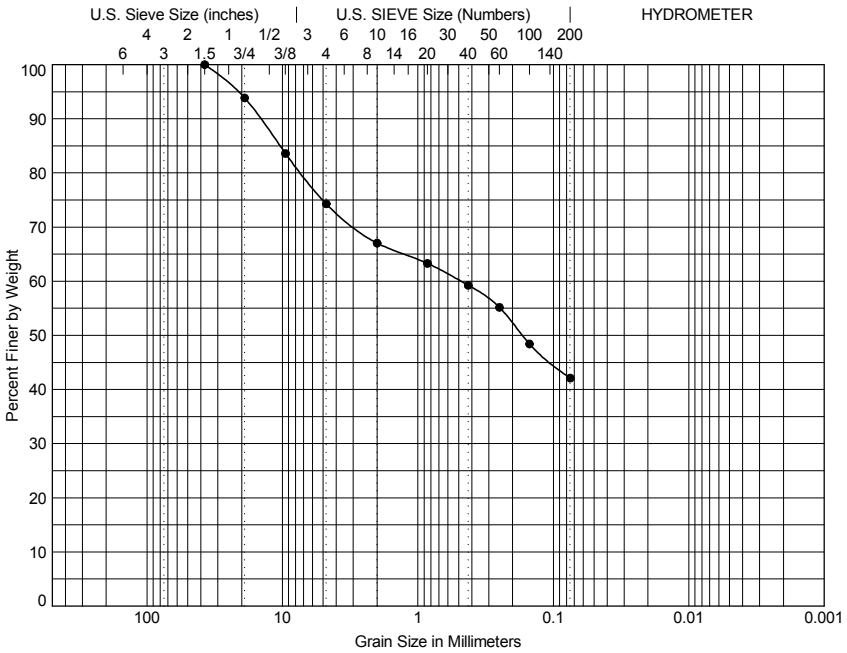
$C_c = D_{30}^2/(D_{60} * D_{10})$

$C_u = D_{60}/D_{10}$

For GW: $1 < C_c < 3$ and $C_u > 4$

For SW: $1 < C_c < 3$ and $C_u > 6$

C_c	
C_u	
D_{100}	37.5
D_{60}	0.484
D_{50}	0.169
D_{30}	
D_{10}	



Cobbles	Gravel		Sand			Silt or Clay
	coarse	fine	coarse	medium	fine	

Summary		
Grain Size	% of Total Sample	
	Estimated	Actual
Cobbles		0.0
Gravel		25.7
Sand		32.2
Fines		42.1