

Contractor's Bid Package

FOR

Brush Creek 175 Road X-ing Fish Passage Project

August 22, 2025

Bid Package Prepared by:

Yakama Nation- Yakima/Klickitat Fisheries Project

Phone: 509-830-8005

E-mail: dlindley@ykfp.org

ADVERTISEMENT FOR BIDS: NOTICE IS HEREBY GIVEN that bids will be received for a culvert removal and bridge construction project by the Confederated Tribes and Bands of the Yakama Nation (hereafter "Yakama Nation").

Bids must be received by 12:00 p.m. PST on Friday September 19, 2025.

No proposals will be accepted after that time.

For an in-person bid tour, interested parties should contact David Lindley, dlindley@ykfp.org or 509-830-8005.

Bids should be submitted by emailing a signed .pdf version of the bid to David Lindley at dlindley@ykfp.org.

The successful **Contractor** will be required to comply with Yakama Nation's Tribal Employment Rights Ordinance ("TERO"), Title 71 of the Revised Yakama Code and other applicable Yakama law. The Contractor must contact the Yakama Nation's TERO office at (509) 314-6701 or TERO@yakama.com to establish compliance on federal and state construction contracts. **Contractors** are encouraged to contact TERO as early as possible.

The successful **Contractor** will be required to obtain a Yakama Nation Business License by contacting Yakama Nation's Department of Revenue at (509) 865-5121 ext. 4650 or revenue@yakama.com. All Business Licenses expire December 31 and must be renewed annually. **Contractor** shall submit a copy of the license verifying such to the Yakama Nation's Designated Representative upon signature of the applicable Contract, and a copy of the renewed license each year by January 31 during the performance period of the applicable Contract.

The Yakama Nation is exempt from state taxes on this project. The successful **Contractor** will receive signed copies of a Treaty Fishery Exempt Cover Letter and Treaty Fishery Exempt Certificate for their records.

This work is subject to the requirements of Davis Bacon and related acts, and Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR Part 5).

Yakama Nation will check the State and Federal Debarred List to ensure that the successful bidder and their subcontractors are not debarred.

I - GENERAL DESCRIPTION

Effective August 22, 2025, **Yakama Nation**, will be soliciting bids for a responsible **Contractor** for the construction of a forest road bridge within the Closed Area of the Yakama Nation Reservation in Yakima County. It is anticipated the **Contractor** will be awarded the applicable Contract, beginning October 6, 2025 and ending November 30, 2025 in scenario 1, alternatively, the contract will be awarded for implementation June 15, 2026 - July 31, 2026. The **Contractor** shall act under the supervision of the Yakama Nation's Designated Representative. The Designated Representative reserves the right to change or delay the work schedule at any time.

Bonneville Power Administration and National Oceanic and Atmosphere Administration's Brush Creek project focuses on addressing a known fish passage barrier. The 175 Road over Brush Creek is one of only two remaining fish barriers in the White Creek Watershed (Tributary to the Klickitat). The White Creek Watershed is identified as a high priority watershed for ESA-listed steelhead. In the Klickitat River Basin, the KLE through the Klickitat Lead Entity Salmon Recovery Strategy document provides guidance on the prioritization of projects throughout the Klickitat River Basin. The 175 Road culverts will be replaced with a bridge, opening up 3.5 miles of high-quality habitat. Under current conditions the three culverts on 175 Road at Brush Creek are full barriers to adult steelhead passage; their removal will eliminate the last fish barrier on Brush Creek.

We are requesting bid proposals for two different construction timelines October 13, 2025- November 14, 2025 and June 15, 2026 – July 31, 2026. There are two bid sheets for the respective timeframes, **Contractors** should fill out one or both bid forms depending on availability.

II - CONTRACTOR'S RESPONSIBILITIES

The **Contractor** shall be responsible for performing the work described in this bidder package including any appendices in a timely, professional manner, and shall abide by all applicable local, state, and federal guidelines that govern this project as well as all project permits provided to the **Contractor** by the Designated Representative. The provisions of this bid package, inclusive of appendices and addenda, will be incorporated into the applicable Contract by reference.

Project work shall be conducted Monday through Friday unless otherwise specified by the Designated Representative. The project schedule allows the work to be completed without the use of overtime. If the **Contractor** anticipates needing overtime work and charging the project for that work, permission for such overtime needs to be requested of and granted by the Designated Representative in writing ahead of the overtime costs being incurred.

2.1 Safety

The **Contractor** is **solely responsible** for maintaining safe working conditions near their equipment and for the safe operation of their equipment. If at any time the **Contractor** or their operators determine that instructions given by the Designated Representative would create a potentially unsafe working condition or would jeopardize the equipment or any personnel, the **Contractor** shall **immediately** notify the Designated Representative. The Designated

Representative will then work with the **Contractor** to find an acceptable alternative method to complete the required task.

The **Contractor's** responsibilities regarding safety include, but are not limited to the following;

- A. **Contractor** shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the work.
- B. In carrying out its responsibilities according to the applicable Contract Documents, **Contractor** shall protect the lives and health of employees performing the work and other persons who may be affected by the work; prevent damage to materials, supplies and equipment whether on site or stored off-site; and prevent damage to other property at the site or adjacent thereto. **Contractor** shall comply with chapter 296-800 Washington Administrative Code ("WAC") and all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; shall erect and maintain all necessary safeguards for such safety and protection; and shall notify the Designated Representative of adjacent property and utilities when the work may affect them.
- C. **Contractor** shall maintain an accurate record of exposure data on all incidents relating to the work resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies or equipment. **Contractor** shall immediately report any such incident to the Designated Representative and appropriate jurisdictions. The Designated Representative shall, at all times, have a right of access to all records of exposure.
- D. Nothing provided in this section shall be construed as imposing any duty upon the Designated Representative with regard to, or as constituting any express or implied assumption of control or responsibility over, project site safety, or over any other safety conditions in relation to employees or agents of the **Contractor** or any of its subcontractors, or the public.

2.2. Protection of Property Resources

The **Contractor** shall assume full financial and legal responsibility for any damage caused by their machinery and/or crews including but not limited to the following:

- A. Any equipment becoming stuck due to unstable ground or operator error.
- B. Any equipment damaged due to unstable ground or operator error.
- C. Any environmental damage due to fluid leaks; or
- D. Any damage outside the project area to culverts, bridges, paved roads, utilities or other property caused during operations.

The Designated Representative has the right to cease operations when there is significant threat of resource damage. This includes, but is not limited to, wet weather or during periods of extreme fire danger.

The **Contractor** shall be responsible for knowing and complying with all applicable federal, state, county and local guidelines and regulations including fire safety precautions and fire prevention and shall take all reasonable measures to prevent and minimize the start and spread of fire on or adjacent to the project area. Measures shall include ensuring that all vehicles carry a

fire extinguisher of at least a 5 B/C rating and a serviceable shovel, following State safety operating procedures which include compliance with WAC 332-24-301 (Industrial restrictions) and WAC 332-24-405 (Spark emitting requirements). **Contractor** shall abide by the Industrial Fire Precaution Levels and the Forest Fire Protection Requirements for Operations on or Near Forest Land. In addition, the **Contractor** shall provide a pump truck or trailer as defined therein.

The **Contractor** must abide by the Yakama Nation Hydraulic Permit for this project and all other permits for this project. The Designated Representative shall provide copies of the permits when available. This project is permitted under the Department of Energy's BPA Habitat Improvement Programmatic (HIP IV) and Categorical Exclusion, and the **Contractor** must comply with the conservation measures included in the **PROJECT PLANS** (Exhibit C). These permit requirements include, but are not limited to, the use of non-toxic biodegradable hydraulic fluid for any equipment working within the wetted channel and floodplain. Service and refueling areas will be located at least 150 feet away from flowing water and a spill containment kit will be located where equipment is stored and shall remain onsite at all times.

Before beginning any work, **Contractor** shall submit a Hazardous Spill Plan to the Designated Representative. The **Contractor** is solely responsible for all spills or leaks that occur during the performance of the applicable Contract, and shall clean up spills or leaks in a manner that complies with federal, state, and local laws and regulations. The **Contractor** must immediately notify the Designated Representative of all hazardous material spill and shall provide a written report form no later than 24 hours after the initial report that includes the following:

- A description of the item/substance spilled (including identity, quantity, and other identifying information);
- Whether the amount spilled is EPA or state reportable, and if so whether it was reported, and to whom;
- The exact time and location of spill, including a description of the area involved;
- The immediate containment procedures taken or to be taken by **Contractor**;
- A summary of any communications the **Contractor** had with news media, federal, state and local regulatory agencies and officials regarding the spill; and
- A description of clean-up procedures employed by **Contractor** at the site, including final disposition and disposal location of spill residue.

When available, **Contractor** shall provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies to the Designated Representative.

The **Contractor** shall repair damage to the roads, trails or facilities arising out of its use to a condition equal to or better than their condition immediately prior to such use with the exception of damage caused through normal and prudent usage. During periods when a road, or portion thereof, is being used by the **Contractor**, that portion of the road so used shall be maintained and, at the termination of each period of such use, shall be left in a condition equal to or better than the condition of the road immediately prior to use.

The **Contractor** shall not destroy any land survey corner monuments or reference points. Any survey monuments disturbed by the **Contractor's** operations shall be replaced by a Professional Land Surveyor at the **Contractor's** expense.

The **Contractor** shall not deposit refuse, garbage, or other waste matter or use, store, generate, process, transport, handle, release, or dispose of any hazardous substance, or other pollutants in or on the project area except in accordance with all applicable laws.

The **Contractor** shall **immediately** notify the Designated Representative if any live, dead, injured or sick specimens of species listed under the Endangered Species Act are located.

2.3 Protection of Cultural Resources

If the **Contractor's** work brings them into contact with any of the following cultural resources:

- Native American cultural artifacts – flakes, arrowheads, stone tools, bone tools, pottery, etc.;
- Historic era artifacts – building foundations, homesteads, shipwrecks, mining camps, etc.; or
- Human skeletal remains and bone fragments; then

The **Contractor** shall **immediately**:

1. Stop any ground disturbing activity immediately. Secure the area of the find and protect it from further disturbance;
2. Contact the Designated Representative;
3. Not draw attention to the area with any obvious flagging or markers; and
4. Maintain confidentiality concerning the discovery of the cultural resource, and discuss the find only with the contact people listed below.

If human skeletal remains are encountered, the **Contractor** shall **immediately** contact the county medical examiner/coroner **and** local law enforcement.

Name	Title	Phone
Rose Ferri	Tribal Historic Preservation Officer	509-307-2009

If Native American or Historical Artifacts are encountered, the Designated Representative will contact Yakama Nation THPO **immediately**.

After the **Contractor** comes into contact with any cultural resources as listed above, the **Contractor** shall only continue project work at the direction of the Designated Representative in order for Yakama Nation to protect the artifacts and sites and to limit the liability of both the Designated Representative and the **Contractor**.

III - WORK OVERSIGHT

The Designated Representative will be available during normal business hours (Monday through Friday 7 a.m. – 5 p.m. PST) and will clarify directions or provide additional information as necessary for the **Contractor** to carry out the applicable Contract. The Designated Representative must pre-approve any deviation from the work described in this bidder package.

The Designated Representative has the authority to stop **Contractor** work at any time if they determine that the conditions of this bidder package are not being followed.

IV – WORK DESCRIPTION, MATERIALS, AND EQUIPMENT

Project Location

The project area is located at the intersection of the 175 Rd and Brush Creek within the Closed Area of the Yakama Nation Reservation (46.1100506, -121.0217237). The project site is approximately 28 miles northeast of Glenwood, WA or 28 miles southeast of White Swan, WA.

For additional site details, please refer to the figures in the appendix of this bid package, and the Drawings attached to the bid package.

Work Description

The goal of this project is to remove three deficient culverts located at the 175 road crossing of Brush Creek and replace them with a modular bridge system manufactured by Janicki Logging.

The **Contractor** shall always adhere to all permit requirements.

The **Contractor** shall provide equipment, labor, fuel and lubricants needed to do the work described in this bidder package. The **Contractor** will also provide all materials needed to do the work described in this bidder package.

The Designated Representative may reject an operator(s) if, in their opinion, the operator(s) is not sufficiently skilled to do the work. The **Contractor** will not be compensated for any expenses, delays or lost production time resulting from the **Contractor** mobilizing equipment not capable of performing the work described in this bidder package.

The **Contractor** may choose to utilize subcontractors provided those subcontractors are identified on the bid form. The **Contractor** is responsible to ensure that the subcontractors meet all conditions of this bidder package and appendices, including provisions of Davis Bacon and related laws and regulations and that documentation is provided to the Designated Representative.

The **Contractor's** equipment must be free of leaks and other mechanical deficiencies.

After award of this Bid, and prior to start of Construction, the **Contractor** shall submit the following submittals for review and approval by the Engineer and Designated Representative:

- A. Temporary Erosion and Sediment Control Plan
- B. Work Plan including project work schedule and timing/duration for construction of each of the project elements
- C. Hazardous Spill Plan

The Designated Representative reserves the right to re-order, exclude or eliminate any work from the **Contractor's** scope of work. The **Contractor's** scope of work includes the work described in this bid package and all appendices and attachments. Any changes to the Project Work performed by the **Contractor** pursuant to this bid package must be agreed to in writing and

signed by both the Contractor and the Designated Representative as part of a change order. The Project Work includes the following elements:

4.1 Mobilization / Demobilization

Bid item includes all work to mobilize equipment to the site and demobilize all equipment from the site following completion. Shall not exceed 10% of total final contract price.

4.2 Final Permits

The Designated Representative will provide copies of the final permits to the **Contractor** prior to the start of construction. The **Contractor** is required to have copies of the permitting documents on site at all times during construction. The **Contractor** shall be solely responsible for compliance with these permits. The **Contractor** shall abide by the Industrial Fire Precaution Levels and the Forest Fire Protection Requirements for Operations on or Near Forest Land.

V. FEDERAL FUNDING & WAGE LAWS

5.1 Davis Bacon Act Compliance

This Project is being funded by federal funds. In particular, this Project is being funded, in part with Indian Self-Determination Act funds. As such, this work is subject to the requirements of Davis Bacon and related acts. The requirements include the following:

The **Contractor**, and every sub-contractor shall pay the prevailing rate of wages to all workers, laborers, or mechanics employed in the performance of any part of the work in accordance with the Federal Davis-Bacon Act (40 U.S.C., sec. 276a-7).

- A. The schedule of prevailing wage rates for the locality of the work is determined by the Industrial Statistician of the Department of Labor and Industries. Davis Bacon wage and fringe benefit rates for Heavy Construction Projects for Yakima County, Washington State, are available on-line at: beta.sam.gov. It is the **Contractor's** responsibility to verify the applicable Davis-Bacon Wage rates.
- B. Before commencing the work, the **Contractor** shall file a statement under oath with Yakama Nation Fisheries and with the Washington State Director of Labor and Industries certifying the rate of hourly wage paid and to be paid each classification of laborers, workers, or mechanics employed upon the work by the **Contractor** and subcontractors. Such rates of hourly wage shall not be less than the Davis Bacon wage rate.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are hereby incorporated by reference in the applicable Contract.

VI –WORK SCHEDULE

Project work shall be conducted Monday through Friday. The Designated Representative reserves the right to change or delay the work schedule at any time. **NO WORK SHALL BEGIN WITHOUT THE WRITTEN APPROVAL OF THE DESIGNATED REPRESENTATIVE.** If the **Contractor** fails to begin work within five days of the Designated Representative's written notice to proceed, the Designated Representative has the right to avoid further delay by terminating the applicable Contract or hiring an alternate **Contractor**. The **Contractor** will work with the Designated Representative to schedule the work. The

Contractor shall notify the Designated Representative at least six days but not more than twelve days prior to the start of instream work.

The **Contractor** has five days to sign the applicable Contract once it has been provided by the Designated Representative. After executing the applicable Contract, the **Contractor** shall provide proof of insurance to the Designated Representative. If the **Contractor** fails to timely sign the applicable Contract or provide proof of insurance, the bid deposit shall be forfeited and the Designated Representative shall be released from the Contract's obligations. In which case, another **Contractor** shall be selected. If the **Contractor** experiences circumstances beyond their control that prevent return of the applicable Contract documents within five working days after the Award date, the Designated Representative may extend the deadline for return of the documents, provided the Designated Representative determines, in writing, that the circumstances warrant it. The applicable Contract shall only become effective when signed by the Designated Representative. Prior to the Designated Representative's signature, any and all costs incurred shall be the sole responsibility of the bidder. At the mutual agreement of the parties, additional work may be added to the applicable Contract.

VI - INSURANCE

The **Contractor** shall maintain the following insurance and shall submit certificates verifying such to the Designated Representative by October 6, 2025 prior to commencing any work hereunder:

- (1) Performance bonds at 100% of the original contract price for construction contracts exceeding \$150,000;
- (2) Payment bonds at 100% of original contract price if **Contractor** plans to subcontract work;
- (3) Applicable Federal and State workers' compensation and occupational disease liability coverage of at least \$100,000;
- (4) Commercial automobile and vehicle liability insurance covering claims for injuries to members of the public and/or damages to property of others arising from use of motor vehicles, including onsite and offsite operations, and owned, non-owned, or hired vehicles, with \$1,000,000 combined single limits;
- (5) Commercial general liability insurance covering claims for injuries arising out of any negligent act or omission of the **Contractor** or of any of its employees, agents, or subcontractors, with \$1,000,000 combined single limits; and Yakama Nation Fisheries as an additional insured; and
- (6) Environmental impairment liability insurance of at least \$1,000,000 per occurrence, including coverage for the cleanup, removal, storage, disposal, transportation and/or use of pollutants; and naming Yakama Nation, its officials, officers, employees and agents as additional insured. The **Contractor's** policy shall be primary to any insurance of Yakama Nation.

All insurance certificates must state that the insurance carrier will provide thirty (30) days notice of any cancellation of the policies. To Yakama Nation Tribal Leadership.

VII - BIDS, BID SELECTION & INQUIRIES

7.1 Bid Procedures

Bidder shall fill out the included Bid Form for each construction window they are proposing for, fall 2025 and spring/summer 2026. All bids shall include a breakdown of line items included in the unit price for lump sum Bid items. All bids must be signed in ink or via electronic signature. In addition to all of the requirements stated herein, each proposed bid shall also be governed by the conditions contained in the appendices attached hereto. **Bids must be submitted by sending a signed .pdf version of the bid to dlindley@ykfp.org prior to 12:00 p.m. PST on Friday, September 19, 2025. No bids will be accepted after that time.** Receipt of any Addenda must be noted on the email transmitting the bid.

The **Contractor** shall submit an electronic copy of the bid bond. Any standard bid form is acceptable. An email confirmation of receipt will be provided as soon as possible following Yakama Nation's receipt of a bid proposal.

Prospective bidders may not condition their bids. The award will be made to the lowest responsive, responsible bidder.

Bids will be publicly opened as required by Yakama Nation Grants and Contracts Manual_T117-17.

A public bid opening will be held virtually, at 12:00 p.m. PST on 9/19/25.

<https://www.zoomgov.com/j/1618721277?pwd=2ZhAW9djjMOGzAnO4ZetUawjZRLUJ2.1>

By submitting a bid pursuant to this Bid Package, the Bidder acknowledges that, due to funding limitations, potentially only a portion of the Work shown on the Plans will be completed with this Project. All unit prices shall apply to any quantity of Work and any location within the Project Area shown on the Plans.

7.2 Bid Tour

Prospective bidders who wish to visit the site should contact David Lindley at dlindley@ykfp.org or 509-830-8005.

7.3. Inquiries

Prospective bidders may request clarification concerning information contained in this bid package by submitting a written statement or question to the Designated Representative **no later than 1:00 p.m. on Wednesday September 10, 2025.** Such questions should be submitted by email to clak@yakamafish-nsn.gov.

The statement/question shall be answered in writing by the Designated Representative **no later than 4:00 p.m. on Friday, September 12, 2025.** The Designated Representative's response shall become an addenda to this Bid Package by this reference, and also shall be sent by e-mail to all potential bidders that have requested a copy of this Bid Package. Prospective bidders must provide e-mail addresses to receive any possible response. Failure to receive any such addenda shall not relieve such Bidder of fulfilling any contract modifications contained therein. The Bidder shall be responsible to ascertain that all addenda issued have been received prior to submittal of a bid.

7.4. Withdrawal of Bid

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.

In the event a bidder discovers an error in its bid, the Bidder may request to withdraw their bid by providing written notification via email to Yakama Nation Fisheries at dlindley@ykfp.org by **Wednesday, September 24, 2025 at 3:00 p.m. PST.**

No bidder may withdraw a bid within 60 days after the actual date of the opening thereof. Should there be reasons why the Applicable Contract cannot be awarded within the specified period; the time may be extended by mutual agreement between Yakama Nation and the lowest responsive bidder.

7.5. Contractor Selection

The award of contract, if awarded, will be made to the lowest responsible bidder deemed responsive by the Designated Representative, whose bid conforms to the requirements of these specifications, and whose past record of performance on work of similar complexity and magnitude indicates that said bidder is qualified to carry out the obligations of the applicable Contract and to complete the work contemplated therein. Specifically, the amount of the bid, as well as the responsiveness and responsibility criteria will be reviewed. In addition, as a condition of the award, the Bidder must agree to verify that all subcontractors are also in compliance with the “responsibility” criteria as specified in RCW 36.06.

7.6 Indian Preference

Yakama Nation will award the Project contract to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. Provided that if there are multiple responsive low bids from responsible bidders, Yakama Nation will give preference to and select the low bid received from:

1. A certified 100% Yakama owned business (“Yakama Preference Contractor”); or if there are no such bidders, then
2. A certified Indian owned business that is at least 51% Indian-owned (“Indian Preference Contractor”); or if there are no such bidders, then
3. A non-Indian owned business.

To be given preference as a Yakama Preference Contractor or Indian Preference Contractor, Contractor’s bid package must include a certification of such status issued by the Yakama Nation Tribal Employment Rights Office.

In addition, as a condition of the award, the Bidder must agree to verify that all subcontractors are also in compliance with the “responsibility” criteria as specified in RCW 36.06.

7.7. Responsive Criteria

A Bidder's responsiveness will be determined in part by a review of: (i) the completeness of their bid; (ii) their bid's compliance with all Bid Package requirements; (iii) whether their bid includes all required information; and (iv) whether their bid includes any modifying conditions.

7.8. Responsibility Criteria and Appeals

The responsibility of the Bidder will be evaluated by applying required and supplemental criteria.

7.8.1. Required Criteria.

Pursuant to the directives contained in RCW 39.04, proof of compliance with the following criteria must be provided by the Bidder for there to be a determination that the bid is acceptable as being a "responsible" bid:

- (a) the Bidder must have a certificate of registration in compliance with Chapter 18.27 RCW;
- (b) the Bidder must have a current state Unified Business Identifier number;
- (c) the Bidder must have industrial insurance coverage for the bidder's employees working in Washington as required in Title 51, RCW, an Employment Security Department number as required in Title 50 RCW; and a state excise tax registration number as required in Title 82 RCW, unless proof is provided that these items are not required of the bidder; and
- (d) the Bidder must not be debarred or disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3).

7.8.2. Supplemental Criteria.

The determination of whether a Bidder is "responsible," is subject to supplemental criteria, which will include consideration of the Bidder's reputation, experience, track record, integrity, and resources.

The Bidder should address all of these items in their bid. In the event a determination is made that the lowest responsive Bidder is not "responsible," or does not meet all the required and supplemental criteria, a written explanation for the reasons for this determination will be sent to the Bidder's address.

The bidder may appeal any adverse determination on the issue of "responsibility." Any such appeal must be submitted in writing, received by Yakama Nation Fisheries within fourteen (14) calendar days of the date noted on the written determination. The Bidder appealing this determination may provide additional information in their written appeal. A final determination on the Bidder's appeal will be issued prior to the execution of any contract. The applicable Contract may be awarded to another bidder if the appeal is denied.

VIII - NON-DISCRIMINATION

The **Contractor** shall not discriminate on the grounds of race, color, sex, age, or national origin, and in the selection and retention of employees and subcontractors, including, but not limited to, services for procurement of materials and leases of equipment. Notwithstanding the foregoing, the **Contractor** shall comply with TERO laws (see Bid Package page 1).

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

IX - INVOICE & PAYMENT

The **Contractor's** invoice(s) should be sent via email to Yakama Nation at dlindley@ykfp.org. The **Contractor** will not invoice more frequently than monthly. Payments will be made for work performed and materials furnished under the applicable Contract, according to the prices in the bid form. The Designated Representative will make payment(s) to the **Contractor** as soon as possible and within sixty (60) days of receipt of the **Contractor's** invoice. Invoices will be subject to a five percent (5%) retainage until final inspection and approval of the work.

XI – BID FORM

Bid forms that are incomplete may be deemed non-responsive. Attach additional pages as needed or any supplemental information that will help us evaluate your bid.

CONTRACTOR:

ADDRESS: _____

LICENSE NUMBER: _____

FEDERAL IDENTIFICATION

#: _____

Is your firm an LLC? _____ YES _____ NO

Phone No.: _____ Cell Phone: _____

E-mail _____

REFERENCES – List stream restoration projects you have successfully completed.

- 1) Job Name: _____ Organization: _____
Contact Name: _____ Phone #: _____
- 2) Job Name: _____ Organization: _____
Contact Name: _____ Phone #: _____
- 3) Job Name: _____ Organization: _____
Contact Name: _____ Phone #: _____

MACHINERY – List machinery and equipment to be used.

Equipment:	Make:	Model:	Machine Hours:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Describe your approach for taking delivery of the bridge, stockpiling bridge components and excavating bridge footprint:

As part of the bid process, could you please confirm whether you have contacted the Tribal Employment Rights Office (TERO) for compliance regarding the project? This is an essential step in ensuring all necessary requirements are met.

Brush Creek 175 Rd Fish Passage Project

Table of Bid Item Costs

All prices bid herein shall remain in effect through November 30, 2025 or July 31, 2026 depending on implementation window specified..

Sales tax should not be included in the bid prices.



**CEDAR VALLEY
BRUSH CREEK STREAM CROSSING
100% DESIGN SUBMITTAL REVISION 2
BID SHEET**

**Fall 2025 Implementation:
10/13/25-11/14/25**

Job No: 20-026

8/21/2025

ITEM NO.	SPECIFICATION	ITEM	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL
1	015000	MOBILIZATION AND DEMOBILIZATION	1	LS		
2	313519.16	TEMPORARY AND PERMANENT EROSION CONTROL	1	LS		
3	024100	DEMOLITION	1	LS		
4	311100	CLEARING AND GRUBBING	1	LS		
5	312316	UNCLASSIFIED EXCAVATION	880	CY(F)		
6	321540	CRUSHED ROCK ROAD SURFACE	3,220	SF		
7	312323	CRUSHED ROCK LEVELING PAD	26	CY		
8	312323	SELECT STRUCTURAL FILL	640	CY		
9	02270	STREAM SUBSTRATE MATERIAL	160	CY(F)		
10	320523	ROCK SLOPE PROTECTION MATERIAL	100	CY		
11	320523	QUARRY SPALLS	100	CY		
12	323423	INSTALL BRIDGE	1	LS		
13	015713.01	STRAW WATTLES	340	LF		
BASE BID SUBTOTAL						

OPTIONAL BID ITEMS

14	312319	CREEK DIVERSION	1	LS		
15	312316	EXCAVATION - UNSUITABLE MATERIALS	10	CY		
16	312316	ROCK EXCAVATION	10	CY		
17	312316	MISCELLANEOUS CONSTRUCTION	16	HR		
OPTIONAL BID SUBTOTAL						
BASE BID + OPTIONAL TOTAL						



**CEDAR VALLEY
BRUSH CREEK STREAM CROSSING
100% DESIGN SUBMITTAL REVISION 2
BID SHEET**

**Spring 2026 Implementation:
6/15/26-7/31/26**

Job No: 20-026

8/21/2025

ITEM NO.	SPECIFICATION	ITEM	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL
1	015000	MOBILIZATION AND DEMOBILIZATION	1	LS		
2	313519.16	TEMPORARY AND PERMANENT EROSION CONTROL	1	LS		
3	024100	DEMOLITION	1	LS		
4	311100	CLEARING AND GRUBBING	1	LS		
5	312316	UNCLASSIFIED EXCAVATION	880	CY(F)		
6	321540	CRUSHED ROCK ROAD SURFACE	3,220	SF		
7	312323	CRUSHED ROCK LEVELING PAD	26	CY		
8	312323	SELECT STRUCTURAL FILL	640	CY		
9	02270	STREAM SUBSTRATE MATERIAL	160	CY(F)		
10	320523	ROCK SLOPE PROTECTION MATERIAL	100	CY		
11	320523	QUARRY SPALLS	100	CY		
12	323423	INSTALL BRIDGE	1	LS		
13	015713.01	STRAW WATTLES	340	LF		

BASE BID SUBTOTAL

OPTIONAL BID ITEMS

14	312319	CREEK DIVERSION	1	LS		
15	312316	EXCAVATION - UNSUITABLE MATERIALS	10	CY		
16	312316	ROCK EXCAVATION	10	CY		
17	312316	MISCELLANEOUS CONSTRUCTION	16	HR		

OPTIONAL BID SUBTOTAL

BASE BID + OPTIONAL TOTAL

I, _____, certify that I am available to meet the work timeline as outlined in this bidder package, and that I have the experience and equipment necessary for providing quality services as described in this bidder package.

Contractor shall be required to comply with the requirements as stated in the attached **CONTRACTOR'S BID PACKAGE**.

BID SUBMITTED BY:

Typed or printed name

Title

SIGNATURE:

Date

APPENDIX A.

CONSTRUCTION SERVICES AGREEMENT

BETWEEN:

THE CONFEDERATED TRIBES AND BANDS OF THE YAKAMA NATION

on behalf of its _____ program or department

P.O. Box 151 / 401 Fort Road

Toppenish, WA 98948

General Phone: (509) 865-5121

Program Phone:

(HEREAFTER "YAKAMA NATION")

AND

[CONTRACTOR NAME]

Address Line 1

Address Line 1

Phone:

(HEREAFTER "CONTRACTOR")

This Construction Services Agreement ("Agreement") is executed by and between Contractor and Yakama Nation, a federally recognized sovereign Nation pursuant to the Treaty with the Yakamas of 1855 (12 Stat. 951). Contractor and Yakama Nation may be collectively referred to herein as the "Parties," and each may be referred to as a "Party."

1. TERM

The effective term of this Agreement shall be from _____, through _____, absent a valid termination action in accordance with the express terms of this Agreement.

2. PERFORMANCE

Contractor agrees to perform the services set forth in the attached scope of work, Exhibit "A" (collectively, the "Services"), which is incorporated by reference in this Agreement.

3. COMPENSATION

A. *Maximum Compensation.* The **total compensation amount** approved by Yakama Nation for this Agreement is limited to, and ***shall not exceed*** _____ (\$_____); which amount shall include any and all compensation for the Services as described herein and set forth in detail in the budget attached as Exhibit "B". If Exhibit "B" describes separate and specific maximum compensation amounts for services and expenses, then at the end of the term of this Agreement, any remaining balance in the amount allocated for expenses may be used by Yakama Nation, at its sole discretion, to cover fees for authorized services, so long as the total compensation amount set forth above is not exceeded.

B. *Invoicing, Progress Reports and Payment of Compensation.* Yakama Nation shall compensate Contractor according to the billing rate(s) and/or fee schedule(s) set forth in Exhibit “C” in an amount not to exceed that stated above. Contractor shall submit monthly invoices and appropriate supporting documentation to Yakama Nation, including a progress report that provides of brief summary of daily activities associated with services performed and completed by Contractor. Unless the Parties agree in writing to different terms, invoice periods shall begin on the first day of each month and end on the last day of each month. Invoices shall be submitted by Contractor to Yakama Nation’s designated staff contact within fifteen (15) days after the end of the month in which the services were provided and/or expenses were incurred. Contractor waives the right to receive full payment on invoices submitted more than sixty (60) days following the end of the proper invoice period. If a question or concern arises regarding an item on an invoice, Yakama Nation shall notify Contractor of the question or concern. Within five (5) business days following such notification, Contractor shall take action to sufficiently explain or correct the item, or Contractor shall be deemed to have waived their right to demand payment for the item.

C. *Availability of Funds.* Notwithstanding any other provisions of this Agreement, Contractor understands and agrees that compensation for services and expenses under the terms of this Agreement shall be contingent upon the availability of funds (a) placed to the credit of Yakama Nation in the Treasury of the United States, (b) appropriated by Congress, or (c) from local funds maintained in the name of Yakama Nation.

D. *Federal & Grant Funds.* Contractor understands and agrees that agreements and contracts funded by federal funds or other grant funds may be subject to certain legal requirements. These may include, but are not limited to, those requirements set forth in the United States Office of Budget Management’s Uniform Guidance, 2 C.F.R. Part 200, and/or the terms of an applicable source grant. Contractor agrees to comply with and utilize funds in accordance with all applicable laws, regulations, and guidelines, and with any applicable grant or contract terms, and further understands and agrees that the use of such funds may be subject to audit by the grantor agency. Contractor shall reimburse Yakama Nation for any costs of Contractor that are disallowed by a grantor.

4. PROPERTY DEVELOPED BY CONTRACTOR

Contractor agrees that it will retain no interest in the information, data, proposals, papers, copyrights, patents, or any other material or property developed, discovered, invented, and/or accumulated by Contractor in connection with the performance of this Agreement. Subject to applicable law, Contractor shall turn over such information, data, proposals, papers, copyrights, patents, discoveries, inventions, and other material or property to Yakama Nation upon the expiration or termination of this Agreement or upon request.

5. PUBLICATION OF INFORMATION

The dissemination or publication of documents, information material or other property developed or generated by Contractor during the course of this Agreement shall require the written approval of Yakama Nation.

6. RECORDS

A. *Access.* Subject to applicable law, Yakama Nation will provide Contractor with reasonable access to its personnel, facilities, and records necessary to the performance of this Agreement.

B. *Maintenance & Retention of Records; Financial Management for Accounting and Audits.* Contractor shall maintain and retain auditable records during the term of this Agreement and for a period of at least three (3) years following the expiration or termination of this Agreement. Contractor shall maintain its records to comply with the Audit Act of 1984, P.L. 98-502 (31 U.S.C. § 7501 et. seq., as amended) and the Office of Management and Budget's Uniform Guidance requirements set forth at, 2 C.F.R. part 200, Subpart F, as amended. Contractor shall adhere to a systematic accounting method that assures timely and appropriate resolution of audit findings and recommendations in compliance with the Uniform Guidance. Subject to applicable law, Contractor agrees that Yakama Nation, the grantor agency (if applicable), the Comptroller General of the United States, or any of their duly authorized representatives, shall have timely access to Contractor's records which are pertinent to the subject matter of this Agreement and the performance of obligations contained herein, for the purpose of conducting an audit and/or examination, and/or creating excerpts and/or transcriptions.

7. INDEPENDENT CONTRACTORS

Contractor shall employ, at its own expense, all personnel and equipment reasonably necessary to perform the Services called for by this Agreement. Such personnel shall not be considered Yakama Nation employees. Contractor shall be responsible to ensure that all personnel engaged in performing Services are fully qualified to undertake the work in accordance with applicable tribal, federal, state, and local laws. Contractor shall at all times in performance of this Agreement operate as, and have the status of, an independent contractor, and will not be an agent or employee of Yakama Nation; nor will Contractor or its personnel be entitled to any employee benefits provided by Yakama Nation. The Parties are not engaged in a joint venture or partnership. Neither party can represent or bind the other. Unless otherwise expressly agreed, Contractor shall be solely responsible to secure and pay for any necessary or appropriate permits, fees, licenses, inspections, or other prerequisites necessary for proper performance of the Services called for by this Agreement.

8. SUBCONTRACTING

A. Contractor shall not be permitted to hire a subcontractor to perform the Services called for by this Agreement without express prior written consent. Any unauthorized attempt by Contractor to subcontract for such Services shall be null and void, and Contractor shall be responsible for all expenses, fees, and costs associated with any such unauthorized subcontract.

B. An award of this Agreement based on a bid or proposal naming specific subcontractors and identifying the portions of the work to be performed by the subcontractors shall constitute prior written consent to the hiring of the named subcontractor(s). Subcontractor selection and subcontractor employment shall be subject to applicable TERO and Indian Preference requirements described above. Contractor shall be responsible to ensure their subcontractors are in compliance with Yakama Nation TERO and Indian Preference requirements.

9. ASSIGNMENT OF INTEREST

Contractor shall not assign its interest in this Agreement, or any part thereof, including its right to receive payment for services performed, to another party. Any attempt by Contractor to assign any obligations, rights, or fees under this Agreement will be null and void, and Contractor shall be responsible for all expenses, fees, and or costs associated with any unauthorized assignment.

10. INDEMNIFICATION

Contractor shall, at its sole expense, hold harmless, indemnify, and defend Yakama Nation and its officers, agents, employees, and assigns against any and all losses, costs, damages, expenses or other liabilities whatsoever, including reasonable attorney's fees and expenses, that arise out of or are connected with, directly or indirectly, Contractor's actions or omissions, or Contractor's agents' acts or omissions related to this Agreement, including, but not limited to, accidents or injuries to persons or property.

11. SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK

A. Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to:

- (1) Conditions bearing upon transportation, disposal, handling, and storage of materials;
- (2) The availability of labor, water, electric power, and roads;
- (3) Uncertainties of weather, river stages, tides, or similar physical conditions at the site;
- (4) The conformation and conditions of the ground; and
- (5) The character of equipment and facilities needed preliminary to and during work performance.

Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by Yakama Nation and information available to the public from local government agencies, as well as from the drawings and specifications made a part of this Agreement. Any failure of Contractor to take the actions described and acknowledged in this paragraph will not relieve Contractor from responsibility for properly estimating the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to Yakama Nation.

B. Yakama Nation assumes no responsibility for any conclusions or interpretations made by Contractor based on the information made available by Yakama Nation. Nor does Yakama Nation assume responsibility for any understanding reached or representation made concerning conditions that can affect the work by any of its officers or agents before the execution of this Agreement, unless that understanding or representation is expressly stated in this Agreement.

12. PHYSICAL DATA

Data and information furnished or referred to below or in the attached exhibits is for Contractor's information. Yakama Nation shall not be responsible for any interpretation of or conclusion

drawn from the data or information made available to Contractor. Further, Yakama Nation specifically does not warrant construction methodology that may be included in such documents.

(a) The indications of physical conditions on any drawings or specifications that have been provided are the result of general inspection of the site. [if applicable, insert a description of investigational methods used, such as surveys, auger borings, core borings, test pits, probing, test tunnels, etc.].

(b) [Write "n/a" or insert other pertinent information].

13. SCHEDULE FOR CONSTRUCTION

A. *Construction Schedule.* Unless the construction schedule is specifically addressed elsewhere in this Agreement, Contractor shall, within five (5) days after the work commences on the Agreement or another period of time determined by Yakama Nation, prepare and submit to Yakama Nation three (3) copies of a practicable schedule showing the order in which Contractor proposes to perform the work, and the dates on which Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion each week during the Agreement period. If Contractor fails to submit a schedule within the time prescribed, Yakama Nation may withhold approval of progress payments until Contractor submits the required schedule. Should Contractor fall behind its schedule, a revised schedule shall be forwarded with the next Contractor's request for progress payment. Additional schedules shall be furnished to Yakama Nation as soon as practicable if so requested.

B. *Rate of Progress.* With any and each partial payment request, Contractor shall submit a copy of the last submitted schedule annotated to indicate actual progress made to date. If at any time, in the opinion of Yakama Nation, Contractor has fallen behind the schedule to an extent which would jeopardize timely completion, Contractor shall take the steps necessary to improve its progress, including those that may be required, to enable timely completion without additional cost to Yakama Nation. Such steps may include, but are not limited to, increasing the number of shifts, the amount of overtime, days of work per week, and/or the amount of construction plant being utilized. Contractor shall submit any supplementary schedules Yakama Nation deems necessary to demonstrate how the rate of progress necessary for timely completion will be regained.

C. *Breach.* Failure of Contractor to comply with the requirements of this section shall be considered a material breach and grounds for a determination by Yakama Nation that Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Agreement. Upon making this determination, Yakama Nation may terminate Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this Agreement.

14. DIFFERING SITE CONDITIONS

Contractor shall promptly, and before the conditions are disturbed, give a written notice to Yakama Nation of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this Agreement, or (2) unknown physical conditions at the site, of an

unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent to the type of work provided for in the Agreement. Unless specifically identified in the Agreement, discoveries of archaeological or historical remains such as graves, fossils, skeletal materials and artifacts protected by the Archaeological Resources Protection Act (36 CFR 1214) are considered type 2 conditions.

15. LAYOUT OF WORK

Contractor shall lay out its work from Yakama Nation established base lines and bench marks indicated on the drawings or any other manner furnished by Yakama Nation. Contractor shall be responsible for all measurements in connection with the layout. Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. Contractor shall be responsible for the execution of the work to the lines and grades that may be established or indicated by Yakama Nation. Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by Yakama Nation until authorized to remove them. If such marks are destroyed by Contractor or through its negligence before their removal is authorized, Yakama Nation may replace them and deduct the expense of the replacement from any amounts due or to become due to Contractor.

16. SPECIFICATIONS, DRAWINGS AND MATERIAL SUBMITTALS

A. Omissions from any drawings and specifications that have been provided, or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve Contractor from performing such omitted or misdescribed details of the work. Work shall be performed as if fully and correctly set forth and described in the drawings and specifications.

B. Contractor shall check all drawings furnished by Yakama Nation prior to starting work and shall promptly notify Yakama Nation of any discrepancies. Figures marked on drawings shall in general be followed in preference to scale measurements. Large-scale drawings shall in general govern small-scale drawings. Contractor shall compare all drawings and verify the figures before laying out the work, and will be responsible for any errors which might have been avoided thereby.

17. MATERIAL & WORKMANSHIP

A. *Materials.* All equipment, material, and articles incorporated into the work covered by this Agreement shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this Agreement. Use of recycled materials for the manufacture of such products is encouraged. Equipment, material, or articles specified by trade name, make, or catalog number, shall be provided. Equivalent items are not acceptable unless specifically authorized in the specification.

B. *Professional Work.* All work under this Agreement shall be performed in a professional, thorough, skillful, and safe manner, and shall be consistent with relevant professional standards. Yakama Nation may require, in writing, that Contractor remove from the work any employee Yakama Nation deems incompetent, unsafe, or otherwise objectionable.

C. *Legally Compliant Work.* In performing its obligations under this Agreement, Contractor shall comply with all applicable tribal, federal, state and local laws, regulations, guidelines and policies in performance of services under this Agreement. Such laws may include, but are not limited to, the Davis Bacon Act and related federal labor law requirements associated with federally funded construction projects. Contractor represents that it has reviewed, and is familiar with, all laws relevant to the performance of services under this Agreement.

18. SUPERINTENDENCE BY THE CONTRACTOR

At all times during performance of this Agreement, and until the work is completed and accepted, Contractor shall directly superintend the work or assign and have on the worksite a competent superintendent who is satisfactory to Yakama Nation and has authority to act for Contractor.

19. PERMITS AND RESPONSIBILITIES

Unless otherwise provided in this Agreement, Contractor shall, without additional expense to Yakama Nation, be responsible for obtaining any and all necessary licenses and permits, and for complying with any tribal, federal, state, and municipal laws, codes, and regulations applicable to the performance of the work. Contractor shall also be responsible for all damages to persons or property that occur as a result of Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of Yakama Nation and others. Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under this Agreement.

20. OTHER CONTRACTS

Yakama Nation may undertake or award other contracts for additional work, or may utilize in-house construction forces, at or near the site of the work. Contractor shall fully cooperate with such other contractors and Yakama Nation employees, and carefully adapt scheduling and performance of the work under this Agreement to accommodate simultaneous performance, heeding any direction that may be provided by Yakama Nation. Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractors or by Yakama Nation employees.

21. USE AND POSSESSION PRIOR TO COMPLETION

Yakama Nation shall have the right to take possession of or use any completed or partially completed part of the work call for by this Agreement. Before taking possession of or using any work, Yakama Nation shall furnish Contractor a list of items of work remaining to be performed or corrected on those portions of the work that Yakama Nation intends to take possession of or use. However, failure of Yakama Nation to list any item of work shall not relieve Contractor of responsibility for complying with the terms of this Agreement. Yakama Nation's possession or use shall not be deemed an acceptance of any work under this Agreement.

22. CLEANING UP

A. Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, Contractor shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials that are not the property of the owner of the underlying real property. Upon completing the work, Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to Yakama Nation.

B. Unless specifically set forth in the Agreement, Contractor shall not burn any material on site, on the right-of-way or on the access roads to the sites. All material and debris shall be hauled to an appropriate disposal site.

23. ROAD MAINTENANCE

Contractor shall maintain all roads used by it, and upon completion of the job shall leave them in as good a condition as when first used. A road-grading machine (not a bulldozer) shall be used for maintenance and final grading. In no event shall Contractor interfere with the property owner's use of roads existing prior to Contractor's entry.

24. STOP WORK ORDER

A. Yakama Nation may order Contractor to suspend all or any part of the work call for by this Agreement for the period of time that Yakama Nation determines appropriate for the convenience of Yakama Nation.

B. Contractor shall immediately comply with Yakama Nation's order and take all reasonable steps to minimize the incurring of costs allocable to the work covered by the order.

25. PROTECTION OF EXISTING VEGETATION, STRUCTURES, AND IMPROVEMENTS

A. Contractor shall preserve and protect all structures, equipment, utilities, other improvements, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this Agreement. Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this Agreement, or by the careless operation of equipment, or by workers, Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by Yakama Nation's representative.

B. If Contractor fails or refuses to repair the damage promptly, Yakama Nation may have the necessary work performed and charge the cost to Contractor.

26. INSURANCE

A. The following minimum kinds and amounts of insurance are applicable in the performance of the work under this Agreement. Contractor shall (subject to applicable law) maintain such insurance, naming Yakama Nation as an additional insured:

(1) *Workers' compensation and employer's liability.* Contractor is required to comply with applicable Federal and State workers compensation and occupational disease statutes. Employer's liability coverage of at least \$100,000 shall be required.

(2) *General liability.* Contractor shall provide general liability insurance of at least \$1,000,000 per occurrence. Any policy aggregate limits which apply, shall be modified to apply to each location and project. The policy shall name Yakama Nation, its officials, officers, employees and agents, as insureds with respect to Contractor's performance of services.

(3) *Automobile liability.* Contractor shall provide automobile liability insurance covering the operation of all automobiles used in the performance of this Agreement. Policies shall provide limits of at least \$1,000,000 per accident and include coverage for all owned, non-owned and hired automobiles. Contractor's policy shall be primary to any insurance of Yakama Nation.

(4) *Environmental impairment liability.* Contractor shall provide environmental impairment liability insurance of at least \$1,000,000 per occurrence. Such insurance will include coverage for the clean up, removal, storage, disposal, transportation and/or use of pollutants. The insurance policy shall name Yakama Nation, its officials, officers, employees and agents as insured. Contractor's policy shall be primary to any insurance of Yakama Nation.

B. Contractor may, with the approval of Yakama Nation, maintain a self-insurance program; provided that, with respect to workers' compensation, Contractor is qualified pursuant to statutory authority.

C. Before commencing work under this Agreement, Contractor shall provide to Yakama Nation certificates of insurance from the insurance company stating the insurance required has been obtained and is in force. The certificate(s) shall identify Contractor and the contract(s) for which coverage is provided, and shall contain a statement that the insurer will give notice of cancellation or any material change to Yakama Nation at least thirty (30) days before the effective date. In addition, Contractor shall provide certificates as the policies are renewed throughout the period of this Agreement. If Contractor's insurance does not cover the subcontractors involved in the work, Contractor shall provide certificates stating that the required insurance has been obtained by the subcontractors.

27. INSPECTION - SERVICES AND CONSTRUCTION

A. Yakama Nation may inspect the work called for by this Agreement at any time and place. Where possible and practicable, Yakama Nation will perform inspections in a manner that will not unduly delay the work.

B. If any of the services do not conform with the requirements of this Agreement, or with applicable laws, regulations or governmental policies, Yakama Nation may require the Contractor to perform the services again in conformity at no cost to Yakama Nation. When the defects in services cannot be corrected by re-performance, Yakama Nation may deduct from the Agreement payments an amount which reflects the reduced value of the services performed.

C. Neither inspection, lack of inspection, acceptance, nor payment shall relieve the Contractor of any of its obligations under this Agreement. Contractor's duty to re-perform non-conforming work is intended to survive the expiration of this Agreement's term, and shall apply even where non-conformance is discovered following its expiration.

D. If Contractor does not promptly replace or correct rejected work, Yakama Nation may (without limiting any other legal or equitable remedies available to it) (1) by contract or otherwise, replace or correct the work and charge the cost to Contractor, and may (2) terminate this Agreement for default.

E. Unless otherwise specified in the Agreement, acceptance by Yakama Nation will be in writing and shall be made as promptly as practicable after completion and inspection of all work called by this Agreement or that portion of the work Yakama Nation determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, non-compliance with applicable law, or Yakama Nation's rights under any warranty or guarantee.

28. WARRANTY - CONSTRUCTION

A. In addition to any other warranties in this Agreement, Contractor warrants, except as provided in paragraph (H)(1) of this clause, that work performed by it and/or its subcontractors under this Agreement conforms to applicable law and to the contract requirements, and is free of any defect in equipment, material, or design furnished, or workmanship performed by Contractor or any subcontractor or supplier at any tier.

B. This warranty shall continue for a period of three (3) years from the date of final acceptance of the work. If Yakama Nation takes possession of any part of the work before final acceptance, this warranty shall continue for a period of three (3) years from the date Yakama Nation takes possession.

C. Contractor shall remedy at Contractor's expense any failure to conform, or any defect. In addition, Contractor shall remedy at Contractor's expense any damage to Yakama Nation-owned or controlled real or personal property, when that damage is the result of:

- (1) Contractor's failure to conform to applicable law or contract requirements; or
- (2) Any defect of equipment, material, workmanship, or design furnished by Contractor.

D. Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. Contractor's warranty with respect to work repaired or replaced will run for three (3) years from the date of repair or replacement.

E. Yakama Nation shall notify Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

F. If Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, Yakama Nation shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at Contractor's expense.

G. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this Agreement, Contractor shall:

- (1) Obtain all warranties that would be given in normal commercial practice;
- (2) Require all warranties to be executed, in writing, for the benefit of Yakama Nation, if directed by Yakama Nation; and
- (3) Enforce all warranties for the benefit of Yakama Nation, if directed by Yakama Nation.

H. Unless a defect is caused by the negligence of Contractor or subcontractor or supplier at any tier, Contractor shall not be liable for the repair of any defects of material or design furnished by Yakama Nation nor for the repair of any damage that results from any defect in Yakama Nation-furnished material or design.

- (1) This warranty shall not limit Yakama Nation's rights under the Inspection and Acceptance clause of this Agreement with respect to latent defects, gross mistakes, or fraud.

29. TAXES

The compensation for Services performed under this Agreement shall include all applicable Tribal, Federal, State, and local taxes and duties. Depending on the location and nature of the Services provided, when applicable, Yakama Nation shall provide Contractor a single use Tax Exemption Certificate.

30. TERMINATION

A. *Notice.* Yakama Nation may terminate all or any part of this Agreement, at any time, with or without cause, upon written notice to Contractor. Upon receipt of the termination notice, Contractor shall promptly stop work on the terminated portion of the Agreement. Contractor obligations shall be consistent with those set forth above in the Stop Work Order clause of this Agreement.

B. *Breach.* In the event of termination for breach or violation of the terms and provisions of this Agreement, Yakama Nation, to the extent permitted by applicable law, shall be entitled to enforce its rights under this Agreement, and recover its court costs and reasonable attorney's fees, as determined by the court. The foregoing shall not in any way limit or restrict any right or remedy at law or equity which would otherwise be available to Yakama Nation, including, but not limited to, the right to contract with other qualified persons to complete the performance of services identified in or called for by this Agreement.

C. *Termination By Tribal Council Executive Committee.* Notwithstanding anything herein to the contrary, Contractor understands and agrees that the Yakama Nation Tribal Council Executive Committee may immediately terminate this Agreement by written notice.

D *Effect of Complete Termination.* Upon the complete termination of this Agreement, the liability of the Parties for the further performance of this Agreement shall cease, but the Parties shall not be relieved of the duty to perform their obligations up to the date of termination.

E. *Effect of Partial Termination.* The compensation amount shall be revised as a result of a partial termination under this section. On fixed-price contracts the revised amount shall not exceed the pre-termination contract price plus reasonable termination expenses. On cost-reimbursement contracts the revised amount shall not exceed the total of allowable and allocable costs of performance prior to termination plus termination expenses plus an adjustment of the fee on the terminated portion of the Agreement. No payment will be made for anticipated profits on the terminated portion, or consequential damages, of this Agreement. Contractor shall submit a settlement proposal within thirty (30) days of the notice of termination.

31. FORCE MAJEURE

This Agreement is subject to force majeure, and is contingent on strikes, accidents, acts of God, weather conditions, fire regulations, the actions of any government, including funding and/or budgetary decisions, and other circumstances which are beyond the control of the parties. If the terms and conditions of this Agreement are unable to be performed as a result of any cause of force majeure, then this Agreement shall be void, without penalty to any party for such non-performance.

32. NOTICE

Notice to Contractor shall consist of a letter, delivered postage prepaid, addressed to:

[Contractor's Legal Agent's Name]
[Contractor Name]
[Address No. 1]
[Address No. 2]

Notice to Yakama Nation shall consist of a letter, delivered postage prepaid, addressed to:

Gerald Lewis, Chairman
Yakama Tribal Council
PO Box 151 / 401 Fort Road
Toppenish, WA 98948

With courtesy copies to Yakama Nation's Designated Representative detailed below, and the Lead Attorney of Yakama Nation's Office of Legal Counsel at P.O. Box 150, Toppenish, WA 98948.

Either party may from time to time change its designated address for notice, or designated contact(s) for notice, by giving the other party reasonable notice of such change.

33. SUPERVISION OF CONTRACTOR/DESIGNATED REPRESENTATIVE

Contractor shall act under the supervision of the following Designated Representative of Yakama Nation in performing services under this Agreement:

Name:	[First] [Last], [Job Title]
Address:	
Phone:	
Email:	

The Designated Representative is designated for project management purposes only, and does not have authority to authorize any changes, modifications or addendums to this Agreement, nor does the Designated Representative have signing authority on behalf of Yakama Nation. Yakama Nation shall provide Contractor reasonable notice if there is a change in the Designated Representative.

34. COMPLIANCE PROVISIONS

A. *Discrimination.* Contractor shall not discriminate against any employee or applicant for employment because of handicap, race, age, religion, or sex. Contractor will take affirmative steps to ensure that applicants are employed, and that employees are treated fairly during employment, without regard to their handicap, race, age, religion, or sex.

B. *Indian Preference.* Notwithstanding the above, Contractor shall, for all work performed on or near the Yakama Reservation pursuant to this Agreement, and consistent with Section 703(i) of the 1964 Civil Rights Act, give preference in employment (including any authorized subcontracts) to equally qualified Indians regardless of their handicap, age, religion or sex. To the extent feasible and consistent with the efficient performance of this Agreement, Contractor shall provide employment and training opportunities to Indians that are not fully qualified to perform under this Agreement, regardless of their handicap, age, religion or sex. Further, Contractor shall comply with any and all applicable Indian preference laws and requirements established by Yakama Nation, including those set forth in the Yakama Nation Tribal Employment Rights Ordinance (“TERO”), as amended (Yakama Revised Law & Order Codes, Title 71).

35. JURISDICTION & VENUE

The validity, interpretation, and performance of this Agreement, and any and all written instruments, agreements, specifications and other writings of whatever nature which relate to or are part of this Agreement, shall be governed by and construed in accordance with the laws of Yakama Nation. Both Parties understand and agree that this Agreement establishes a consensual business relationship between the Parties for purposes of Yakama Tribal Court jurisdiction. Venue of any court action filed to enforce or interpret the provisions of this Agreement shall be exclusively in Yakama Nation Tribal Court(s). In the event of litigation to enforce the provisions of this Agreement, the prevailing party shall be entitled to reasonable legal fees and expenses in addition to any other relief allowed.

36. DISPUTE RESOLUTION

A. *Meet and Confer Meeting.* In the event that a dispute arises between the Parties over the performance, interpretation, or enforcement of this Agreement, the Parties in the first instance shall attempt in good faith to resolve the dispute informally by mutual Agreement in a face-to-face meet and confer meeting. All offers, promises, conduct and statements, whether oral or written, made in the course of the meet and confer meeting by any of the Parties, their agents, employees, experts and attorneys shall be considered confidential, privileged and inadmissible for any purpose, including impeachment, in any other proceeding involving the Parties, provided that evidence that is otherwise admissible or discoverable shall not be rendered inadmissible or non-discoverable as a result of its use in the meet and confer meeting.

B. *By Tribal Council Chairman.* If the Parties are unable to resolve the dispute during the meet and confer meeting, the aggrieved party shall submit the matter, in writing, to the Chairman of the Yakama Nation Tribal Council. A copy of the aggrieved party's submission shall be served upon the other party in accordance with the notice provisions of this Agreement. The Chairman shall promptly convene a meeting of the Parties, which shall be held in Toppenish, Washington, to resolve the matter. The decision of the Chairman shall be final and binding upon both Parties. Provided, however, that nothing shall operate to limit or prohibit Yakama Nation from otherwise enforcing its rights under this Agreement. In the event that the Chairman has a conflict of interest that would prevent her/him from hearing the dispute, s/he may, at her/his sole discretion, either decline to hear the dispute, or appoint an alternate Tribal Leader or Elder to serve in his/her place.

C. Nothing in this section shall operate to prohibit Yakama Nation from enforcing its rights under this Agreement in a court of appropriate jurisdiction. Yakama Nation may at its own election seek recovery of monetary damages from Contractor's breach of any terms in this Agreement.

37. GENERAL TERMS

A. *Headings.* Headings are provided for convenience and do not affect the meaning of the provisions to which they are affixed.

B. *Severability.* If any term of this Agreement is to any extent illegal, otherwise invalid, or incapable of being enforced, such term shall be excluded to the extent of such invalidity or unenforceability; all other terms hereof shall remain in full force and effect; and, to the extent permitted and possible, the invalid or unenforceable term shall be deemed replaced by a term that is valid and enforceable and that comes closest to expressing the intention of such invalid or unenforceable term.

C. *Changes to the Agreement.* No change, amendment, modification, or addendum to this Agreement shall be valid unless it is in writing and executed by authorized representatives of both Parties.

D. *Additional Services.* Except as otherwise provided in this Agreement, no payment for additional services shall be made unless such services and the price therefore have been requested and authorized in advance in writing by Yakama Nation.

E. *Survival.* The requirements of Section 4 (Property Developed by Contractor), Section 6 (Maintenance & Retention of Records; Financial Management for Accounting & Audits),

Section 10 (Indemnification), Section 28 (Warranty-Construction) and Section 36 (Dispute Resolution) of this Agreement shall survive termination of this Agreement.

F. *No General Waiver.* Any waiver or failure of the Parties to enforce or insist upon any term in this Agreement does not constitute a general waiver or relinquishment of that term.

G. *No Construction Against Drafter.* Each party has participated in negotiating and drafting this Agreement. If any ambiguity or question of intent or interpretation arises, this Agreement is to be construed as if the Parties had drafted it jointly, as opposed to being construed against one party because it was responsible for drafting one or more provisions.

H. *Execution.* This Agreement may be executed in counterparts, electronically, or by facsimile.

38. ENTIRE AGREEMENT

This Agreement incorporates all the agreements, covenants and understandings between the Parties. No agreement or understanding, verbal or otherwise, of the Parties regarding their responsibilities under this Agreement shall be valid or enforceable unless embodied in this Agreement.

The following Exhibits are incorporated by reference into this Agreement:

- Exhibit "A" – Project Overview
- Exhibit "B" – Statement/Scope of Work
- Exhibit "C" – Budget
- Exhibit "D" – Payment
-

39. SOVEREIGN IMMUNITY

Notwithstanding any other terms or provisions of this Agreement, Contractor understands and agrees that Yakama Nation, by entering into this Agreement, does not waive its sovereign immunity from suit, nor does it waive, alter, or otherwise diminish its rights, privileges, remedies or services guaranteed by the Treaty with the Yakamas of 1855 (12 Stat. 951).

40. SPECIAL PROVISIONS

In addition to the forgoing terms and conditions, the following requirements are agreed to and shall apply to this Agreement:

A. [Mark as n/a, or insert special provision text.]

IN WITNESS WHEREOF, we set our hands and seals:

[Signature page(s) to follow.]

CONFEDERATED TRIBES & BANDS OF THE YAKAMA NATION:

By:_____

Date:_____

Name: Gerald Lewis (or authorized designee)

Title: Yakama Nation Tribal Council Chairman

CONTRACTOR NAME:

EIN #

By:_____

Date:_____

Name:

Title:

EXHIBIT A

Project Overview

1. Background:

Bonneville Power Administration and National Oceanic and Atmosphere Administration's Brush Creek project focuses on addressing a known fish passage barrier. The 175 Road over Brush Creek is one of only two remaining fish barriers in the White Creek Watershed (Tributary to the Klickitat). The White Creek Watershed is identified as a high priority watershed for ESA-listed steelhead. In the Klickitat River Basin, the KLE through the Klickitat Lead Entity Salmon Recovery Strategy document provides guidance on the prioritization of projects throughout the Klickitat River Basin. The KLE developed the Klickitat Lead Entity Salmon Recovery Strategy document from the input of a diverse group of stakeholders including the Yakama Nation. The 175 Road culverts will be replaced with a bridge, opening up 3.5 miles of high-quality habitat. Under current conditions the three culverts on 175 Road at Brush Creek are full barriers to adult steelhead passage; their removal will eliminate the last fish barrier on Brush Creek.

Exhibit C provides the plan set and **Exhibit D** provides the technical specifications schedule and requirements.

2. Location

The project area is located at the intersection of the 175 Rd and Brush Creek within the Closed Area of the Yakama Nation Reservation (46.1100506, -121.0217237). The project site is approximately 28 miles northeast of Glenwood, WA or 28 miles southeast of White Swan, WA.

3. Designated Representative:

The Yakama Nation's Designated Representatives for this project include:

- David Lindley, Habitat Coordinator, 509-830-8005
- Patrick Hayden, Habitat Biologist, 509-945-2325

4. Project Tasks:

All tasks will be completed as per **Exhibit C and D, project plans and technical specifications**.

5. Project Schedules:

Fall 2025 – 10/6/25-11/14/25 or 6/15/26-7/31/26

6. Contractor Obligations:

Brush Creek 175 Rd Fish Passage Project

The Contractor shall furnish all supervision, labor, equipment and tools necessary to complete the project as described in **Exhibits C and D**.

7. Consistent Satisfactory Progress

Consistent satisfactory progress in this project will be required. Satisfactory progress will be measured by both the quality and quantity of work. If for any reason no work is performed, the Contractor may be given a notice of contract cancellation. Consistent satisfactory progress will also be determined by the Contractor's demonstrated ability to perform all work tasks described in **Exhibits C and D**. If it appears that the Contractor is unable to complete the project tasks within the permitting work window, the Contractor may be given a notice of contract cancellation. The Yakama Nation's designated representative will monitor progress closely.

EXHIBIT B

PROJECT Site Photos



Site Photo 1: Three culverts to be removed, view from upstream side.



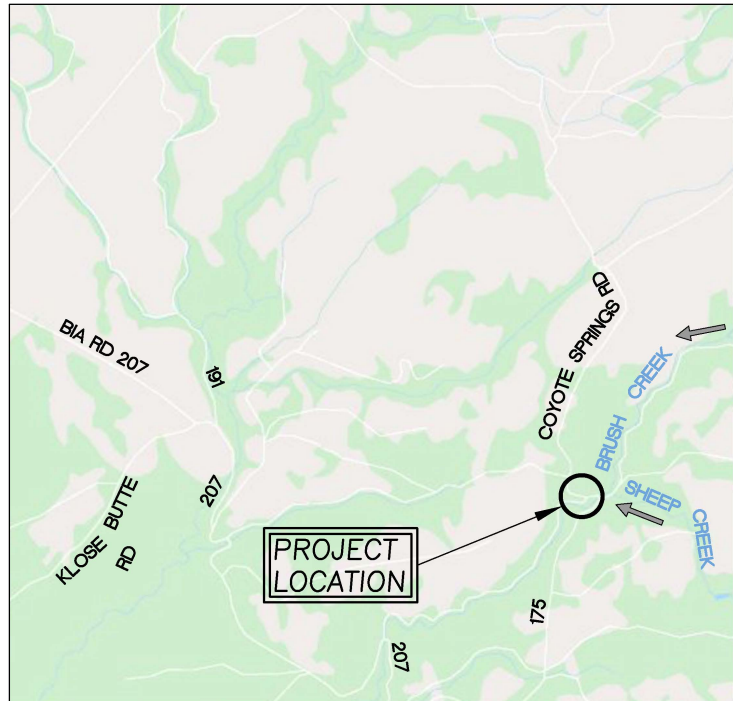
Site Photo 2: Aerial view of project site looking upstream.

EXHIBIT C

PROJECT PLANS

BRUSH CREEK FISH PASSAGE AT 175 ROAD PROJECT

100% DESIGN SUBMITTAL



VICINITY MAP
N.T.S. (GOOGLE)



REGIONAL MAP
N.T.S. (GOOGLE)

SHEET INDEX

- C1 COVER SHEET
- C2 EXISTING CONDITIONS
- C3 CREEK PLAN
- C4 CREEK SECTIONS
- C5 ROAD PLAN
- C6 ROAD PROFILE AND ELEVATIONS
- C7 EROSION CONTROL AND DEWATERING PLAN
- C8 DETAILS AND NOTES
- C9 NOTES
- C10 HIP 4 GENERAL CONSERVATION MEASURES (1 OF 2)
- C11 HIP 4 GENERAL CONSERVATION MEASURES (2 OF 2)

PROJECT DESCRIPTION

THESE DRAWINGS PROVIDE 100% DESIGN LEVEL DETAILS FOR A FISH PASSAGE IMPROVEMENT PROJECT IN THE WHITE CREEK WATERSHED LOCATED WITHIN YAKAMA TRIBAL LAND IN YAKIMA COUNTY, WASHINGTON.

THE BRUSH CREEK FISH PASSAGE AT 175 ROAD PROJECT WILL REPLACE THREE PARALLEL CULVERTS AND CONCRETE ARMORING WITH A BRIDGE TO IMPROVE FISH PASSAGE CONDITIONS ALONG BRUSH CREEK.

WORK SHALL CONSIST OF REMOVAL AND DISPOSAL OF THE EXISTING CROSSINGS AND REPLACEMENT WITH BRIDGE SPANS. THE NEW CREEK BED WILL BE CONSTRUCTED OF NATURAL STREAMBED MATERIAL.

ABBREVIATIONS

AVG.	AVERAGE	RC	RELATIVE COMPACTION
CC	CONCRETE	RSP	ROCK SLOPE PROTECTION
CY	CUBIC YARDS	SPK	SPIKE
DIA.	DIAMETER	SQ.FT.	SQUARE FOOT
E	EXISTING	T	TREE
EG	EXISTING GROUND	T.B.D.	TO BE DETERMINED
ELEV.	ELEVATION	TYP	TYPICAL
DI	DRAINAGE INLET	UNK	UNKNOWN
FG	FINISHED GRADE	WSE	WATER SURFACE
FT	FEET	ELEVATION	ELEVATION
INV	INVERT	YR	YEAR
MIN	MINIMUM		
N	NEW		
NIC	NOT IN CONTRACT	TREE SPECIES	
N.T.S.	NOT TO SCALE	CW	COTTONWOOD
O.C.	ON CENTER	P	PINE

SECTION AND DETAIL CONVENTION

SECTION OR DETAIL IDENTIFICATION
(NUMBER OR LETTER)

5
C3

SHEET REFERENCE

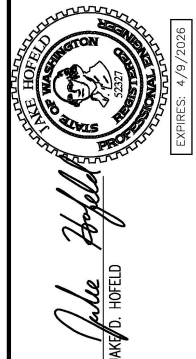
GENERAL NOTES

- TOPOGRAPHIC MAPPING WAS PERFORMED BY: WATERWAYS CONSULTING, INC. 1020 SW TAYLOR STREET, SUITE 380 PORTLAND, OR 97205 SURVEY DATE: AUGUST 25, 2020.
- ELEVATION DATUM: AN ASSUMED ELEVATION OF 2,758.75' WAS ESTABLISHED AT SURVEY CONTROL POINT #4 (REBAR) SHOWN ON SHEET C2.
- BASIS OF BEARINGS: GPS TIES TO NAD83 WASHINGTON STATE PLANE SOUTH US FOOT USING THE LEICA GEOSYSTEMS SMARTNET GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) NETWORK.
- CONTOUR INTERVAL IS ONE FOOT. ELEVATIONS AND DISTANCES SHOWN ARE IN DECIMAL FEET.
- THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES WERE COMPILED FROM RECORD INFORMATION. THE LOCATION OF THESE LINES IS SUBJECT TO CHANGE, PENDING THE RESULTS OF A COMPLETE BOUNDARY SURVEY.
- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE 2021 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, ISSUED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS").
- THESE DESIGNS ARE INCOMPLETE WITHOUT THE FINAL STAMPED TECHNICAL SPECIFICATIONS PREPARED BY WATERWAYS CONSULTING, INC. REFER TO TECHNICAL SPECIFICATIONS FOR DETAILS NOT SHOWN HEREON.

*** CALL BEFORE YOU DIG ***

CONTACT UNDERGROUND SERVICE ALERT (USA)
PRIOR TO ANY CONSTRUCTION WORK 1-800-424-5555

REV.	DATE	DESCRIPTION	BY
1	12/4/24	NO CHANGES THIS SHEET	M.M.



PREPARED AT THE REQUEST OF:
YAKAMA NATION FISHERIES

COVER SHEET

BRUSH CREEK FISH
PASSAGE AT 175 ROAD
100% DESIGN

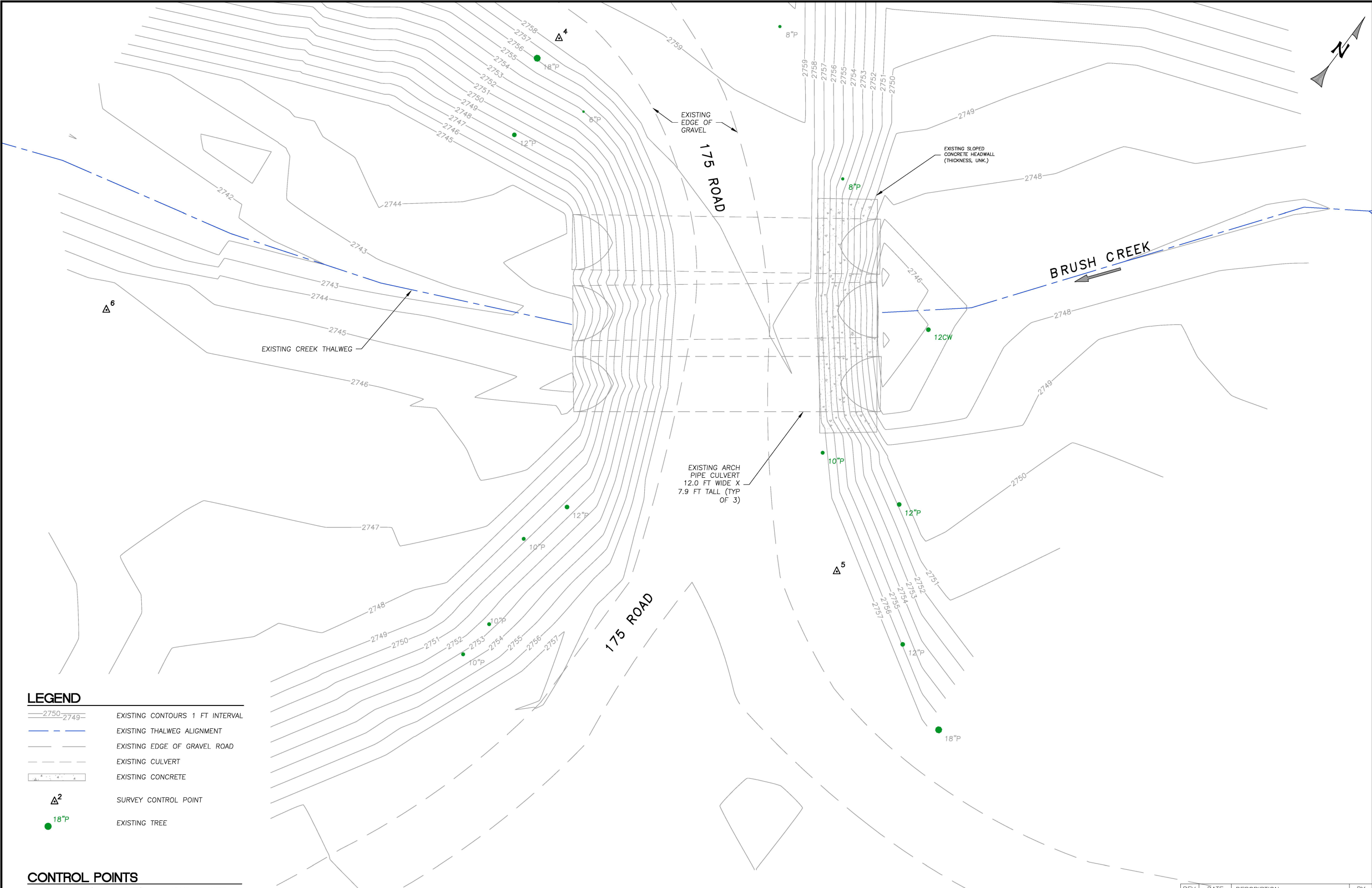
DESIGNED BY: J.H.
DRAWN BY: D.H./M.M.
CHECKED BY: J.H.
DATE: 12/19/2024
JOB NO.: 20-026

BAR IS ONE INCH ON
ORIGINAL DRAWING,
ADJUST SCALES FOR
REDUCED PLOTS
0 1"

C1

1
OF
11

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LEGEND

EXISTING CONTOURS 1 FT INTERVAL

EXISTING THALWEG ALIGNMENT

EXISTING EDGE OF GRAVEL ROAD

EXISTING CULVERT

EXISTING CONCRETE

SURVEY CONTROL POINT

EXISTING TREE

CONTROL POINTS

POINT	NORTHING	EASTING	ELEV.	DESC.
4	283697.62'	1508041.08'	2758.75'	REBAR
5	283640.27'	1508158.46'	2757.93'	REBAR
6	283591.72'	1507996.92'	2747.10'	REBAR

EXISTING CONDITIONS
SCALE: 1" = 10'

REV.	DATE	DESCRIPTION	BY
1	12/4/24	NO CHANGES THIS SHEET	M.M.

WATERWAYS CONSULTING INC.
1020 SW TAYLOR STREET, STE. 380
PORTLAND, OR 97205
PH: (503) 227-5979 // FAX: (888) 819-6847
WWW.WATWAYS.COM

Jake D. Hofeld
JAKE D. HOFELD

PREPARED AT THE REQUEST OF:
YAKAMA NATION FISHERIES

EXISTING CONDITIONS

BRUSH CREEK FISH PASSAGE AT 175 ROAD
100% DESIGN

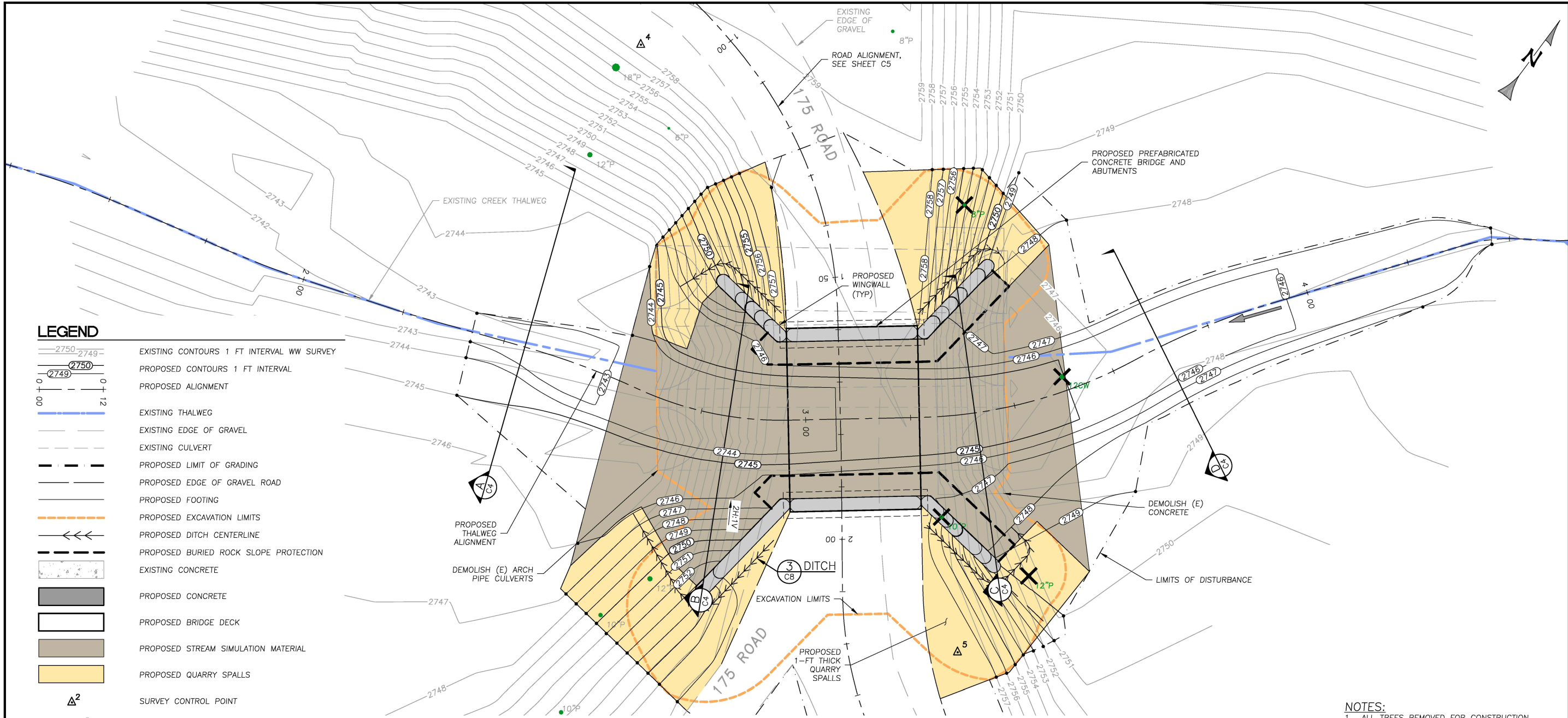
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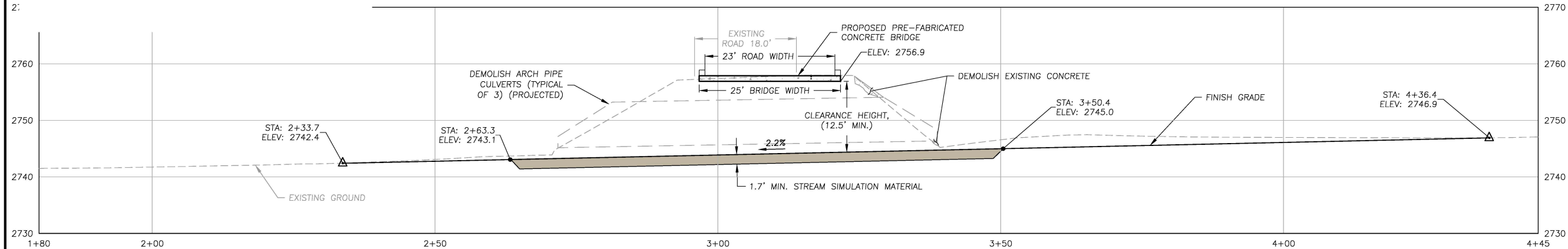
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CREEK PLAN
SCALE: 1" = 10'

NOTES:
1. ALL TREES REMOVED FOR CONSTRUCTION SHALL BE SALVAGED AS WHOLE TREES WITH ROOT WADS ATTACHED, AND SHALL BE PLACED IN THE FLOODPLAIN DOWNSTREAM OF THE BRIDGE AT THE DIRECTION OF THE ENGINEER.



BRUSH CREEK THALWEG PROFILE
SCALE: 1" = 10'

REV.	DATE	DESCRIPTION	BY
1	12/4/24	NO CHANGES THIS SHEET	M.M.

WATERWAYS CONSULTING INC.

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WWW.WATWAYS.COM

PREPARED AT THE REQUEST OF:
YAKAMA NATION FISHERIES

CREEK PLAN

BRUSH CREEK FISH
PASSAGE AT 175 ROAD
100% DESIGN

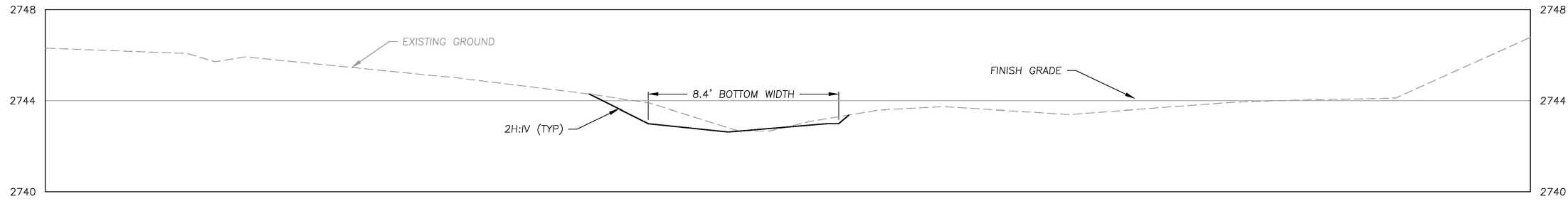
DESIGNED BY: J.H.
DRAWN BY: D.H./M.M.
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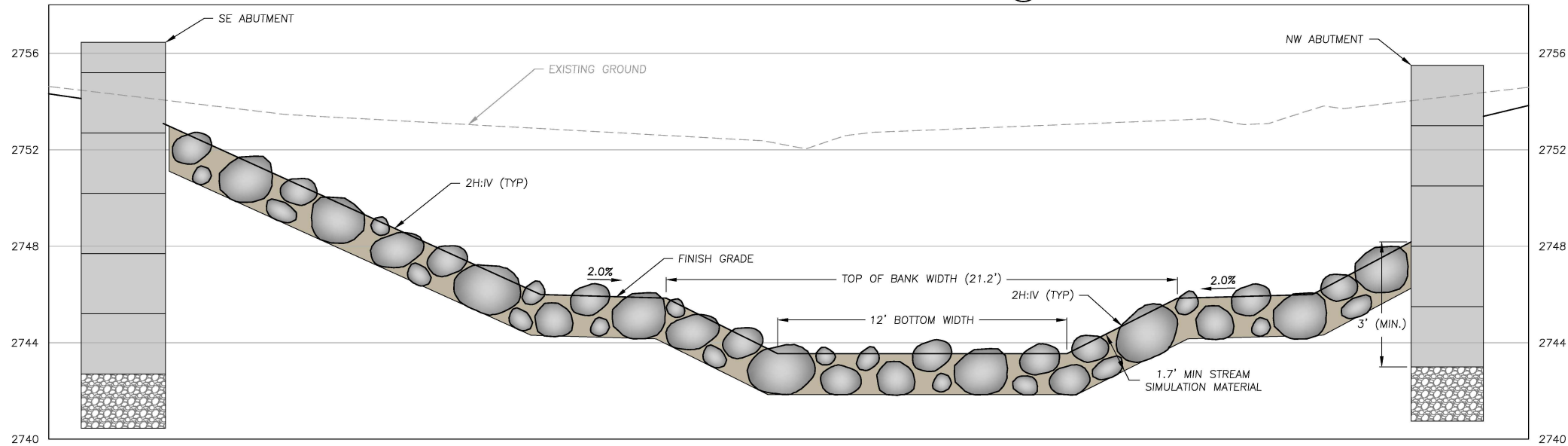
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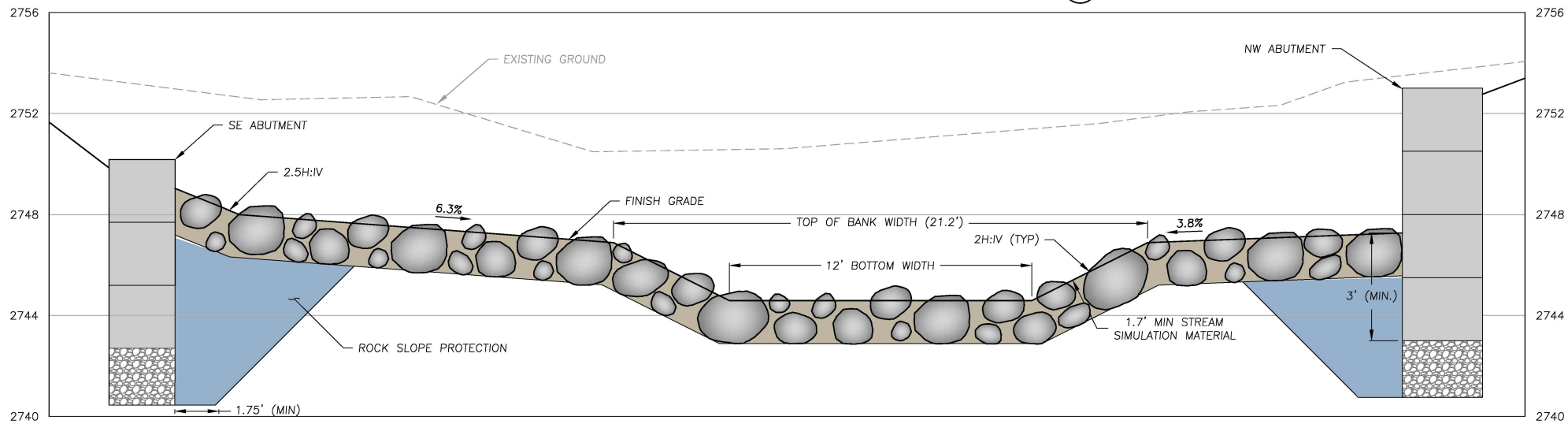
CREEK SECTION DOWNSTREAM OF CROSSING
SCALE: 1" = 3'

A
C3



DOWNSTREAM STREAM SIMULATION MATERIAL SECTION
SCALE: 1" = 3'

B
C3

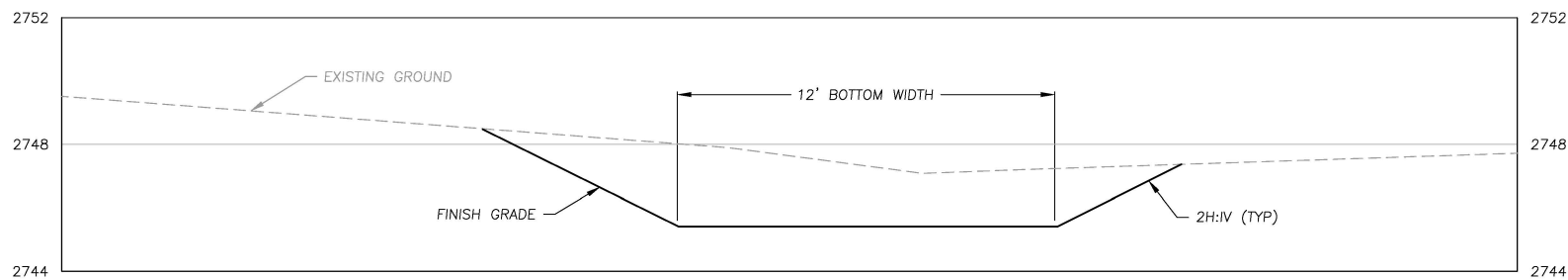


UPSTREAM STREAM SIMULATION MATERIAL SECTION
SCALE: 1" = 3'

C
C3

BRUSH CREEK STREAM SIMULATION MATERIAL GRADUATION	
SIZE CLASS	PARTICLE DIAMETER (FT)
D100 =	1.9
D75 =	0.75
D50 =	0.4
D25 =	0.21

NOTES:
NO GRADING OF THE CHANNEL PROPOSED
OUTSIDE OF THE ROAD FILL PRISM.



CREEK SECTION UPSTREAM OF CROSSING
SCALE: 1" = 3'

D
C3

REV.	DATE	DESCRIPTION	BY
1	12/4/24	UPDATED ABUTMENTS	M.M.

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WWW.WATWAYS.COM

JAKE D. HOFELD
PROFESSIONAL ENGINEER
EXPIRES: 4/9/2026

PREPARED AT THE REQUEST OF:
YAKAMA NATION FISHERIES

CREEK SECTIONS

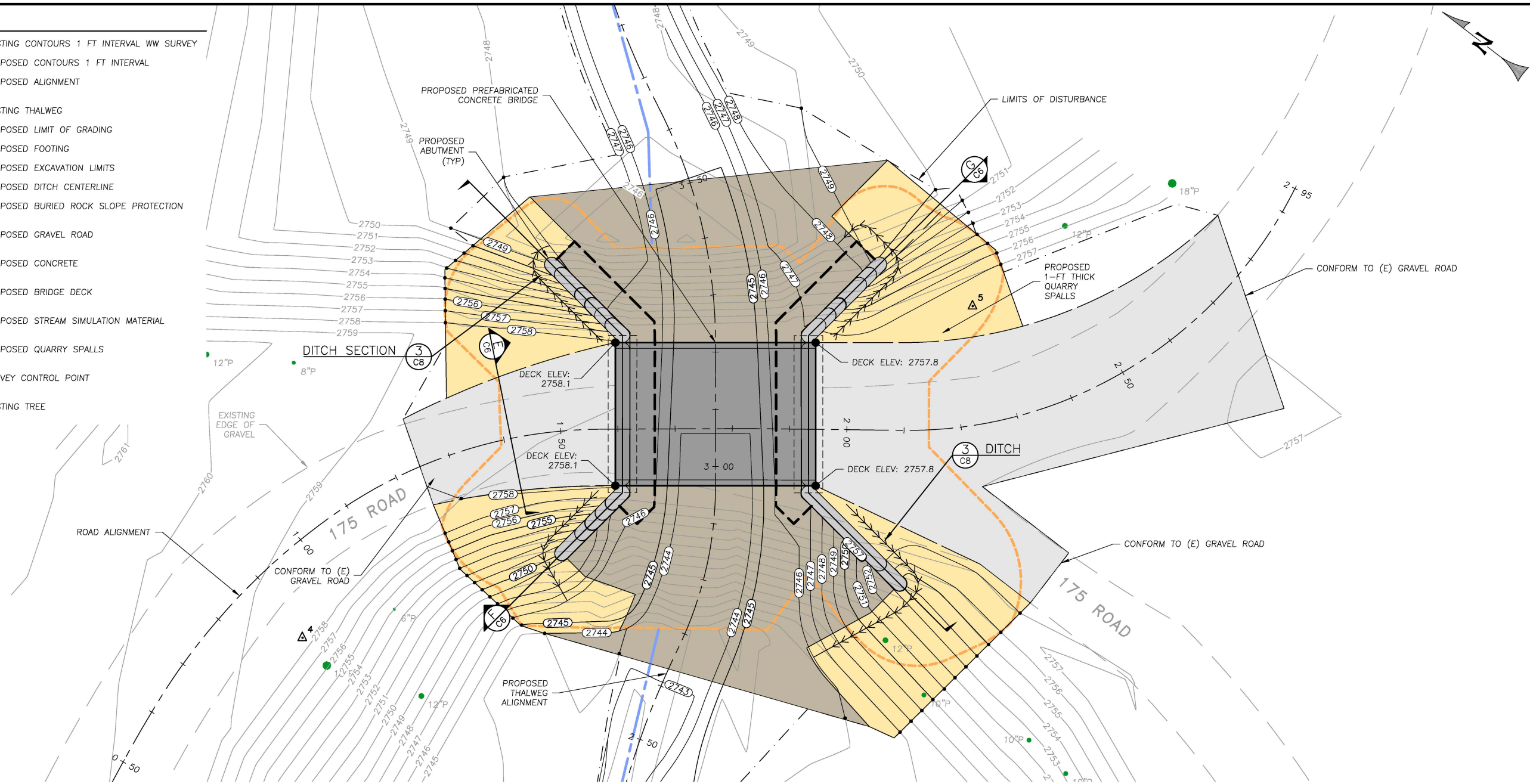
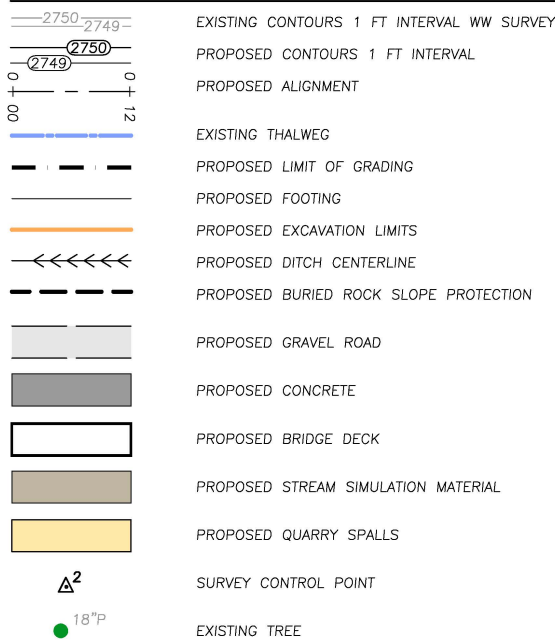
**BRUSH CREEK FISH
PASSAGE AT 175 ROAD
100% DESIGN**

DESIGNED BY: J.H.
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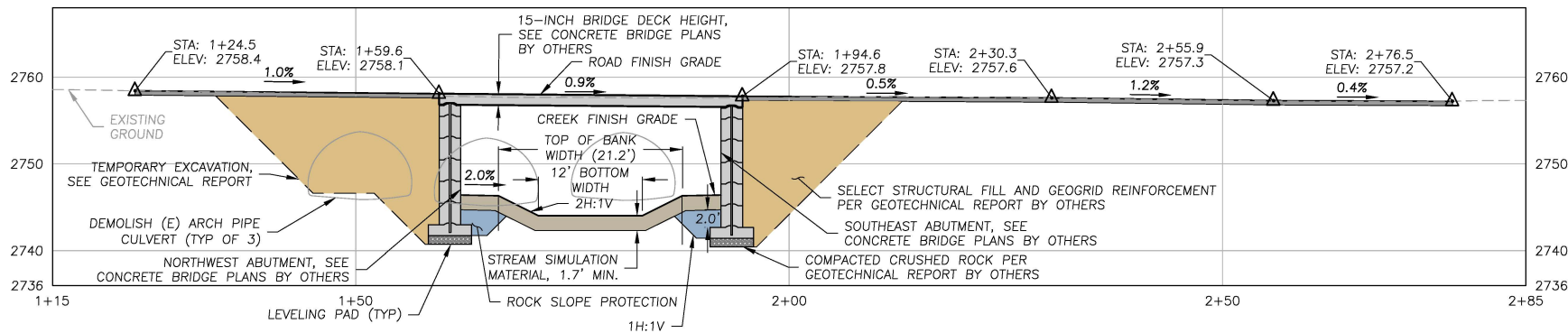
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LEGEND



ROAD PLAN
SCALE: 1" = 10'

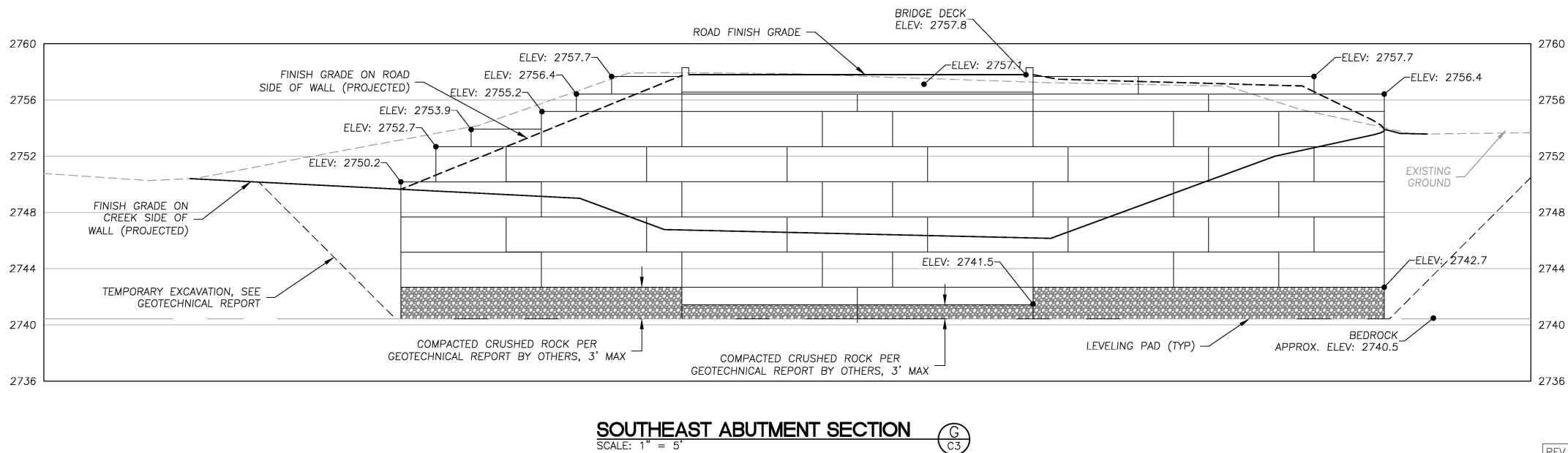
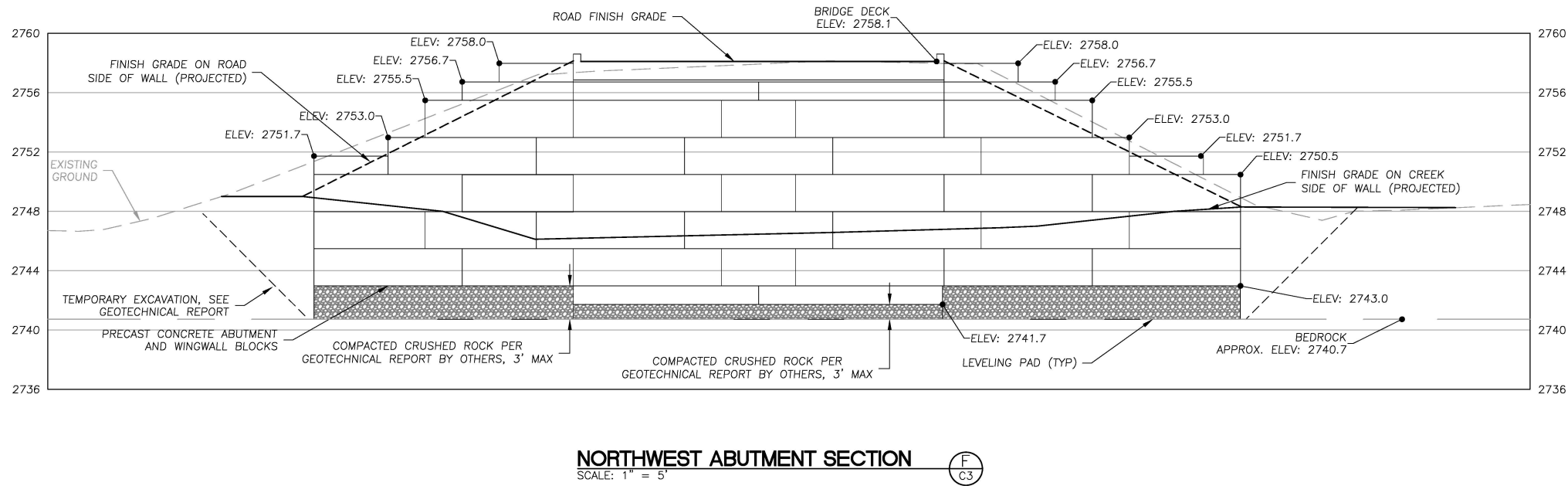
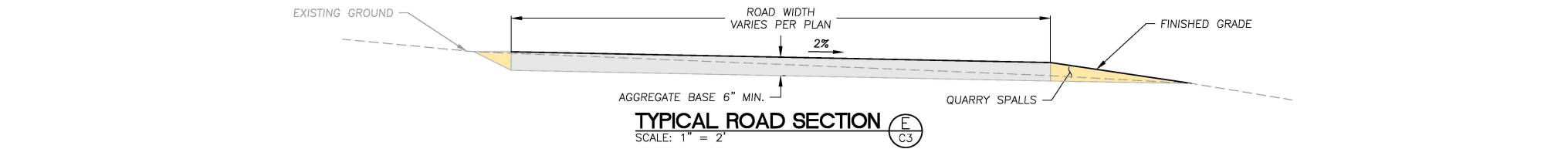
NOTES:
1. ALL TREES REMOVED FOR CONSTRUCTION SHALL BE SALVAGED AS WHOLE TREES WITH ROOT WADS ATTACHED, AND SHALL BE PLACED IN THE FLOODPLAIN DOWNSTREAM OF THE BRIDGE AT THE DIRECTION OF THE ENGINEER.



ROAD PROFILE
SCALE: 1" = 10'

REV.	DATE	DESCRIPTION	BY
1	12/4/24	UPDATED ABUTMENTS	M.M.

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WATERWAYS
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Jake D. Hofeld
JAKE D. HOFELD
EXPIRES: 4/9/2026

PREPARED AT THE REQUEST OF:
YAKAMA NATION FISHERIES

ROAD PROFILE
AND
ELEVATIONS

BRUSH CREEK FISH
PASSAGE AT 175 ROAD
100% DESIGN

DESIGNED BY: J.H.
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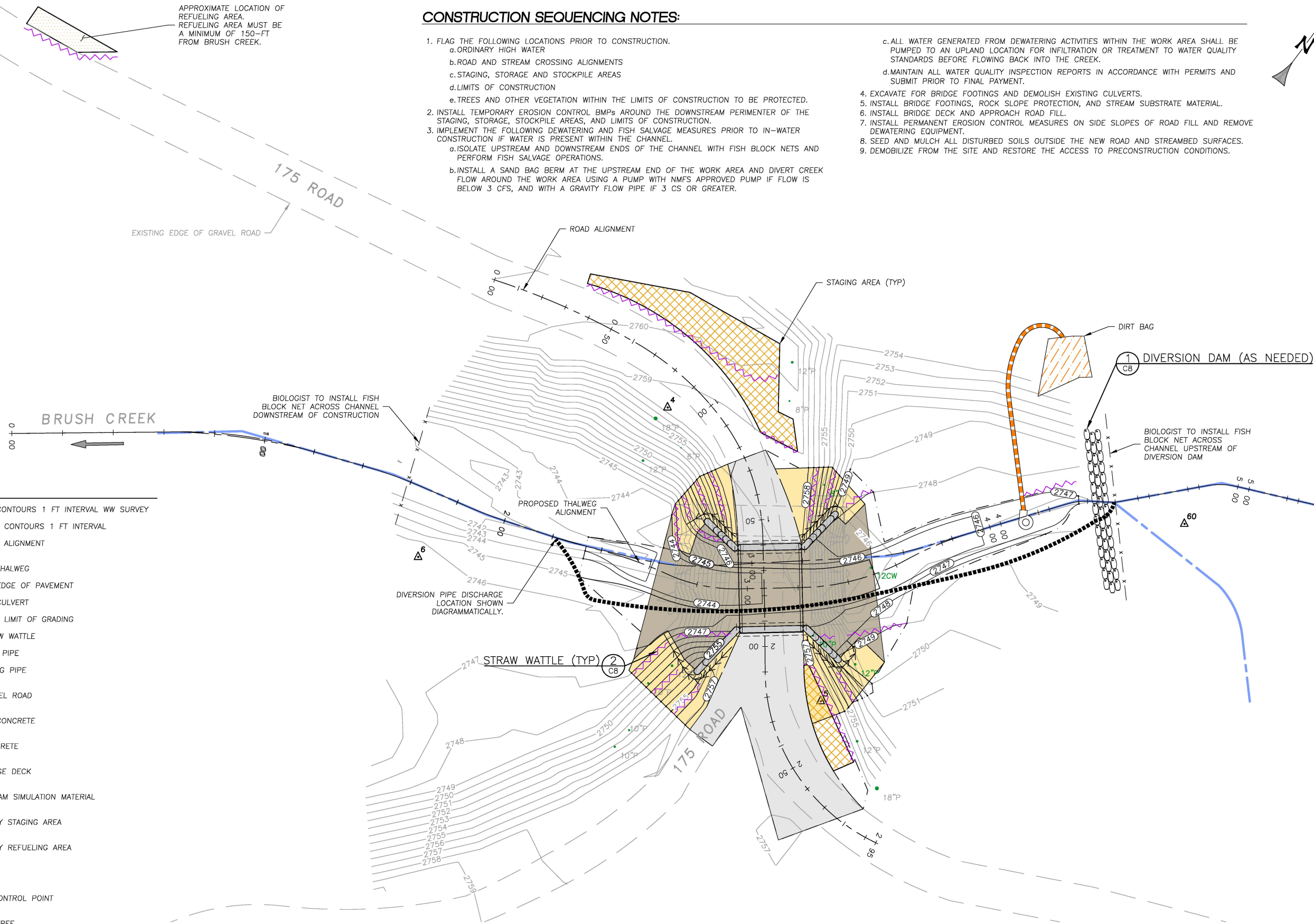
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LEGEND

	EXISTING CONTOURS 1 FT INTERVAL WW SURVEY
	PROPOSED CONTOURS 1 FT INTERVAL
	PROPOSED ALIGNMENT
	EXISTING THALWEG
	EXISTING EDGE OF PAVEMENT
	EXISTING CULVERT
	PROPOSED LIMIT OF GRADING
	NEW STRAW WATTLE
	DIVERSION PIPE
	DEWATERING PIPE
	NEW GRAVEL ROAD
	EXISTING CONCRETE
	NEW CONCRETE
	NEW BRIDGE DECK
	NEW STREAM SIMULATION MATERIAL
	TEMPORARY STAGING AREA
	TEMPORARY REFUELING AREA
	DIRT BAG
	SURVEY CONTROL POINT
	EXISTING TREE
	GROUNDWATER DEWATERING WELL/PUMP

CONSTRUCTION SEQUENCING NOTES:

- FLAG THE FOLLOWING LOCATIONS PRIOR TO CONSTRUCTION.
 - ORDINARY HIGH WATER
 - ROAD AND STREAM CROSSING ALIGNMENTS
 - STAGING, STORAGE AND STOCKPILE AREAS
 - LIMITS OF CONSTRUCTION
 - TREES AND OTHER VEGETATION WITHIN THE LIMITS OF CONSTRUCTION TO BE PROTECTED.
- INSTALL TEMPORARY EROSION CONTROL BMPs AROUND THE DOWNSTREAM PERIMETER OF THE STAGING, STORAGE, STOCKPILE AREAS, AND LIMITS OF CONSTRUCTION.
- IMPLEMENT THE FOLLOWING DEWATERING AND FISH SALVAGE MEASURES PRIOR TO IN-WATER CONSTRUCTION IF WATER IS PRESENT WITHIN THE CHANNEL.
 - ISOLATE UPSTREAM AND DOWNSTREAM ENDS OF THE CHANNEL WITH FISH BLOCK NETS AND PERFORM FISH SALVAGE OPERATIONS.
 - INSTALL A SAND BAG BERM AT THE UPSTREAM END OF THE WORK AREA AND DIVERT CREEK FLOW AROUND THE WORK AREA USING A PUMP WITH NMFS APPROVED PUMP IF FLOW IS BELOW 3 CFS, AND WITH A GRAVITY FLOW PIPE IF 3 CS OR GREATER.
- ALL WATER GENERATED FROM DEWATERING ACTIVITIES WITHIN THE WORK AREA SHALL BE PUMPED TO AN UPLAND LOCATION FOR INFILTRATION OR TREATMENT TO WATER QUALITY STANDARDS BEFORE FLOWING BACK INTO THE CREEK.
- MAINTAIN ALL WATER QUALITY INSPECTION REPORTS IN ACCORDANCE WITH PERMITS AND SUBMIT PRIOR TO FINAL PAYMENT.
- EXCAVATE FOR BRIDGE FOOTINGS AND DEMOLISH EXISTING CULVERTS.
- INSTALL BRIDGE FOOTINGS, ROCK SLOPE PROTECTION, AND STREAM SUBSTRATE MATERIAL.
- INSTALL BRIDGE DECK AND APPROACH ROAD FILL.
- INSTALL PERMANENT EROSION CONTROL MEASURES ON SIDE SLOPES OF ROAD FILL AND REMOVE DEWATERING EQUIPMENT.
- SEED AND MULCH ALL DISTURBED SOILS OUTSIDE THE NEW ROAD AND STREAMBED SURFACES.
- DEMOLIBIZE FROM THE SITE AND RESTORE THE ACCESS TO PRECONSTRUCTION CONDITIONS.



EROSION CONTROL AND DEWATERING PLAN

SCALE: 1" = 20'

NOTES:

- EQUIPMENT REFUELING AREA MUST BE A MINIMUM OF 150-FT FROM BRUSH CREEK.
- PLACE STRAW WATTLES IN LINE WITH FINISHED GRADE CONTOURS.

REV.	DATE	DESCRIPTION	BY
1	12/4/24	NO CHANGES THIS SHEET	M.M.



PREPARED AT THE REQUEST OF:
YAKAMA NATION FISHERIES

**EROSION
CONTROL AND
DEWATERING
PLAN**

**BRUSH CREEK FISH
PASSAGE AT 175 ROAD
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DESIGNED BY: J.H.
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0 1"

C7

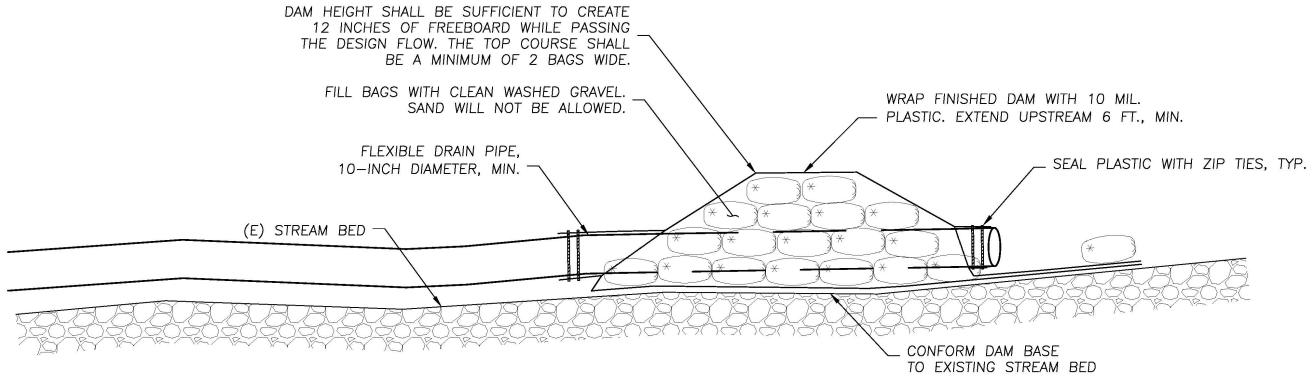
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OF
11

EROSION CONTROL NOTES

1. THE EROSION CONTROL MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, UPGRADE THESE MEASURES AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL EROSION AND SEDIMENT CONTROL REGULATIONS.
2. PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION.
3. IDENTIFY, MARK, AND PROTECT (BY FENCING OFF OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS.
4. PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED.
5. EROSION AND SEDIMENT CONTROL MEASURES INCLUDING PERIMETER SEDIMENT CONTROL MUST BE IN PLACE BEFORE VEGETATION IS DISTURBED AND MUST REMAIN IN PLACE AND BE MAINTAINED, REPAIRED, AND PROMPTLY IMPLEMENTED FOLLOWING PROCEDURES ESTABLISHED FOR THE DURATION OF CONSTRUCTION, INCLUDING PROTECTION FOR ACTIVE STORM DRAIN INLETS AND CATCH BASINS AND APPROPRIATE NON-STORMWATER POLLUTION CONTROLS.
6. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES AND FOR ALL ROADWAYS INCLUDING GRAVEL ROADWAYS.
7. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS.
8. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LAND-DISTURBING ACTIVITIES.
9. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE.

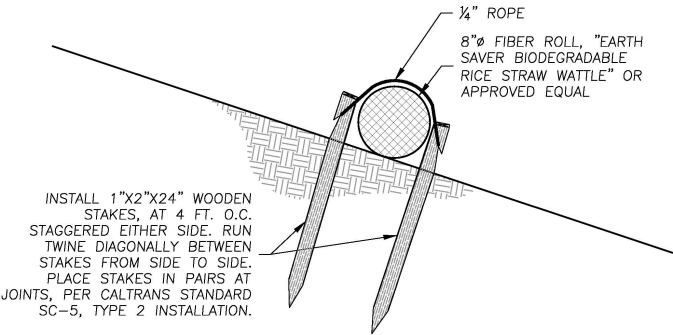
10. USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS; VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, LEFTOVER PAINTS, SOLVENTS, AND GLUES FROM CONSTRUCTION OPERATIONS.
11. FUELING ACTIVITIES MUST BE LOCATED A MINIMUM OF 150 FEET FROM ORDINARY HIGH WATER AND SENSITIVE WATERS, INCLUDING WETLANDS.
12. IMPLEMENT THE FOLLOWING BMPS WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES.
13. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL.
14. ONSITE VEHICLE SPEED ON UNPAVED SURFACES SHALL BE LIMITED TO 15 MPH.
15. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE.
16. IF A STORMWATER TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
17. TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR.

18. AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPS MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS.
19. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND DURING WET WEATHER.
20. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL.
21. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMEFRAME.
22. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS, DRAINAGE WAYS, OR WETLANDS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS.
23. THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE.
24. PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE.
25. PROVIDE PERMANENT EROSION CONTROL MEASURES ON ALL EXPOSED AREAS AS THEY ARE COMPLETED. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. HOWEVER, DO REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AS EXPOSED AREAS BECOME STABILIZED, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. PROPERLY DISPOSE OF CONSTRUCTION MATERIALS AND WASTE, INCLUDING SEDIMENT RETAINED BY TEMPORARY BMPS.



NOTE: CONTRACTOR MAY USE ALTERNATE DAM DETAIL, SUBJECT TO APPROVAL OF THE ENGINEER AND THE PERMITTING AGENCIES.

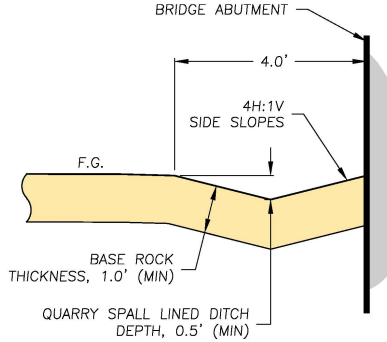
DIVERSION DAM PROFILE 1
SCALE: 1" = 5'



STRAW WATTLE NOTES

1. CLEAR THE BEDDING AREA FOR THE STRAW WATTLE OF OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH IN DIAMETER BEFORE INSTALLATION.
2. CONSTRUCT FURROWS TO THE DEPTH SHOWN, AND TO A SUFFICIENT WIDTH TO HOLD THE FIBER ROLL. INSTALL STAKES AT THE ON-CENTER SPACING SHOWN ALONG THE LENGTH OF THE STRAW WATTLE AND STOPPED AT 12 INCHES FROM EACH END OF THE WATTLES. DRIVE STAKES TO BETWEEN TWO AND THREE INCHES ABOVE THE TOP OF THE ROLL.
3. PLACE STRAW WATTLES 10 FEET APART ALONG THE SLOPE FOR SLOPE INCLINATION OF 2H:1V AND STEEPER, AND 15 FEET APART ALONG THE SLOPE FOR SLOPE INCLINATION BETWEEN 2H:1V AND 4H:1V.
4. INSTALL STRAW WATTLES APPROXIMATELY PARALLEL TO THE SLOPE CONTOUR. ANGLE THE TERMINUS OF ROWS UP-SLOPE AT 45 DEGREES FOR A DISTANCE OF THREE FEET. WHERE FIBER ROLLS MEET, PROVIDE AN OVERLAP OF 18 INCHES, WITH ADJACENT ROLLS TIGHTLY ABUTTING EACH OTHER.
5. INSTALL STRAW WATTLES PRIOR TO SEEDING.

STRAW WATTLE DETAIL 2
SCALE: 1" = 1'



DITCH SECTION 3
SCALE: 1" = 2'

REV.	DATE	DESCRIPTION	BY
1	12/4/24	NO CHANGES THIS SHEET	M.M.

DIVERSION NOTES

THE DIVERSION PLAN SHOWN IS SCHEMATIC. GENERAL REQUIREMENTS ARE PROVIDED BELOW. THE FULL REQUIREMENTS OF THE DIVERSION AND DEWATERING PLAN ARE SPECIFIED IN THE PROJECT TECHNICAL SPECIFICATIONS.

1. GENERAL
 - 1.1. DEWATER THE PROJECT SITE AS REQUIRED TO FACILITATE IN-STREAM CONSTRUCTION AND TO REDUCE POTENTIAL IMPACTS TO WATER QUALITY DOWNSTREAM OF THE PROJECT SITE.
 - 1.2. CONFIRM THAT A FAVORABLE LONG TERM WEATHER FORECAST (1 WEEK, MIN.) IS OBSERVED PRIOR TO PLACEMENT OF DIVERSION STRUCTURES.
 - 1.3. PRIOR TO PLACEMENT OF DIVERSION STRUCTURE, REMOVE FISH FROM THE PROJECT REACH, IN ACCORDANCE WITH SECTION 2.
 - 1.4. DIVERT FLOW ONLY WHEN THE DIVERSION CONSTRUCTION IS OTHERWISE COMPLETE. FOLLOWING ENGINEER'S APPROVAL OF THE COMPLETED WORK, REMOVE DIVERSION BEGINNING AT THE DOWNSTREAM LIMIT, IN AN UPSTREAM DIRECTION.
2. FISH REMOVAL
 - 2.1. FISH SHALL BE REMOVED FROM THE PROJECT SITE BY A QUALIFIED FISHERIES BIOLOGIST, AUTHORIZED TO PERFORM SUCH ACTIVITIES BY THE NATIONAL MARINE FISHERIES SERVICE AND THE WASHINGTON DEPARTMENT OF FISH AND WILDLIFE.
 - 2.2. BLOCK NETS SHALL BE PROVIDED AND INSTALLED BY THE FISHERIES BIOLOGIST. BLOCK NETS SHALL BE MAINTAINED BY THE CONTRACTOR BOTH UPSTREAM AND DOWNSTREAM OF THE DIVERSION, THROUGHOUT THE PERIOD OF CONSTRUCTION. MAINTENANCE INCLUDES PERIODIC REMOVAL OF ACCUMULATED DEBRIS, AS NECESSARY TO ENSURE FUNCTION. BLOCK NETS SHALL BE REMOVED BY THE FISHERIES BIOLOGIST AFTER THE DIVERSION IS REMOVED AND THE IN CHANNEL WORK AREA IS RE-WATERED.
3. DIVERSION SYSTEM
 - 3.1. INSTALL A SEALED, TEMPORARY DIVERSION DAM CONSTRUCTED USING GRAVEL FILLED BAGS TO CAPTURE AND DIVERT STREAM FLOW UPSTREAM OF THE PROJECT SITE. THE DAM AND METHOD OF SEALING SHALL BE PLACED AT AN APPROPRIATE DEPTH TO CAPTURE SUBSURFACE STREAM FLOW, AS NEEDED TO DEWATER THE STREAMBED. GRAVEL SHALL BE WASHED PRIOR TO PLACEMENT IN BAGS. THE USE OF SAND WILL NOT BE ALLOWED. NO OTHER DIVERSION METHOD SHALL BE USED WITHOUT AUTHORIZATION OF THE ENGINEER. IF AN ALTERNATE DIVERSION METHOD IS PREFERRED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUBMIT A PLAN TO THE ENGINEER FOR APPROVAL, DETAILING THE DESIRED DIVERSION METHOD.
 - 3.2. THE DIVERSION STRUCTURE SHALL BE CONSTRUCTED AS SHOWN ON DETAIL 1 ON SHEET C8 OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
 - 3.3. IN THE EVENT OF A SIGNIFICANT STORM, THE CONTRACTOR SHALL BE PREPARED TO TAKE NECESSARY MEASURES TO INSURE SAFE PASSAGE OF STORM WATER FLOW THROUGH THE PROJECT AREA, WITHOUT DAMAGE TO EXISTING STRUCTURES, OR INTRODUCTION OF EXCESSIVE SEDIMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY EROSION CONTROL BMPS.
 - 3.4. THE DIVERSION SHALL BE CAPABLE OF CONVEYING ANTICIPATED FLOWRATES WITH LESS THAN 6 INCHES OF HEAD OVER THE TOP OF PIPE AT THE INLET, AND SHALL BE A MINIMUM DIAMETER OF 10", WITH A MANNING'S ROUGHNESS NOT EXCEEDING .012.
4. DEWATERING OF CONSTRUCTION AREAS
 - 4.1. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY PUMPS, PIPING, FILTERS, SHORING, AND OTHER TOOLS AND MATERIALS NECESSARY FOR DEWATERING. IF A PUMPED SYSTEM IS RELIED UPON TO ENSURE DOWNSTREAM WATER QUALITY, A BACKUP PUMP OF EQUAL CAPACITY SHALL BE PROVIDED AT ALL TIMES AND THE PUMP MUST BE CONTINUOUSLY MONITORED.
 - 4.2. DEWATERING ACTIVITIES WHICH MAY BE REQUIRED FOR CONSTRUCTION PURPOSES SHALL COMPLY WITH WATER QUALITY STANDARDS ISSUED BY WASHINGTON STATE DEPARTMENT OF ECOLOGY.
 - 4.3. DISCHARGE OF WATER FROM THE DEWATERED CONSTRUCTION SITE, EITHER BY GRAVITY OR PUMPING, SHALL BE PERFORMED IN A MANNER THAT PREVENTS EXCESSIVE TURBIDITY FROM ENTERING THE RECEIVING WATERWAYS AND PREVENTS SCOUR AND EROSION OUTSIDE OF THE CONSTRUCTION SITE. PUMPED WATER SHOULD BE PRE-FILTERED WITH A GRAVEL PACK AROUND SUMPS FOR SUBSURFACE FLOWS AND A SILT FENCE AROUND PUMPS FOR SURFACE FLOW. PUMPED WATER SHALL BE DISCHARGED INTO ISOLATED LOCAL DEPRESSIONS, FILTER BAGS, SETTLING (BAKER) TANKS, OR TEMPORARY SEDIMENT BASINS, AS NECESSARY TO MEET WATER QUALITY REQUIREMENTS. WHERE WATER TO BE DISCHARGED INTO BRUSH OR WHITE CREEK WILL CREATE EXCESSIVE TURBIDITY, THE WATER SHALL BE ROUTED THROUGH A SEDIMENT INTERCEPTOR OR OTHER FACILITIES TO REMOVE SEDIMENT FROM WATER.

WATERWAYS

CONSULTING INC.

1020 SW TAYLOR STREET, STE. 380
PORTLAND, OR 97205
PH: (503) 227-5979 // FAX: (888) 819-6847
WWW.WATWAYS.COM

SEAL

REGISTERED PROFESSIONAL ENGINEER

STATE OF OREGON

NO. 3527

EXPIRES: 4/9/2026

JAKE D. HOFELD

PREPARED AT THE REQUEST OF:

YAKAMA NATION FISHERIES

DETAILS AND

NOTES

BRUSH CREEK FISH
PASSAGE AT 175 ROAD
100% DESIGN

DESIGNED BY: J.H.
DRAWN BY: D.H./M.M.
CHECKED BY: J.H.
DATE: 12/19/2024
JOB NO.: 20-026

BAR IS ONE INCH ON
ORIGINAL DRAWING,
ADJUST SCALES FOR
REDUCED PLOTS
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8
OF
11

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GENERAL NOTES

1. NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER OR A DESIGNATED REPRESENTATIVE SHALL OBSERVE THE CONSTRUCTION PROCESS, AS NECESSARY TO ENSURE PROPER INSTALLATION PROCEDURES.
2. EXISTING UNDERGROUND UTILITY LOCATIONS:

A. CALL UNDERGROUND SERVICE ALERT (1-800-424-5555) TO LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCING CONSTRUCTION.

B. PRIOR TO BEGINNING WORK, CONTACT ALL UTILITIES COMPANIES WITH REGARD TO WORKING OVER, UNDER, OR AROUND EXISTING FACILITIES AND TO OBTAIN INFORMATION REGARDING RESTRICTIONS THAT ARE REQUIRED TO PREVENT DAMAGE TO THE FACILITIES.

C. EXISTING UTILITY LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY THE APPROPRIATE UTILITY AGENCIES AND FROM FIELD MEASUREMENTS TO ABOVE GROUND FEATURES READILY VISIBLE AT THE TIME OF SURVEY. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND DEPTH OF UNDERGROUND UTILITIES.

D. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.

E. PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION, DISCOVER OR VERIFY THE ACTUAL DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES AND POT HOLE THOSE AREAS WHERE POTENTIAL CONFLICTS ARE LIKELY OR DATA IS OTHERWISE INCOMPLETE.

F. TAKE APPROPRIATE MEASURES TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION OPERATIONS. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF REPAIR/REPLACEMENT OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.

G. ON LEARNING OF THE EXISTENCE AND/OR LOCATIONS OF ANY UNDERGROUND FACILITIES NOT SHOWN OR SHOWN INACCURATELY ON THE PLANS OR NOT PROPERLY MARKED BY THE UTILITY OWNER, IMMEDIATELY NOTIFY THE UTILITY OWNER AND THE CITY BY TELEPHONE AND IN WRITING.

H. UTILITY RELOCATIONS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT FACILITIES WILL BE PERFORMED BY THE UTILITY COMPANY, UNLESS OTHERWISE NOTED.
3. IF DISCREPANCIES ARE DISCOVERED BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.
5. ALL TESTS, INSPECTIONS, SPECIAL OR OTHERWISE, THAT ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR THESE PLANS, SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY. JOB SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE AN OFFICIAL INSPECTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE REQUIRED TESTS AND INSPECTIONS ARE PERFORMED.
6. PROJECT SCHEDULE: PRIOR TO COMMENCEMENT OF WORK, SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL A DETAILED CONSTRUCTION SCHEDULE. DO NOT BEGIN ANY CONSTRUCTION WORK UNTIL THE PROJECT SCHEDULE AND WORK PLAN IS APPROVED BY THE ENGINEER. ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL. PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, PERMITTING, INSTALLATION, AND MAINTENANCE OF ANY AND ALL TRAFFIC CONTROL MEASURES DEEMED NECESSARY.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL SAFETY DURING CONSTRUCTION. ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE FOR THE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.
9. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. NEITHER THE PROFESSIONAL ACTIVITIES OF CONSULTANT NOR THE PRESENCE OF CONSULTANT OR HIS OR HER EMPLOYEES OR SUB-CONSULTANTS AT A CONSTRUCTION SITE SHALL RELIEVE THE CONTRACTOR AND ITS SUBCONTRACTORS OF THEIR RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE HEALTH OR SAFETY REQUIREMENTS OF ANY REGULATORY AGENCY OR OF STATE LAW.
10. MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL AS-BUILT DEVIATIONS FROM THE CONSTRUCTION AS SHOWN ON THESE DRAWINGS AND SPECIFICATIONS, FOR THE PURPOSE OF PROVIDING THE ENGINEER OF RECORD WITH A BASIS FOR THE PREPARATION OF RECORD DRAWINGS.
11. MAINTAIN THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. STORE ALL MATERIALS WITHIN APPROVED STAGING AREAS.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL PERMIT CONDITIONS, LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS, WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.
13. PROVIDE, AT CONTRACTOR'S SOLE EXPENSE, ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLY WITH ALL APPLICABLE PERMIT CONDITIONS AND REQUIREMENTS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED.
15. FIELD INSPECTIONS AND OR THE PROVISION OF CONSTRUCTION STAKES DO NOT RELIEVE THE CONTRACTOR OF THEIR SOLE RESPONSIBILITY FOR ESTABLISHING ACCURATE CONSTRUCTED LINES AND GRADES, AS SPECIFIED.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF ALL SURVEY MONUMENTS OR PROPERTY CORNERS. DISTURBED MONUMENTS SHALL BE RESTORED BACK TO THEIR ORIGINAL LOCATION AND SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER OR LAND SURVEYOR AT THE SOLE EXPENSE OF THE CONTRACTOR.
17. THE OWNER SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL PROPERTY LINES AND EASEMENTS AND CONFIRMING THAT PROPOSED PROJECT ELEMENTS ARE LOCATED ON DISTRICT OWNED LANDS OR ARE COORDINATED WITH OWNERS AND APPROPRIATE PERMISSIONS ARE GRANTED FOR THE WORK.
18. TREE DIMENSIONS: TRUNK DIAMETERS SHOWN REPRESENT DIAMETER AT BREAST HEIGHT (DBH), MEASURED IN INCHES. DBH IS MEASURED 4.5 FT ABOVE GROUND FOR SINGLE TRUNKS AND TRUNKS THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND. THE DBH FOR TREES THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND MAY BE CONSOLIDATED INTO A SINGLE DBH BY TAKING THE SQUARE ROOT OF THE SUM OF ALL SQUARED STEM DBH'S, UNLESS OTHERWISE NOTED. WHERE TREES FORK NEAR BREAST HEIGHT, TRUNK DIAMETER IS MEASURED AT THE NARROWEST PART OF THE MAIN STEM BELOW THE FORK. FOR TREES ON A SLOPE, BREAST HEIGHT IS REFERENCED FROM THE UPPER SIDE OF THE SLOPE. FOR LEANING TREES, BREAST HEIGHT IS MEASURED ON THE SIDE THAT THE TREE LEANS TOWARD. TREES WITH DBH LESS THAN 8" ARE TYPICALLY NOT SHOWN.

12"P = 12" DBH PINE
19. TREE SPECIES ARE IDENTIFIED WHEN KNOWN. HOWEVER, FINAL DETERMINATION SHOULD BE MADE BY A QUALIFIED BOTANIST. REFER TO THE LEGEND FOR TREE SPECIES SYMBOLS.
20. TREE TRUNK DIMENSIONS MAY BE SHOWN OUT-OF-SCALE FOR PLOTTING CLARITY. CAUTION SHOULD BE USED IN DESIGNING NEAR TREE TRUNKS. THERE ARE LIMITATIONS ON FIELD ACCURACY, DRAFTING ACCURACY, MEDIUM STRETCH AS WELL AS THE "SPREAD" OR "LEANING" OF TREES. REQUEST ADDITIONAL TOPOGRAPHIC DETAIL WHERE CLOSE TOLERANCES ARE ANTICIPATED. INDIVIDUAL TREES ARE NOT TYPICALLY LOCATED WITHIN DRIPLINE CANOPY AREAS SHOWN.
21. APPROXIMATE CENSUS OF TREES TO BE REMOVED:

COMMON NAME NUMBER

PINE 6
29. CONTRACTOR IS REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
30. THE CONTRACTOR SHALL CONFORM TO THE RULES AND REGULATIONS OF THE CONSTRUCTION SAFETY ORDERS OF THE CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY AND HEALTH PERTAINING TO EXCAVATION AND TRENCHES THE CALIFORNIA CODE OF REGULATIONS TITLE 8, SUBCHAPTER 4 CONSTRUCTION SAFETY ORDERS, ARTICLE 6 EXCAVATION.
31. CULTURAL RESOURCES: IN THE EVENT THAT HUMAN REMAINS AND/OR CULTURAL MATERIALS ARE FOUND, ALL PROJECT-RELATED CONSTRUCTION SHALL CEASE WITHIN A 100-FOOT RADIUS. THE CONTRACTOR SHALL NOTIFY THE YAKAMA NATION IMMEDIATELY.

EARTHWORK NOTES

1. GEOTECHNICAL SAMPLING AND ANALYSIS WILL BE PERFORMED PRIOR TO CONSTRUCTION AND A REPORT WITH EARTHWORK REQUIREMENTS WILL BE PROVIDED TO THE CONTRACTOR. NO WORK SHALL BE PERFORMED UNTIL THIS REPORT HAS BEEN ISSUED TO THE CONTRACTOR BY THE OWNER'S REPRESENTATIVE..
2. GRADING SUMMARY:

TOTAL CUT VOLUME = 906.3 CY

TOTAL FILL VOLUME = 32.0 CY

NET (CUT/FILL) = 874.3 CY
- THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED AS THE DIFFERENCE BETWEEN EXISTING GROUND AND THE PROPOSED FINISH GRADE, PREPARED FOR PERMITTING PURPOSES ONLY. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF WORK TO BE CONSTRUCTED. THE QUANTITIES HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.
- THE CONTRACTOR SHALL PERFORM AN INDEPENDENT EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING BID PRICES FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS OR UNSUITABLE EARTH MATERIALS.
3. PRIOR TO COMMENCING WORK, PROTECT ALL SENSITIVE AREAS TO REMAIN UNDISTURBED WITH TEMPORARY FENCING, AS SHOWN ON THE DRAWINGS, AS SPECIFIED, OR AS DIRECTED BY THE ENGINEER.
4. DO NOT DISTURB AREAS OUTSIDE OF THE DESIGNATED LIMITS OF DISTURBANCE, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER. THE COST OF ALL ADDITIONAL WORK ASSOCIATED WITH RESTORATION AND REVEGETATION OF DISTURBED AREAS OUTSIDE THE DESIGNATED LIMITS OF DISTURBANCE, AS SHOWN ON THE DRAWINGS, SHALL BE BORNE SOLELY BY THE CONTRACTOR.
5. REMOVE ALL EXCESS SOILS TO AN APPROVED DUMP SITE OR DISPOSE OF ON SITE AT A LOCATION TO BE APPROVED BY THE ENGINEER, IN A MANNER THAT WILL NOT CAUSE EROSION.
6. CLEARING AND GRUBBING, SUBGRADE PREPARATION AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH DIVISION 2 OF THE STANDARD SPECIFICATIONS, THESE DRAWINGS, AND THE TECHNICAL SPECIFICATIONS.
7. PRIOR TO STARTING WORK ON THE PROJECT, SUBMIT FOR ACCEPTANCE BY THE ENGINEER A HAZARDOUS MATERIALS CONTROLS AND SPILL PREVENTION PLAN. INCLUDE PROVISIONS FOR PREVENTING HAZARDOUS MATERIALS FROM CONTAMINATING SOIL OR ENTERING WATER COURSES, AND ESTABLISH A SPILL PREVENTION AND COUNTERMEASURE PLAN.
9. UNLESS AUTHORIZED BY THE GEOTECHNICAL ENGINEER, THE FOLLOWING MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK:

A. ORGANIC MATERIALS SUCH AS PEAT, MULCH, ORGANIC SILT OR SOD.

B. SOILS CONTAINING EXPANSIVE CLAYS.

C. MATERIAL CONTAINING EXCESSIVE MOISTURE.

D. POORLY GRADED COURSE MATERIAL

E. PARTICLE SIZES IN EXCESS OF 6 INCHES.

E. MATERIAL WHICH WILL NOT ACHIEVE SPECIFIED DENSITY OR BEARING.
10. FINE GRADING ELEVATIONS, CONFORMS, AND SLOPES NOT CLEARLY SHOWN ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD TO DIRECT DRAINAGE TO PROTECTED DRAINAGE CONTROL STRUCTURES OR NATURAL WATERWAYS IN A MANNER THAT SUPPORTS THE INTENT OF THE DESIGN. ALL FINAL GRADING SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
11. THE TOP 6" OF SUBGRADE UNDER ALL PAVED SURFACES SUBJECT TO VEHICULAR USE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION, IN ACCORDANCE WITH ASTM-D1557. ALL OTHER FILL TO BE COMPACTED TO A MINIMUM OF 90% MAXIMUM DENSITY AS DETERMINED BY ASTM-D1557 AND SO CERTIFIED BY TESTS AND REPORTS FROM THE CIVIL ENGINEER IN CHARGE OF THE GRADING CERTIFICATION.
12. SPREAD FILL MATERIAL IN LIFTS OF APPROXIMATELY 8 INCHES, MOISTENED OR DRIED TO NEAR OPTIMUM MOISTURE CONTENT AND RECOMPACTED. THE MATERIALS FOR ENGINEERED FILL SHALL BE APPROVED BY A REGISTERED CIVIL ENGINEER. ANY IMPORTED MATERIALS MUST BE APPROVED BEFORE BEING BROUGHT TO THE SITE. THE MATERIALS USED SHALL BE FREE OF ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS.
13. ALL CONTACT SURFACES BETWEEN ORIGINAL GROUND AND RECOMPACTED FILL SHALL BE EITHER HORIZONTAL OR VERTICAL. ALL ORGANIC MATERIAL SHALL BE REMOVED AND THE REMAINING SURFACE SCARIFIED TO A DEPTH OF AT LEAST 12 INCHES, UNLESS DEEPER EXCAVATION IS REQUIRED BY THE ENGINEER.

REV.	DATE	DESCRIPTION	BY
1	12/4/24	NO CHANGES THIS SHEET	M.M.

WATERWAYS CONSULTING INC.



1020 SW TAYLOR STREET, STE. 380
PORTLAND, OR 97205
PH: (503) 227-5979 // FAX: (888) 819-6847
WWW.WATWAYS.COM



PREPARED AT THE REQUEST OF:
YAKAMA NATION FISHERIES

NOTES

BRUSH CREEK FISH
PASSAGE AT 175 ROAD
100% DESIGN

DESIGNED BY: J.H.
DRAWN BY: D.H./M.M.
CHECKED BY: J.H.
DATE: 12/19/2024
JOB NO.: 20-026

BAR IS ONE INCH ON
ORIGINAL DRAWING,
ADJUST SCALES FOR
REDUCED PLOTS


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HIP 4 GENERAL CONSERVATION MEASURES APPLICABLE TO ALL ACTIONS

THE ACTIVITIES COVERED UNDER THE HIP ARE INTENDED TO PROTECT AND RESTORE FISH AND WILDLIFE HABITAT WITH LONG-TERM BENEFITS TO ESA-LISTED SPECIES. THE FOLLOWING GENERAL CONSERVATION MEASURES (DEVELOPED IN COORDINATION WITH USFWS AND NMFS) WILL BE APPLIED TO ALL ACTIONS OF THIS PROJECT.

PROJECT DESIGN AND SITE PREPARATION

1. STATE AND FEDERAL PERMITS
- 1.A. ALL APPLICABLE REGULATORY PERMITS AND OFFICIAL PROJECT AUTHORIZATIONS WILL BE OBTAINED BEFORE PROJECT IMPLEMENTATION.

1.B. THESE PERMITS AND AUTHORIZATIONS INCLUDE, BUT ARE NOT LIMITED TO, NATIONAL ENVIRONMENTAL POLICY ACT, NATIONAL HISTORIC PRESERVATION ACT, THE APPROPRIATE STATE AGENCY REMOVAL AND FILL PERMIT, USACE CLEAN WATER ACT (CWA) 404 PERMITS, CWA SECTION 401 WATER QUALITY CERTIFICATIONS, AND FEMA NO-RISE ANALYSES.
2. TIMING OF IN-WATER WORK
- 2.A. APPROPRIATE STATE (OREGON DEPARTMENT OF FISH AND WILDLIFE (ODFW), WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW), IDAHO DEPARTMENT OF FISH AND GAME (IDFG), AND MONTANA FISH WILDLIFE AND PARKS (MFWP)) GUIDELINES FOR TIMING OF IN-WATER WORK WINDOWS (IWW) WILL BE FOLLOWED.

2.B. CHANGES TO ESTABLISHED WORK WINDOWS WILL BE APPROVED BY REGIONAL STATE BIOLOGISTS AND BPA'S EC LEAD.

2.C. BULL TROUT. FOR AREAS WITH DESIGNATED IN-WATER WORK WINDOWS FOR BULL TROUT OR AREAS KNOWN TO HAVE BULL TROUT, PROJECT PROPOONENTS WILL CONTACT THE APPROPRIATE USFWS FIELD OFFICE TO INSURE THAT ALL REASONABLE IMPLEMENTATION MEASURES ARE CONSIDERED AND AN APPROPRIATE IN-WATER WORK WINDOW IS BEING USED TO MINIMIZE PROJECT EFFECTS.

2.D. LAMPREY. WORKING IN STREAM OR RIVER CHANNELS THAT CONTAIN PACIFIC LAMPREY WILL BE AVOIDED FROM MARCH 1 TO JULY 1 FOR REACHES <5,000 FEET IN ELEVATION AND FROM MARCH 1 TO AUGUST 1 FOR REACHES >5,000 FEET. IF EITHER TIMEFRAME IS INCOMPATIBLE WITH OTHER OBJECTIVES, THE AREA WILL BE SURVEYED FOR NESTS AND LAMPREY PRESENCE, AND AVOIDED IF POSSIBLE. IF LAMPREYS ARE KNOWN TO EXIST, THE PROJECT SPONSOR WILL UTILIZE DEWATERING AND SALVAGE PROCEDURES (SEE FISH SALVAGE AND ELECTROFISHING SECTIONS) TO MINIMIZE ADVERSE EFFECTS.

2.E. THE IN-WATER WORK WINDOW WILL BE PROVIDED IN THE CONSTRUCTION PLANS.
3. CONTAMINANTS
- 3.A. EXCAVATION OF MORE THAN 20 CUBIC YARDS WILL REQUIRE A SITE VISIT AND DOCUMENTED ASSESSMENT FOR POTENTIAL CONTAMINANT SOURCES. THE SITE ASSESSMENT WILL BE STORED WITH PROJECT FILES OR AS AN APPENDIX TO THE BASIS OF DESIGN REPORT.

3.B. THE SITE ASSESSMENT WILL SUMMARIZE:

3.B.1. THE SITE VISIT, CONDITION OF THE PROPERTY, AND IDENTIFICATION OF ANY AREAS USED FOR VARIOUS INDUSTRIAL PROCESSES;

3.B.2. AVAILABLE RECORDS, SUCH AS FORMER SITE USE, BUILDING PLANS, AND RECORDS OF ANY PRIOR CONTAMINATION EVENTS;

3.B.3. INTERVIEWS WITH KNOWLEDGEABLE PEOPLE, SUCH AS SITE OWNERS, OPERATORS, OCCUPANTS, NEIGHBORS, OR LOCAL GOVERNMENT OFFICIALS; AND

3.B.4. THE TYPE, QUANTITY, AND EXTENT OF ANY POTENTIAL CONTAMINATION SOURCES.
4. SITE LAYOUT AND FLAGGING
- 4.A. CONSTRUCTION AREAS TO BE CLEARLY FLAGGED PRIOR TO CONSTRUCTION.

4.B. AREAS TO BE FLAGGED WILL INCLUDE:

4.B.1. SENSITIVE RESOURCE AREAS, SUCH AS AREAS BELOW ORDINARY HIGH WATER, SPAWNING AREAS, SPRINGS, AND WETLANDS;

4.B.2. EQUIPMENT ENTRY AND EXIT POINTS;

4.B.3. ROAD AND STREAM CROSSING ALIGNMENTS;

4.B.4. STAGING, STORAGE, AND STOCKPILE AREAS; AND

4.B.5. NO-SPRAY AREAS AND BUFFERS.
5. TEMPORARY ACCESS ROADS AND PATHS
- 5.A. EXISTING ACCESS ROADS AND PATHS WILL BE PREFERENTIALLY USED WHENEVER REASONABLE, AND THE NUMBER AND LENGTH OF TEMPORARY ACCESS ROADS AND PATHS THROUGH RIPARIAN AREAS AND FLOODPLAINS WILL BE MINIMIZED.

5.B. VEHICLE USE AND HUMAN ACTIVITIES, INCLUDING WALKING, IN AREAS OCCUPIED BY TERRESTRIAL ESA-LISTED SPECIES WILL BE MINIMIZED.

5.C. TEMPORARY ACCESS ROADS AND PATHS WILL NOT BE BUILT ON SLOPES WHERE GRADE, SOIL, OR OTHER FEATURES SUGGEST A LIKELIHOOD OF EXCESSIVE EROSION OR FAILURE. IF SLOPES ARE STEEPER THAN 30%, THEN THE ROAD WILL BE DESIGNED BY A CIVIL ENGINEER WITH EXPERIENCE IN STEEP ROAD DESIGN.

5.D. THE REMOVAL OF RIPARIAN VEGETATION DURING CONSTRUCTION OF TEMPORARY ACCESS ROADS WILL BE MINIMIZED. WHEN TEMPORARY VEGETATION REMOVAL IS REQUIRED, VEGETATION WILL BE CUT AT GROUND LEVEL (NOT GRUBBED).

5.E. AT PROJECT COMPLETION, ALL TEMPORARY ACCESS ROADS AND PATHS WILL BE OBLITERATED, AND THE SOIL WILL BE STABILIZED AND REVEGETATED. ROAD AND PATH OBLITERATION REFERS TO THE MOST COMPREHENSIVE DEGREE OF DECOMMISSIONING AND INVOLVES DECOMPACTING THE SURFACE AND DITCH, PULLING THE FILL MATERIAL ONTO THE RUNNING SURFACE, AND RESHAPING TO MATCH THE ORIGINAL CONTOUR.

5.F. HELICOPTER FLIGHT PATTERNS WILL BE ESTABLISHED IN ADVANCE AND LOCATED TO AVOID TERRESTRIAL ESA-LISTED SPECIES AND THEIR OCCUPIED HABITAT DURING SENSITIVE LIFE STAGES.
6. TEMPORARY STREAM CROSSINGS
- 6.A. EXISTING STREAM CROSSINGS OR BEDROCK WILL BE PREFERENTIALLY USED WHENEVER REASONABLE, AND THE NUMBER OF TEMPORARY STREAM CROSSINGS WILL BE MINIMIZED.

6.B. TEMPORARY BRIDGES AND CULVERTS WILL BE INSTALLED TO ALLOW FOR EQUIPMENT AND VEHICLE CROSSING OVER PERENNIAL STREAMS DURING CONSTRUCTION. TREATED WOOD SHALL NOT BE USED ON TEMPORARY BRIDGE CROSSINGS OR IN LOCATIONS IN CONTACT WITH OR DIRECTLY OVER WATER.

6.C. FOR PROJECTS THAT REQUIRE EQUIPMENT AND VEHICLES TO CROSS IN THE WET:

6.C.1. THE LOCATION AND NUMBER OF ALL WET CROSSINGS SHALL BE APPROVED BY THE BPA EC LEAD AND DOCUMENTED IN THE CONSTRUCTION PLANS;

6.C.2. VEHICLES AND MACHINERY SHALL CROSS STREAMS AT RIGHT ANGLES TO THE MAIN CHANNEL WHENEVER POSSIBLE;

6.C.3. NO STREAM CROSSINGS WILL OCCUR 300 FEET UPSTREAM OR 100 FEET DOWNSTREAM OF AN EXISTING REDD OR SPAWNING FISH; AND

6.C.4. AFTER PROJECT COMPLETION, TEMPORARY STREAM CROSSINGS WILL BE OBLITERATED AND BANKS RESTORED.

7. STAGING, STORAGE, AND STOCKPILE AREAS
- 7.A. STAGING AREAS (USED FOR CONSTRUCTION EQUIPMENT STORAGE, VEHICLE STORAGE, FUELING, SERVICING, AND HAZARDOUS MATERIAL STORAGE) WILL BE 150 FEET OR MORE FROM ANY NATURAL WATER BODY OR WETLAND. STAGING AREAS CLOSER THAN 150 FEET WILL BE APPROVED BY THE EC LEAD.

7.B. NATURAL MATERIALS USED FOR IMPLEMENTATION OF AQUATIC RESTORATION, SUCH AS LARGE WOOD, GRAVEL, AND BOULDERS, MAY BE STAGED WITHIN 150 FEET IF CLEARLY INDICATED IN THE PLANS THAT AREA IS FOR NATURAL MATERIALS ONLY.

7.C. ANY LARGE WOOD, TOPSOIL, AND NATIVE CHANNEL MATERIAL DISPLACED BY CONSTRUCTION WILL BE STOCKPILED FOR USE DURING SITE RESTORATION AT A SPECIFICALLY IDENTIFIED AND FLAGGED AREA.

7.D. ANY MATERIAL NOT USED IN RESTORATION, AND NOT NATIVE TO THE FLOODPLAIN, WILL BE DISPOSED OF OUTSIDE THE 100-YEAR FLOODPLAIN.
8. EQUIPMENT
- 8.A. MECHANIZED EQUIPMENT AND VEHICLES WILL BE SELECTED, OPERATED, AND MAINTAINED IN A MANNER THAT MINIMIZES ADVERSE EFFECTS ON THE ENVIRONMENT (E.G., MINIMALLY-SIZED, LOW PRESSURE TIRES; MINIMAL HARD-TURN PATHS FOR TRACKED VEHICLES; TEMPORARY MATS OR PLATES WITHIN WET AREAS OR ON SENSITIVE SOILS).

8.B. EQUIPMENT WILL BE STORED, FUELED, AND MAINTAINED IN AN CLEARLY IDENTIFIED STAGING AREA THAT MEETS STAGING AREA CONSERVATION MEASURES.

8.C. EQUIPMENT WILL BE REFUELED IN A VEHICLE STAGING AREA OR IN AN ISOLATED HARD ZONE, SUCH AS A PAVED PARKING LOT OR ADJACENT, ESTABLISHED ROAD (THIS MEASURE APPLIES ONLY TO GAS-POWERED EQUIPMENT WITH TANKS LARGER THAN 5 GALLONS).

8.D. BIODEGRADABLE LUBRICANTS AND FLUIDS WILL BE USED ON EQUIPMENT OPERATING IN AND ADJACENT TO THE STREAM CHANNEL AND LIVE WATER.

8.E. EQUIPMENT WILL BE INSPECTED DAILY FOR FLUID LEAKS BEFORE LEAVING THE VEHICLE STAGING AREA FOR OPERATION WITHIN 150 FEET OF ANY NATURAL WATER BODY OR WETLAND.

8.F. EQUIPMENT WILL BE THOROUGHLY CLEANED BEFORE OPERATION BELOW ORDINARY HIGH WATER, AND AS OFTEN AS NECESSARY DURING OPERATION, TO REMAIN GREASE FREE.
9. EROSION CONTROL
- 9.A. TEMPORARY EROSION CONTROL MEASURES INCLUDE:

9.A.1. TEMPORARY EROSION CONTROLS WILL BE IN PLACE BEFORE ANY SIGNIFICANT ALTERATION OF THE ACTION SITE AND APPROPRIATELY INSTALLED DOWNSLOPE OF PROJECT ACTIVITY WITHIN THE RIPARIAN BUFFER AREA UNTIL SITE REHABILITATION IS COMPLETE;

9.A.2. IF THERE IS A POTENTIAL FOR ERODED SEDIMENT TO ENTER THE STREAM, SEDIMENT BARRIERS WILL BE INSTALLED AND MAINTAINED FOR THE DURATION OF PROJECT IMPLEMENTATION;

9.A.3. TEMPORARY EROSION CONTROL MEASURES MAY INCLUDE SEDGE MATS, FIBER WATTLES, SILT FENCES, JUTE MATTING, WOOD FIBER MULCH AND SOIL BINDER, OR GEOTEXTILES AND GEOSYNTHETIC FABRIC;

9.A.4. SOIL STABILIZATION UTILIZING WOOD FIBER MULCH AND TACKIFIER (HYDRO-APPLIED) MAY BE USED TO REDUCE EROSION OF BARE SOIL IF THE MATERIALS ARE NOXIOUS WEED FREE AND NONTOXIC TO AQUATIC AND TERRESTRIAL ANIMALS, SOIL MICROORGANISMS, AND VEGETATION;

9.A.5. SEDIMENT WILL BE REMOVED FROM EROSION CONTROLS ONCE IT HAS REACHED 1/3 OF THE EXPOSED HEIGHT OF THE CONTROL; AND

9.A.6. ONCE THE SITE IS STABILIZED AFTER CONSTRUCTION, TEMPORARY EROSION CONTROL MEASURES WILL BE REMOVED.

9.B. EMERGENCY EROSION CONTROLS. THE FOLLOWING MATERIALS FOR EMERGENCY EROSION CONTROL WILL BE AVAILABLE AT THE WORK SITE:

9.B.1. A SUPPLY OF SEDIMENT CONTROL MATERIALS; AND

9.B.2. AN OIL-ABSORBING FLOATING BOOM WHENEVER SURFACE WATER IS PRESENT.
10. DUST ABATEMENT
- 10.A. THE PROJECT SPONSOR WILL DETERMINE THE APPROPRIATE DUST CONTROL MEASURES BY CONSIDERING SOIL TYPE, EQUIPMENT USAGE, PREVAILING WIND DIRECTION, AND THE EFFECTS CAUSED BY OTHER EROSION AND SEDIMENT CONTROL MEASURES.

10.B. WORK WILL BE SEQUENCED AND SCHEDULED TO REDUCE EXPOSED BARE SOIL SUBJECT TO WIND EROSION.

10.C. DUST-ABATEMENT ADDITIVES AND STABILIZATION CHEMICALS (TYPICALLY MAGNESIUM CHLORIDE, CALCIUM CHLORIDE SALTS, OR LIGNINSULFONATE) WILL NOT BE APPLIED WITHIN 25 FEET OF WATER OR A STREAM CHANNEL AND WILL BE APPLIED SO AS TO MINIMIZE THE LIKELIHOOD THAT THEY WILL ENTER STREAMS. APPLICATIONS OF LIGNINSULFONATE WILL BE LIMITED TO A MAXIMUM RATE OF 0.5 GALLONS PER SQUARE YARD OF ROAD SURFACE, ASSUMING MIXED 50:50 WITH WATER.

10.D. APPLICATION OF DUST ABATEMENT CHEMICALS WILL BE AVOIDED DURING OR JUST BEFORE WET WEATHER, AND AT STREAM CROSSINGS OR OTHER AREAS THAT COULD RESULT IN UNFILTERED DELIVERY OF THE DUST ABATEMENT MATERIALS TO A WATERBODY (TYPICALLY THESE WOULD BE AREAS WITHIN 25 FEET OF A WATERBODY OR STREAM CHANNEL; DISTANCES MAY BE GREATER WHERE VEGETATION IS SPARSE OR SLOPES ARE STEEP).

10.E. SPILL CONTAINMENT EQUIPMENT WILL BE AVAILABLE DURING APPLICATION OF DUST ABATEMENT CHEMICALS.

10.F. PETROLEUM-BASED PRODUCTS WILL NOT BE USED FOR DUST ABATEMENT.
11. SPILL PREVENTION, CONTROL, AND COUNTER MEASURES
- 11.A. A DESCRIPTION OF HAZARDOUS MATERIALS THAT WILL BE USED, INCLUDING INVENTORY, STORAGE, AND HANDLING PROCEDURES WILL BE AVAILABLE ON-SITE.

11.B. WRITTEN PROCEDURES FOR NOTIFYING ENVIRONMENTAL RESPONSE AGENCIES WILL BE POSTED AT THE WORK SITE.

11.C. SPILL CONTAINMENT KITS (INCLUDING INSTRUCTIONS FOR CLEANUP AND DISPOSAL) ADEQUATE FOR THE TYPES AND QUANTITY OF HAZARDOUS MATERIALS USED AT THE SITE WILL BE AVAILABLE AT THE WORK SITE.


11.D. WORKERS WILL BE TRAINED IN SPILL CONTAINMENT PROCEDURES AND WILL BE INFORMED OF THE LOCATION OF SPILL CONTAINMENT KITS.

11.E. ANY WASTE LIQUIDS GENERATED AT THE STAGING AREAS WILL BE TEMPORARILY STORED UNDER AN IMPERVIOUS COVER, SUCH AS A TARPULIN, UNTIL THEY CAN BE PROPERLY TRANSPORTED TO AND DISPOSED OF AT A FACILITY THAT IS APPROVED FOR RECEIPT OF HAZARDOUS MATERIALS.

11.F. PUMPS USED ADJACENT TO WATER SHALL USE SPILL CONTAINMENT SYSTEMS.
12. INVASIVE SPECIES CONTROL
- 12.A. PRIOR TO ENTERING THE SITE, ALL VEHICLES AND EQUIPMENT WILL BE POWER WASHED, ALLOWED TO FULLY DRY, AND INSPECTED TO MAKE SURE NO PLANTS, SOIL, OR OTHER ORGANIC MATERIAL ADHERES TO THE SURFACE.

12.B. WATERCRAFT, WADERS, BOOTS, AND ANY OTHER GEAR TO BE USED IN OR NEAR WATER WILL BE INSPECTED FOR AQUATIC INVASIVE SPECIES.

12.C. WADING BOOTS WITH FELT SOLES ARE NOT TO BE USED DUE TO THEIR PROPENSITY FOR AIDING IN THE TRANSFER OF INVASIVE SPECIES UNLESS DECONTAMINATION PROCEDURES HAVE BEEN APPROVED BY THE EC LEAD.

REV.	DATE	DESCRIPTION	BY
	12/4/24	NO CHANGES THIS SHEET	M.M.

WATERWAYS CONSULTING INC.



1020 SW TAYLOR STREET, STE. 380
PORTLAND, OR 97205
PH: (503) 227-5979 // FAX: (888) 819-6847
WWW.WATWAYS.COM




JAKE D. HOFELD

EXPIRES: 4/9/2026

PREPARED AT THE REQUEST OF:
YAKAMA NATION FISHERIES

HIP 4 GENERAL CONSERVATION MEASURES (1 OF 2)

BRUSH CREEK FISH PASSAGE AT 175 ROAD
100% DESIGN

DESIGNED BY: J.H.
DRAWN BY: D.H./M.M.
CHECKED BY: J.H.
DATE: 12/19/2024
JOB NO.: 20-026

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS


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WORK AREA ISOLATION AND FISH SALVAGE

1. WORK AREA ISOLATION
- 1.A. ANY WORK AREA WITHIN THE WETTED CHANNEL WILL BE ISOLATED FROM THE ACTIVE STREAM WHENEVER ESA-LISTED FISH ARE REASONABLY CERTAIN TO BE PRESENT, OR IF THE WORK AREA IS LESS THAN 300- FEET UPSTREAM FROM KNOWN SPAWNING HABITATS.

1.B. WORK AREA ISOLATION AND FISH SALVAGE ACTIVITIES WILL COMPLY WITH THE IN-WATER WORK WINDOW.

1.C. DESIGN PLANS WILL INCLUDE ALL ISOLATION ELEMENTS AND AREAS (COFFER DAMS, PUMPS, DISCHARGE AREAS, FISH SCREENS, FISH RELEASE AREAS, ETC.).

1.D. WORK AREA ISOLATION AND FISH CAPTURE ACTIVITIES WILL OCCUR DURING PERIODS OF THE COOLEST AIR AND WATER TEMPERATURES POSSIBLE, NORMALLY EARLY IN THE MORNING VERSUS LATE IN THE DAY, AND DURING CONDITIONS APPROPRIATE TO MINIMIZE STRESS AND DEATH OF SPECIES PRESENT.
2. FISH SALVAGE
- 2.A. MONITORING AND RECORDING WILL TAKE PLACE FOR DURATION OF SALVAGE. THE SALVAGE REPORT WILL BE COMMUNICATED TO AGENCIES VIA THE PROJECT COMPLETION FORM (PCF).

2.B. SALVAGE ACTIVITIES SHOULD TAKE PLACE DURING CONDITIONS TO MINIMIZE STRESS TO FISH SPECIES, TYPICALLY PERIODS OF THE COOLEST AIR AND WATER TEMPERATURES WHICH OCCUR IN THE MORNING VERSUS LATE IN THE DAY.

2.C. SALVAGE OPERATIONS WILL FOLLOW THE ORDERING, METHODS, AND CONSERVATION MEASURES SPECIFIED BELOW:

2.C.1. SLOWLY REDUCE WATER FROM THE WORK AREA TO ALLOW SOME FISH TO LEAVE VOLITIONALLY.

2.C.2. BLOCK NETS WILL BE INSTALLED AT UPSTREAM AND DOWNSTREAM LOCATIONS AND MAINTAINED IN A SECURED POSITION TO EXCLUDE FISH FROM ENTERING THE PROJECT AREA.

2.C.3. BLOCK NETS WILL BE SECURED TO THE STREAM CHANNEL BED AND BANKS UNTIL FISH CAPTURE AND TRANSPORT ACTIVITIES ARE COMPLETE. BLOCK NETS MAY BE LEFT IN PLACE FOR THE DURATION OF THE PROJECT TO EXCLUDE FISH AS LONG AS PASSAGE REQUIREMENTS ARE MET.

2.C.4. NETS WILL BE MONITORED HOURLY DURING IN-STREAM DISTURBANCE.

2.C.5. IF BLOCK NETS REMAIN IN PLACE MORE THAN ONE DAY, THE NETS WILL BE MONITORED AT LEAST DAILY TO ENSURE THEY ARE SECURED AND FREE OF ORGANIC ACCUMULATION. IF BULL TROUT ARE PRESENT, NETS ARE TO BE CHECKED EVERY 4 HOURS FOR FISH IMPINGEMENT.

2.C.6. CAPTURE FISH THROUGH SEINING AND RELOCATE TO STREAMS.

2.C.7. WHILE DEWATERING, ANY REMAINING FISH WILL BE COLLECTED BY HAND OR DIP NETS.

2.C.8. SEINES WITH A MESH SIZE TO ENSURE CAPTURE OF THE RESIDING ESA-LISTED FISH WILL BE USED.

2.C.9. MINNOW TRAPS WILL BE LEFT IN PLACE OVERNIGHT AND USED IN CONJUNCTION WITH SEINING.

2.C.10. ELECTROFISH TO CAPTURE AND RELOCATED FISH NOT CAUGHT DURING SEINING PER ELECTROFISH CONSERVATION MEASURES.

2.C.11. CONTINUE TO SLOWLY DEWATER STREAM REACH.

2.C.12. COLLECT ANY REMAINING FISH IN COLD-WATER BUCKETS AND RELOCATED TO THE STREAM.

2.C.13. LIMIT THE TIME FISH ARE IN A TRANSPORT BUCKET.

2.C.14. MINIMIZE PREDATION BY TRANSPORTING COMPARABLE SIZES IN BUCKETS.

2.C.15. BUCKET WATER TO BE CHANGED EVERY 15 MINUTES OR AERATED.

2.C.16. BUCKETS WILL BE KEPT IN SHADED AREAS OR COVERED.

2.C.17. DEAD FISH WILL NOT BE STORED IN TRANSPORT BUCKETS, BUT WILL BE LEFT ON THE STREAM BANK TO AVOID MORTALITY COUNTING ERRORS.

2.D. SALVAGE GUIDELINES FOR BULL TROUT, LAMPREY, MUSSELS, AND NATIVE FISH.

2.D.1. CONDUCT SITE SURVEY TO ESTIMATE SALVAGE NUMBERS.

2.D.2. PRE-SELECT SITE(S) FOR RELEASE AND/OR MUSSEL BED RELOCATION.

2.D.3. SALVAGE OF BULL TROUT WILL NOT TAKE PLACE WHEN WATER TEMPERATURES EXCEED 15 DEGREES CELSIUS.

2.D.4. IF DRAWDOWN LESS THAN 48 HOURS, SALVAGE OF LAMPREY AND MUSSELS MAY NOT BE NECESSARY IF TEMPERATURES SUPPORT SURVIVAL IN SEDIMENTS.

2.D.5. SALVAGE MUSSELS BY HAND, LOCATING BY SNORKELING OR WADING.

2.D.6. SALVAGE LAMPREY BY ELECTROFISHING (SEE ELECTROFISHING FOR LARVAL LAMPREY SETTINGS AND LARVAL LAMPREY DRY SHOCKING SETTINGS).

2.D.7. SALVAGE BONY FISH AFTER LAMPREY WITH NETS OR ELECTROFISHING (SEE ELECTROFISHING FOR APPROPRIATE SETTINGS).

2.D.8. REGULARLY INSPECT DEWATERED SITE SINCE LAMPREY LIKELY TO EMERGE AFTER DEWATERING AND MUSSELS MAY BECOME VISIBLE.

2.D.9. MUSSELS MAY BE TRANSFERRED IN COOLERS.

2.D.10. MUSSELS WILL BE PLACED INDIVIDUALLY TO ENSURE ABILITY TO BURROW INTO NEW HABITAT.
3. ELECTROFISHING.

3.A. INITIAL SITE SURVEY AND INITIAL SETTINGS:

3.A.1. IDENTIFY SPAWNING ADULTS AND ACTIVE REDDS TO AVOID.

3.A.2. RECORD WATER TEMPERATURE. ELECTROFISHING WILL NOT OCCUR WHEN WATER TEMPERATURES ARE ABOVE 18 DEGREES CELSIUS.

3.A.3. IF POSSIBLE, A BLOCK NET WILL BE PLACED DOWNSTREAM AND CHECKED REGULARLY TO CAPTURE STUNNED FISH THAT DRIFT DOWNSTREAM.

3.A.4. INITIAL SETTINGS WILL BE 100 VOLTS, PULSE WIDTH OF 500 MICRO SECONDS, AND PULSE RATE OF 30 HERTZ.

3.A.5. RECORDS FOR CONDUCTIVITY, WATER TEMPERATURE, AIR TEMPERATURE, ELECTROFISHING SETTINGS, ELECTROFISHER MODEL, ELECTROFISHER CALIBRATION, FISH CONDITIONS, FISH MORTALITIES, AND TOTAL CAPTURE RATES WILL BE INCLUDED IN THE SALVAGE LOG BOOK.

3.B. ELECTROFISHING TECHNIQUE:

3.B.1. SAMPLING WILL BEGIN USING STRAIGHT DC. POWER WILL REMAIN ON UNTIL THE FISH IS NETTED WHEN USING STRAIGHT DC. GRADUALLY INCREASE VOLTAGE WHILE REMAINING BELOW MAXIMUM LEVELS.

3.B.2. MAXIMUM VOLTAGE WILL BE 1100 VOLTS WHEN CONDUCTIVITY IS <100 MILLISECONDS, 800 VOLTS WHEN CONDUCTIVITY IS BETWEEN 100 AND 300 MILLISECONDS, AND 400 VOLTS WHEN CONDUCTIVITY IS >300 MILLISECONDS.

3.B.3. IF FISH CAPTURE IS NOT SUCCESSFUL USING STRAIGHT DC, THE ELECTROFISHER WILL BE SET TO INITIAL VOLTAGE FOR PDC, VOLTAGE, PULSE WIDTH, AND PULSE FREQUENCY WILL BE GRADUALLY INCREASED WITHIN MAXIMUM VALUES UNTIL CAPTURE IS SUCCESSFUL.

3.B.4. MAXIMUM PULSE WIDTH IS 5 MILLISECONDS. MAXIMUM PULSE RATE IS 70 HERTZ

3.B.5. ELECTROFISHING WILL NOT OCCUR IN ONE AREA FOR AN EXTENDED PERIOD.

3.B.6. THE ANODE WILL NOT INTENTIONALLY COME INTO CONTACT WITH FISH. THE ZONE FOR POTENTIAL INJURY
- OF 0.5 M FROM THE ANODE WILL BE AVOIDED.

3.B.7. SETTINGS WILL BE LOWERED IN SHALLOWER WATER SINCE VOLTAGE GRADIENTS LIKELY TO INCREASE.

3.B.8. ELECTROFISHING WILL NOT OCCUR IN TURBID WATER WHERE VISIBILITY IS POOR (I.E. UNABLE TO SEE THE BED OF THE STREAM).

3.B.9. OPERATIONS WILL IMMEDIATELY STOP IF MORTALITY OR OBVIOUS FISH INJURY IS OBSERVED. ELECTROFISHING SETTINGS WILL BE REEVALUATED.

3.C. SAMPLE PROCESSING:

3.C.1. FISH SHALL BE SORTED BY SIZE TO AVOID PREDATION DURING CONTAINMENT.

3.C.2. SAMPLERS WILL REGULARLY CHECK CONDITIONS OF FISH HOLDING CONTAINERS, AIR PUMPS, WATER TRANSFERS, ETC.

3.C.3. FISH WILL BE OBSERVED FOR GENERAL CONDITIONS AND INJURIES

3.C.4. EACH FISH WILL BE COMPLETELY REVIVED BEFORE RELEASE. ESA-LISTED SPECIES WILL BE PRIORITIZED FOR SUCCESSFUL RELEASE.

3.D. BULL TROUT ELECTROFISHING:

3.D.1. ELECTROFISHING FOR BULL TROUT WILL ONLY OCCUR FROM MAY 1 TO JULY 31. NO ELECTROFISHING WILL OCCUR IN ANY BULL TROUT OCCUPIED HABITAT AFTER AUGUST 15. IN FMO HABITATS ELECTROFISHING MAY OCCUR ANY TIME.

3.D.2. ELECTROFISHING OF BULL TROUT WILL NOT OCCUR WHEN WATER TEMPERATURES EXCEED 15 DEGREES CELSIUS.

3.E. LARVAL LAMPREY ELECTROFISHING:

3.E.1. PERMISSION FROM EC LEAD WILL BE OBTAINED IF LARVAL LAMPREY ELECTROFISHER IS NOT ONE OF FOLLOWING PRE-APPROVED MODELS: ABP-2 "WISCONSIN", SMITH-ROOT LR-24, OR SMITH-ROOT APEX BACKPACK.

3.E.2. LARVAL LAMPREY SAMPLING WILL INCORPORATE 2-STAGE METHOD: "TICKLE" AND "STUN".

3.E.3. FIRST STAGE: USE 125 VOLT DC WITH A 25 PERCENT DUTY CYCLE APPLIED AT A SLOW RATE OF 3 PULSES PER SECOND. IF TEMPERATURES ARE BELOW 10 DEGREES CELSIUS, VOLTAGE MAY BE INCREASED GRADUALLY (NOT TO EXCEED 200 VOLTS). BURSTED PULSES (THREE SLOW AND ONE SKIPPED) RECOMMENDED TO INCREASE EMERGENCE.

3.E.4. SECOND STAGE (OPTIONAL FOR EXPERIENCED NETTERS): IMMEDIATELY AFTER LAMPREY EMERGE, USE A FAST PULSE SETTING OF 30 PULSES PER SECOND.

3.E.5. USE DIP NETS FOR VISIBLE LAMPREY. SIENES AND FINE MESH NET SWEEPS MAY BE USED IN POOR VISIBILITY.

3.E.6. SAMPLING WILL OCCUR SLOWLY (>60 SECONDS PER METER) STARTING AT UPSTREAM AND WORKING DOWNSTREAM.

3.E.7. MULTIPLE SWEEPS TO OCCUR WITH 15 MINUTES BETWEEN SWEEPS.

3.E.8. POST-DRAWDOWN "DRY-SHOCKING" WILL BE APPLIED IF LARVAL LAMPREY CONTINUE TO EMERGE. ANODES TO BE PLACED ONE METER APART TO SAMPLE ONE SQUARE METER AT A TIME FOR AT LEAST 60 SECONDS. FOR TEMPERATURES LESS THAN 10 DEGREES CELSIUS, MAXIMUM VOLTAGE MAY BE GRADUALLY INCREASED TO 400 VOLTS (DRY-SHOCKING ONLY).

4. DEWATERING.

4.A. DEWATERING WILL OCCUR AT A RATE SLOW ENOUGH TO ALLOW SPECIES TO NATURALLY MIGRATE OUT OF THE WORK AREA.

4.B. WHERE A GRAVITY FEED DIVERSION IS NOT POSSIBLE, A PUMP MAY BE USED. PUMPS WILL BE INSTALLED TO AVOID REPETIVE DEWATERING AND REWATERING.

4.C. WHEN FISH ARE PRESENT, PUMPS WILL BE SCREENED IN ACCORDANCE WITH NMFS FISH SCREEN CRITERIA. NMFS ENGINEERING REVIEW AND APPROVAL WILL BE OBTAINED FOR PUMPS EXCEEDING 3 CUBIC FEET PER SECOND.

4.D. DISSIPATION OF FLOW ENERGY AT THE BYPASS OUTFLOW WILL BE PROVIDED TO PREVENT DAMAGE TO THE STREAM CHANNEL AND RIPARIAN VEGETATION.

4.E. E. SEEPAGE WATER WILL BE PUMPED TO A TEMPORARY STORAGE AND TREATMENT SITE OF INTO UPLAND AREAS TO ALLOW WATER TO PERCOLATE THROUGH SOIL AND VEGETATION PRIOR TO REENTERING THE STREAM CHANNEL.
- TURBIDITY MONITORING
- A. RECORD THE READING, LOCATION, AND TIME FOR THE BACKGROUND READING APPROXIMATELY 100 FEET UPSTREAM OF THE PROJECT AREA USING A RECENTLY CALIBRATED TURBIDIMETER OR VIA VISUAL OBSERVATION (SEE THE HIP HANDBOOK TURBIDITY MONITORING SECTION FOR A VISUAL OBSERVATION KEY).

B. RECORD THE TURBIDITY READING, LOCATION, AND TIME AT THE MEASUREMENT COMPLIANCE LOCATION POINT.

B.1. 50 FEET DOWNSTREAM FOR STREAMS LESS THAN 30 FEET WIDE.

B.2. 100 FEET DOWNSTREAM FOR STREAMS BETWEEN 30 AND 100 FEET WIDE.

B.3. 200 FEET DOWNSTREAM FOR STREAMS GREATER THAN 100 FEET WIDE.

B.4. 300 FEET FROM THE DISCHARGE POINT OR NONPOINT SOURCE FOR LOCATIONS SUBJECT TO TIDAL OR COASTAL SCOUR.

C. TURBIDITY SHALL BE MEASURED (BACKGROUND LOCATION AND COMPLIANCE POINTS) EVERY 4 HOURS WHILE WORK IS BEING IMPLEMENTED.

D. IF THERE IS A VISIBLE DIFFERENCE BETWEEN A COMPLIANCE POINT AND THE BACKGROUND, THE EXCEEDANCE WILL BE NOTED IN THE PROJECT COMPLETION FORM (PCF). ADJUSTMENTS OR CORRECTIVE MEASURES WILL BE TAKEN IN ORDER TO REDUCE TURBIDITY.

E. IF EXCEEDANCES OCCUR FOR MORE THAN TWO CONSECUTIVE MONITORING INTERVALS (AFTER 8 HOURS), THE ACTIVITY WILL STOP UNTIL THE TURBIDITY LEVEL RETURNS TO BACKGROUND. THE BPA EC LEAD WILL BE NOTIFIED OF ALL EXCEEDANCES AND CORRECTIVE ACTIONS AT PROJECT COMPLETION.

F. IF TURBIDITY CONTROLS (COFFER DAMS, WADDLES, FENCING, ETC.) ARE DETERMINED INEFFECTIVE, CREWS WILL BE MOBILIZED TO MODIFY AS NECESSARY. OCCURRENCES WILL BE DOCUMENTED IN THE PROJECT COMPLETION FORM (PCF).

G. FINAL TURBIDITY READINGS, EXCEEDANCES, AND CONTROL FAILURES WILL BE SUBMITTED TO THE BPA EC LEAD USING THE PROJECT COMPLETION FORM (PCF).
- CONSTRUCTION AND POST CONSTRUCTION CONSERVATION MEASURES
1. FISH PASSAGE

1.A. FISH PASSAGE WILL BE PROVIDED FOR ADULT AND JUVENILE FISH LIKELY TO BE PRESENT DURING CONSTRUCTION UNLESS PASSAGE DID NOT EXIST BEFORE CONSTRUCTION, THE STREAM IS NATURALLY IMPASSABLE, OR PASSAGE WILL NEGATIVELY IMPACT ESA-LISTED SPECIES OR THEIR HABITAT.

1.B. FISH PASSAGE ALTERNATIVES WILL BE APPROVED BY THE BPA EC LEAD UNDER ADVISEMENT BY THE NMFS HABITAT BIOLOGIST.

2. CONSTRUCTION AND DISCHARGE WATER

2.A. SURFACE WATER MAY BE DIVERTED TO MEET CONSTRUCTION NEEDS ONLY IF DEVELOPED SOURCES ARE UNAVAILABLE OR INADEQUATE.

2.B. DIVERSIONS WILL NOT EXCEED 10% OF THE AVAILABLE FLOW.

2.C. CONSTRUCTION DISCHARGE WATER WILL BE COLLECTED AND TREATED TO REMOVE DEBRIS, NUTRIENTS, SEDIMENT, PETROLEUM HYDROCARBONS, METALS, AND OTHER POLLUTANTS.

3. TIME AND EXTENT OF DISTURBANCE

3.A. EARTHWORK REQUIRING IN-STREAM MECHANIZED EQUIPMENT (INCLUDING DRILLING, EXCAVATION, DREDGING, FILLING, AND COMPACTING) WILL BE COMPLETED AS QUICKLY AS POSSIBLE.

3.B. MECHANIZED EQUIPMENT WILL WORK FROM TOP OF BANK UNLESS WORK FROM ANOTHER LOCATION WILL RESULT IN LESS HABITAT DISTURBANCE (TURBIDITY, VEGETATION DISTURBANCE, ETC.).

4. CESSATION OF WORK

4.A. PROJECT OPERATIONS WILL CEASE WHEN HIGH FLOW CONDITIONS MAY RESULT IN INUNDATION OF THE PROJECT AREA (FLOOD EFFORTS TO DECREASE DAMAGES TO NATURAL RESOURCES PERMITTED).

4.B. WATER QUALITY LEVELS EXCEEDED. SEE CWA SECTION 401 WATER QUALITY CERTIFICATION AND TURBIDITY MEASURES.

5. SITE RESTORATION

5.A. DISTURBED AREAS, STREAM BANKS, SOILS, AND VEGETATION WILL BE CLEANED UP AND RESTORED TO IMPROVED OR PRE-PROJECT CONDITIONS.

5.B. PROJECT-RELATED WASTE WILL BE REMOVED.

5.C. TEMPORARY ACCESS ROADS AND STAGING WILL BE DECOMPACTED AND RESTORED. SOILS WILL BE LOOSENED IF NEEDED FOR REVEGETATION OR WATER INFILTRATION.

5.D. THE PROJECT SPONSOR WILL RETAIN THE RIGHT OF REASONABLE ACCESS TO THE SITE TO MONITOR AND MAINTAIN THE SITE OVER THE LIFE OF THE PROJECT.

6. REVEGETATION

6.A. PLANTING AND SEEDING WILL OCCUR PRIOR TO OR AT THE BEGINNING OF THE FIRST GROWING SEASON AFTER CONSTRUCTION.

6.B. A MIX OF NATIVE SPECIES (INVASIVE SPECIES NOT ALLOWED) APPROPRIATE TO THE SITE WILL BE USED TO REESTABLISH VEGETATION, PROVIDE SHADE, AND REDUCE EROSION. REESTABLISHED VEGETATION SHOULD BE AT LEAST 70% OF PRE-PROJECT CONDITIONS' WITHIN THREE YEARS.

6.C. VEGETATION SUCH AS WILLOWS, SEDGES, OR RUSH MATS WILL BE SALVAGED FROM DISTURBED OR ABANDONED AREAS TO BE REPLANTED.

6.D. SHORT-TERM STABILIZATION MEASURE MAY INCLUDE THE USE OF NON-NATIVE STERILE SEED MIX (WHEN NATIVE NOT AVAILABLE), WEED-FREE CERTIFIED STRAW, OR OTHER SIMILAR TECHNIQUES.

6.E. SURFACE FERTILIZER WILL NOT BE APPLIED WITHIN 50 FEET OF ANY STREAM, WATE BODY, OR WETLAND.

6.F. FENCING WILL BE INSTALLED AS NECESSARY TO PREVENT ACCESS TO REVEGETATED SITES BY LIVESTOCK OR UNAUTHORIZED PERSONS.

6.G. INVASIVE PLANTS WILL BE REMOVED OR CONTROLLED UNTIL NATIVE PLANT SPECIES ARE WELL ESTABLISHED (TYPICALLY THREE YEARS POST-CONSTRUCTION).

7. SITE ACCESS AND IMPLEMENTATION MONITORING

7.A. THE PROJECT SPONSOR WILL PROVIDE CONSTRUCTION MONITORING DURING IMPLEMENTATION TO ENSURE ALL CONSERVATION MEASURES ARE ADEQUATELY FOLLOWED, EFFECTS TO LISTED SPECIES ARE NOT GREATER THAN PREDICTED, AND INCIDENTAL TAKE LIMITATIONS ARE NOT EXCEEDED.

7.B. THE PROJECT SPONSOR OR DESIGNATED REPRESENTATIVE WILL SUBMIT THE PROJECT COMPLETION FORM (PCF) WITHIN 30 DAYS OF PROJECT COMPLETION.

8. CWA SECTION 401 WATER QUALITY CERTIFICATION

8.A. THE PROJECT SPONSOR OR DESIGNATED REPRESENTATIVE WILL COMPLETE AND RECORD WATER QUALITY OBSERVATIONS (SEE TURBIDITY MONITORING) TO ENSURE IN-WATER WORK IS NOT DEGRADING WATER QUALITY.

8.B. DURING CONSTRUCTION, WATER QUALITY PROVISIONS PROVIDED BY THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY, WASHINGTON DEPARTMENT OF ECOLOGY, IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY WILL BE FOLLOWED.
- STAGED REWATERING PLAN
- A. WHEN REINTRODUCING WATER TO DEWATERED AREAS AND NEWLY CONSTRUCTED CHANNELS, A STAGED REWATERING PLAN WILL BE APPLIED.

B. THE FOLLOWING WILL BE APPLIED TO ALL REWATERING EFFORTS. COMPLEX REWATERING EFFORTS MAY REQUIRE ADDITIONAL NOTES OR A DEDICATED SHEET IN THE CONSTRUCTION DETAILS.

B.1. TURBIDITY MONITORING PROTOCOL WILL BE APPLIED TO REWATERING EFFORTS.

B.2. PRE-WASH THE AREA BEFORE REWATERING. TURBID WASH WATER WILL BE DETAINED AND PUMPED TO THE FLOODPLAIN OR SEDIMENT CAPTURE AREAS RATHER THAN DISCHARGING TO FISH-BEARING STREAMS.

B.3. INSTALL SEINE NETS AT UPSTREAM END TO PREVENT FISH FROM MOVING DOWNSTREAM UNTIL 2/3 OF TOTAL FLOW IS RESTORED TO THE CHANNEL.


B.4. STARTING IN EARLY MORNING INTRODUCE 1/3 OF NEW CHANNEL FLOW OVER PERIOD OF 1-2 HOURS.


B.5. INTRODUCE SECOND THIRD OF FLOW OVER NEXT 1 TO 2 HOURS AND BEGIN FISH SALVAGE OF BYPASS CHANNEL IF FISH ARE PRESENT.

B.6. REMOVE UPSTREAM SEINE NETS ONCE 2/3 FLOW IN REWATERED CHANNEL AND DOWNSTREAM TURBIDITY IS WITHIN ACCEPTABLE RANGE (LESS THAN 40 NTU OR LESS THAN 10% BACKGROUND).


B.7. INTRODUCE FINAL THIRD OF FLOW ONCE FISH SALVAGE EFFORTS ARE COMPLETE AND DOWNSTREAM TURBIDITY VERIFIED TO BE WITHIN ACCEPTABLE RANGE.

B.8. INSTALL PLUG TO BLOCK FLOW INTO OLD CHANNEL OR BYPASS. REMOVE ANY REMAINING SEINE NETS.

B.9. IN LAMPREY SYSTEMS, LAMPREY SALVAGE AND DRY SHOCKING MAY BE NECESSARY.
- | REV. | DATE | DESCRIPTION | BY |
|---------------------------------------------------------------------------------------|---------|-----------------------|------|
|  | 12/4/24 | NO CHANGES THIS SHEET | M.M. |
| | | | |
| | | | |
- WATERWAYS CONSULTING INC.



1020 SW TAYLOR STREET, STE. 380
PORTLAND, OR 97205
PH: (503) 227-5979 // FAX: (888) 819-6847
WWW.WATWAYS.COM



EXP. DATE: 4/9/2026

PREPARED AT THE REQUEST OF:

YAKAMA NATION FISHERIES


HIP 4 GENERAL CONSERVATION MEASURES (2 OF 2)

BRUSH CREEK FISH PASSAGE AT 175 ROAD

100% DESIGN

DESIGNED BY: J.H.
DRAWN BY: D.H./M.M.
CHECKED BY: J.H.
DATE: 12/19/2024
JOB NO.: 20-026

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS

0 1" 

C11

11 OF 11

EXHIBIT D

TECHNICAL SPECIFICATIONS

Technical Specifications

For

Brush Creek Fish Passage at 175 Road Project

Prepared for

Yakama Nation Fisheries

100% Design Submittal

Revision 2

August 21, 2025



EXPIRES: 4/9/2026

FOR USE IN CONNECTION WITH
**WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD
SPECIFICATIONS, CURRENT EDITION**

Brush Creek Fish Passage at 175 Road Project
Technical Specifications
100% Submittal Revision 2

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SECTION 015000
TEMPORARY FACILITIES AND CONTROLS
(A.K.A. MOBILIZATION & DEMOBILIZATION)

1. GENERAL

1.1 DESCRIPTION

- A. The work covered by this section consists of the construction facilities and temporary controls, including mobilization and demobilization, as specified, as shown on the Drawings, or as otherwise directed by the Engineer. Work includes traffic control and erosion control items not specifically addressed under other pay items.
- B. Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the site; for the establishment of all offices, and other facilities necessary for work on the project; and for all other work and operations which must be performed, or costs incurred prior to beginning work, on the various items on the project site.
- C. Demobilization shall consist of work and operations necessary to disband all mobilized items and cleanup the site. The removal of all temporary crossings, ramps, access ways, roads, signs, and fencing; dewatering facilities; and temporary facilities or works, and the restoration of surfaces to an equal or better than existing condition shall also be included as part of demobilization.

1.2 RELATED SECTIONS

- A. Section 015713, Temporary Erosion Control and BMPs
- B. Section 015713.01, Fiber Roll
- C. Section 024100, Demolition
- D. Section 311100, Clearing and Grubbing
- E. Section 312323, Engineered Fill

2. PRODUCTS – NOT USED

3. EXECUTION

3.1 CONTRACTOR'S PLANT AND EQUIPMENT

- A. Security. Contractor shall, at all times, be responsible for security of their plant and equipment. Owner shall not be responsible for missing or damaged equipment, tools, or personal belongings.
- B. Construction Power and Communication Facilities. Contractor shall be responsible for providing sufficient electrical power and communication facilities to construct the work.
- C. Storage Facilities.
 - 1. Provide storage facilities for the protection of materials and supplies from weather, and shall keep the facilities clean and in proper order at all times.
 - 2. Provide a storage area for lubricants, oils, and hazardous materials with sufficient means to contain spills. Facilities, handling, and any required cleanup will comply with all current

local, state, and federal standards. Petroleum products stored on the site shall be secured from vandalism.

- D. Sanitary Facilities. Maintain adequate toilet facilities at or near the work site.
- E. Solid Waste Handling. Provide sufficient solid waste handling facilities to maintain site in a clean, orderly condition.
- F. Water. Owner will provide a water source for use by the Contractor. Contractor shall transport all water from the source to the project site as necessary for construction and maintenance as specified.

3.2 MOBILIZATION AND DEMOBILIZATION

- A. General. Perform mobilization and demobilization activities in accordance with the Drawings, and as specified.

3.3 STAGING AREAS

- A. General. Staging areas at the project site are provided for the Contractor's use. By making this area available to the Contractor, the Engineer, and any other person or agency connected with the properties shall in no way be responsible or liable for any activity of the Contractor, subcontractors, or any individual or organization connected with the project.
- B. Alternative Staging Areas. Alternative sites must be acceptable to Owner, and the Contractor must make all arrangements for their use at the Contractor's expense, and in accordance with all local, State and Federal regulations.
- C. Additional Storage Areas. Should the Contractor require space in addition to that available on-site, the Contractor shall make arrangements for storage of materials and equipment in locations off the construction site, and shall provide the Engineer a copy of the letter of authorization for storage from the Owner.

3.4 HAZARDOUS MATERIALS CONTROL AND SPILL PREVENTION PLAN

- A. General. Before starting work on the project, the Contractor shall submit for acceptance by the Engineer a Hazardous Materials Controls and Spill Prevention Plan. The Plan shall include provisions for preventing hazardous materials from contaminating soil or entering water courses and shall establish a Spill Prevention and Countermeasure Plan.
- B. Facilities. Provide staging and storage areas for equipment, as required to contain contaminants away from water courses. Provide a contained, locked storage facility for fuels, lubricants, construction chemicals and other hazardous materials and supplies stored at site. If concrete work is proposed, provide a lined pit for concrete washdown, located where spills or overflow cannot enter nearby watercourses or storm drains. The pit shall be located a minimum of 75 feet from any flowing watercourse.
- C. Equipment Maintenance. Clean and maintain equipment to prevent any leakage of fuel and lubricants. Establish a designated equipment refueling area. All fueling and maintenance of vehicles and other equipment and staging area shall occur at least 150 feet from any riparian habitat or water body.
- D. Spills Countermeasures. Isolate work areas during in-water construction activities by using oil containment booms. Maintain a supply of oil booms, sorbent pads and other supplies to contain and clean spills. Contain and cleanup any hazardous material spills immediately and notify Engineer.

3.5 CONSTRUCTION SITE HOUSEKEEPING

- A. Remove rubbish, trash, and debris from site on a regular basis. Transport and dispose of all rubbish and debris in accordance with all local regulations. Maintain staging area in an orderly manner. Cleanup and dispose of all concrete debris and washings when concrete work is complete.

3.6 PROTECTION OF EXISTING IMPROVEMENTS

- A. Existing facilities, utilities, and property shall be protected from damage resulting from the Contractor's operations. Roadways and other improved surfaces shall be protected from damage by vehicles with tracks or lugs. Any damage resulting from the Contractor's operations shall be repaired by the Contractor to the condition which existed prior to the damage, and to the satisfaction of the Engineer, at no additional cost to the Owner.

3.7 RESTORATION OF STRUCTURES AND SURFACES

- A. Structures, Equipment, and Pipework. The Contractor shall remove such existing structures, equipment, and pipework as may be necessary for the performance of the work, and shall rebuild, or replace, the items thus removed in as good a condition as found. Contractor shall repair any existing structures that were damaged as a result of the Work.
- B. Roads. Roadways used by the Contractor for hauling materials, equipment, supplies, etc., shall be cleaned and repaired if the condition of the roadway is damaged, or otherwise affected, due to the Contractor's operations.

3.8 STORAGE OF MATERIALS AND EQUIPMENT

- A. Materials and equipment shall be stored to ensure the preservation of their quality and fitness for the work. Stores of equipment and materials shall be located to facilitate inspection. The Contractor shall be responsible for all damages that occur in connection with the care and protection of all materials and equipment, supplied by the Contractor, until completion and final acceptance of the Work by the Owner.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Work under this section will be measured for payment on a lump sum basis.

4.2 PAYMENT

- A. The contract lump sum price for Construction Facilities and Temporary Controls, also known as Mobilization and Demobilization, will include full compensation for the furnishing of all labor, materials, tools, equipment, administrative costs, and incidentals for mobilization; demobilization; and temporary facilities and controls.
- B. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Mobilization & Demobilization	Lump Sum (LS)

END OF SECTION

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FIBER ROLL

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SECTION 015713.01

FIBER ROLL

1. GENERAL

1.1 DESCRIPTION

- A. Work under this Section includes furnishing all labor, materials, equipment, and incidentals to install, maintain, remove and dispose of Fiber Roll, as shown on the Drawings, as specified herein, or as otherwise directed by the Engineer.
- B. Fiber Roll shall be furnished, installed, and maintained at the locations shown on the Drawings and as specified. Fiber Roll shall be installed on excavation and embankment slopes and other disturbed soil areas, active or non-active.

1.2 RELATED SECTIONS

- A. Section 015000, Mobilization
- B. Section 015713, Temporary Erosion Control and BMPs
- C. Section 312316, Stripping and Excavation
- D. Section 312319, Dewatering

1.3 SUBMITTALS

- A. Submit to the Engineer, for review, the following manufacturer's data and Certifications:
 - 1. A certificate stating the name of the Fiber Roll manufacturer, product name, style compositions of filaments or yarns and other pertinent information to fully describe the geotextile, along with the manufacturer's certification of compliance with the material specifications contained herein.

2. PRODUCTS

2.1 MATERIALS

- A. Fiber Roll (a.k.a. Straw Wattle). Fiber Roll shall be:
 - 1. A pre-manufactured roll made from 100% weed free straw and wrapped in a 100% natural fiber biodegradable tubular 7 oz. Plain Burlap liner. The burlap is Medium Weight Natural Burlap with a 9 X 8 Warp & Fill, and a minimum weight of 7 oz. per square yard. Plastic /biodegradable plastic netting will not be accepted as an alternate.
 - 2. 9-inch rolls shall have a minimum weight of approximately 1.6 pounds per foot.
 - 3. 12-inch rolls shall have a minimum weight of approximately 3.8 pounds per foot.
- B. Stakes. Wood stakes shall be a minimum of 1" x 1" x 24" for Type 1 installation or a minimum of 1" x 2" x 24" in size for Type 2 installation. Wood stakes shall be untreated fir, redwood, cedar, or pine and cut from sound timber. They shall be straight and free of loose or unsound knots and other defects which would render them unfit for the purpose intended. Metal stakes shall not be used.

3. EXECUTION

3.1 INSTALLATION

- A. Fiber Roll shall be installed as follows:
- B. Furrows shall be constructed to a depth between three inches and four inches, and to a sufficient width to hold the Fiber Roll. Soil excavated from the trench shall be placed on the uphill or flow side of the roll to prevent water from undercutting the roll. Stakes shall be driven on both sides of the roll at an angle and crossing each other between two and tree inches above the top of the roll at 36 inch spacing along the length of the Fiber Roll and stopped at 12 inches from each end of the rolls. Stakes shall be driven overlap each other.
- C. Fiber Roll shall be placed at the spacing shown in the Drawings.
- D. The bedding area for the Fiber Roll shall be cleared of obstructions including rocks, clods, and debris greater than one inch in diameter before installation.
- E. Fiber Roll shall be installed approximately parallel to the slope contour and the terminus of rows shall be angled up-slope at 45 degrees for a distance of three feet. Where fiber rolls meet, provide an overlap of two feet, with adjacent rolls tightly abutting each other.

3.2 MAINTENANCE

- A. The Contractor shall inspect all Fiber Roll immediately after each rainfall, and at least daily during prolonged rainfall. Any deficiencies shall be immediately corrected by the Contractor.
- B. The Contractor shall also make a daily review of the location of Fiber Roll in areas where construction activities have altered the natural contour and drainage runoff to ensure that the Fiber Rolls are properly located for effectiveness. Where deficiencies exist as determined by the Engineer, additional Fiber Rolls shall be installed as directed by the Engineer.
- C. Damaged or otherwise ineffective Fiber Roll shall be repaired or replaced promptly. Fiber Roll shall be maintained to disperse concentrated water runoff and to reduce runoff velocities. Split, torn, or unraveling rolls shall be repaired or replaced. Broken or split stakes shall be replaced. Sagging or slumping Fiber Roll shall be repaired with additional stakes or replaced. Locations where rills and other evidence of concentrated runoff have occurred beneath the rolls shall be corrected. Fiber Roll shall be repaired or replaced within 24 hours of identifying the deficiency.

3.3 REMOVAL

- A. Fiber Rolls shown on the Drawings shall remain in place after project completion, unless otherwise specified, and be allowed to naturally degrade.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Straw Wattles will be measured by the linear foot of Straw Wattle installed at the locations indicated on the Drawings, as specified, or as directed by the Engineer.

4.2 PAYMENT

- A. Straw Wattles will be paid for at the contract price per linear foot, which price will be payment in full for furnishing all labor, materials, tools, equipment, and incidentals necessary to install, maintain the Straw Wattles throughout the construction.
- B. Straw Wattles required or used on a short-term basis that are not permanently staked in place or are anticipated to be moved on a daily or routine basis (such as areas immediately adjacent to trench excavations, temporary stockpiles, active areas for soil processing/screening

operations, spill containment devices, etc.) shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed.

C. Payment shall be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Straw Wattle	Linear Foot (LF)

END OF SECTION

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SECTION 015713

TEMPORARY EROSION CONTROL AND BMPs

1. GENERAL

1.1 DESCRIPTION

- A. This work shall consist of temporary erosion control and water or air quality control measures, devices, and BMPs that may be shown on the Drawings, and as specified in the Contract Documents, Project Permit(s), Standard Specifications, these Technical Specifications, or as directed by the Engineer during the life of the contract. Temporary erosion control measures and other BMPs will also be required at staging/storage areas utilized during project construction. Said work is intended to provide prevention, control, and abatement of water and air pollution within the limits of the project and to minimize damage to the work, adjacent properties, streams or other bodies of water.
- B. Installation and maintenance of temporary erosion control measures, devices and BMPs shall conform to the requirements as shown on the Drawings stated within this section, and Yakama Nation requirements.

1.2 RELATED SECTIONS

- A. Section 015000, Mobilization
- B. Section 015713.01, Fiber Roll
- C. Section 312319, Dewatering
- D. Section 312323, Engineered Fill

1.3 REFERENCES

- A. Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction, current edition.
- B. Washington State Department of Transportation (WSDOT) Standard Plans for Road, Bridge, and Municipal Construction, current edition.
- C. Washington State Department of Transportation (WSDOT) Temporary Erosion and Sediment Control Manual M 3109, current edition.
- D. Washington Administrative Code (WAC), current edition.

1.4 SUBMITTALS

- A. Dirt Bag. Submit a material specification for the 'Dirtbag' device, for acceptance of the Engineer, prior to placement in the work.

2. PRODUCTS

- A. Dirt Bag. The 'Dirtbag' shall be a commercially manufactured nonwoven geotextile fabric bag (polypropylene or equivalent) intended for such use, with a minimum grab tensile strength of 200 psi in any principal direction (ASTM D4632), and permittivity of 0.05 sec (ASTM D4491). For project area soils (source of sediment in waters) with more than 15% by weight passing a No. 200 sieve the fabric shall have an apparent opening size between 50 and 140, and for project area soils (source of sediment in waters) with less than 15% by weight passing a No. 200 sieve the fabric shall have an apparent opening size between 20 and 50. If no determination can be

readily made in regards to the target area soil characteristics, the more restrictive condition shall prevail. The geotextile fabric material shall contain ultraviolet ray inhibitors and stabilizers to provide an expected usable life comparable to the anticipated construction period; ultraviolet stability shall exceed 70% after 500 hours of exposure (ASTM D4355). The 'Dirtbag' device shall have a fill spout large enough to accommodate a pump four (4) inch discharge hose and attachment straps to secure the hose in place. The 'Dirtbag' device shall be sized to accommodate the applicable flow rates and prohibit release of the target effluent. Location of any 'Dirtbag' device requires acceptance of the Engineer, equipment access for removal and off-site disposal, and the area shall be stable to prevent erosion. Placement of drain rock, fabric, or other suitable substance to create a stable discharge site is the responsibility of the Contractor. Any 'Dirtbag' device shall be fitted with straps strong enough for lifting and the device removed from the Project site and properly disposed of.

3. EXECUTION

3.1 GENERAL

- A. Install temporary soil stabilization materials for water pollution control in all disturbed work areas that are considered inactive (i.e. excess of 14 days) or before forecast storm events. Should any temporary erosion control of this nature be required elsewhere as directed by the Engineer and/or regulatory agencies, install them within 48 hours of notification. Where applicable and upon acceptance of the Engineer, furnish and apply/install temporary mulch, temporary hydraulic mulch, temporary erosion control blankets, or temporary covers in conformance with the Standard Specifications and these Technical Specifications. Materials and construction methods shall comply with the Standard Specifications and these Technical Specifications.

3.2 MAINTENANCE

- A. Maintain all temporary erosion control measures, devices, and BMPs placed in the work for the duration of the project. Maintenance includes all Manufacturer recommendations, and includes but is not limited to the following:
 - 1. Immediately repair upon discovery damage to any temporary erosion control devices and/or BMPs during the course of the project at the Contractor's expense.
 - 2. Inspect temporary erosion control devices and BMPs routinely, immediately after each rainfall event, and at least daily during prolonged rainfall events. Make required repairs immediately.
 - 3. Inspect construction limit and tree protection fencing daily and repair, secure, and replace as necessary to maintain and preserve its intended purpose.
 - 4. Routinely inspect all signage as required for the project and repair or replace upon discovery of damage, vandalism, and/or missing parts.
 - 5. Should the filter fence fabric decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, replace fabric promptly.
 - 6. Should a sediment log decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, replace sediment log promptly.
 - 7. Replace single or group of gravel bag(s) when the bag material is ruptured or when the yarn has failed, allowing the bag contents to spill out.
 - 8. Routinely inspect stakes and/or rope used to secure a sediment log in place and repair as necessary if found to be loose or ineffective.

9. Repair or replace damaged temporary gravel bag berm (or other measures which require gravel bags per the Project Drawings, Project Permits, these Technical Specifications and the Standard Specifications) on the same day when the damage occurs or is discovered.
10. Remove sediment deposits and other debris when they reach approximately one-half the height of the sediment barrier (or as recommended by the Manufacturer) and dispose of in a manner acceptable to the Engineer, and in conformance with the Standard Specifications.
11. Maintain temporary gravel bag berm (or other measures which require gravel bags per the Project Drawings, Project Permits, these Technical Specifications and the Standard Specifications to provide a sediment holding capacity of approximately one-third the height of the gravel bag berm above the ground. When sediment exceeds this height or when directed by the Engineer, remove and dispose of sediment in a manner acceptable to the Engineer, and in conformance with the Standard Specifications.
12. Remove and dispose of sediment deposits remaining in place after the temporary erosion control measure and/or BMPs is no longer required in a manner acceptable to the Engineer, and in conformance with the Standard Specifications.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Temporary Erosion Control and BMPs will be measured on lump sum basis.

4.2 PAYMENT

- A. The lump sum contract price for Temporary Erosion Control and BMPs will include full compensation for the furnishing of all labor, materials, tools, equipment, administrative costs, and incidentals for temporary erosion control measures, devices, and BMPs, provisions and requirements as stated in the Erosion Control Plan, stockpile management, sweeping, and maintenance of all such water pollution control measures that may be shown on the Project Drawings, and as specified in the Contract Documents, Project Permit(s), Standard Specifications, these Technical Specifications, and as directed by the Engineer, and no additional compensation shall be allowed therefore.
- B. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Temporary Erosion Control and BMPs	Lump Sum (LS)

END OF SECTION

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SECTION 017123.16 CONSTRUCTION SURVEYING

1. GENERAL

1.1 DESCRIPTION

- A. The work required under this Section shall include, but is not limited to, all labor, tools, materials, equipment and incidentals required to perform construction surveying necessary to establish the lines and grades of the proposed work, as shown on the Drawings, as specified, or as directed by the Engineer.
- B. The Engineer of record will provide survey control points and specific reference stakes, as detailed below. The Contractor shall preserve and protect all project survey control, construction stakes and reference points shown on the Drawings and located outside the limits of disturbance. Monuments or control points disturbed by the Contractor shall be reestablished by the Contractor at their sole expense. The Contractor shall be responsible for procuring professional land surveying services as necessary to provide additional surveying or grade-setting required to construct this project.
- C. If the existing survey control network is disturbed, the Contractor's replacement of control points shall be performed by a Washington licensed Land Surveyor, or Civil Engineer authorized to practice land surveying as defined in the Professional Land Surveyors Act.
- D. The Contractor's surveyor will be provided with the northing, easting and elevation of the control points existing in the field, as shown on the Drawings. In addition, the Engineer of Record will also provide the Contractor's surveyor with the final linework file developed in AutoCAD Civil 3D. The Contractor's surveyor will be required to access AutoCAD in order to use the electronic files.
- E. The Contractor shall be solely responsible for the protection and maintenance of all existing and Contractor-established survey marks and monuments.
- F. The Engineer's provision of survey control and/or construction reference stakes does not relieve the Contractor of their sole responsibility to construct all work to the specified lines and grades.

1.2 RELATED SECTIONS

- A. Section 312316, Stripping and Excavation
- B. Section 312323, Engineered Fill

1.3 SUBMITTALS

- A. Submit to the Engineer for review, the following:
- B. The Contractor shall provide the name, license number, and documentation for the required minimum qualifications of the Land Surveyor to be employed by the Contractor for the Project, prior to any work being completed by the Contractor or Surveyor.

1.4 QUALITY ASSURANCE

- A. All Work must be performed to the satisfaction of the Engineer.

- B. The Engineer may, at their sole discretion, perform their own surveys for: verification of project control points, verification of lines and grades, and inspection of survey monument preservation. Contractor shall provide unrestricted access for the Engineer to spot-check the work. This does not relieve the Contractor of their responsibility to perform additional independent surveying, as need to complete the work.
- C. In the event that the construction staking reveals a design inconsistency or error, Contractor shall notify the Engineer immediately and shall not proceed with the work until directed by the Engineer.

2. PRODUCTS (NOT USED)

3. EXECUTION

- A. The Engineer will establish the following reference points for the work shown on the Drawings.
 - 1. Staking to identify limits of work.
 - 2. Offset stakes for referencing the Bridge foundations and wingwalls.
 - 3. Offsets stakes for referencing the channel elevations.
- B. These points will be set once.
- C. Staking diagrams will be provided to the Contractor (.pdf) showing the location and elevation of all reference monuments.
- D. From this information, the Contractor shall establish all additional detailed surveys and measurements and establish markings or monuments necessary for their construction of the work, as dimensioned on the Drawings.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Construction Surveying will not be independently measured for payment.

4.2 PAYMENT

- A. No separate payment will be made for the work covered under this section. Full compensation for all costs in connection with Construction Surveying shall be included in the contract price for related work.
- B. In the event that that Owner is required to replace control points disturbed by the Contractor in order to verify the accuracy of the Contractor's work, the cost of establishing and verifying control points disturbed by the Contractor will be borne by the Contractor. The cost of any such verification or replacement of bench marks and/or control survey points will be deducted from any monies due to the Contractor. The Contractor will not be allowed any adjustment in working days for such verification or replacement of survey control points.

END OF SECTION

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SECTION 024100 DEMOLITION

1. GENERAL

1.1 DESCRIPTION

- A. Perform all demolition and disposal work as shown on the Drawings, as specified herein, or as otherwise directed by the Engineer.

1.2 RELATED SECTIONS

- A. Section 015000, Mobilization
- B. Section 311100, Clearing and Grubbing

2. PRODUCTS (Not Used)

3. EXECUTION

3.1 GENERAL

- A. Before beginning any work, carefully inspect the work and examine the Drawings and Specifications to determine the extent of the work to be performed. In the company of the Engineer, visit the site and verify the extent of the demolition and other work to be performed.
- B. Contact all appropriate utilities and agencies to coordinate and verify all abandonments and relocations.
- C. Use of explosives will not be permitted.
- D. Materials projecting above-ground shall be cut off at a minimum of one foot below finished grade. Backfill and compact all holes caused by removal of materials. Areas of site not detailed on the Drawings shall be filled and graded to drain, generally matching existing conditions.
- E. Rock removed from the site may be re-used if it meets the materials specifications of the work item for which it is proposed.

3.2 PROTECTION OF EXISTING WORK

- A. Take all necessary precautions to ensure against damage to existing work to remain in place, or to be salvaged. Any damage to such work shall be repaired or replaced as directed by the Engineer.
- B. Construct and maintain shoring, bracing, and supports, as required. Ensure that structural elements are not overloaded and increase structural supports, or add new supports, as may be required as a result of any cutting, removal, or demolition work performed.

3.3 DEMOLITION

- A. General. Extent of removal of existing facilities shall be as shown on the Drawings. Materials not identified as being salvaged by Owner shall be removed and disposed.
- B. Hazardous Materials. Comply with all local rules, regulations, ordinances, and statutes for handling and disposal of hazardous materials encountered.

- C. Demolition. Demolish all specified structures in accordance with all local regulations. Completely remove footings, foundation, and above-ground construction as shown on the Drawings. Demolition includes all culverts and other similar permanent improvements specified on the Drawings.

3.4 DEBRIS REMOVAL

- A. Remove all trash, rubble and debris generated by demolition activities from the site at the conclusion of construction.

3.5 DISPOSITION OF MATERIALS

- A. Salvaged Materials. Salvage of materials for reuse by the Owner shall include removal of the material, equipment, etc., from its present location and transporting, bundling, protecting, cleaning, and storing it in a designated location on the work site, as approved by the Engineer. Items which are specified to be reused, and are damaged during removal or storage, shall be repaired to the Engineer's satisfaction or replaced with new matching materials, at no cost to the Owner.
- B. Wasted Materials. Title to all debris to be wasted and demolished materials is vested to the Contractor upon receipt of the Notice-to-Proceed. Contractor shall assume responsibility for any loss or damage to such property after the Notice-to-Proceed. Condition of such material is not guaranteed and the Contractor shall assume all liability for reuse of any such material.
- C. Disposal. All materials removed under this section which are not salvaged by the facility owner for reuse or otherwise recycled, shall be disposed of off-site at appropriate disposal areas approved in advance by the Owner. The material shall be removed from the job site before completion of the contract. Material shall not be sold on the site. All loading, hauling, dumping, and disposal fees are the responsibility of the Contractor.
- D. Hauling. Debris shall be removed and transported by approved haul routes in a manner as to prevent spillage on streets or adjacent areas.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Demolition work will be measured for payment on a lump sum basis.

4.2 PAYMENT

- A. Demolition will be paid for at the lump sum contract price, which price will be payment in full for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the demolition, salvage, disposal, and reuse of materials, as specified.
- B. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Demolition	Lump Sum (LS)

END OF SECTION

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SECTION 311100 CLEARING AND GRUBBING

1. GENERAL

1.1 DESCRIPTION

- A. The work covered by this section consists of furnishing all labor, equipment, and materials necessary to perform the clearing and grubbing, the removal or disposal of all cleared and grubbed materials, and the filling of all grubbing holes, as specified, as shown on the Drawings, or as directed by the Engineer.

1.2 RELATED SECTIONS

- A. Section 024100, Demolition and Reuse of Materials
- B. Section 312316, Excavation
- C. Section 312323, Engineered Fill

1.3 REFERENCES

- A. Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction, current edition.

2. PRODUCTS (Not Used)

3. EXECUTION

3.1 CLEARING

- A. General. All work shall comply with Section 2-01, Clearing, Grubbing, and Roadside Clearance of the Standard Specifications.
- B. All trees, stumps, down timber, snags, brush, vegetation, old piling, stone, concrete rubble, abandoned structures, and similar debris shall be cleared within the limits of the construction extents, unless otherwise shown on the Drawings or directed by the Engineer.
- C. In areas where grubbing is not required, the clearing operations shall consist of the complete removal of all obstructions above the ground surface.
- D. Trees. Where trees are approved by the Owner's Representative for removal, trees shall be felled in such a manner as to avoid damage to trees left standing, to the existing structures and installations, as well as with due regard for the safety of employees and others. Stumps shall be removed to minimum depth of 4 feet, or to a point where remaining roots are less than 1.5 inches in diameter, whichever depth is greater. Trees located beyond the limits for clearing and grubbing that are not marked for removal, shall be protected from damage, as indicated on the Drawings and as specified.
- E. Vegetation. Vegetation to be removed shall consist of all heavy growth of brush and woody vegetation, unless shown otherwise on the Drawings or directed by the Engineer.
- F. Debris Removal. Abandoned foundations, rip rap, drainage materials, debris, and other unsuitable material and any other debris designated for removal on the Drawings shall be

removed and disposed of in accordance with this section. Buried unsuitable debris encountered during excavations shall be removed and disposed of in accordance with Section 312316, Stripping and Excavation.

3.2 GRUBBING

- A. General. Grubbing shall consist of the removal of all stumps, roots, buried logs, old piling, old paving, concrete, abandoned utilities, timbers, fencing, and other objectionable matter encountered.
- B. Limits. Except as noted on the Drawings, the entire area within the limits of the footprint of proposed culvert replacement shall be thoroughly grubbed.
- C. Filling of Holes. All holes caused by grubbing operations, except in borrow areas, shall be excavated with 3 to 1 (horizontal to vertical) side slopes in conformance with Section 312316, Stripping and Excavation. The excavation shall then be backfilled with compacted embankment material in conformance with Section 312323, Engineered Fill.

3.3 DISPOSAL OF DEBRIS

- A. Cleared and Grubbed Materials. Except as hereinafter specified or otherwise indicated on the Drawings, all logs, brush, strippings, concrete, asphalt, timbers, slash, and other non-organic debris which are the products of the clearing and grubbing operations shall be disposed of. Remove any or all of the products of clearing and grubbing operations from the site and dispose of the material at other locations or through other sources arranged for, by, and at the expense of the Contractor, in accordance with applicable laws and ordinances.
- B. Clean woody plant material products of the clearing and grubbing operations not designated for salvage may be disposed of on site at the location shown on the Drawings, or as specified by the Engineer, subject to approval of the Owner.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Clearing and Grubbing will be measured as a lump sum pay item.

4.2 PAYMENT

- A. Clearing and Grubbing will be paid for at the lump sum contract price, which price will be payment in full for furnishing all labor, materials, tools, equipment and incidentals, and doing all work necessary to complete the clearing and grubbing operation as specified, including disposal or salvage of materials, and restoration of ground surfaces.
- B. Removal and disposal of buried debris, not encountered during grubbing operations, will be paid for in accordance with Section 312316, Excavation.
- C. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Clearing and Grubbing	Lump Sum (LS)

END OF SECTION

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SECTION 312316

STRIPPING AND EXCAVATION

1. GENERAL

1.1 DESCRIPTION

- A. The work covered by this section consists of furnishing all labor, equipment, materials, and performing all operations necessary to complete Stripping and Excavation, as specified, as shown on the Drawings, or as directed by the Engineer. Work includes, but is not limited to the following:
 - 1. Stripping for removal of vegetation and surface organics.
 - 2. Excavation for removal of unsuitable material.
 - 3. Control of groundwater during excavation.
 - 4. Channel Excavation.
 - 5. Other miscellaneous excavation incidental to the construction of the improvements.
- B. Over-excavation for placement of RSP and bridge components is not included within this section, but is considered incidental to the work for which it is required.

1.2 RELATED SECTIONS

- A. Section 015713.01, Fiber Roll
- B. Section 017123.16, Construction Surveying
- C. Section 311100, Clearing and Grubbing
- D. Section 312323, Engineered Fill
- E. Section 321540, Aggregate Base
- F. Section 323423, Bridge Installation
- G. Section 354237, Rock Slope Protection

1.3 REFERENCES

- A. Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction, current edition.
- B. Washington State Department of Transportation (WSDOT) Temporary Erosion and Sediment Control Manual M 3109, current edition.
- C. Washington Administrative Code (WAC), current edition

1.4 QUALITY ASSURANCE

- A. Comply with all applicable permits and regulations.
- B. Contractor shall provide necessary construction staking and references points, as required to meet the specified tolerances for the work.

2. PRODUCTS (Not Used)

3. EXECUTION

3.1 GENERAL

- A. The Contractor shall protect existing utilities in performing any excavation work.
- B. The Contractor shall comply with all permit conditions in performing any excavation work.
- C. Contractor shall perform an independent earthwork estimate for the purpose of preparing bid prices for earthwork. Quantities indicated on the Drawings are approximate estimates provided only for permitting purposes and are not suitable for bidding purposes.
- D. The bid price shall include costs for any necessary export and proper disposal of excess or unsuitable earth materials off-site, at locations to be arranged and paid for by the Contractor.

3.2 STRIPPING

- A. Stripping. Strip surfaces of excavations and fill foundations of heavy growth of crops, grass, weeds and other vegetation as specified in Section 311100, Clearing and Grubbing. Greater depths of stripping may be necessary in selected areas to remove vegetation, as determined by the Engineer.
- B. Unless otherwise specified, the stripped materials shall be disposed of off-site, at locations to be arranged between the Contractor and the Owner's Representative.

3.3 EXCAVATION

- A. General. Excavations shall extend into firm, undisturbed native soils. Excavation shall consist of removal of material for embankment foundation preparation, mass excavation and finish grading of the channel and slope improvements, and other miscellaneous excavations to the lines and grades shown on the Drawings, or as directed by the Engineer. In the event that organic materials, yielding sub-grade (pumping) or other deleterious materials are encountered during foundation excavations, they shall be removed as directed by the Engineer.
- B. Control of Water. Water control shall be performed in accordance with project permit conditions, and Dewatering, Section 312319 of these Specifications. When water is encountered, either ground water or surface runoff, the Contractor shall furnish, install, maintain, and operate all necessary machinery and equipment required to keep the excavation reasonably free from water, as approved by the Engineer, until the placement of concrete or backfill material has been completed, inspected, and approved, and all danger of flotation and other damage is removed. Water pumped from the excavation shall be disposed of in such manner as will not cause injury to public or private property, or constitute a nuisance or menace to the public, and the disposal method shall be subject to the approval of the Engineer. Water shall be controlled until work is complete.
- C. Excess Excavation. Care shall be exercised by the Contractor not to excavate below the grades shown on the Drawings, except as specified herein, and as directed by the Engineer. All excavations in excess of the grades shown on the Drawings which are not directed by the Engineer shall be backfilled with compacted embankment at the Contractor's expense, per Section 312323, Engineered Fill.
- D. Temporary Excavations. With exposure and drying, on-site soils may experience progressive sloughing if excavated near vertical and left un-shored during construction. Engineer suggests that the soils on-site should be considered Type C when applying OSHA regulations.

- E. Tolerances. The excavation tolerance shall typically be +0.1 feet to -0.2 feet from the grades shown on the Drawings, except within the low flow channel, where excavation tolerance shall be +0.1 feet to -0.1 feet from the elevations shown on the Drawings.

3.4 UNCLASSIFIED EXCAVATION

- A. Unclassified Excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature, which is not otherwise classified and paid for under Excavation of Unsuitables or Rock Excavation described below. Unclassified Excavation includes excavation required to reach finished grade. Over-excavation for the placement of materials (e.g. Stream Simulation Material, Rock Slope Protection, Footings, and Abutments) or the removal of unsuitables, as described below under Excavation of Unsuitables, is not included in Unclassified Excavation.

3.5 EXCAVATION OF UNSUITABLES

- A. Excavation of Unsuitables. Areas of unsuitable in-place soils, as determined by the Engineer, may also be encountered. Material shall not be classified as unsuitable solely based on moisture content. Material within the limits of Excavation, as described above under Unclassified Excavation, or within the limits of over-excavation for the placement of materials (e.g. Stream Simulation Material, Rock Slope Protection, Footings, and Abutments) shall not be classified as unsuitable. The Contractor shall anticipate having to over-excavate areas of unsuitables as directed by the Geotechnical Engineer, dispose of these materials, and replace them with Engineered Fill in accordance with the Geotechnical Report. The actual locations of these excavations will be determined in the field by the Engineer. The side slopes of the excavations shall be no steeper than 1 to 1 (horizontal to vertical). The over-excavations shall be backfilled with embankment materials in accordance with Section 312323, Engineered Fill.
- B. Disposition of Unsuitable Materials. The excavated materials that are considered unsuitable based solely on moisture content shall be processed as necessary to meet specification requirements for suitability and used as embankment material. Materials which are unsuitable based on organic content will be ordered wasted and shall be disposed of off-site at a location agreed upon by the Owner's Representative.

3.6 ROCK EXCAVATION

- A. Rock Excavation. Rock excavation consists of the removal of hard igneous, metamorphic, and/or sedimentary rock in solid beds or masses in original or stratified position which can be removed only by continuous drilling, blasting or the use of pneumatic tools, and all boulders of 5 cubic yards in volume or larger. Material which can be loosened with a pick, frozen materials, soft laminated shale and hardpan, which for convenience or economy is loosened by drilling, blasting, wedging or the use of pneumatic tools, removal of concrete pavement and retaining walls, shall not be classified as rock excavation. When rock is encountered within the limits of the excavation, immediately notify the Owner's Representative and Engineer and do not proceed further until instructions are received and measurements made for the purpose of establishing the volume of rock excavation. Contractor shall note that blasting is not approved for this project. The need for specialized rock excavating equipment should be anticipated if rock is encountered.

3.7 SOIL OFF-HAUL

- A. All excess material excavated at the project site shall be off-hauled and disposed of at a location pre-approved by the Owner's Representative. This includes material generated to

reach finished grade and excess material generated during any over-excavation required for project construction. Contractor shall make all arrangements and pay all fees associated with this work.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Stripping. Stripping will not be separately measured for payment.
- B. Unclassified Excavation. Unclassified Excavation will be measured by the cubic yard of Unclassified Excavation, based on the Dimensions shown on the Drawings. This is a neat-line quantity and does not take into account the loose volume of the excavated material. Where the dimensions of any portion of the work are revised by the Engineer, or a portion of the work is eliminated, the change will be measured by the cubic yard.
- C. Excavation - Unsuitable Materials. Excavation - Unsuitable Materials is an optional bid item for materials that are designated by the Engineer as unsuitable for reuse. This will be measured by the cubic yard of material excavated from the stripped foundation dimensions shown on the Drawings and replaced with Engineered Fill. Measurement will be
- D. Rock Excavation. Rock Excavation is an optional bid items for rock surfaces that are designated by the Engineer as meeting the specifications for Rock Excavation. This will be measured by the cubic yard of rock excavation, based on the calculated neat-line quantity from surveyed cross sections before and after the excavation.
- E. Miscellaneous Construction. Miscellaneous construction is an optional bid item for other site work to be performed by the Contractor at the direction of the Owner's Representative or Engineer. This will be measured for payment by the hour of time the Contractor's staff and equipment are used for work at the site that is not included in the Drawings or Technical Specifications.

4.2 PAYMENT

- A. Stripping. No separate payment will be made for stripping. All costs in connection with this work will be considered incidental to the contract price per cubic yard for Excavation.
- B. Unclassified Excavation, measured as specified above, will be paid for at the contract unit price per cubic yard, which price will be payment in full for furnishing all labor, materials, tools, equipment and incidentals, and doing all work necessary to complete Unclassified Excavation, as specified, including mass excavation and finish grading of channel banks and floodplains, to the lines and grades shown on the Drawings.
- C. Excavation - Unsuitable Materials, measured as specified above, will be paid for at the contract unit price per cubic yard, which price will be payment in full for furnishing all labor, materials, tools, equipment and incidentals, and doing all work necessary to complete the excavation as specified, including dewatering, all handling of materials, and disposal of unsuitable materials.
- D. Rock Excavation, measured as specified above, will be paid for at the contract unit price per cubic yard, which price will be payment in full for furnishing all labor, materials, tools, equipment and incidentals, and doing all work necessary to complete the Rock Excavation as specified, including dewatering, all handling of materials, and disposal of unsuitable materials.
- E. Miscellaneous Construction, measured as specified above, will be paid for at the contract unit price per hour, which price will be payment in full for furnishing all labor, materials, tools,

equipment and incidentals, and doing all work necessary to complete the Miscellaneous Construction of work not in the Drawings or Technical Specifications as directed by the Owner's Representative or the Engineer.

- F. No separate payment will be made for other miscellaneous grading incidental to the work. All costs in connection with this work will be considered incidental to the cost of construction of associated improvement.
- G. Mixing and transport of suitable materials for reuse shall be paid for under Engineered Fill, Section 316323.
- H. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Unclassified Excavation	Cubic Yard (CY)
Excavation – Unsuitable Materials	Cubic Yard (CY-O)
Rock Excavation	Cubic Yard (CY-O)
Miscellaneous Construction	Hourly (HR-O)

END OF SECTION

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DEWATERING

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SECTION 312319 DEWATERING

1. GENERAL

1.1 DESCRIPTION

- A. Furnish all labor, materials, equipment, and incidentals necessary to design, construct, operate, maintain, and remove all cofferdams, diversions, and/or other measures, including pumping, to dewater the construction site and to divert streamflow and other surface waters and groundwater through or around the project area 24 hours a day during the entire field construction period, as shown on the Drawings, as specified, or as directed by the Engineer.
- B. Dewatering details on the Drawings (if provided) are schematic. The design and implementation of the Dewatering Plan is solely the responsibility of the Contractor. Contractor shall make their own independent evaluation of water sources (surface and groundwater) in preparing their Dewatering Plan.
- C. Dewatering shall comply with all project permit conditions, applicable laws and local ordinances.

1.2 RELATED SECTIONS

- A. Section 015713, Temporary Erosion Control and BMPs
- B. Section 015713.01, Fiber Roll
- C. Section 354237, Rock Slope Protection

1.3 REFERENCES

- A. Washington State Department of Transportation (WSDOT) Temporary Erosion and Sediment Control Manual M 3109, current edition.
- B. Washington Administrative Code (WAC), current edition.

1.4 SUBMITTALS

- A. The Contractor shall submit the following for review and approval of the Engineer:
 - 1. A Dewatering Plan (for if flowing water in the channel is present at any time during construction) listing materials, method of work, equipment to be used, methods for disposal of pumped water, provisions to prevent scour and erosion, and the proposed schedule shall be submitted to the Engineer. Approval of the Engineer shall be required before the Contractor proceeds with water control measures.
 - 2. Product data for:

- a. Pumps
- b. Silt control filter fabric
- c. Washed rock
- d. Impervious liners
- e. Cofferdam material
- f. Other materials used in dewatering
- g. Block nets for excluding fish

1.5 QUALITY ASSURANCE

- A. Comply with approved Hazardous Materials Control and Spill Prevention Plan, in accordance with Section 015000.
- B. Notify Engineer 48 hours in advance of installation of temporary cofferdam(s) or diversion.
- C. Notify Engineer 48 hours in advance of removal of temporary cofferdam(s) or diversion.

2. PRODUCTS

2.1 MATERIALS

- A. Imported Rock. Use only clean washed gravel. Sand will not be allowed.
- B. Dewatering Facilities. Provide and operate dewatering facilities of suitable size and capacity. The use of equipment shall be consistent with the manufacturer's recommendations.
- C. Block Nets. Block Nets shall be 1/4 inch opening nylon mesh net.

3. EXECUTION

3.1 GENERAL

- A. Contractor is solely responsible for the design, construction, and maintenance and monitoring of the diversion and dewatering facilities. Comply with the Drawings, Specifications, and applicable permit conditions.

3.2 SEDIMENT CONTROL

- A. General. Comply with the provisions of the Project Permits and the WAC Chapters 173-200 and 173-201A.
- B. Materials. Earthen materials shall not be used within the flowing channel, with the exception of clean, washed rock.
- C. Cofferdam Construction. During construction of the cofferdam, install silt barrier(s) along the water side of the installation, as necessary to minimize mobilization and entrainment of disturbed soils within the active flowing channel, to a level in accordance with the permit conditions.
- D. Discharge of diverted flow. Unless otherwise specified, a diversion must discharge into the same natural drainage way in which its headworks are located. Where feasible, discharge to existing pools or onto bedrock or otherwise erosion resistant surfaces. Construct energy dissipators at diversion outlets, where necessary to prevent scour at point of discharge.
- E. Discharge of Seepage/Groundwater. Discharge water from the dewatered construction site either by gravity or pumping in a manner to prevent excessive turbidity from entering the

receiving waters and to prevent scour and erosion outside of the construction site. Pumped water should be pre-filtered with a gravel pack around sumps for subsurface flows and a “Dirt Bag” or hay bales around pumps for surface flow.

3.3 HAZARDOUS MATERIAL CONTROL

- A. General. Comply with the approved Spill Prevention, Control and Countermeasures Plan (SPCC Plan) in accordance with Temporary Water Pollution Prevention, Section 01-07.15.
- B. Equipment and Lubricants. Steam-clean all equipment prior to its use. Inspect all equipment for cleanliness and fluid leaks prior to use and monitor during its use. Maintain equipment as required. Equipment refueling shall only take place in a designated, contained area.
- C. Isolation of Construction Area. Prior to performing work within flowing water, outside of cofferdams, install oil containment booms downstream of the work area. Maintain booms until completion of the work within the channel is complete.
- D. Spills. Maintain a supply of oil spill booms, sorbent pads, and other supplies to contain and clean spills. Comply with approved SPCC Plan should spills occur.

3.4 COFFERDAMS

- A. General. The Contractor is solely responsible for the design, construction, maintenance, and monitoring of cofferdams, dikes and other isolation facilities. Cofferdams with an exposed height greater than 10 feet shall be designed by a Professional Engineer registered in the State of Washington, based on available soil data.
- B. Configuration. Cofferdam alignments, as shown on the Drawings, reflect the maximum allowable encroachment into the channel. Construct cofferdam alignments as shown on the Drawings, unless otherwise approved by Engineer. Provide cofferdams high enough to account for water surface fluctuations.
- C. Secondary Dikes/Seepage Control. Secondary dikes within the isolated construction area can be used to control seepage and groundwater around excavations, provided all dike materials are removed from the exposed channel upon completion, prior to re-watering the work area.

3.5 FLOW BYPASS

- A. Capacity. Bypass water around construction site using a cofferdam and bypass pipe as shown on the Drawings or equivalent facility, as approved by the Engineer. The bypass system shall be capable of passing the flows present at the time construction begins, with a minimum of 12 inches of freeboard (measured vertically from water surface to lowest point on dam). Bypass pipes shall have a minimum diameter of 10 inches to minimize the likelihood of clogging by debris.
- B. Storm Events. During the designated period for instream work, the Contractor shall be solely responsible for the integrity of the dewatering system. If rain is predicted, the Contractor shall perform flood fighting activities as directed by the Engineer and regulatory agencies.
- C. The diversion system may require adjustment to accommodate the sequence of work. No additional compensation shall be provided for any adjustments, revisions, or reinstallations of diversion elements.
- D. The diversion shall result in conditions that allow the required compaction to be achieved and shall prevent sediment-laden water that exceeds the effluent discharge limits from entering the drainage ways.

- E. Unless otherwise specified, a diversion must discharge into the same natural drainage way in which its headworks are located.

3.6 DEWATERING

- A. General. Remove water from construction area using pumping, well points, drains, or other approved methods. Discharge of water shall comply with 3.3.D. Construction water shall be segregated from seepage water and routed through sediment interceptors or other facilities to remove contaminants and sediment. Excavated slopes in the saturated soils may need to be retained, tied back, or otherwise stabilized.
- B. Well Points. Well points shall be designed to preclude the loss of fine soil by gravel packing or other suitable means.
- C. Pumping Facilities. All pump intakes shall be screened to prevent the entrainment of fish, in accordance with project permit conditions. Pumps and discharge piping shall be suitable for the type of service provided and shall be a sufficient size and capacity to satisfactorily dewater work areas. Engines shall be muffled to avoid excess noise and pump intakes shall be fitted with screens as required.
- D. Power Supply. Consider the availability and reliability of power sources for dewatering operation in dewatering system design and make provisions for temporary or backup power supply as deemed necessary. Where the primary diversion is operated by pumping, provide a backup system with automatic controls capable of starting the backup upon failure of the primary system.
- E. Groundwater. Dewatering shall maintain water surfaces below the base of temporary excavations or trenches, to allow for visual inspection of the work, if requested by the Engineer. Lower groundwater tables within excavations for structures to a minimum of two (2) feet below foundations or as otherwise required to establish a firm, stable foundation. Control groundwater within excavation until completion of backfill operations.

3.7 WATER LEVELS DURING THE CONSTRUCTION PERIOD

- A. The Contractor shall be responsible for making an independent evaluation of site conditions. The Contractor's dewatering plan shall address all potential sources of surface and groundwater, including but not limited to streamflow (natural or managed), backwatering of the channel from downstream blockages, domestic water lines, storm drain outfalls, irrigation tailwater, industrial discharges, seepage, and direct rainfall.

3.8 CLEANUP

- A. Thoroughly clean up area to remove debris and contaminated materials. Remove fine sediments and restore disturbed area prior to removal of the dewatering facilities. Clean and round river run gravels or cobbles, if used in cofferdam construction, may be spread in the creek channel in lieu of removal, provided grading will not interfere with facility operation.

3.9 REMOVAL OF DEWATERING FACILITIES

- A. Prior to removal of the dewatering facilities, complete the following activities:
 - 1. Complete required tests and inspections.
 - 2. Thoroughly cleanup work site.
 - 3. Perform final walkthrough with Engineer.

- B. Prior to removal of cofferdams and diversion, equalize the water surface levels on both sides of the dams.

3.10 REMOVAL OF BLOCK NETS

- A. Block Nets shall be removed by the fisheries biologist after the dewatering facilities are removed and the in channel work area is re-watered.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Creek Diversion is an optional bid item to be used at the discretion of the Owner's Representative or the Engineer based on if flowing water is present in the project area at the time of construction, and will be measured on a lump sum basis.
- B. Dewatering will not be separately measured for payment.

4.2 PAYMENT

- A. Creek Diversion will be paid for at the lump sum contract price for Creek Diversion, which price will include payment in full for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the diversion operations, as specified, including temporary cofferdams, pumping, silt control, filter fabric, sediment control, erosion control, removal of muck, disposal of materials, and removal of dewatering facilities.
- B. No separate payment will be made for Dewatering . Full compensation for all costs associated with this work, as shown on the Drawings, or as specified, shall be included for related work .

Pay Item

Creek Diversion

Pay Unit

Lump Sum (LS)

END OF SECTION

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SECTION 312323
ENGINEERED FILL

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SECTION 312323 ENGINEERED FILL

1. GENERAL

1.1 DESCRIPTION

- A. The work covered by this section consists of furnishing all plant, labor, and materials, and performing all operations necessary for the construction of Engineered fills, including subgrade preparation, furnishing, loading, and on-site and off-site hauling of materials, processing, screening placement and compaction of Engineered Fill materials, construction of ramps, and other incidental earthwork as may be necessary to complete the Engineered Fills, as specified in the Geotechnical Report, as shown on the Drawings, as specified, or as otherwise directed by the Engineer.
- B. All grading shall comply with Sections 2 of the Standard Specifications, and with the recommendations of the Geotechnical Investigation. Prior to beginning work, the Contractor shall be familiar with the geotechnical investigation. In the event of discrepancy between the report and the notes herein, the report shall prevail. It shall be the responsibility of the Contractor to visit the site and make his own interpretations with regard to materials, methods and equipment necessary to perform the work required for this project.
- C. Temporary erosion control and BMPs and Dewatering shall be installed and approved by the Engineer prior to beginning Engineered Fill Construction.
- D. The Contractor is responsible to locate, identify, and protect all existing utilities from damage.

1.2 RELATED SECTIONS

- A. Section 015000, Mobilization
- B. Section 015713, Temporary Erosion Control and BMPs
- C. Section 017123.16, Construction Surveying
- D. Section 311100, Clearing and Grubbing
- E. Section 312316, Stripping and Excavation
- F. Section 313219.16, Geogrid
- G. Section 321540, Aggregate Base
- H. Section 323423, Bridge Installation

1.3 REFERENCES

- A. Geotechnical Engineering Investigation by:
 - Geotechnics, LLC
 - 30110 E Woodard Road
 - Troutdale, OR 97060
 - (503) 730-2469
 - Date: December 11, 2024
 - Project #: 22-001-1

2. PRODUCTS

2.1 MATERIALS

- A. Select Structural Fill shall be clean, durable, crushed angular rock. Such rock should be well-graded and have a maximum particle size of 1½ inches, and less than 7.5 percent passing the U.S. No. 200 Sieve. Such rock should conform to the WSDOT Specification 9-03.9(3) for Crushed Surfacing Base Course (WSDOT, 2025) and the Geotechnical Report.
- B. Water. Refer to Section 015000, Mobilization
- C. General Fill Materials. To the extent they are needed, all suitable materials from the specified excavations shall be used in the construction of general fill as shown on the Drawings. The suitability of materials for specific purposes will be subject to the approval of the Engineer, in conformance with these specifications.
- D. Surplus Materials. All surplus or unsuitable excavated materials will be designated as waste and shall be disposed in accordance with Section 312316, Stripping & Excavation.

3. EXECUTION

3.1 ENGINEERED FILL CONSTRUCTION

- A. General. Compacted Engineered Fill in Engineered Fills shall be placed in the dry and compacted as specified herein.
- B. Borrow Areas. Refer to Section 312316, Stripping and Excavation.
- C. Subgrade Preparation. Following Clearing and Grubbing, the subgrade surfaces shall be graded to remove surface irregularities and shall be scarified parallel to the axis of the fill and loosened to a minimum depth of 6 inches. The moisture content of the loosened material shall be controlled as specified for the Engineered Fill, and the surface materials of the subgrade shall be compacted and bonded with the first layer of Engineered Fill.
- D. Prepared subgrade surface shall be free of loose, uncompacted earth in excess of six inches in depth normal to the slope and shall be at such a moisture content that the Engineered Fill can be compacted against it ensure a good bond between the engineered fill and the subgrade. Subgrade surfaces shall not be steeper than 1 horizontal to 1 vertical.
- E. Fill shall not be placed until the required subgrade preparation has been completed and approved by the Geotechnical Engineer.
- F. Fill shall not be placed on or in standing water, nor upon a frozen surface, nor shall snow, ice, or frozen material be incorporated in the fill.
- G. Compaction. Comply with the recommendations of the Geotechnical Engineering Report and the structural design plans for the Bridge
- H. At the discretion of the Engineer, the top 18 inches of fill, within areas specified to receive revegetation treatments, may be compacted to between 80% and 85% of the maximum dry density, to facilitate plant establishment.
- I. Dressing. Engineered Fill slopes shall be dressed by over-building and cutting back to the required grade. The Contractor may compact the shoulder of each lift during the placement of fill materials to assist in the subsequent dressing of the slopes.

3.2 CROSS SECTIONS AND ZONING OF MATERIALS

- A. Standard Engineered Fill Sections. The dimensions, slopes, and zoning of materials shall conform to the sections shown on the Drawings and specified herein.
- B. Zoning of Materials. Unless otherwise specified, the Engineered Fill materials shall be homogeneous. The Engineered Fill shall be free of pockets, lenses, streaks, layers, etc. of different materials.

3.3 FINISH

- A. The finished grades shall transition naturally into adjacent existing grades to provide a functional and naturalistic finished surface. Due to the complex nature of the project and the desired aesthetic and functional features, not all details can be accurately represented on the Drawings. As a result, the Contractor may be directed by the Engineer to make minor adjustments to finish grades to best achieve these results. These adjustments may include smoothing or rounding conforms, or changing slope angles or daylight points as necessary to conform to the variable geometry inherent in natural topography. Compensation for this work shall be considered as included in the price paid for the various contract items of work involved, and no additional compensation will be allowed.
- B. After the placement of the engineered fills and spoils, the sides and top shall be dressed by final passage of compaction equipment or by dragging to give a smooth surface. The surface area shall be graded to provide surface drainage to flow to desired locations.

3.4 ROADS AND RAMPS

- A. Maintain Access. At locations where access roads to existing facilities are destroyed because of the work required under this contract, the Contractor shall provide temporary roads, if directed by the Engineer, to give access to fields and buildings during the construction period. Such facilities shall be removed to the extent required by the Engineer.
- B. Temporary Haul Roads. Temporary haul roads shall be constructed as required to transport materials from borrow source or excavation to Engineered Fill site. Temporary ramps to be constructed for the Contractors convenience need not comply with these foundation preparation and Engineered Fill construction requirements. Unless otherwise directed by the Engineer, temporary ramps shall be removed prior to completion of the work and original grades restored.
- C. Refer to Section 015000, Mobilization, for additional requirements related to establishment of temporary access.

3.5 GRADE TOLERANCES

- A. General. Engineered Fills shall be constructed to the net grade and cross section shown on the Drawings.
- B. Grade Tolerances. At all points a tolerance of 0.2 (two-tenths) foot above, and 0.1 (zero) foot below the prescribed grade will be permitted in the final dressing, provided that any excess material is so distributed that the crown of the Engineered Fill drains in the desired direction and that there are no abrupt humps or depressions in surfaces. However, this tolerance above grade may be modified at locations where, in the opinion of the Engineer, such modifications will not impair the design or appearance of the project.

3.6 SPECIAL MEASURES

- A. Measures and construction methods shall be incorporated as needed and practical that enhances fish and wildlife values. Special attention shall be given to protecting visual resources and maintaining key shade, food, and den trees.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Select Structural Fill will be measured for payment by the cubic yard, to the nearest 1 cubic yard. Quantities of Select Structural Fill to be paid for by the cubic yard will be calculated based on the dimensions shown on the Drawings, adjusted by the amount of any change ordered by the Engineer.
- B. Crushed Rock Leveling Pad will be measured by the cubic yard calculated to the nearest cubic yard as placed in the field between the bedrock surface (if present) and the bottom of the proposed bridge abutments and wingwalls.
- C. General Fill Materials will not be separately measured for payment.

4.2 PAYMENT

- A. Select Structural Fill will be paid for at the contract price per cubic yard, which price will be payment in full for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing aggregate base, including subgrade preparation and subgrade compaction, as shown on the Drawings, and as specified, and as directed by the Engineer.
- B. Crushed Rock Leveling Pad, measured as specified above, will be paid for at the contract price per cubic yard, which price will be payment in full for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the rock placement, including subgrade preparation, geotextile fabric, processing work, backing, rock placement, backfill of voids, excavation and fill.
- C. General Fill Materials will not be paid for separately and will be considered incidental to other work on the project.

<u>Pay Item</u>	<u>Pay Unit</u>
Select Structural Fill	Cubic Yard (CY)
Crushed Rock Leveling Pad	Cubic Yard (CY)

END OF SECTION

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GEOGRID

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SECTION 313219.16

GEOGRID

1. GENERAL

1.1 DESCRIPTION

- A. Work under this section includes furnishing all labor, materials, equipment, and incidentals to install and maintain Geogrid, as shown on the Drawings by the Bridge manufacturer, and as specified herein, or as otherwise directed by the Engineer.

1.2 RELATED SECTIONS

- A. Section 015000, Mobilization
- B. Section 312316, Excavation
- C. Section 312323, Engineered Fill
- D. Section 323423, Bridge Installation
- E. Section 354237, Rock Slope Protection

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. D 6637: Test Method for Determining Tensile Properties of Geogrids by the Single or Multi-Rib Tensile Method.

1.4 SUBMITTALS

- A. Submit to the Engineer, for review and approval, the following manufacturer's data and certifications:
 - 1. A certificate stating the name of the Geogrid manufacturer, product name, style, chemical compositions of filaments and other pertinent information to fully describe the geogrid.
 - 2. A certificate stating that the furnished products meet requirements of the Specification as evaluated under the manufacturer's quality control program. The certificate shall be attested to by a person having legal authority to bind the Manufacturer.
- B. Independent Performance Test Results shall be provided upon request.
- C. The Manufacturer is responsible for establishing and maintaining a quality control program to assure compliance with the requirements of the Specification. Documentation describing the quality control program shall be made available upon request.

2. PRODUCTS

2.1 GEOGRID

- A. Geogrid shall meet the design requirements listed in the Drawings prepared by the Bridge Manufacturer.

3. EXECUTION

3.1 PREPARATION

- A. Grade and compact areas to be treated with Geogrid as specified or as directed by the Geotechnical Engineer.

3.2 INSTALLATION

- A. Install Geogrid in accordance with manufacturer's recommendations and the Bridge manufacturer's Drawings

3.3 INSPECTION AND MAINTENANCE

- A. Damaged or otherwise ineffective Geogrid shall be repaired or replaced promptly.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Geogrid will not be measured separately for payment.

4.2 PAYMENT

- A. No separate payment will be made for Geogrid. Full compensation for all costs associated with this work shall be considered incidental to the contract price for Select Structural Fill in accordance with Section 312323, Engineered Fill.

END OF SECTION

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SECTION 321540 AGGREGATE BASE

1. GENERAL

1.1 DESCRIPTION

- A. The work covered by this section consists of furnishing all plant, labor, and material and performing all operations necessary for placing aggregate base as specified, as shown on the Drawings, or as otherwise directed by the Engineer.

1.2 RELATED SECTIONS

- A. Section 312316, Stripping and Excavation
- B. Section 312323, Engineered Fill

1.3 REFERENCES

- A. Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction, current edition.

1.4 PROJECT CONDITIONS

- A. Aggregate shall be placed when the atmospheric temperature is above 35 degrees Fahrenheit. Areas of completed base course that are damaged by freezing, rainfall, or other weather conditions shall be corrected to meet specified requirements.

2. PRODUCTS

2.1 MATERIALS

- A. Aggregate Base used for the Road Surface will be supplied by the Owner and hauled from the source to the project site by the Contractor.

3. EXECUTION

3.1 PLACING, COMPACTING, AND FINISHING

- A. Preparation of Subgrade. Prior to constructing the aggregate base course, the sub-grade shall be cleaned of all foreign substances. The sub-grade then shall be scarified to a depth of 6 inches, moisture conditioned, and compacted. Ruts or soft, yielding spots shall be corrected by loosening and removing soft or unsatisfactory material and by adding approved material, reshaping to line and grade, and recompacting.
- B. Grade Control. During construction, the lines and grades including crown and cross slope indicated for the aggregate base course shall be maintained by means of line and grade stakes placed by the Contractor.
- C. Placing. The mixed material shall be placed on the prepared subgrade in layers of uniform thickness with a suitable spreader. No layer shall exceed 6 inches or be less than 3 inches when compacted. The layers shall be so placed that when compacted they will be true to the grades or levels required with the least possible surface disturbance. Such adjustments in placing

procedures or equipment shall be made as may be directed to obtain true grades, to minimize segregation and degradation, to adjust the water content, and to insure an acceptable base course.

- D. Compaction. Aggregate base course material shall be compacted with mechanical tampers.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Crushed Rock Road Surface will be measured for payment by the square foot, to the nearest 10 square feet
- B. Aggregate base for repair of roadways outside of construction footprint that are damaged by construction activities will not be separately measured for payment.

4.2 PAYMENT

- A. Crushed Rock Road Surface will be paid for at the contract price per square foot, which price will be payment in full for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in constructing the Crushed Rock Road Surface , including subgrade preparation and subgrade compaction, as shown on the Drawings, and as specified, and as directed by the Engineer.
- B. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Crushed Rock Road Surface	Square Foot (SF)

END OF SECTION

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SECTION 323423

BRIDGE INSTALLATION

1. GENERAL

1.1 DESCRIPTION

- A. The Work covered by this section consists of moving and installing of a bridge, abutments, and wingwalls, complete, in place, as specified, as shown on the Plans, and as directed by the Engineer. The bridge, precast concrete abutment blocks, connecting steel and hardware shall be supplied by the Owner.
- B. Coordinate delivery of the bridge materials with the supplier. The bridge material supplier is Janicki Logging and Construction Company, Inc. of Sedro-Woolley, Washington:
JANICKI LOGGING AND CONSTRUCTION CO., INC.
103 N Township St.
Sedro-Woolley, WA 98284
Office: (360) 856-2068
- C. Verify road condition requirements with the bridge material supplier and make any necessary road improvements to get materials as close to the project site as possible. The Contractor shall arrange and pay for any necessary hauling of bridge materials from the bridge supplier drop-off location to the project site.

1.2 SUBMITTALS

- A. Submit to the Engineer, for review, the following:
 - 1. Select structural fill material used in backfill behind the abutments and wingwalls.
 - 2. Geogrid material used in the backfill behind the abutments and wingwalls.

1.3 PRODUCT HANDLING

- A. General. Comply with the notes on the Drawings and Bridge Manufacturer's Installation Guidelines.

1.4 QUALITY ASSURANCE

- A. Inspection and Acceptance. Owner will inspect and accept bridge.

2. PRODUCTS

2.1 MATERIALS

- A. General. Comply with the material specifications listed on the Drawings.

3. EXECUTION

3.1 GENERAL

- A. Comply with the notes and details on the Drawings.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Install Bridge will be measured for payment on a lump sum basis.
- B. Select Structural Fill, Crushed Rock Leveling Pad, and geogrid shall be measured and paid for in accordance with Section 312323 Engineered Fill.

4.2 PAYMENT

- A. Install Bridge will be paid for at the lump sum contract price, which price will be considered payment in full for furnishing all labor, materials, tools, equipment, and incidentals necessary to coordinate delivery of and complete installation of the Bridge, including but not limited to over excavation for abutments, wingwalls, and footings and installation of the Bridge including abutments and wing walls, as specified, as shown on the Drawings, or as directed by the Engineer.
- B. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Install Bridge	Lump Sum (LS)

END OF SECTION

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BRIDGE INSTALLATION

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SECTION 323423 BRIDGE INSTALLATION

1. GENERAL

1.1 DESCRIPTION

- A. The Work covered by this section consists of coordinating the delivery, unloading, staging, and installing of a bridge, abutments, and wingwalls, complete, in place, as specified, as shown on the Plans, and as directed by the Engineer. The bridge, precast concrete abutment blocks, connecting steel and hardware shall be supplied by the Owner.
- B. Coordinate delivery of the bridge materials with the supplier. The bridge material supplier is Janicki Logging and Construction Company, Inc. of Sedro-Woolley, Washington:
JANICKI LOGGING AND CONSTRUCTION CO., INC.
103 N Township St.
Sedro-Woolley, WA 98284
Office: (360) 856-2068
- C. Verify road condition requirements with the bridge material supplier and make any necessary road improvements to get materials as close to the project site as possible. The Contractor shall arrange and pay for any necessary hauling of bridge materials from the bridge supplier drop-off location to the project site.

1.2 SUBMITTALS

- A. Submit to the Engineer, for review, the following:
 - 1. Select structural fill material used in backfill behind the abutments and wingwalls.
 - 2. Geogrid material used in the backfill behind the abutments and wingwalls.

1.3 PRODUCT HANDLING

- A. General. Comply with the notes on the Drawings and Bridge Manufacturer's Installation Guidelines.

1.4 QUALITY ASSURANCE

- A. Inspection and Acceptance. Owner will inspect and accept bridge.

2. PRODUCTS

2.1 MATERIALS

- A. General. Comply with the material specifications listed on the Drawings.

3. EXECUTION

3.1 GENERAL

- A. Comply with the notes and details on the Drawings.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Install Bridge will be measured for payment on a lump sum basis.
- B. Select Structural Fill, Crushed Rock Leveling Pad, and geogrid shall be measured and paid for in accordance with Section 312323 Engineered Fill.

4.2 PAYMENT

- A. Install Bridge will be paid for at the lump sum contract price, which price will be considered payment in full for furnishing all labor, materials, tools, equipment, and incidentals necessary to coordinate delivery of, unloading, staging, and complete installation of the Bridge, including but not limited to over excavation for abutments, wingwalls, and footings and installation of the Bridge including abutments and wing walls, as specified, as shown on the Drawings, or as directed by the Engineer.
- B. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Install Bridge	Lump Sum (LS)

END OF SECTION

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ROCK SLOPE PROTECTION

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SECTION 354237

ROCK SLOPE PROTECTION

1. GENERAL

1.1 DESCRIPTION

- A. Work within this section shall include furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing, Rock Slope Protection (RSP) and Stream Substrate where shown on the Drawings, as specified herein, or as otherwise directed by the Engineer. Stone protection, rock slope protection, and riprap are interchangeable in these Specifications and Drawings.
- B. All loading, transport, temporary stockpiling, processing and mixing of stone materials to achieve designated gradations, washing, on-site hauling, excavation, preparation of sub-grade, placement, embedment, backfill, grading, compaction, finish grading, clean-up, and off-haul and disposal of excess materials needed to install all Rock Slope Protection work, where incorporated in the work, shall be considered as included in the applicable bid item unit price, and no additional compensation will be allowed.
- C. The location, alignment, angles, elevations, grades, slopes, dimensions, etc. of the proposed rock structures as described in this section are shown on the Drawings to provide a basis for construction and bidding purposes. The Engineer is expected to make minor revisions and provide direction in the field to fit any varying field conditions. The Contractor shall include all costs for working under the direction of the Engineer in his/her bid for this work, as no additional compensation will be allowed therefore.
- D. The Contractor is hereby notified that the Engineer may direct the Contractor to place additional stone materials (not shown on the Drawings) at select locations within the project work treatment areas to fit existing conditions at the time of construction. Any such additional stone materials and placement shall be considered as included in the contract prices paid for the designated stone materials as described elsewhere in these Technical Specifications and no additional compensation shall be allowed for

1.2 RELATED SECTIONS

- A. Section 312316, Stripping and Excavation
- B. Section 312319, Dewatering

1.3 REFERENCES

- A. Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction, current edition.

1.4 QUALITY ASSURANCE

- A. Tolerances. Place rock to a vertical tolerance of minus 2 to plus 3 inches.
- B. Subgrade Preparation. Prior to placement of rock, Engineer shall verify subgrade preparation, and placement of fabric for rock. Where backing is shown on the Drawings, Engineer shall verify subgrade preparation and backing placement prior to placement of outer rock course.

2. PRODUCTS

2.1 MATERIALS

- A. Salvaged Rock Material. Native rock found on site may be salvaged for reuse, subject to compliance with the material requirements for the intended use, and subject to the approval by the Engineer.
- B. Imported Rock Material used for the stream channel will be supplied by the Owner and hauled from the source to the project site by the Contractor.

3. EXECUTION

3.1 GENERAL

- A. Rounded and smooth gravel, cobbles, and boulders shall not be placed on slopes steeper than 2:1 (horizontal: vertical) unless otherwise directed by the Engineer.
- B. All rock materials shall be placed in such a manner as to smoothly conform with adjacent graded areas. Smaller rock shall be chinked into the margins of larger rock placements, as necessary to conform to earthwork and prevent migration of fines from adjacent graded areas into the rock matrix.

3.2 ROCK SLOPE PROTECTION

- A. Rock shall be placed in lifts with a thickness not exceeding the D100 of the specified stone. Each lift shall be backfilled to half its depth with "Stream Substrate", prior to placement of the subsequent lift. Backfill shall be placed in a manner that does not interfere with direct rock to rock contact of successive lifts. Backfill shall be placed to match the finished surface of the RSP and water-jetted to fill all voids, as directed by the Engineer.

3.3 STREAM SUBSTRATE

- A. Stream Substrate shall be placed to the lines, grades and depths shown on the Drawings, or as directed by the Engineer. Uniformly distribute large stones to produce the required gradation of rock. Prevent contamination of rock materials by excavation and/or earth materials. Subgrade shall be uniform with no soil clumps or rocks greater than two inches.
- B. Following placement of the Stream Substrate, the finished surface shall be jetted with water until fines (material with a diameter less than 2mm) have been washed into the interstices of the mix to form a uniform plane of embedment, to the satisfaction of the Engineer. Turbid water resulting from jetting operations shall be pumped to a local depression or other sediment treatment facility, in accordance with the Permits.

4. MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Rock Slope Protection. Rock Slope Protection will be measured by the cubic yard calculated to the nearest cubic yard.
- B. Stream Substrate Material. Stream Substrate Material will be measured by the cubic yard calculated to the nearest cubic yard.
- C. Excavation and backfill for rock slope protection will not be separately measured for payment.

4.2 PAYMENT

- A. Rock Slope Protection, measured as specified above, will be paid for at the contract price per cubic yard, which price will be payment in full for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the riprap placement, including subgrade preparation, geotextile fabric, processing work, backing, rock placement, backfill of voids, Planting Tubes, excavation and fill.
- B. Stream Substrate Material, measured as specified above, will be paid for at the contract price per cubic yard, which price will be payment in full for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the riprap placement, including subgrade preparation, geotextile fabric, processing work, backing, rock placement, backfill of voids, Planting Tubes, excavation and fill.
- C. No separate payment will be made for excavation and backfill incidental to slope protection work. All costs in connection with this work will be considered incidental to the cost of construction of the associated slope protection work. Where "Stream Substrate" is specified as the backfill material, supply and stockpile of materials shall be considered incidental to the cubic yard price paid for associated Rock Slope Protection work.
- D. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Rock Slope Protection	Cubic Yard (CY)
Stream Substrate Material	Cubic Yard (CY)

END OF SECTION