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DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DEVELOPMENT SERVICES BUILDING
150 BEAVERCREEK ROAD OREGON CITY, OR 97045

April 17, 2025

BCC Agenda Date/Item: _____

Board of County Commissioners
Clackamas County

Approval of a Public Improvement Contract with Farline Bridge for construction of the Knights Bridge Road Molalla River Bridge Project. Contract value is \$3,848,108.33 for 20 months. Funding is through the Oregon Department of Transportation and County Road Funds. No County General Funds are involved.

Previous Board Action/Review	01/09/25: BCC approval of Amendment #1 to Local Agency Agreement No. 34365 with Oregon Department of Transportation for Knights Bridge Road: Molalla River Bridge #06520. 05/05/22: BCC approval of a Contract with Quincy Engineering, Incorporated, for the Molalla River (Knights Bridge Rd) Rehabilitation Project. 04/29/21: BCC approval of a Local Agency Agreement No. 34365 with Oregon Department of Transportation for Knights Bridge Road: Molalla River Bridge #06520. 09/26/17: BCC approval to apply for the grant through the Oregon Department of Transportation Local Bridge Program for the Molalla River (Knights Bridge Rd) Bridge #06520.		
Performance Clackamas	The project will build a strong infrastructure.		
Counsel Review	Amanda Keller, 4/3/25	Procurement Review	Yes
Contact Person	Stan Monte	Contact Phone	503-742-4678

EXECUTIVE SUMMARY: The County secured federal Local Bridge Program funding to rehabilitate the existing Knights Bridge Road Bridge spanning the Molalla River near Canby. The federal funding was exchanged through the State Funded Local Projects (SFLP) Fund, administered by the Oregon Department of Transportation.

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The existing bridge, built in 1964, is showing extensive signs of decay as a result of weathering and heavy truck traffic. The bridge presently has load and weight restrictions and the proposed improvements are expected to remove these restrictions through carbon fiber reinforced polymer strengthening. Also, the proposed improvements will include seismic retrofit improvements to the superstructure, painting of the steel girders, patching and sealing of the deck with a polymer concrete overlay, abutment repairs, and in-water-work for scour protection of the bridge footings. The bridge will be closed for 120 consecutive calendar days for construction.

The SFLP funds will provide 89.73 percent of the cost of the contract, and County Road Fund will provide the remaining 10.27 percent cost of the contract. The construction is expected to be substantially completed by October 15, 2025 and the contract expiring December 31, 2026 to allow for plant establishment.

PROCUREMENT PROCESS: This project was advertised in accordance with ORS and LCRB Rules on January 16, 2025, Invitation to Bid 2024-122. Bids were publicly opened on February 26, 2025. The County received five (5) bids in response to the Invitation to Bid from Cascade Civil Corp; Farline Bridge, Incorporated; Hamilton Construction Co.; Legacy Contracting, Inc.; and Stellar J Corporation. The apparent lowest bid was from Farline Bridge, Incorporated for a total value of \$3,848,108.33. A review of the bids received led to a recommendation for contract award to the apparent low bidder, Farline Bridge, Incorporated.

RECOMMENDATION: Staff respectfully recommends that the Board of County Commissioners approve Public Improvement Contract #1244 with Farline Bridge, Incorporated for Construction of the Knights Bridge Road: Molalla River Bridge Project.

Respectfully submitted,

Dan Johnson

Dan Johnson, Director
Department of Transportation & Development



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
Contract #1244

This Public Improvement Contract (the "Contract"), is made by and between the Clackamas County, a political subdivision of the State of Oregon, hereinafter called "Owner," and **Farline Bridge, Incorporated**, hereinafter called the "Contractor" (collectively the "Parties"). This Contract shall become effective on the date this Contract has been signed by all the Parties and shall expire upon completion the completion of all obligations under the terms of this Contract unless terminated earlier by the Parties.

Project Name: # 2025-02 Knights Bridge Road: Molalla River Bridge Project

1. Contract Price, Contract Documents and Work.

The Contractor hereby agrees to perform all the work described in, and reasonably inferred from, the Contract Documents, as further defined below ("Work"). In consideration of the Contractor performing the Work in accordance with the terms of the Contract, the Owner agrees to pay the Contractor an amount not to exceed **Three Million Eight Hundred Forty-Eight Thousand One Hundred Eight Dollars Thirty-Three Cents (\$3,848,108.33)** (the "Contract Price"). Payment will be made in accordance with the terms and conditions provided in the Contract Documents. The Contract Price is the amount contemplated by the Base Bid, as indicated in the accepted Bid.

The following documents are incorporated by reference in this Contract and made a part hereof ("Contract Documents"):

- | | |
|--|--|
| • Notice of Contract Opportunity | • Instructions to Bidders |
| • Supplemental Instructions to Bidders | • Bid Bond |
| • Bid Form | • Performance Bond and Payment Bond |
| • Prevailing Wage Rates | • Payroll and Certified Statement Form |
| • Plans, Specifications and Drawings | • Addenda 1 |

The Plans, Specifications and Drawings expressly incorporated by reference into this Contract includes, but is not limited to, the Special Provisions for Highway Construction, Knights River Bridge; Molalla River Bridge #06520 (the "Specifications"), together with the provisions of the Oregon Standard Specifications for Construction (2021) referenced therein.

The Contractor shall comply with the prohibitions set forth in ORS 652.220, compliance of which is a material element of this Contract and failure to comply is a material breach that entitles Owner to exercise any rights and remedies available under this Contract including, but not limited to, termination for default.

2. Representatives.

Contractor has named David Walczak as its Authorized Representative to act on its behalf. Owner designates, or shall designate, its Authorized Representative as indicted below (check one):

☒ Unless otherwise specified in the Contract Documents, the Owner designates Stan Monte as its Authorized Representative in the administration of this Contract. The above-named individual shall be the initial point of contact for matters related to Contract performance, payment, authorization, and to carry out the responsibilities of the Owner.

☐ Name of Owner's Authorized Representative shall be submitted by Owner in a separate writing.

3. Key Persons.

The Contractor's personnel identified below shall be considered Key Persons and shall not be replaced during the project without the written permission of Owner, which shall not be unreasonably withheld. If the Contractor intends to substitute personnel, a request must be given to Owner at least 30 days prior to the intended time of substitution. When replacements have been approved by Owner, the Contractor shall provide a transition period of at least 10 working days during which the original and replacement personnel shall be working on the project concurrently. Once a replacement for any of these staff members is authorized, further replacement shall not occur without the written permission of Owner. The Contractor's project staff shall consist of the following personnel:

Project Executive: David Walczak shall be the Contractor's project executive, and will provide oversight and guidance throughout the project term.

Project Manager: Joey Walczak shall be the Contractor's project manager and will participate in all meetings throughout the project term.

Job Superintendent: Greg Gienger shall be the Contractor's on-site job superintendent throughout the project term.

Project Engineer: Shea Patterson shall be the Contractor's project engineer, providing assistance to the project manager, and subcontractor and supplier coordination throughout the project term.

4. Contract Dates.

The Contractor agrees to complete the Work in accordance with the following key dates:

Commencement: All Basic Bid Work may begin as soon as the Notice to Proceed ("NTP") is issued.

Substantial Completion: October 15, 2025 (Section 00180.50(h) (all work, except for seeding establishment and plant establishment)

Final Contract Date: December 31, 2026

Time is of the essence for this Contract. It is imperative that the Work in this Contract reach Substantial Completion and Final Completion by the above specified dates.

5. Insurance Certificates and Required Performance and Payment Bonds.

5.1 In accordance with Section 00170.70 of the Specifications, Contractor shall furnish proof of the required insurance naming Clackamas County as an additional insured. Insurance certificates may be returned with the signed Contract or may be emailed to the Owner's Contract Analyst.

5.2 Primary Coverage: Insurance carried by Contractor under the Contract shall be the primary coverage. The coverages indicated are minimums unless otherwise specified in the Contract Documents.

5.2.1 Workers' Compensation: All employers, including Contractor, that employ subject workers who work under the Contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. This shall include Employer's Liability Insurance with coverage limits of not less than the minimum amount required by statute for each accident. Contractors who perform the Work without the assistance or labor of any employee need not obtain such coverage if the Contractor certifies so in writing. Contractor shall ensure that each of its Subcontractors complies with these requirements. The Contractor shall require proof of such Workers' Compensation coverage by

receiving and keeping on file a certificate of insurance from each Subcontractor or anyone else directly employed by either the Contractor or its Subcontractors.

5.3 Builder's Risk Insurance: During the term of the Contract, for new construction the Contractor shall obtain and keep in effect Builder's Risk insurance on an all risk forms, including earthquake and flood, for an amount equal to the full amount of the Contract, plus any changes in values due to modifications, Change Orders and loss of materials added. Such Builder's Risk shall include, in addition to earthquake and flood, theft, vandalism, mischief, collapse, transit, debris removal, and architect's fees "soft costs" associated with delay of Project due to insured peril. Any deductible shall not exceed \$50,000 for each loss, except the earthquake and flood deductible which shall not exceed 2 percent of each loss or \$50,000, whichever is greater. The deductible shall be paid by Contractor. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear.

5.4 Builder's Risk Installation Floater: For Work other than new construction, Contractor shall obtain and keep in effect during the term of the Contract, a Builder's Risk Installation Floater for coverage of the Contractor's labor, materials and equipment to be used for completion of the Work performed under the Contract. The minimum amount of coverage to be carried shall be equal to the full amount of the Contract. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear. Owner may waive this requirement at its sole and absolute discretion.

5.4.1 Such insurance shall be maintained until Owner has occupied the facility.

5.4.2 A loss insured under the Builder's Risk insurance shall be adjusted by the Owner and made payable to the Owner as loss payee. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner. The Owner shall have power to adjust and settle a loss with insurers.

5.5 "Tail" Coverage: If any of the required liability insurance is arranged on a "claims made" basis, "tail" coverage will be required at the completion of the Contract for a duration of 36 months or the maximum time period available in the marketplace if less than 36 months. Contractor shall furnish certification of "tail" coverage as described or continuous "claims made" liability coverage for 36 months following Final Completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage, provided its retroactive date is on or before the effective date of the Contract. Owner's receipt of the policy endorsement evidencing such coverage shall be a condition precedent to Owner's obligation to make final payment and to Owner's final acceptance of Work or services and related warranty (if any).

5.6 Notice of Cancellation or Change: If the Contractor receives a non-renewal or cancellation notice from an insurance carrier affording coverage required herein, or receives notice that coverage no longer complies with the insurance requirements herein, Contractor agrees to notify Owner by fax within five (5) business days with a copy of the non-renewal or cancellation notice, or written specifics as to which coverage is no longer in compliance. When notified by Owner, the Contractor agrees to stop Work pursuant to the Contract at Contractor's expense, unless all required insurance remain in effect. Any failure to comply with the reporting provisions of this insurance, except for the potential exhaustion of aggregate limits, shall not affect the coverages provided to the Owner and its institutions, divisions, officers, and employees. Owner shall have the right, but not the obligation, of prohibiting Contractor from entering the Project Site until a new certificate(s) of insurance is provided to Owner evidencing the replacement coverage. The Contractor agrees that Owner reserves the right

to withhold payment to Contractor until evidence of reinstated or replacement coverage is provided to Owner.

5.7 Before execution of the Contract, the Contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by Oregon Revised Statutes, Chapter 279C.830 and 279C.836, unless otherwise exempt under those provisions. The Contractor shall also include in every subcontract a provision requiring the Subcontractor to have a public works bond filed with the Construction Contractors Board before starting Work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting any Subcontractor to start Work.

5.8 When the Contract Price is \$50,000 or more, the Contractor shall furnish and maintain in effect at all times during the Contract Period a performance bond in a sum equal to the Contract Price and a separate payment bond also in a sum equal to the Contract Price. Contractor shall furnish such bonds even if the Contract Price is less than the above thresholds if otherwise required by the Contract Documents.

5.9 Bond forms furnished by the Owner and notarized by Contractor's surety company authorized to do business in Oregon are the only acceptable forms of performance and payment security, unless otherwise specified in the Contract Documents.

6. Responsibility for Damages/Indemnity.

6.1 Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay that may be caused by, or result from, the carrying out of the Work to be done under the Contract, or from any act, omission or neglect of the Contractor, its Subcontractors, employees, guests, visitors, invitees and agents.

6.2 To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel approved by Owner) and hold harmless the Owner and its elected officials, officers, directors, agents, and employees (collectively "Indemnitees") from and against all liabilities, damages, losses, claims, expenses, demands and actions of any nature whatsoever which arise out of, result from or are related to: (a) any damage, injury, loss, expense, inconvenience or delay described in this Section 6.1; (b) any accident or occurrence which happens or is alleged to have happened in or about the Project Site or any place where the Work is being performed, or in the vicinity of either, at any time prior to the time the Work is fully completed in all respects; (c) any failure of the Contractor to observe or perform any duty or obligation under the Contract Documents which is to be observed or performed by the Contractor, or any breach of any agreement, representation or warranty of the Contractor contained in the Contract Documents or in any subcontract; (d) the negligent acts or omissions of the Contractor, a Subcontractor or anyone directly or indirectly employed by them or any one of them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (except to the extent otherwise void under ORS 30.140); and (e) any lien filed upon the Project or bond claim in connection with the Work. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 6.2.

6.3 In claims against any person or entity indemnified under Section 6.2 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 6.2 shall not be limited on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

7. Tax Compliance.

The Contractor shall comply with all federal, state and local laws, regulation, executive orders and ordinances applicable to this Contract. Contractor represents and warrants that it has complied, and will continue to comply throughout the duration of this Contract and any extensions, with all tax laws of this state or any political subdivision of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318. Any violation of this section shall constitute a material breach of this Contract and shall entitle Owner to terminate this Contract, to pursue and recover any and all damages that arise from the breach and the termination of this Contract, and to pursue any or all of the remedies available under this Contract or applicable law.

8. Confidential Information.

Contractor acknowledges that it and its employees or agents may, in the course of performing their responsibilities under this Contract, be exposed to or acquire information that is confidential to Owner. Any and all information of any form obtained by Contractor or its employees or agents in the performance of this Contract shall be deemed confidential information of Owner ("Confidential Information"). Contractor agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Contractor uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purpose unless specifically authorized in writing under this Contract.

9. Counterparts.

This Contract may be executed in several counterparts, all of which when taken together shall constitute an agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of the Contract so executed shall constitute an original.

10. Integration.

All provisions of state law required to be part of this Contract, whether listed in the Specifications or Contract Documents or otherwise, are hereby integrated and adopted herein. Contractor acknowledges the obligations thereunder and that failure to comply with such terms is a material breach of this Contract.

The Contract Documents constitute the entire agreement between the parties. There are no other understandings, agreements or representations, oral or written, not specified herein regarding this Contract. Contractor, by the signature below of its authorized representative, hereby acknowledges that it has read this Contract, understands it, and agrees to be bound by its terms and conditions.

11. Liquidated Damages

The Contractor acknowledges that the Owner will sustain damages as a result of the Contractor's failure to substantially complete the Project in accordance with the Contract Documents. These damages may include, but are not limited to delays in completion, use of the Project, and costs associated with Contract administration and use of temporary facilities. The liquidated damages amount is not a penalty, but a reasonable estimate of the amount of losses the Owner will suffer. Liquidated damages are set forth in the Contract Documents and may include the following:

11.1 \$1,100.00 per Calendar day past the Substantial Completion date, as set forth in section 00180.85 (b).

11.2 \$1,100.00 per 15 minutes, or for a portion of 15 minutes, per lane, as set forth in 00180.85. (c).

11.3 \$100.00 per 20 minutes, or for a portion of 20 minutes, for stopping or holding traffic

longer than 20 minutes, as set forth in 00180.85(e).

12. Compliance with Applicable Law. Contractor shall comply with all federal, state, county, and local laws, ordinances, and regulations applicable to the Work to be done under this Contract including, but not limited to, compliance with the prohibitions set forth in ORS 652.220, compliance of which is a material element of this Contract and failure to comply is a material breach that entitles Owner to exercise any rights and remedies available under this Contract including, but not limited to, termination for default.

13. Responsibility for Taxes. Contractor is solely responsible for payment of any federal, state, or local taxes required as a result of the Contract or the Work including, but not limited, to payment of the corporate activity tax imposed under enrolled HB 3427 (2019 Oregon regular legislative session). Contractor may not include its federal, state, or local tax obligations as part of the cost to perform the Work.

15. No Attorney Fees. In the event any arbitration, action or proceeding, including any bankruptcy proceeding, is instituted to enforce any term of this Contract, each party shall be responsible for its own attorneys' fees and expenses.

In witness whereof, Owner executes this Contract and the Contractor does execute the same as of the day and year first above written.

Contractor DATA:

Farline Bridge, Incorporated
P.O. Box 149
Stayton, Oregon 97383

Contractor CCB # 194787 Expiration Date: 8/15/2025

Oregon Business Registry # 786089-90 Entity Type: DBC

State of Formation: Oregon


Payment information will be reported to the IRS under the name and taxpayer ID# provided by the Contractor. Information must be provided prior to contract approval. Information not matching IRS records could subject Contractor to 28 percent backup withholding.

Farline Bridge, Incorporated

Clackamas County

 4/1/25

Authorized Signature Date



President

Name / Title Printed

Chair Date

Recording Secretary

Approved as to Form:

 4/2/2025

County Counsel Date



CLACKAMAS COUNTY PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

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CLACKAMAS COUNTY
NOTICE OF PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

INVITATION TO BID #2025-02
Knights Bridge Road: Molalla River Bridge Project
January 16, 2025

Clackamas County ("County") through its Board of County Commissioners is accepting sealed bids for the **Knights Bridge Road: Molalla River Bridge Project** until **February 20, 2025, 2:00 PM**, Pacific Time, ("Bid Closing") at the following location:

Bidding Documents can be downloaded from the state of Oregon procurement website ("OregonBuys") at the following address: <https://oregonbuys.gov/bsa/view/login/login.xhtml>, Document No.S-C01010-00012583.

Prospective Bidders will need to sign in to download the information and that information will be accumulated for a Plan Holder's List. Prospective Bidders are responsible for obtaining any Addenda from Website listed above.

Submitting Proposals: Bid Locker

Proposals will only be accepted electronically thru a secure online bid submission service, **Bid Locker**. *Email submissions to Clackamas County email addresses will no longer be accepted.*

- A. Completed proposal documents must arrive electronically via Bid Locker located at <https://bidlocker.us/a/clackamascountry/BidLocker>.
- B. Bid Locker will electronically document the date and time of all submissions. Completed documents must arrive by the deadline indicated in Section 1 or as modified by Addendum. **LATE PROPOSALS WILL NOT BE ACCEPTED.**
- C. Proposers must register and create a profile for their business with Bid Locker in order to submit for this project. It is free to register for Bid Locker.
- D. Proposers with further questions concerning Bid Locker may review the Vendor's Guide located at <https://www.clackamas.us/how-to-bid-on-county-projects>.

Engineers Estimate: \$3,987,000.00

Contact Information

Procurement Process and Technical Questions: Tralee Whitley at Twhitley@clackamas.us

Bids will be opened and publicly read aloud at the above Delivery address after the Bid Closing. Bid results will also be posted to the OregonBuys listing shortly after the opening.

To be eligible for award under this Invitation to Bid, bidders (prime contractors) must submit a prequalification application (either ODOT or County) to the County at least two business days prior to the Bid Closing. County will reject bids from bidders who are not prequalified for the class of work indicated prior to the Bid Closing. **Bidders must be prequalified in Earthwork and Drainage (EART) and Bridges and Structures (REIN).**

State Prevailing Wage

Prevailing Wage Rates requirements apply to this Project because the maximum compensation for all Owner-contracted Work is more than \$50,000. Contractor and all subcontractors shall comply with the provisions of ORS 279C.800 through 279C.870, relative to Prevailing Wage Rates. The Bureau of Labor and Industries (BOLI) wage rates and requirements set forth in the following BOLI booklet (and any

listed amendments to that booklet), which are incorporated herein by reference, apply to the Work authorized under this Agreement:

PREVAILING WAGE RATES for Public Works Contracts in Oregon, July 5, 2025 and amended on January 4, 2025, which can be downloaded at the following web address:
http://www.oregon.gov/boli/WHDPWR/Pages/pwr_state.aspx The Work will take place in Clackamas County, Oregon.

Clackamas County encourages bids from Minority, Women, and Emerging Small Businesses.



CLACKAMAS COUNTY PUBLIC IMPROVEMENT CONTRACT

INSTRUCTIONS TO BIDDERS

Clackamas County Local Contract Review Board Rules ("LCRB Rules") govern this procurement process. LCRB Rules may be found at: <http://www.clackamas.us/code/documents/appendixc.pdf>. The Instructions to Bidders is applicable to the procurement process for Clackamas County, or any component unit thereof identified on the Notice of Public Improvement Contract Opportunity, herein after referred to as the "Owner."

Article 1. Scope of Work

The work contemplated under this contract with the Owner, includes all labor, materials, transportation, equipment and services necessary for, and reasonably incidental to, the completion of all construction work in connection with the project described in the Project Manual which includes, but is not necessarily limited to, the Notice of Public Improvement Contract Opportunity, Instructions to Bidders, Supplemental Instructions to Bidders, Bid Form, Bid Bond, Public Improvement Contract Form, Performance Bond, Payment Bond, and Plans, Specifications and Drawings.

Article 2. Examination of Site and Conditions

Before making a Bid, the Bidder shall examine the site of the work and ascertain all the physical conditions in relation thereto. The Bidder shall also make a careful examination of the Project Manual including the plans, specifications, and drawings and other contract documents, and shall be fully informed as to the quality and quantity of materials and the sources of supply of the materials. Failure to take these steps will not release the successful Bidder from entering into the contract nor excuse the Bidder from performing the work in strict accordance with the terms of the contract at the price established by the Bid.

The Owner will not be responsible for any loss or for any unanticipated costs, which may be suffered by the successful Bidder, as a result of such

Bidder's failure to be fully informed in advance with regard to all conditions pertaining to the work and the character of the work required, including site conditions. No statement made by an elected official, officer, agent, or employee of the Owner in relation to the physical or other conditions pertaining to the site of the work will be binding on the Owner, unless covered by the Project Manual or an Addendum.

Article 3. Interpretation of Project Manual and Approval of Materials Equal to Those Provided in the Specifications

If any Bidder contemplating submitting a Bid for the proposed contract is in doubt as to the true meaning of any part of the plans, specifications or forms of contract documents, or detects discrepancies or omissions, such Bidder may submit to the Architect (read "Engineer" throughout in lieu of Architect as appropriate) a written request for an interpretation thereof at least ten (10) calendar days prior to the date set for the Bid Closing.

When a prospective Bidder seeks approval of a particular manufacturer's material, process or item of equal value, utility or merit other than that designated by the Architect in the Project Manual, the Bidder may submit to the Architect a written request for approval of such substitute at least ten (10) calendar days prior to the date set for the Bid Closing. The prospective Bidder submitting the request will be responsible for its prompt delivery.

Requests of approval for a substitution from that specified shall be accompanied by samples, records of performance, certified copies of tests by impartial and recognized laboratories, and such other information as the Architect may request.

To establish a basis of quality, certain processes, types of machinery and equipment or kinds of materials may be specified in the Project Manual either by description of process or by designating a

manufacturer by name and referring to a brand or product designation or by specifying a kind of material. Whenever a process is designated or a manufacturer's name, brand or item designation is given, or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or approved equal" follow such name, designation or description, whether in fact they do so or not.

Any interpretation of the Project Manual or approval of manufacturer's material will be made only by an Addendum duly issued. All Addenda will be posted to the OregonBuys listing and will become a part of the Project Manual. The Owner will not be responsible for any other explanation or interpretation of the Project Manual nor for any other approval of a particular manufacturer's process or item for any Bidder.

When the Architect approves a substitution by Addendum, it is with the understanding that the Contractor guarantees the substituted article or material to be equal or better than the one specified.

Article 4. Security to Be Furnished by Each Bidder

Each Bid must be accompanied by either 1) a cashier's check or a certified check drawn on a bank authorized to do business in the State of Oregon, or 2) a Bid bond described hereinafter, executed in favor of the Owner, for an amount equal to ten percent (10%) of the total amount Bid as a guarantee that, if awarded the contract, the Bidder will execute the contract and provide a performance bond and payment bond as required. The successful Bidder's check or Bid bond will be retained until the Bidder has entered into a contract satisfactory to Owner and furnished a one hundred percent (100%) performance bond and one hundred percent (100%) payment bond. The Owner reserves the right to hold the Bid security as described in Article 10 hereof. Should the successful Bidder fail to execute and deliver the contract as provided for in Article 12 hereof, including a satisfactory performance bond and payment bond within twenty (20) calendar days after the Bid has been accepted by the Owner, then the contract award made to such Bidder may be considered canceled and the Bid security may be

forfeited as liquidated damages at the option of the Owner. The date of the acceptance of the Bid and the award of the contract as contemplated by the Project Manual shall mean the date of acceptance specified in the Notice of Intent to Award.

Article 5. Execution of Bid Bond

Should the Bidder elect to utilize a Bid bond as described in Article 4 in order to satisfy the Bid security requirements, such form must be completed in the following manner:

- A. Bid bonds must be executed on the County forms, which will be provided to all prospective Bidders by the Owner.
- B. The Bid bond shall be executed on behalf of a bonding company licensed to do business in the State of Oregon.
- C. In the case of a sole individual, the bond need only be executed as principal by the sole individual. In the case of a partnership, the bond must be executed by at least one of the partners. In the case of a corporation, the bond must be executed by stating the official name of the corporation under which is placed the signature of an officer authorized to sign on behalf of the corporation followed by such person's official capacity, such as president, etc. The corporation seal should then be affixed to the bond.
- D. The name of the surety must be stated in the execution over the signature of its duly authorized attorney-in-fact and accompanied by the seal of the surety corporation.

Article 6. Execution of the Bid Form

Each Bid shall be made in accordance with: (i) the sample Bid Form accompanying these instructions; (ii) the appropriate signatures for a sole individual, partnership, corporation or limited liability corporation shall be added as noted in Article 5C above; (iii) numbers pertaining to base Bids shall be stated both in writing and in figures; and (iv) the Bidder's address shall be typed or printed.

The Bid Form relates to Bids on a specific Project

Manual. Only the amounts and information asked for on the Bid Form furnished will be considered as the Bid. Each Bidder shall Bid upon the work exactly as specified and provided in the Bid Form. The Bidder shall include in the Bid a sum to cover the cost of all items contemplated by the Contract. The Bidder shall Bid upon all alternates that may be indicated on the Bid Form. When Bidding on an alternate for which there is no charge, the Bidder shall write the words "No Charge" in the space provided on the Bid Form. If one or more alternates are shown on the Bid Form, the Bidder shall indicate whether each is "add" or "deduct."

Article 7. Prohibition of Alterations to Bid

Bids that are incomplete, or contain ambiguities or have differing conditions required by the Bidder, including requested changes or exceptions to the Public Improvement Contract form or other portions of the Project Manual, may be rejected in Owner's sole and absolute discretion.

Article 8. Submission of Bid

Each Bid shall be sealed in an envelope, properly addressed to the Owner, showing on the outside of the envelope the name of the Bidder and the name of the project. Bids will be received at the time and place stated in the Notice of Public Improvement Contract Opportunity.

Article 9. Bid Closing and Opening of Bids

All Bids must be received by the Owner at the place and time set for the Bid Closing. Any Bids received after the scheduled Bid Closing time for receipt of Bids will be rejected.

At the time of opening and reading of Bids, each Bid received will be publicly opened and read aloud, irrespective of any irregularities or informalities in such Bids.

Generally, Bid results will be posted to the Oregonbuys Website within a couple hours of the opening.

Article 10. Acceptance or Rejection of Bids by Owner

Unless all Bids are rejected, the Owner will award a contract based on the lowest responsive Bid from a responsible Bidder. If that Bidder does not execute the contract, it will be awarded to the next lowest responsible Bidder or Bidders in succession.

The Owner reserves the right to reject all Bids and to waive minor informalities. The procedures for contract awards shall be in compliance with the provisions of the LCRB Rules in effect at that time.

The Owner reserves the right to hold the Bid and Bid security of the three lowest Bidders for a period of thirty (30) calendar days from and after the time of Bid opening pending award of the contract. Following award of the contract the Bid security of the three lowest Bidders may be held twenty (20) calendar days pending execution of the contract. All other Bids will be rejected and Bid security will be returned.

In determining the lowest Bidder, the Owner reserves the right to take into consideration any or all authorized base Bids as well as alternates or combinations indicated in the Bid Form.

If no Bid has been accepted within thirty (30) calendar days after the opening of the Bids, each of the three lowest Bidders may withdraw the Bid submitted and request the return of the Bid security.

Article 11. Withdrawal of Bid

At any time prior to the Bid Closing, a Bidder may withdraw its Bid. This will not preclude the submission of another Bid by such Bidder prior to the time set for the Bid Closing.

After the time set for the Bid Closing, no Bidder will be permitted to withdraw its Bid within the time frames specified in Article 10 for award and execution, except as provided for in that Article.

Article 12. Execution of Contract, Performance Bond and Payment Bond

The Owner will provide the successful Bidder with contract forms within seven (7) calendar days after

the completion of the award protest period. The Bidder is required to execute the contract forms as provided, including a performance bond and a payment bond from a surety company licensed to do surety business in the State of Oregon, within seven (7) calendar days after receipt of the contract forms. The contract forms shall be delivered to the Owner in the number called for and to the location as instructed by the Owner.

Article 13. Recyclable Products

Contractors will use recyclable products to the maximum extent economically feasible in the performance of the Contract.

Article 14. Clarification or Protest of the Solicitation Document or Specifications

Any request for clarification or protest of the solicitation document or specifications must be submitted in the manner provided for in the applicable section of the LCRB Rules to the Procurement Representative referenced in the Notice of Public Improvement Contract Opportunity.

A protest of the Solicitation Document must be received within seven (7) business days of the issuance of the Bid or within three (3) business days of issuance of an addendum.

Requests for clarification may be submitted no less than five (5) business days prior to the Bid Closing Date.

Article 15. Protest of Intent to Award

Owner will name the apparent successful Bidder in a "Notice of Intent to Award" letter. Identification of the apparent successful Bidder is procedural only and creates no right in the named Bidder to the award of the contract. Competing Bidders will be notified by publication of the Notice of Intent to Award on the OregonBuys Website of the selection of the apparent successful Bidder(s) and Bidders shall be given seven (7) calendar days from the date on the "Notice of Intent to Award" letter to review the file at the Procurement Division office and file a written protest of award, pursuant to C-049-0450. Any

award protest must be in writing and must be delivered by email, hand delivery, or mail to the Procurement Division Director at: Procurement Division, 2051 Kaen Road, Oregon City, OR 97045.

Article 16. Disclosure of First-Tier Subcontractors

Within two (2) working hours after the Bid Closing, all Bidders shall submit to the County a disclosure form identifying any first-tier subcontractors (those entities that would be contracting directly with the prime contractor) that will be furnishing labor and materials on the contract, if awarded, whose subcontract value would be equal to or greater than: (a) Five percent (5%) of the total contract price, but at least \$15,000; or (b) \$350,000, regardless of the percentage of the total contract price.

Disclosures may be submitted with the Bid or may be hand delivered to the Bid Closing address or emailed to the Contract Information Analyst listed on the Notice of Contract Opportunity.



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT**

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

Project Name: # 2025-02 Knights Bridge Road: Molalla River Bridge Project

The following modify the Clackamas County “Instructions to Bidders” for this Project. Where a portion of the Instructions to Bidders has been modified by these Supplemental Instructions to Bidders, the unaltered portions shall remain in effect.

1. To be eligible for award under this Invitation to Bid, bidders (prime contractors) must submit a prequalification application (either ODOT or County) to the County at least two business days prior to the Bid Closing. County will reject bids from bidders who are not prequalified for the class of work indicated prior to the Bid Closing. **Bidders must be prequalified in Earthwork and Drainage (EART) and Bridges and Structures (REIN).**
1. **Electronic Submissions: The County is requiring all bids for this project be electronically submitted. Complete Bids (including all attachments) will only be accepted electronically thru a secure online bid submission service, Bid Locker. Email submissions to Clackamas County email addresses will no longer be accepted. <https://bidlocker.us/a/clackamascounty/BidLocker>.**

Bids will be publicly read aloud via the computer application, Zoom. Bidders will be allowed to video conference or listen by phone to the bid results. The projects Zoom meeting can be accessed via the information below:

ZOOM LINKS

Join Zoom Meeting

<https://clackamascounty.zoom.us/j/85865314908>

Meeting ID: 858 6531 4908

One tap mobile

+16699006833,,85865314908# US (San Jose) 17193594580,,85865314908# US

Dial by your location

- +1 669 900 6833 US (San Jose)
- +1 719 359 4580 US
- +1 253 205 0468 US
- +1 253 215 8782 US (Tacoma)
- +1 346 248 7799 US (Houston)
- +1 408 638 0968 US (San Jose)

- +1 669 444 9171 US
- +1 305 224 1968 US
- +1 309 205 3325 US
- +1 312 626 6799 US (Chicago)
- +1 360 209 5623 US
- +1 386 347 5053 US
- +1 507 473 4847 US
- +1 564 217 2000 US
- +1 646 876 9923 US (New York)
- +1 646 931 3860 US
- +1 689 278 1000 US
- +1 301 715 8592 US (Washington DC)

Meeting ID: 858 6531 4908

Find your local number: <https://clackamascounty.zoom.us/j/85865314908>

****The Apparent Low bid results will be posted to the projects OregonBuys listing as soon as possible following the bid opening.**

- 2. Good Faith Effort:** Clackamas County encourages participation in contracts by Historically Underrepresented Businesses. “Historically Underrepresented Businesses” are State of Oregon-certified and self-identified minority, women and emerging small business as well as firms that are certified federally or by another state or entity with substantially similar requirements as the State of Oregon.

Bidders must perform Good Faith Effort (defined below) and submit **Form 1 and Form 2** for the Bidders Bid to be considered responsive. **Form 1 and Form 2** must be submitted within **two (2) hours** after the Closing Date and Time. Form 1 and Form 2 may be submitted to either the Contact Information Analyst listed on Notice of Contract Opportunity or via the <https://bidlocker.us/a/clackamascounty/BidLocker> listing.

“Good Faith Effort” is a requirement of a prime contractor to reach out to at least three Historically Underrepresented Business Subcontractors for each division of work that will be subcontracted out and to complete the required forms. If fewer than three Historically Underrepresented Business Subcontractors are reasonably available for a particular division of work, the Bidder must specifically note the reason for there being fewer than three contacts. The outreach should be performed with sufficient time to give the subcontractors at least 5 calendar days to respond to the opportunity. Form 3, which documents the actual amount of subcontractors on the project, must be submitted with the project final pay application. Compliance with the Good Faith Effort and submission of Forms 1, 2 and 3 is a contractual requirement for final payment.

The sufficiency of the documentation or the performance of Good Faith Effort shall be in the sole and absolute determination of Clackamas County. Only those

Bidders that Clackamas County has determined have not sufficiently performed Good Faith Effort shall have protest rights of the determination for such Bidder. No Bidder shall have protest rights of the sufficiency of any other Bidder completing Good Faith Effort.

**CLACKAMAS COUNTY
GOOD FAITH EFFORT
SUBCONTRACTOR AND SELF-PERFORMED WORK LIST
(FORM 1)**

Prime Contractor Name: Farline Bridge, Inc.

Total Contract Amount: \$3,848,108.33

Project Name: # 2025-02 Knights Bridge Road: Molalla River Bridge Project

PRIME SELF-PERFORMING: Identify below ALL GFE Divisions of Work (DOW) to be self-performed. Good Faith Efforts are otherwise required.

DOW BIDDER WILL SELF-PERFORM (GFE not required)	
<u>Bridges</u>	
<u>Temporary Features</u>	

PRIME CONTRACTOR SHALL DISCLOSE AND LIST ALL SUBCONTRACTORS, including those Minority-owned, Woman-owned, and Emerging Small Businesses ("M/W/ESB") that you intend to use on the project. Delivery via bid locker <https://bidlocker.us/a/clackamascounty/BidLocker> within 2 hours of the BID/Quote Closing Date/Time.

LIST ALL SUBCONTRACTORS BELOW Use <u>correct legal name</u> of Subcontractor (No Assumed Business Names)	Division of Work (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors	DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box <input checked="" type="checkbox"/>		
			MBE	WBE	ESB
Name <u>K&B Quality Excavating, LLC</u> Address <u>360 Burntwoods Trail</u> City/St/Zip <u>Budgett, OR 97326</u> Phone# <u>(541) 602-9166</u> OCCB# <u>202260</u>	<u>Roadwork</u>	<u>\$847,562.50</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Name <u>American Industrial Contracting, Inc.</u> Address <u>1215 Birch Drive, Suite B</u> City/St/Zip <u>Schererville, IN 46375</u> Phone# <u>(219) 256-5116</u> OCCB#	<u>Bridges</u>	<u>\$613,000.00</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name <u>Anderson's Erosion Control, Inc.</u> Address <u>20 Box 205</u> City/St/Zip <u>Junction City, OR 97393</u> Phone# <u>(541) 608-2062</u> OCCB# <u>86436</u>	<u>Right of Way Development and Control</u>	<u>\$24,925.00</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Name <u>LIS Signs, LLC</u> Address <u>30255 Hwy 34</u> City/St/Zip <u>Albany, OR 97321</u> Phone# <u>(541) 928-5858</u> OCCB# <u>144388</u>	<u>Temporary Features and Appurtenances</u>	<u>\$22,570.00</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

GFE SUBCONTRACTOR AND SELF-PERFORMED WORK LIST (FORM 1) cont'd

Prime Contractor Name: Farline Bridge, Inc.
 Project Name: # 2025-02 Knights Bridge Road: Molalla
 River Bridge Project

Total Contract Amount: \$53,848,109.33

LIST ALL SUBCONTRACTORS BELOW Use <u>correct legal name</u> of Subcontractor (No Assumed Business Names)	Division of Work (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors	DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box <input checked="" type="checkbox"/>		
			MBE	WBE	ESB
Name <u>Pioneer Waterproofing Company, Inc.</u> Address <u>14630 SW 72nd Ave</u> City/St/Zip <u>Tigard, OR 97224</u> Phone# <u>(503) 232-9020</u> OCCB# <u>47620</u>	Bridges	\$41,799.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name <u>Sonnac Construction, LLC</u> Address <u>32602 S. Hwy 213</u> City/St/Zip <u>Molalla, OR 97038</u> Phone# <u>(503) 629-4123</u> OCCB# <u>199546</u>	Bridges	\$73,500.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name <u>Specialized Pavement Marking</u> Address <u>11045 SW Industrial Way</u> City/St/Zip <u>Tualatin, OR 97062</u> Phone# <u>(503) 885-0420</u> OCCB# <u>238621</u>	Permanent Traffic Safety and Guidance Devices	\$6,850.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name <u>3 Point Geomatics</u> Address <u>8910 SE Fuller Road</u> City/St/Zip <u>Happy Valley, OR 97086</u> Phone# <u>(503) 507-2463</u> OCCB# <u>N/A PLS</u>	Roadwork (Survey)	\$7,800.00	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Name <u>Cutting Edge Concrete Cutting, LLC</u> Address <u>89166 Old Mohawk Rd.</u> City/St/Zip <u>Springfield, OR 97426</u> Phone# <u>(541) 744-7360</u> OCCB# <u>172339</u>	Bridges	\$25,000.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name <u>Willamette Fence Co, Inc.</u> Address <u>11304 NE Marx</u> City/St/Zip <u>Portland, OR 97220</u> Phone# <u>(503) 285-2761</u> OCCB# <u>60008</u>	Right of Way Development and Control	\$11,250.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CLACKAMAS COUNTY
GOOD FAITH EFFORT
M/W/ESB CONTACT / BIDS RECEIVED LOG
(FORM 2)**

Prime Contractor:
Project: # 2025-02 Knights Bridge Road: Molalla River Bridge Project

Prime Contractor must contact or endeavor to contact at least 3 M/W/ESB Subcontractors for each Division of Work. Prime Contractor shall record its contacts with M/W/ESB Subcontractors through use of this log (or equivalent) entering all required information. All columns shall be completed where applicable. Additional forms may be copied if needed.

NAME OF M/W/ESB SUBCONTRACTOR	Divisions of Work (Painting, electrical, landscaping, etc.)	Date Solicitation Letter / Fax Sent	PHONE CONTACT		BID ACTIVITY Check Yes or No			REJECTED BIDS (if bid received & not used)		Notes
			Date of Call	Person Receiving Call	Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used (Price, Scope or Other. If Other, explain in Notes>>)	
Kurahashi or Associates	Survey	2/20/25			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	\$25,150	Price	Sent bid to Joey
O'Bunco Engineering Intl. Inc.	Survey	2/20/25	2/24/25	Rene	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Never Sent Bid
45 th Parallel Geomatics, LLC	Survey	2/20/25	2/24/25	Left VM 8:22	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Did not quote
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			

**CLACKAMAS COUNTY
GOOD FAITH EFFORT
M/W/ESB CONTACT / BIDS RECEIVED LOG
(FORM 2)**

Prime Contractor:
Project: # 2025-02 Knights Bridge Road: Molalla River Bridge Project

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NAME OF M/W/ESB SUBCONTRACTOR	Divisions of Work (Painting, electrical, landscaping, etc.)	Date Solicitation Letter / Fax Sent	PHONE CONTACT		BID ACTIVITY Check Yes or No			REJECTED BIDS (if bid received & not used)		Notes
			Date of Call	Person Receiving Call	Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used (Price, Scope or Other. If Other, explain in Notes>>)	
Anderson's Erosion Control	Erosion Control Landscaping	2/6/25			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	\$24,005		Bid Used
Fox Erosion Control	Erosion Control Landscaping	2/6/25 2/12/25	2/12/25	Left VM 8:07 a.m	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	\$39,200	Price	Per Mark 2/18/25
Coria Landscape	Erosion Control Landscaping	2/6/25 2/12/25	2/12/25	NO answer vm not setup 8:10	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Never received bid or response
Bella Tierra, LLC	Erosion Control Landscaping	2/6/25 2/12/25	2/12/25	Sam 8:11am	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			resent invite to bids@2Bellaterra.com
NW Landscape Services, Inc.	Erosion Control Landscaping	2/6/25 2/12/25	2/12/25	Left VM 8:18 a.m.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Per Casey 2/18/25
Pac Green Landscape	Erosion Control Landscaping	2/6/25 2/12/25	2/12/25	Receptionist	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			No reason given
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			

**CLACKAMAS COUNTY
GOOD FAITH EFFORT
M/W/ESB CONTACT / BIDS RECEIVED LOG
(FORM 2)**

Prime Contractor:
Project: # 2025-02 Knights Bridge Road: Molalla River Bridge Project

Prime Contractor must contact or endeavor to contact at least 3 M/W/ESB Subcontractors for each Division of Work. Prime Contractor shall record its contacts with M/W/ESB Subcontractors through use of this log (or equivalent) entering all required information. All columns shall be completed where applicable. Additional forms may be copied if needed.

NAME OF M/W/ESB SUBCONTRACTOR	Divisions of Work (Painting, electrical, landscaping, etc.)	Date Solicitation Letter / Fax Sent	PHONE CONTACT		BID ACTIVITY Check Yes or No			REJECTED BIDS (if bid received & not used)		Notes
			Date of Call	Person Receiving Call	Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used (Price, Scope or Other. If Other, explain in Notes>>>)	
Cartello Construction	Traffic Control/ Signs	2/16/25 2/12/25	2/12/25	Terra	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Will call back after talking to Mike
Eganis Construction	Traffic Control/ Signs	2/16/25 2/12/25	2/12/25 2/18/25	Left VM for Sakurako 12:09pm	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Not sure. They are full on Temp work but will bid if perm work
Erage It Construction	Traffic control/ Signs	2/16/25 2/12/25	2/12/25 2/18/25	Left VM for Christy 12:12pm	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Never received bid or call back
Pac Rim Service + Construction	Traffic Control/ Signs	2/16/25 2/12/25	2/12/25 2/18/25	Left VM 12:14 General Mailbox	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Never Received bid or call back
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			

Never Call Back

**CLACKAMAS COUNTY
GOOD FAITH EFFORT
M/W/ESB CONTACT / BIDS RECEIVED LOG
(FORM 2)**

Prime Contractor:
Project: # 2025-02 Knights Bridge Road: Molalla River Bridge Project

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NAME OF M/W/ESB SUBCONTRACTOR	Divisions of Work (Painting, electrical, landscaping, etc.)	Date Solicitation Letter / Fax Sent	PHONE CONTACT		BID ACTIVITY Check Yes or No			REJECTED BIDS (if bid received & not used)		Notes
			Date of Call	Person Receiving Call	Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used (Price, Scope or Other. If Other, explain in Notes>>)	
K&B Quality Excavating	Roadwork Excavation	2/6/25 2/12/25	2/12/25	Kevin	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Bid Used
Civil West Const.	Roadwork Excavation	2/6/25 2/12/25	2/12/25 2/18/25	Arno Id.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Sent email again for Arno Id 2 Civil West Construction
Corpac Construction	Roadwork Excavation	2/6/25 2/12/25	2/12/25 2/18/25	Left voicemail	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Not bidding
Just Bucket Excavating	Roadwork Excavation	2/6/25 2/12/25	2/12/25		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Current work load
McDonald Excavating	Roadwork Excavation	2/6/25 2/12/25	2/12/25	Lacie	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Not on bid sheet
Dark Horse Construction	Roadwork Excavation	2/6/25 2/12/25	2/18/25	Dawn	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			MA bidding
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			

**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Robert D. Murray, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint Ty R. MOFFETT, Derek A. SADOWSKI, Tracy L. STEWART, Staci O'DELL of Salem, Oregon, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and its behalf as surety, and as its act and deed: **any and all bonds and undertakings**, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

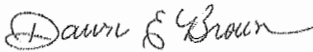
IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 18th day of July, A.D. 2024.



ATTEST:
**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND**



By: Thomas O. McClennan
Vice President



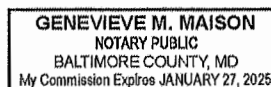
By: Dawn E. Brown
Secretary

**State of Maryland
County of Baltimore**

On this 18th day of July, A.D. 2024, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Thomas O. McClellan, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, depose and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Genevieve M. Maison



Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 5th day of February, 2025.



A handwritten signature in cursive script, reading "Mary Jean Pethick".

Mary Jean Pethick
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
reportsfclaims@zurichna.com
800-626-4577

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID FORM

PROJECT: # **2025-02 Knights Bridge Road: Molalla River Bridge Project**

BID CLOSING: February 20, 2025, 2:00 PM, Pacific Time

BID OPENING: February 20, 2025, 2:05 PM, Pacific Time

FROM: Farline Bridge, Inc.
Bidder's Name (must be full legal name, not ABN/DBA)

TO: <https://bidlocker.us/a/clackamascounty/BidLocker>

1. Bidder is (check one of the following and insert information requested):

☐ a. An individual; or

☐ b. A partnership registered under the laws of the State of _____; or

☒ c. A corporation organized under the laws of the State of Oregon; or

☐ d. A limited liability corporation organized under the laws
of the State of _____;

and authorized to do business in the State of Oregon hereby proposes to furnish all material and labor and perform all work hereinafter indicated for the above project in strict accordance with the Contract Documents for the Basic Bid as follows:

Three Million Eight Hundred Forty-Eight

Thousand One Hundred Eight and $\frac{33}{100}$

Dollars (\$ 3,848,108.33)

and the Undersigned agrees to be bound by the following documents:

- Notice of Public Improvement Contract Opportunity
- Instructions to Bidders
- Bid Bond
- Public Improvement Contract Form
- Prevailing Wage Rates
- Plans, Specifications and Drawings
- Supplemental Instructions to Bidders
- Bid Form
- Performance Bond and Payment Bond
- Payroll and Certified Statement Form

• ADDENDA numbered 1 through 1, inclusive (fill in blanks)

2. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items of work relating to the following Alternate(s) as designated in the Specifications: N/A

3. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items or work relating to the following Unit Price(s) as designated in the Specifications, for which any adjustments in the Contract amount will be made in accordance with the project specifications: **Provide the attached Bid Schedules with Bid.**

4. The work shall be completed within the time stipulated and specified in 00180.50(h) of the Special Provisions for **Construction, Knights Bridge Road; Molalla River Bridge#06520.**

5. Accompanying herewith is Bid Security which is equal to ten percent (10%) of the total amount of the Basic Bid, plus the total sum of Alternatives (if any).

6. The Undersigned agrees, if awarded the Contract, to execute and deliver to Clackamas County, within twenty (20) calendar days after receiving the Contract forms, a Contract Form, and a satisfactory Performance Bond and Payment Bond each in an amount equal to one hundred percent (100%) of the Contract sum, using forms provided by the Owner. The surety requested to issue the Performance Bond and Payment Bond will be:

Fidelity and Deposit Company of Maryland
(name of surety company - not insurance agency)

The Undersigned hereby authorizes said surety company to disclose any information to the Owner concerning the Undersigned's ability to supply a Performance Bond and Payment Bond each in the amount of the Contract.

7. The Undersigned further agrees that the Bid Security accompanying the Bid is left in escrow with Clackamas County; that the amount thereof is the measure of liquidated damages which the Owner will sustain by the failure of the Undersigned to execute and deliver the above-named Contract Form, Performance Bond and Payment Bond, each as published, and that if the Undersigned defaults in either executing the Contract Form or providing the Performance Bond and Payment Bond within twenty (20) calendar days after receiving the Contract forms, then the Bid Security shall become the property of the Owner at the Owner's option; but if the Bid is not accepted within thirty (30) calendar days of the time set for the opening of the Bids, or if the Undersigned executes and timely delivers said Contract Form, Performance Bond and Payment Bond, the Bid Security shall be returned.

8. The Undersigned certifies that: (i) This Bid has been arrived at independently and is being submitted without collusion with and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid designed to limit independent bidding or competition; and (ii) the contents of the Bid have not been communicated by the Undersigned or its employees or agents to any person not an employee or agent of the Undersigned or its surety on any Bond furnished with the Bid and will not be communicated to such person prior to the official opening of the Bid.

9. The undersigned ☒ HAS, ☐ HAS NOT (check one) paid unemployment or income taxes in Oregon within the past 12 months and ☒ DOES, ☐ DOES NOT (check one) a business address in Oregon. The undersigned acknowledges that, if the selected bidder, that the undersigned will have to pay all applicable taxes and register to do business in the State of Oregon before executing the Contract Form.

10. The Undersigned agrees, if awarded a contract, to comply with the provisions of ORS 279C.800 through 279C.870 pertaining to the payment of the prevailing rates of wage.

11. Contractor's CCB registration number is 164787. As a condition to submitting a bid, a Contractor must be registered with the Oregon Construction Contractors Board in accordance with ORS 701.035 to 701.055, and disclose the registration number. Failure to register and disclose the number will make the bid unresponsive and it will be rejected, unless contrary to federal law.

12. The successful Bidder hereby certifies that all subcontractors who will perform construction work as described in ORS 701.005(2) were registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time the subcontractor(s) made a bid to work under the contract.

13. The successful Bidder hereby certifies that, in compliance with the Worker's Compensation Law of the State of Oregon, its Worker's Compensation Insurance provider is Saif Corporation, Policy No. 764240, and that Contractor shall submit Certificates of Insurance as required.

14. Contractor's Key Individuals for this project (supply information as applicable):

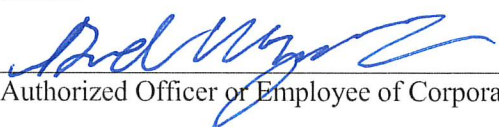
Project Executive:	<u>David Walczak</u>	Cell Phone:	<u>(503) 551-6856</u>
Project Manager:	<u>Joey Walczak</u>	Cell Phone:	<u>(541) 474-1988</u>
Job Superintendent:	<u>Greg Grienger</u>	Cell Phone:	<u>(541) 218-0455</u>
Project Engineer:	<u>Shen Patterson</u>	Cell Phone:	<u>(503) 410-3176</u>

15. The Undersigned certifies that it has not discriminated against minority, women, or emerging small businesses in obtaining any subcontracts for this project.

16. The Undersigned certifies that it has a drug testing program in accordance with ORS 279C.505.

REMINDER: Bidder must submit the below First-Tier Subcontractor Disclosure Form.

By signature below, Contractor agrees to be bound by this Bid.

NAME OF FIRM	<u>Farline Bridge, Inc.</u>
ADDRESS	<u>1445 Miller Dr.</u> <u>Stayton, OR 97383</u>
TELEPHONE NO	<u>(503) 769-3041</u>
EMAIL	<u>joey@farlinebridge.com</u>
SIGNATURE 1)	_____
	Sole Individual
or 2)	_____
	Partner
or 3)	<u></u>
	Authorized Officer or Employee of Corporation

* * * * * **END OF BID** * * * * *

Knights Bridge Road: Molalla River Bridge #06520

Bid Schedule (1 of 2 Sheets)

ITEM #	SPEC	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
TEMPORARY FEATURES AND APPURTENANCES						
1	0196	EXTRA WORK	LS	1	200,000.00	\$200,000.00
2	0180	WORK PLACE HARASSMENT PLAN	LS	1	10,000. ⁰⁰	10,000. ⁰⁰
3	0210	MOBILIZATION	LS	1	384,810.83	384,810.83
4	0221	TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC	LS	1	10,000. ⁰⁰	10,000. ⁰⁰
5	0222	TEMPORARY SIGNS	SQFT	505	34. ⁰⁰	17,170. ⁰⁰
6	0224	TEMPORARY BARRICADES, TYPE III	EACH	10	180. ⁰⁰	1,800. ⁰⁰
7	0226	TEMPORARY BARRIER	FOOT	50	27. ⁰⁰	1,350. ⁰⁰
8	0231	CONSTRUCT AND REMOVE TEMPORARY ACCESS ROAD	LS	1	100,000. ⁰⁰	100,000. ⁰⁰
9	0245	TEMPORARY WATER MANAGEMENT FACILITY	LS	1	350,000. ⁰⁰	350,000. ⁰⁰
10	0253	TEMPORARY WORK ACCESS AND CONTAINMENT	LS	1	1,000,000. ⁰⁰	1,000,000. ⁰⁰
11	0280	EROSION CONTROL	LS	1	15,000. ⁰⁰	15,000. ⁰⁰
12	0280	CONSTRUCTION ENTRANCE, TYPE 1	EACH	3	3,000. ⁰⁰	9,000. ⁰⁰
13	0280	SEDIMENT BARRIER, TYPE 3	FOOT	2000	10.50	21,000. ⁰⁰
14	0280	SEDIMENT BARRIER, TYPE 4	EACH	50	8. ⁰⁰	400. ⁰⁰
15	0280	STRAW BALE	EACH	20	30. ⁰⁰	600. ⁰⁰
16	0290	POLLUTION CONTROL PLAN	LS	1	1,500. ⁰⁰	1,500. ⁰⁰
17	0290	WORK CONTAINMENT PLAN	LS	1	25,000. ⁰⁰	25,000. ⁰⁰
18	0290	TURBIDITY MONITORING	LS	1	3,500. ⁰⁰	3,500. ⁰⁰
ROADWORK						
19	0305	CONSTRUCTION SURVEY WORK	LS	1	10,000. ⁰⁰	10,000. ⁰⁰
20	0310	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1	55,000. ⁰⁰	55,000. ⁰⁰
21	0320	CLEARING AND GRUBBING	LS	1	40,000. ⁰⁰	40,000. ⁰⁰
22	0330	GENERAL EXCAVATION	CUYD	3000	36.25	108,750. ⁰⁰
23	0330	EXTRA FOR SELECTED NATIVE BACKFILL MATERIAL	CUYD	1000	17.00	17,000. ⁰⁰
24	0350	RIPRAP GEOTEXTILE, TYPE 2	SQYD	2450	4. ⁰⁰	9,800. ⁰⁰
25	0390	KEYED RIPRAP, CLASS 2000	CUYD	2,650	147.45	390,742.50
BRIDGES						
26	0501	BRIDGE REMOVAL WORK	LS	1	75,000. ⁰⁰	75,000. ⁰⁰
27	0504	CLASS 2 PREPARATION	SQYD	15	200. ⁰⁰	3,000. ⁰⁰
28	0510	SHORING, CRIBBING, AND COFFERDAMS	LS	1	25,000. ⁰⁰	25,000. ⁰⁰
29	0530	REINFORCEMENT, GRADE 60	LS	1	5,000. ⁰⁰	5,000. ⁰⁰
30	0534	CABLE RESTRAINERS	EA	34	1,500. ⁰⁰	51,000. ⁰⁰
31	0540	GENERAL STRUCTURAL CONCRETE, CLASS 3300	LS	1	32,000. ⁰⁰	32,000. ⁰⁰

Continued on Page 2

Knights Bridge Road: Molalla River Bridge #06520

Bid Schedule (2 of 2 Sheets)

ITEM #	SPEC	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
32	0542	LOCATE CONCRETE REPAIR	LS	1	10,000. ⁰⁰	10,000. ⁰⁰
33	0542	CONCRETE REPAIR	SQYD	1	7,500. ⁰⁰	7,500. ⁰⁰
34	0555	POST-TENSIONING	LS	1	60,000. ⁰⁰	60,000. ⁰⁰
35	0556	FURNISH MPCO MATERIAL	SQYD	989	30. ⁰⁰	29,670. ⁰⁰
36	0556	CONSTRUCT MPCO	SQYD	989	30. ⁰⁰	29,670. ⁰⁰
37	0560	STRUCTURAL STEEL MAINTENANCE (GIRDER STRENGTHEN)	LS	1	65,000. ⁰⁰	65,000. ⁰⁰
38	0560	STRUCTURAL STEEL MAINTENANCE (CABLE RESTRAINER SYSTEM)	LS	1	45,000. ⁰⁰	45,000. ⁰⁰
39	0560	STRUCTURAL STEEL MAINTENANCE	LS	1	40,000. ⁰⁰	40,000. ⁰⁰
40	0565	CFRP STRENGTHENING - WET LAYUP SYSTEM	LS	1	35,000. ⁰⁰	35,000. ⁰⁰
41	0566	CFRP STRENGTHENING - NEAR SURFACE MOUNTED	LS	1	22,000. ⁰⁰	22,000. ⁰⁰
42	0584	REPAIR ELASTOMERIC CONCRETE NOSING	FOOT	80	500. ⁰⁰	40,000. ⁰⁰
43	0585	POURED JOINT SEAL	LS	1	5,750. ⁰⁰	5,750. ⁰⁰
44	0594	SURFACE PREPARATION	LS	1	275,000. ⁰⁰	275,000. ⁰⁰
45	0594	COATING APPLICATION	LS	1	55,000. ⁰⁰	55,000. ⁰⁰
46	0594	COATING MATERIALS	LS	1	35,000. ⁰⁰	35,000. ⁰⁰
PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
47	0865	THERMOPLASTIC, EXTRUDED, SURFACE, NON-PROFIED	FOOT	700	5.50	3,850. ⁰⁰
RIGHT OF WAY DEVELOPMENT AND CONTROL						
48	1030	WEED CONTROL	ACRE	1	2,200. ⁰⁰	2,200. ⁰⁰
49	1030	SEEDING MOBILIZATION	EACH	1	1,000. ⁰⁰	1,000. ⁰⁰
50	1030	NATIVE PLANT SEEDING	ACRE	3.0	3,000. ⁰⁰	9,000. ⁰⁰
51	1040	DECIDUOUS TREES, #1 CONTAINER	EACH	20	59. ⁰⁰	1,180. ⁰⁰
52	1040	SHRUBS, #1 CONTAINER	EACH	190	54. ⁰⁰	10,260. ⁰⁰
53	1040	PLANT CUTTINGS, GREATER THAN 1 INCH	EACH	10	50. ⁰⁰	500. ⁰⁰
54	1040	COMPOST MULCH	CUYD	4.5	190. ⁰⁰	855. ⁰⁰
55	1050	REMOVING AND REBUILDING FENCE	FOOT	150	75. ⁰⁰	11,250. ⁰⁰
56	1091	STREAMBED ENHANCEMENT	LS	1	80,000. ⁰⁰	80,000. ⁰⁰

PROPOSED COST BID SCHEDULE \$3,848,108.33
(Numericaly)

PROPOSED COST BID SCHEDULE Three Million Eight Hundred Forty-Eight Thousand One Hundred Eight and ³³/₁₀₀
(Written in Words)

COMPANY NAME Farline Bridge, Inc.

AUTHORIZED SIGNATURE 

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM
PROJECT: #2025-02 Knights Bridge Road: Molalla River Bridge Project

BID OPENING: February 20, 2025, 2:00 PM, Pacific Time

Failure to submit this Form by the disclosure deadline will result in a nonresponsive bid.

INSTRUCTIONS:

This First-Tier Subcontractor Disclosure Form ("Form") must be submitted and received at the location specified in the Notice of Public Improvement Contract Opportunity on the advertised Bid Closing, and within two working hours after the advertised Bid Closing Time.

- A. Completed proposal documents must arrive electronically via Bid Locker located at <https://bidlocker.us/a/clackamascounty/BidLocker>.
- B. Bid Locker will electronically document the date and time of all submissions. Completed documents must arrive by the deadline indicated in Section 1 or as modified by Addendum. **LATE PROPOSALS WILL NOT BE ACCEPTED.**
- C. Proposers must register and create a profile for their business with Bid Locker in order to submit for this project. It is free to register for Bid Locker.
- D. Proposers with further questions concerning Bid Locker may review the Vendor's Guide located at <https://www.clackamas.us/how-to-bid-on-county-projects>.

Subcontractor lists may be submitted with the bid in the same envelope or email at the Bid Closing date and time. Subcontractor lists **MUST** be submitted within **two (2) hours** of the Bid Closing date and time.

List below the name of each subcontractor that will be furnishing labor, or labor and materials, for which disclosure is required, the category of work that the subcontractor will be performing, and the dollar value of the subcontract. Enter "**NONE**" if the value of the project bid is less than \$100,000 or there are no subcontractors that need to be disclosed. ATTACH ADDITIONAL SHEETS IF NECESSARY.

	SUBCONTRACTOR NAME	DOLLAR VALUE	CATEGORY OF WORK
1.	K&B Quality Excavating, Inc.	\$847,562.50	Road work
2.	American Industrial Contracting, Inc.	\$643,000.00	Painting
3.			
4.			
5.			
6.			

The above listed first-tier subcontractor(s) are providing labor, or labor and material, with a Dollar Value equal to or greater than:

- a) 5% of the total Contract Price, but at least \$15,000. If the Dollar Value is less than \$15,000 do not list the subcontractor above; or
- b) \$350,000 regardless of the percentage of the total Contract Price.

Firm Name: Farline Bridge, Inc.

Bidder Signature:  Phone # (603) 789-3014



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
PERFORMANCE BOND**

Bond No.: Farline Bridge, Inc.

Solicitation: #2025-02

Project Name: Knights Bridge Road: Molalla River Bridge Project

Fidelity and Deposit Company
of Maryland

(Surety #1)

(Surety #2)*

Bond Amount No. 1:

\$ 3,848,108.33

Bond Amount No. 2:*

\$

Total Penal Sum of Bond:

\$3,848,108.33

* If using multiple sureties

We, Farline Bridge, Inc. as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) Three Million Eight Hundred Forty Eight Thousand One Hundred Eight Dollars & 33/100 (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety); and

WHEREAS, the Principal has entered into a contract with Clackamas County, along with the plans, specifications, terms and conditions of which are contained in the above-referenced Solicitation; and

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Performance Bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and all authorized modifications of the Contract which increase the amount of the work, the amount of the Contract, or constitute an authorized extension of the time for performance, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal herein shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things undertaken by Contractor to be performed under the Contract, upon the terms set forth therein, and within the time prescribed therein, or as extended as provided in the Contract, with or without notice to the Sureties, and shall defend, indemnify, and save harmless Clackamas County and its elected officials, officers, employees and agents, against any direct or indirect damages or claim of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Principal or its subcontractors, and shall in

all respects perform said contract according to law, then this obligation is to be void; otherwise, it shall remain in full force and effect for so long as any term of the Contract remains in effect.

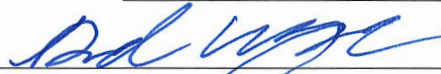
Nonpayment of the bond premium will not invalidate this bond nor shall Clackamas County, be obligated for the payment of any premiums.


This bond is given and received under authority of Oregon Revised Statutes Chapter 279C and the Clackamas County Local Contractor Review Board Rules, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES.

Dated this 28th day of March, 2025.

PRINCIPAL: Farline Bridge, Inc.

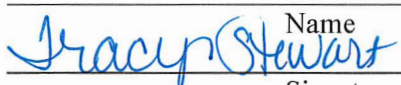
By: 
President Signature

Attest: 
Official Capacity
Corporation Secretary

SURETY: Fidelity and Deposit Company of Maryland
[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each bond]

Tracy Stewart

 Name
Signature

1605 Liberty Street SE

Address

Salem, OR 97302

City
(503) 362-2711

State Zip
tracy@agsadowski.com

Phone

Fax Email



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PAYMENT BOND

Bond No.: 9350687

Solicitation: #2025-02

Project Name: Knights Bridge Road: Molalla River Bridge Project

Fidelity and Deposit Company
of Maryland

(Surety #1)

(Surety #2)*

* If using multiple sureties

Bond Amount No. 1: \$ 3,848,108.33

Bond Amount No. 2:* \$

Total Penal Sum of Bond: \$ 3,848,108.33

We, Farline Bridge, Inc., as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) Three Million Eight Hundred Forty Eight Thousand One Hundred Eight Dollars & 33/100 (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety); and

WHEREAS, the Principal has entered into a contract with Clackamas County, along with the plans, specifications, terms and conditions of which are contained in above-referenced Solicitation; and

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Payment Bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and schedule of contract prices which are set forth in the Contract and any attachments, and all authorized modifications of the Contract which increase the amount of the work, or the cost of the Contract, or constitute authorized extensions of time for performance of the Contract, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract and any duly authorized modifications that are made, upon the terms set forth therein, and within the time prescribed therein, or as extended therein as provided in the Contract, with or without notice to the Sureties, and shall defend, indemnify, and save harmless Clackamas County and its elected officials, officers, employees and agents, against any claim for direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Contractor or its subcontractors, and shall promptly pay all persons supplying labor, materials or both to the Principal or its subcontractors for prosecution of the work provided in the Contract; and shall promptly pay all contributions due the State Industrial Accident Fund and the State Unemployment Compensation Fund from the Principal or its subcontractors in connection with the performance of the Contract; and shall pay over to the Oregon Department of Revenue all sums required to be deducted and retained from the wages of employees of the Principal and its subcontractors pursuant to ORS 316.167, and

shall permit no lien nor claim to be filed or prosecuted against Clackamas County on account of any labor or materials furnished; and shall do all things required of the Principal by the laws of this State, then this obligation shall be void; otherwise, it shall remain in full force and effect for so long as any term of the Contract remains in effect.

Nonpayment of the bond premium will not invalidate this bond nor shall Clackamas County be obligated for the payment of any premiums.

This bond is given and received under authority of Oregon Revised Statutes Chapter 279C and the Clackamas County Local Contractor Review Board Rules, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES:

Dated this 28th day of March, 2025.

PRINCIPAL: Farline Bridge, Inc.

By: [Signature]
Signature
President

Attest: [Signature]
Official Capacity
Corporation Secretary

SURETY: Fidelity and Deposit Company of Maryland
[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each bond]

Tracy Stewart
[Signature] Name
Signature
1605 Liberty Street SE
Address
Salem, OR 97302
City State Zip
(503) 362-2711 tracy@agsadowski.com
Phone Fax Email

**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY**

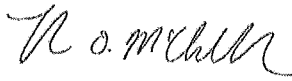
KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Robert D. Murray, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint Ty R. MOFFETT, Derek A. SADOWSKI, Tracy L. STEWART, Staci O'DELL of **Salem, Oregon**, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and its behalf as surety, and as its act and deed: **any and all bonds and undertakings**, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

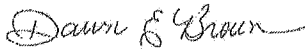
IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 18th day of July, A.D. 2024.



ATTEST:
**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND**



By: **Thomas O. McClellan**
Vice President



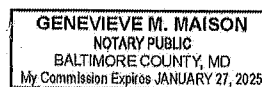
By: **Dawn E. Brown**
Secretary

**State of Maryland
County of Baltimore**

On this 18th day of July, A.D. 2024, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Thomas O. McClellan, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, depose and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Genevieve M. Maison



Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 28th day of March, 2025.



Mary Jean Pethick
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
reportsclaims@zurichna.com
800-626-4577

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
PROJECT INFORMATION, PLANS, SPECIFICATIONS AND DRAWINGS

PROJECT: #2025-02 Knights Bridge Road: Molalla River Bridge Project

Project Background:

The Clackamas County Department of Transportation is rehabilitating the existing Knights Bridge Road Bridge spanning the Molalla River near Canby. The existing bridge, built in 1964, is showing extensive signs of decay as a result of age and heavy truck traffic. The bridge presently has a sufficiency rating of 38.5 and requires load and weight restrictions to be placed on the bridge. The proposed improvements are expected to remove the load and weight restrictions on the bridge.

The Work to be done under this Contract consists of bridge rehab to the Knights Bridge Road Bridge, crossing the Molalla River west of Canby. Work will consist of concrete structure repairs, striping and painting of under-bridge girders, micro-concrete overlay of the bridge deck, in-water work for the installation of scour protection, riverbank restoration, mitigation and the following;

1. Install and remove temporary traffic control measures.
2. Install and remove erosion and sediment control measures.
3. Perform earthwork, shoring and grading.
4. In-water work; containment, water management and construct scour protection.
5. Bridge painting; paint removal, containment, access and painting.
6. Bridge deck rehab, repair and concrete micro overlay.
7. Bridge structure repair and retrofitting.
8. Steel fabrication.
9. Environmental restoration; plantings, seeding and landscaping.
10. Perform additional and incidental Work, as called for by the Specifications and Plans.

Engineers Estimate: \$3,987,000.00

Key Dates:

All Basic Bid Work may begin as soon as the Notice to Proceed ("NTP") is issued.

Provided Staging area/access (County Park) available April 1, 2025. (Section 00180.40(b))

Critical Time Period: Both work sites, all work below Ordinary High-Water Elevation is only allowed between July 15 to August 31 (Section 00180.44)

Substantial Completion: October 15, 2025 (Section 00180.50(h)) (all work, except for seeding establishment and plant establishment)

Final Contract Date: December 31, 2026

Time is of the essence for this Project. Note the Liquidated Damages requirements as described in the project Specifications.

The Scope further includes the following Plans, Specifications and Drawings:

SPECIAL PROVISIONS FOR HIGHWAY CONSTRUCTION- DEPARTMENT OF
TRANSPORTATION CLACKAMAS COUNTY, Knights Bridge Road; Molalla River Bridge
#06520- dated December 2024 (108 Pages)

CLACKAMAS COUNTY- KNIGHTS BRIDGE ROAD: MOLALLA RIVER BRIDGE #06520-
Drawing Set, Sheets No. T01-T02; B01-B13; G01-G04; EC01-EC03; HD01; PL01-PL02; TC01 (26
Pages)

Knights Bridge Road- Army Corps of Engineers Permit- NWP-2023-363, dated July 3, 2024 (129 Pages)

Knights Bridge Road- Department of State Lands Permit, dated September 25, 2024 (26 Pages)

Knights Bridge Road- Department of Environmental Quality- 401 NWP Permit, dated February 16, 2024
(16 pages)

Knights Bridge Road- As built plans (13 pages)

**SPECIAL PROVISIONS
FOR CONSTRUCTION**

**DEPARTMENT OF TRANSPORTATION AND
DEVELOPMENT
CLACKAMAS COUNTY, OREGON**

**EARTHWORK AND DRAINAGE, BRIDGE STRUCTURES,
CONCRETE OVERLAY, IN-WATER WORK**

KNIGHTS BRIDGE ROAD; MOLALLA RIVER BRIDGE #06520

December 2024

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SPECIAL PROVISIONS

FOR

KNIGHTS BRIDGE REHABILITATION PROJECT

PROFESSIONAL OF RECORD CERTIFICATION:



FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

I certify the Special Provision Sections listed below are applicable to the design for the subject project for Structures. Modified Special Provisions were prepared by me or under my supervision.

Sections 00253, 00501, 00504, 00510, 00530, 00534, 00535, 00540, 00542, 00555, 00556, 00560, 00565, 00566, 00584, 00585, & 00594

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SPECIAL PROVISIONS

FOR

KNIGHTS BRIDGE REHABILITATION PROJECT

PROFESSIONAL OF RECORD CERTIFICATION:



FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

I certify the Special Provision Sections listed below are applicable to the design for the subject project for Temporary Traffic Control and Access, Environmental Protection, Earthwork, Riprap, Pavement Markings, Seeding, Planting, Fences, and Waterway Enhancements. Modified Special Provisions were prepared by me or under my supervision.

Sections 00210, 00220, 00221, 00222, 00223, 00224, 00226, 00231, 00237, 00245, 00280, 00305, 00310, 00320, 00330, 00350, 00390, 00850, 00865, 01030, 01040, 01050, & 01091

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SPECIAL PROVISIONS

FOR

KNIGHTS BRIDGE REHABILITATION PROJECT

PROFESSIONAL OF RECORD CERTIFICATION:



FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

I certify the Special Provision Sections listed below are applicable to the design for the subject project for Structures. Modified Special Provisions were prepared by me or under my supervision.

Sections 00253, 00501, 00504, 00510, 00530, 00534, 00535, 00540, 00542, 00555, 00556, 00560, 00565, 00566, 00584, 00585, & 00594

Knights Bridge Road: Molalla River Bridge #06520
Earthwork and Drainage, Bridges and Structures, Concrete Overlay and In-water Work

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Knights Bridge Road: Molalla River Bridge #06520
Earthwork and Drainage, Bridges and Structures, Asphalt Concrete Paving and Oiling

SPECIAL PROVISIONS

WORK TO BE DONE

The Work to be done under this Contract consists of bridge rehab to the Knights Bridge Road Bridge, crossing the Molalla River west of Canby. Work will consist of concrete structure repairs, striping and painting of under-bridge girders, micro-concrete overlay of the bridge deck, in-water work for the installation of scour protection, riverbank restoration, mitigation and the following;

1. Install and remove temporary traffic control measures.
2. Install and remove erosion and sediment control measures.
3. Perform earthwork, shoring and grading.
4. In-water work; containment, water management and construct scour protection.
5. Bridge painting; paint removal, containment, access and painting.
6. Bridge deck rehab, repair and concrete micro overlay.
7. Bridge structure repair and retrofitting.
8. Steel fabrication.
9. Environmental restoration; plantings, seeding and landscaping.
10. Perform additional and incidental Work, as called for by the Specifications and Plans.

APPLICABLE SPECIFICATIONS

The Specifications that are applicable to the Work on this Project are the General Conditions for Construction for Clackamas County published by the Agency, which contain Part 00100 General Conditions and the 2024 "Oregon Standard Specifications for Construction," Parts 00200 through 03000, published by the Oregon Department of Transportation which contain the detailed "Technical Specifications".

All number references in these Special Provisions shall be understood to refer to the Sections and subsections of the General Conditions or Standard Specifications bearing like numbers and to Sections and subsections contained in these Special Provisions in their entirety.

CLASS OF PROJECT

Knights Bridge Rehabilitation Project

Clackamas County Special Provisions

Section 00110 – Organization, Conventions, Abbreviations and Definitions

Comply with Section 00110 of the Standard Specifications supplemented and/or modified as follows:

00110.05(d) References to Laws, Acts, Regulations, Rules, Ordinances, Statutes, Orders, and Permits

Add the following to the first bullet (Statutes and Rules):

- Clackamas County's Local Contract Review Board (LCRB) Rules are accessible online on the County's website
<https://dochub.clackamas.us/documents/drupal/ef976bc9-14f4-495b-9bd8-c69ee7334685>
- EquipmentWatch
www.equipmentwatch.com
- ODOT Construction Section - Qualified Products List (QPL)
www.oregon.gov/ODOT/Construction/Pages/Qualified-products.aspx
- ODOT Construction Surveying Manual for Contractors
www.oregon.gov/ODOT/ETA/Documents_Geometronics/Construction-Survey-Manual-Contractors.pdf

00110.10 Abbreviations

Add the following:

CCDA	-	Clackamas County Development Agency
DTD	-	Clackamas County Department of Transportation and Development
LCRB	-	Local Contract Review Board
ODFW	-	Oregon Department of Fish and Wildlife
UNS	-	Utility Notification System
WES	-	Water Environment Services of Clackamas County

00110.20 Definitions

Add or modify definitions as follows:

Agreement Form – The written agreement between the Owner and Contractor covering the work to be performed under the contract.

Amendment – A contract modification for Additional Work, Changed Work, Extra Work, Field Directives, or other changes. An Amendment changes the contract value, scope, and/or time. Amendments require formal approval by the Board of County

Knights Bridge Rehabilitation Project

Commissioners, pursuant to LCRB Rule Division C-049-160, prior to approval of such work.

Approved Equal - Materials or services proposed by the contractor and approved by the County as equal substitutes for those materials or services specified.

Award – Same as “Notice to Intent to Award”.

BCC – The Clackamas County Board of County Commissioners

Bid - A written offer by a bidder on forms furnished by the County to do work stated in the bid documents at the prices quoted. "Bid" is synonymous with "proposal" in these bid documents.

Bid Closing - The date and time for Bid Closing is the same as the date and time for Bid Opening.

Bid Documents- The following documents together comprise the Bid Documents:

- Invitation to Bid, Instructions to Bidders, Bid Form, Bid Proposal, Schedule of Prices, Bid
- Bond, Performance Bond
- Certificate of Insurance, Prevailing Wage Rates
- The "Oregon Standard Specifications for Construction" by ODOT and APWA, 2024 edition.
- Plans and drawings
- Other bid documents included or referenced in the bid documents
- Addenda, if any
- The Agreement Form and Special Provisions

Bonds - The bond or surety bond is a written document given by the surety and principal to the obligee to guarantee a specific obligation.

Change Order - A price agreement for Extra Work, Changed Work, field directives, or other changes. A Change Order does not change the contract value, scope, or time until it is incorporated into an Amendment. Change Orders will be agreed upon, in writing, by the County Project Manager and the Contractor's designated representative.

Contract - The written contract agreement, including amendments, signed by the Contractor and Clackamas County, which describes the work to be done, the contract amount, and defines the relationships and obligations of the Contractor and the County.

Knights Bridge Rehabilitation Project

Contract Documents - The Invitation to Bid, the Instructions to Bidders, the accepted Bid Proposal and Schedule of Prices, the Subcontractor List, the Bid Bond, the Performance and Payment Bond, the Certificate of Insurance, the Prevailing Wage Rates, the Standard Specifications and Special Provisions, Amendments, the Plans and Drawings, the Agreement, as well as all documents incorporated by reference therein, and any and all addenda prepared by or at the direction of and adopted by the County and further identified by the signature of the parties and all modifications thereof incorporated in the documents before their execution.

County - The term "County" shall mean Clackamas County, including the Board of County Commissioners, employees and agents of the County authorized to administer the conditions of these contract documents.

Department – A subdivision of the Agency.

Engineer - The County's Project Manager either acting directly or through an authorized representative(s). When referring to approval of extra work or other Contract modifications, "Engineer" also refers to the County's legal authority according to the LCRB rules.

Invitation to Bid - The public announcement (Notice to Contractors) inviting bids for work to be performed or materials to be furnished.

Legal Holiday - As defined in ORS 279C.540.

Lump Sum - A method of payment providing for one all-inclusive cost for the work or for a particular portion of the work.

Notice of Intent to Award - A written notice from the County notifying bidders that the County intends to award to the responsible bidder submitting lowest responsive bid.

ODOT Procurement Office – Clackamas County Purchasing Department.

Owner – Synonymous with Agency.

Plan Holder's List – A list of contractor's names, contact names, phone and fax numbers that the County's Purchasing Department creates during bidding of the Project.

Project Manager – The Owner's representative who directly supervises the engineering and administration of the contract.

Shop Drawings – Synonymous with Working Drawings.

Solicitation Document – Synonymous with Bid Documents.

Knights Bridge Rehabilitation Project

Standard Drawings – The Agency-prepared detailed drawings for Work or methods of construction that normally do not change from project to project. The Standard Drawings include the ODOT Standard Drawings.

Standard Specifications - "Oregon Standard Specifications for Construction", current edition, published by the Oregon Department of Transportation and as amended by **the Agency**.

State - Where the term "State" or "State of Oregon" or "ODOT" appears in the contract documents it shall mean "Clackamas County", "State of Oregon", or "ODOT" as applicable because of context.

Work Day - Any and every calendar day from January 1 to December 31 of every year, excluding Saturdays, Sundays and Legal Holidays.

END OF SECTION

Section 00120 – Bidding Requirements and Procedures

Comply with Section 00120 of the Standard Specifications supplemented and/or modified as follows:

00120.00 Prequalification of Bidders - Delete and replace with the following:

See Instructions to Bidders. To gain Prequalification of Bidders through ODOT:

- If delivered by electronic mail, the application shall be sent to:

ODOTProcurementOfficeConstruction@odot.oregon.gov
- If delivered by mail or parcel delivery service, the application shall be sent to:

Oregon Department of Transportation
Procurement Construction Contracts, MS #33
355 Capitol Street NE
Salem, OR 97301

00120.01 General Bidding Requirements – Delete and replace with the following:

See Instructions to Bidders.

00120.05 Request for Plans, Special Provisions, and Bid Booklets: – Delete and replace with the following:

See Notice of Public Improvement Contract and Instructions to Bidders.

Knights Bridge Rehabilitation Project

Copies of the 2024 Oregon Standard Specifications for Construction and Supplements might be found on the Oregon Department of Transportation website at:

http://www.oregon.gov/ODOT/Business/Pages/Standard_Specifications.aspx

The Plans, which are applicable to the Work to be performed under the Contract, are included in these Special Provisions.

00120.17 Use of Agency-Owned Land for Staging or Storage Areas – Add the following:

Project site is within county right of way or County owned property to the south and west of Knights Bridge Road. The County property is a non-improved county park and consists of 1.1 acers of graveled parking area. This area has been set aside for a contractor's staging area if requested by the contractor. The park will be closed to the public for the duration of this project.

Contractor will be responsible for securing, policing and protecting the site including the parks property at no cost to the County. The contractor will also be responsible for cleanup and restoration of the site and staging areas to as good or better condition at the completion of the project.

00120.25 Subsurface Investigations - Replace the first two sentences of the first paragraph with the following:

The Agency or its consultant have not conducted subsurface borings or in-depth geologic investigations of the Project Site. The Bridge Hydraulics, Scour Assessment and Scour Counter Measures Design Investigation/reports are available at the Engineer's office.

00120.30 Changes to Plans, Specifications, or Quantities before Opening of Bids - Delete and replace with the following:

See Instructions to Bidders.

00120.40 Preparation of Bids – Delete and replace this section with the following:

See Instructions to Bidders.

00120.45 Submittal of Bids - Delete and replace with:

See Instructions to Bidders.

00120.50 Submitting Bids for More than One Contract – Delete this subsection.

00120.60 Revision or Withdrawal of Bids - Delete and replace with the following:

See Instructions to Bidders.

00120.70 Rejection of Nonresponsive Bids – Delete and replace with the following:

See Instructions to Bidders.

Knights Bridge Rehabilitation Project

00120.95 Opportunity for Cooperative Arrangement – Delete this section.

END OF SECTION

Section 00130 – Award and Execution of Contract

Comply with Section 00130 of the Standard Specifications supplemented and/or modified as follows:

00130.00 Consideration of Bids - Delete third paragraph.

00130.10 Award of Contract - Delete and replace with the following:

See Instructions to Bidders.

00130.15 Right to Protest Award – Delete and replace with the following:

See Instructions to Bidders.

00130.30 Contract Booklet – Add the following:

Other documents are part of the contract documents by reference. These include, but are not limited to:

- The "Oregon Standard Specifications for Construction", 2024 Edition, as published by the Oregon Department of Transportation (ODOT).
- "Oregon Standard Drawings" latest edition, as published by ODOT.
- Clackamas County Service District No.1 "Surface Water Standard Specifications", latest edition.

00130.40 Contract Submittals - Delete and replace with the following:

See Instructions to Bidders.

00130.70 Release of Bid Guaranties – Delete and replace with the following:

See Instructions to Bidders.

END OF SECTION

Section 00140 – Scope of Work

Comply with Section 00140 of the Standard Specifications supplemented and/or modified as follows:

00140.30 Agency-Required Changes in the Work – Replace the last paragraph with the following:

Upon receipt of an Engineer's written order modifying the Work, the Contractor shall perform the Work as modified via Change Order, which may be subject to approval as an Amendment.

If an Amendment incorporating changes to the Work increases the Contract amount, the Contractor shall notify its Surety of the increase and shall provide the Agency with a copy of any resulting modification to bond documents. The Contractor's performance of Work pursuant to Amendments shall neither invalidate the Contract nor release the Surety. Payment for changes in the Work shall be made in accordance with 00195.20. Contract Time adjustments shall be made in accordance with 00180.80.

00140.31 "As-Built" Records - Add the following section:

Maintain a current and accurate record of the work completed during the course of this contract. This may be in the form of "as-built" drawings kept by accurately marking a designated set of the contract plans with the specified information as the Work proceeds. Accurate, complete and current "as-built" drawings are a specified requirement for full partial payment of the work completed. At project completion and as a condition of final payment, the Contractor shall deliver to the Project Manager a complete and legible set of "as-built" drawings.

The "as-built" drawings must show the information listed below. Where the term "locate" or "location" is used, it shall mean record of position with respect to both the construction vertical datum and either construction horizontal datum or a nearby permanent improvement.

- 1) Record location of underground services and utilities as installed.
- 2) Record location of existing underground utilities and services that are to remain and that are encountered during the course of the work.
- 3) Record changes in dimension, location, grade or detail to that shown on the plans.
- 4) Record changes made by change order.
- 5) Record details not in the original plans.
- 6) Provide fully completed shop drawings reflecting all revisions.

END OF SECTION

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Section 00150 – Control of Work

Comply with Section 00150 of the Standard Specifications modified as follows:

00150.00 Authority of the Engineer – Delete and replace the first sentence with the following:

Except as indicated elsewhere in the Contract (e.g. Amendment approval by the BCC), the Engineer has full authority over the Work and its suspension.

00150.05 Cooperative Arrangements – Delete this section.

00150.10 Coordination of Contract Documents

(a) Order of Precedence – Delete this section and replace with the following:

The Engineer will resolve any discrepancies between these documents in the following order of precedence:

- Approved Amendments;
- Approved Change Orders
- Bid Schedule with Schedule of Prices;
- Permits from governmental agencies
- Special Provisions;
- Agency-prepared drawings specifically applicable to the Project and bearing the Project title;
- Reviewed and accepted, stamped Working Drawings;
- Agreement Form;
- Standard Drawings;
- Approved Unstamped Working Drawings;
- Standard Specifications;
- All other Contract Documents not listed above.

Notes on a drawing shall take precedence over drawing details.

Dimensions shown on the drawings, or that can be computed, shall take precedence over scaled dimensions.

00150.15(c) Contractor Responsibilities - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall perform the Contractor responsibilities described in the ODOT Construction Surveying Manual for Contractors, Chapter 1.6 (see Section 00305) and the following:

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- Perform earthwork slope staking including intersections and matchlines and set stakes defining limits for clearing which approximate right-of-way and easements.
- Inform the Engineer of any property corners monuments and/or survey markers that are not shown on the plans and are found during construction activities prior to disturbing the monuments. Allow the Agency 2 Work days for referencing all found markers before they are removed. Monuments that are noted on the plans to be protected and are disturbed by the Contractor's activities shall be replaced by the Contractor's surveyor at the Contractor's expense.

00150.50 Cooperation with Utilities: Add the following to the end of Paragraph (a):

There may be other utility servers who are not specifically listed in these Special Provisions or on the Plans that may be adjusting or inspecting their facilities within the project limits.

00150.50(c) Contractor Responsibilities – Add the following to the bulleted list:

- Hold a utility scheduling meeting and monthly utility coordination meetings (see also 00180.42);
- Maintain and re-establish utility location marks according to OAR 952-001-0090(3)(a). Coordinate re-establishment of the location marks with the associated Utility;
- Determine the exact location before excavating within the tolerance zone according to OAR 952-001-0090(3)(c);
- Backfill any exposed utilities as recommended and approved by the Utility representative. Obtain utility locate warning tape from the Utility and replace damaged or removed warning tape. Utility locate warning tape may not be present at all existing utilities;
- Stake, place warning tape, and maintain no work limits around critical Utility facilities as shown or directed by the Engineer and the Utility; and
- In addition to the notification required in OAR 952-001-0090(6), notify the Engineer and the Utility as soon as the Contractor discovers any previously unknown Utility conflicts or issues. Contrary to the OAR, stop excavating until directed by the Engineer and allow the Utility a minimum of two weeks to relocate or resolve the previously unknown utility issues.

The existing underground utilities shown on the Plans have been determined by as-built records and field surveys, but are not guaranteed to be complete or accurate. The Contractor shall be responsible for contacting the individual utility companies to mark locations, and arranging with them for any relocation work that should be required.

The Contractor shall make excavations and borings ahead of the work where necessary to determine the exact location of underground pipes or other features, which might interfere with construction. The Contractor shall support and protect pipes or other services where they cross the trench and shall be responsible for all damages incidental in interruptions of service that may be caused by Contractor operations. Where a new utility line crosses an existing pipeline or other conduit, the trench backfill shall be well compacted in a manner that provides for the required backfill and compaction standards while protecting the utility in question.

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Add the following subsection:

00150.50(f) Utility Information (No Anticipated Relocations) - Within the Project limits, there are no anticipated relocations with the Utilities listed below. The Contractor shall contact those Utilities having buried facilities and request that they locate and mark them for their protection prior to construction.

Utility	Contact Person's Name, Address, Email, and Phone Number
Canby Utility (Electrical lines)	Jason Berning, Operations Manager PO Box 1070 Canby, OR 97013 530-263-4322 jbering@canbyutility.org
Level3-Communications/ Century Link	1-877-366-8344
ZAYO FNA Above Net	443 403-2023 801-364-1063
NW Natural Gas	Blake Johnson 220 NW Second Ave, Portland, OR 97209 503-833-2519

The Contractor shall notify, in writing, the Utilities listed above, with a copy to the Engineer, at least 14 Calendar Days before beginning Work on the Project.

Northwest Natural Gas - Gas Utilities -

The Gas Utility operates a high pressure gas pipeline within the Project limits and may require an On-Site safety watcher, at no cost to the Contractor.

When operating equipment directly above the high pressure gas pipeline, the Contractor shall keep equipment on the paved surfaces only.

In the immediate area of the high pressure gas lines, when moving any equipment, excavating, driving piles, pounding guardrail posts, boring, or other road construction activities, the Contractor shall increase the Reasonable Accuracy Zone from 24 inches, as defined in OAR 952-001-010, to 10 feet. Exceptions require written approval from the Gas Utility. The Contractor shall provide the Engineer a copy of the written approval of the exception before beginning Work.

In the event of an emergency, and in addition to the calls required by the Utilities notification system, the Contractor shall call:

- ❑ Northwest Natural Gas 1-800-882-3377

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Canby Utility - Power Suppliers -

Energized power lines overhang portions of the Work with a minimum vertical clearance of 30 feet. The Contractor shall maintain at least 20 feet of safety clearance. Exceptions require written approval from the Power Supplier(s) and may require an On-Site safety watcher, at no cost to the Contractor. The Contractor shall provide the Engineer a copy of the written approval of exception before beginning Work.

00150.55 Cooperation with Other Contractors - Add the following after the first paragraph:

Clackamas County Department of Transportation has awarded a separate contract for the road paving asphalt overlay of Airport Rd and Arndt Rd extending from Hwy I-5 to the intersection with Knights Bridge Road, work to be performed the summer of 2025. No road closures are anticipated, however, expect typical delays if used as a supply or haul route for the Knights Bridge rehab work.

00150.60(a) Load and Speed Restrictions for Construction Vehicles and Equipment -

Add the following bullet to the end of the bullet list:

- The Contractor shall restrict the combined weights of construction vehicles, Equipment, and Materials on Bridges according to 00220.45.

00150.70 Detrimental Operations – Add the following:

Portions of this project might be constructed in close proximity to existing private improvements. All private improvements disturbed by the Contractor's operations shall be repaired or replaced to equal or better condition at the Contractor's expense. The Engineer may withhold from future payments to the Contractor, an amount equal to the costs reasonably estimated by the Engineer to repair or replace, as the case may be, those private improvements disturbed by the Contractor's operations. Engineer shall release the retained amount once Engineer has determined that the Contractor has completed the repair consistent with the requirements of this provision. In addition, prior to construction, the Contractor shall provide to the Engineer videotape showing private property, if any, which may be disturbed during construction.

END OF SECTION

Section 00160 – Source of Materials

Comply with Section 00160 of the Standard Specifications supplemented and/or modified as follows:

00160.20(a) Buy America – Delete this section and replace with the following: Federal highway funds are NOT involved on this Project.

END OF SECTION

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Section 00165 – Quality of Materials

Comply with Section 00165 of the Standard Specifications modified as follows:

00165.04 Costs of Testing – Replace this section with the following sentence: All testing required to be performed by the Contractor will be at the Contractor's expense.

00165.10(a) Field-Tested Materials – Add the following sentence: The County follows the MFTP on its projects:

00165.10(b) Nonfield-Tested Materials - Add the following sentence:

The County follows the NTMAG on its projects.

END OF SECTION

Section 00170 – Legal Relations and Responsibilities

Comply with Section 00170 of the Standard Specifications supplemented and/or modified as follows:

00170.02 Permits, Licenses, and Taxes – Add the following:

This project is to be constructed in Clackamas County road right of way and streets. There are no separate road opening permits required from Clackamas County to perform the work required under this contract.

00170.61(a) Workers' Compensation - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall provide workers' compensation coverage for on-the-job injuries as required by 00170.70(e).

00170.65(b)(1) Minimum Wage Rates – Replace the paragraph that begins "The Bureau of Labor and Industries (BOLI) ..." with the following paragraph:

The Bureau of Labor and Industries (BOLI) determines and publishes the existing State prevailing wage rates in the publication *Prevailing Wage Rates for Public Works Contracts*. The Contractor shall pay workers not less than the specified minimum hourly wage rate

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according to ORS 279C.838 and ORS 279C.840, and shall include this requirement in all subcontracts.

Add the following subsection:

00170.67 Fees - The fee required by ORS 279C.825(1) will be paid by the Agency to the Commissioner of the Oregon Bureau of Labor and Industries under the administrative rules of the Commissioner.

00170.70(a) Insurance Coverages - Add the following to the end of this subsection:

The following insurance coverages and dollar amounts are required pursuant to this subsection:

Insurance Coverages	Combined Single Limit per Occurrence	Annual Aggregate Limit
Commercial General Liability	\$2,000,000	\$4,000,000
Commercial Automobile Liability	\$2,000,000	(aggregate limit not required)

00170.70(d) Additional Insured - Replace the paragraph that begins "The liability insurance coverages of 00170.70(a)..." with the following paragraph:

The liability insurance coverages of 00170.70(a) shall include an Additional Insured Endorsement endorsing the "State of Oregon, the Oregon Transportation Commission and the Oregon Department of Transportation, and their respective officers, members, agents, and employees" as Additional Insureds, but only with respect to the Contractor's activities to be performed under the Contract. Coverage shall be primary and non-contributory with any other insurance and self-insurance. The liability coverages of 00170.70(a) that are permitted by the Agency to be obtained by an appropriate Subcontractor shall include all of the foregoing as Additional Insureds and shall also include the Contractor and its officers and employees as Additional Insureds.

- Clackamas County and its officers, agents, and employees
- Clackamas County Board of Commissioners
- Oregon Department of Transportation and its officers, agents, and employees.

00170.72 Indemnity/Hold Harmless – Delete and replace with the following:

Clackamas County Public Improvement Contract.

Extend indemnity and hold harmless to the Agency and the following:

- Clackamas County and its officers, agents, and employees
- Clackamas County Board of Commissioners
- Oregon Department of Transportation and its officers, agents, and employees.

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00170.79 Third Party Beneficiary – Replace the text of this section with the following:

- Third-party beneficiaries to the Contract include the Oregon Department of Transportation and its officers, agents, and employees.

00170.85(b-1) Contractor Warranty for Specific Items – This subsection does not apply:

END OF SECTION

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Section 00180 – Prosecution and Progress

Comply with Section 00180 of the Standard Specifications supplemented and/or modified as follows:

00180.06 Assignment of Funds Due Under the Contract - Delete first bulleted item.

00180.21 Subcontracting - Add the following to subsection (a):

All contracts with subcontractors or suppliers shall have provisions making the contract assignable to the County, at the option of the County, if the Contractor terminates, goes out of business, declares bankruptcy, or otherwise is unable to perform provided that the County gives the subcontractor notice of assignment within fourteen (14) days of learning of the inability of the Contractor to perform.

The Engineer may revoke consent to subcontract. If the Engineer revokes consent to subcontract, the subcontractor shall be immediately removed from the Project Site.

00180.40 Limitation of Operations - Add the following to subsection (a):

The Contractor must provide, at a minimum, a 48-hour notice to the Clackamas County Project Manager in order to perform any work on Saturdays.

00180.40(b) On-Site Work - Add the following paragraph to the end of the subsection:

The Contractor shall not have access to Park's property/staging area for 'On-Site Work' before April 1, 2025, unless approved by the Engineer. See Special Provisions, section "00120.17 - Use of Agency-Owned Land for Staging or Storage Areas"

Add the following subsection:

00180.40(c) Specific Limitations - Limitations of operations specified in these Special Provisions include, but are not limited to, the following:

Limitations	Subsection
Cooperation with Utilities.....	00150.50
On-Site Work	00180.40(b)
Contract Time	00180.50(h)
Closed Lanes	00220.40(e)(1)
Limited Duration Road Closure	00220.40(f)
Noise Control	00290.32
Regulated Work Areas	00290.34(a)
Maintenance Under Traffic.....	00620.43

Be aware of and subject to schedule limitations in the Standard Specifications that are not listed in this Subsection.

00180.41 Project Work Schedules – Add the following:

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A Type "B" schedule as detailed in the Supplemental Specifications is required on this Contract. In addition, a three-week look ahead schedule shall be prepared by the Contractor on a weekly basis and submitted to the Engineer. It shall include all construction activities planned for the following three-week period. The three-week look ahead schedule can be hand-written and shall be in a format agreed upon by the Contractor and the Engineer.

00180.42 Preconstruction Conference - Add the following:

The Contractor shall conduct a group Utilities scheduling meeting with representatives from the Utility companies involved with this Project and the Engineer before the preconstruction conference. The Contractor shall incorporate the Utilities time needs into the Contractor's schedule submitted at the preconstruction conference.

00180.43 Commencement and Performance of Work - Add the following bullet item:

- Conduct the work at all times in a manner and sequence that will insure minimal interference with traffic. The Contractor shall not begin work that will interfere with work already started. If it is in the County's best interest to do so, the County may require the Contractor to finish a portion or unit of the project on which work is in progress or to finish a construction operation before work is started on an additional portion or unit of the project.

Add the following subsection:

00180.44 Critical Time Periods – Note the following critical time periods where only certain types of work can be performed throughout the project, and completion times for work items:

- For **both** work sites: - Knights Bridge Road and Offsite Mitigation (Meadowbrook Bridge) All work below Ordinary High-Water Elevation: July 15 to August 31.
- Knights Bridge Road worksite: - Knights Bridge Road and bridge, may be closed for one continuous period of 120 days.

00180.50(h) Contract Time - There is one Contract Time on this Project as follows:

The Contractor shall complete all Work to be done under the Contract, except for Seeding and Plant establishment, not later than October 15, 2025.

00180.70 Suspension of Work - Add the following to the first bullet item:

If the Inspector has reason to believe that any safety provisions are not being adhered to, the Inspector will immediately notify the Contractor's site foreman and/or the appropriate person and the County Project Manager. The purpose of this discussion is to determine the validity of the alleged violation. This will also allow the Contractor a reasonable amount of time to

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correct or improve any of the provisions for the safety on this project. If the County Project Manager finds the problem still unresolved or uncorrected, they will notify the Contractor's Project Manager and the County's Risk Management Safety Analyst. If the County's Risk Management Safety Analyst finds that the job site contains any unresolved safety issues they will take appropriate action up to and including suspension of the Contractor's operations on all or part of the Work.

00180.85(b)(1) Single Contract Time - Replace this subsection, except for the subsection number and title, with the following:

The liquidated damages for failure to complete the Work on time required by 00180.50(h) will be \$1,100 per calendar day

Add the following subsection:

00180.85(c) Lane Closures - Lane closures beyond the limits specified will inconvenience the traveling public and will be a cost to the Agency.

It is impractical to determine the actual damages the Agency will sustain in the event Traffic Lanes are closed beyond the limits listed in 00220.40(e) or 00220.40(f). Therefore, the Contractor shall pay to the Agency, not as a penalty, but as liquidated damages, \$_1,100 per day closure beyond the limits listed in 00220.40(e) or 00220.40(f).

The Engineer will determine when it is safe to reopen lanes to traffic. Assessment of liquidated damages will stop when all lanes have been safely reopened. Any liquidated damages assessed under these provisions will be in addition to those listed in 00180.85(b).

00180.85(e) Traffic Delays Beyond 20 Minutes - Stopping or holding vehicles beyond the limits specified will inconvenience the traveling public and will be a cost to the Agency.

It is impractical to determine the actual damages the Agency will sustain in the event traffic is stopped or held longer than the 20-minute limit listed in 00220.02. Therefore, the Contractor shall pay to the Agency, not as a penalty, but as liquidated damages, \$_100__ per 20 minutes, or for a portion of 20 minutes, for stopping or holding traffic longer than 20 minutes.

Assessment of liquidated damages will stop when the Engineer determines that traffic is no longer stopped or held beyond the 20-minute limit. Any liquidated damages assessed under these provisions will be in addition to those listed in 00180.85(b).

00180.88 Workplace Harassment Prevention Plan – Submit a workplace harassment prevention plan for review 10 days before the preconstruction conference. The plan shall ensure all workers are guaranteed a safe and respectful work environment regardless of their identity or status. The plan applies to, but is not limited to, a worker's race, gender, creed, or any protected characteristic under state or federal law. At a minimum, the plan shall include:

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- A Statement that the Contractor shall provide a safe and respectful workplace on the jobsite for all workers, subcontractors, suppliers, and other persons performing work.
- A description of how the plan will be implemented and monitored during the project duration.
- A list of the in-person trainings that will be conducted for workers of all ranks working on the project to support, promote, and grow a positive jobsite culture.
- A list of meaningful policies including procedures for aggrieved workers in need of recourse.
- How incidents involving bullying or harassment will be investigated and resolved in a prompt, thorough, and impartial manner.

Contractor shall post on the jobsite and make available copies of policies about hate, intimidation, or harassment including how to report incidents and how to receive support. Materials will be provided in all languages necessary to be inclusive of the workforce.

00180.89 Measurement – No measurement of quantities will be made for workplace harassment prevention plan.

00180.95 Payment – Payment for workplace harassment prevention plan will be for developing and implementing the plan during construction of the project, in-person training, developing meaningful policies, and investigating incidents.

END OF SECTION

Section 00190 – Measurement of Pay Quantities

Comply with Section 00190 of the Standard Specifications supplemented and/or modified as follows:

END OF SECTION

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Section 00195 – Payment

Comply with Section 00195 of the Standard Specifications supplemented and/or modified as follows:

00195.10 Payment for Changes in Material Costs - Delete and replace with the following:

No asphalt cement cost adjustment shall be used on this project

00195.12 Steel Material Price Escalation/De-Escalation Clause – Add the following sentence:

No steel material price escalation/de-escalations shall be used on this project. There is no option for Contractor participation.

00195.20(b) Significant Changed Work – Add the following:

Significant is defined as:

- a) An increase or decrease of more than 25 percent of the total cost of the Work calculated from the original proposal quantities and the unit contract prices; or,
- b) An increase or decrease of more than 25 percent in the quantity of any one major contract item.

For condition b) above, a major item is defined as any item that amounts to 10 percent or more of the original total contract price.

00195.50(a)(1) Progress Estimates - Delete the first sentence and replace with the following:

At a regular period each month to be determined at the Preconstruction Conference, the Contractor will make an estimate of the amount and value of pay item work completed and in place. This estimate will be submitted to the Project Manager for review and approval.

(2) Value of Material on Hand - Delete the section and replace with the following:

(2) Value of Material on Hand - The Contractor will make an estimate of the amount and value of acceptable material to be incorporated in the completed work which has been delivered and stored as given in 00195.60(a) for review and approval.

(4) Limitations on Value of Work Accomplished - In the first sentence, change "Engineer's estimate" to "Contractor's reviewed estimate".

00195.50 (b) Retainage - Delete the first paragraph and replace with:

The amount to be retained from progress payments will be 5.0% of the value of payments made, and will be retained in one of the forms specified in Subsection (c) below. The County will withhold Retainage from all force account and change order work.

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00195.50(c)(1) Cash, Alternate A – Replace this subsection, except for the subsection number and title, with the following:

Retainage will be deducted from progress payments and held by the Agency until final payment is made according to 00195.90, unless otherwise specified in the Contract.

Except as otherwise provided, the Agency will deposit the cash retainage withheld in an interest bearing account, established through the State Treasurer for the benefit of the Agency, as required by ORS 279C.560(5). Interest earned on the account shall accrue to the Contractor. Amounts retained and interest earned will be included in the final payment made according to 00195.90, unless otherwise specified in the Contract. Any retainage withheld on Work performed by a Subcontractor will be released to the Contractor according to 00195.50(d).

00195.50(c)(2) Cash, Alternate B (Retainage Surety Bond) - Replace this subsection, except for the subsection number and title, with the following:

The Contractor may submit a Surety bond in lieu of all or a portion of the retainage required under the Contract. The Agency will accept this Surety bond unless the Agency first finds in writing good cause for rejection based on unique project circumstances in accordance with ORS 279C.560(1)(c).

The Surety bond must be in substantially the form specified in ORS 701.435 (4) (Oregon House Bill 4006, 2024), and executed by a Surety bonding company that is authorized to transact Surety business in the State of Oregon and may not be a Surety obligation of an individual. The Surety bond and any proceeds of the Surety bond must be made subject to all claims and liens and in the same manner and priority specified for retainage under ORS 279C.550 to 279C.570 and ORS 279C.600 to 279C.625. Agency will reduce the cash retainage held by an amount equal to the value of the Surety bond and pay the amount of the reduction to Contractor according to ORS 279C.570. Any retainage withheld on Work performed by a Subcontractor will be released to the Contractor according to 00195.50(d).

When the Agency accepts a Surety bond in lieu of retainage from the Contractor, the Contractor shall accept Surety bonds from Subcontractors or Suppliers from which the Contractor has withheld retainage. At any time before final payment a Subcontractor may submit a Surety bond to the Contractor and request that the Contractor submit a Surety bond as described above for the portion of the Contractor's retainage that pertains to the Subcontractor. The Surety bond the Subcontractor provides to the Contractor must meet the Agency requirements specified in the paragraph above. When a Contractor at a Subcontractor's request obtains and submits a Surety bond under this subsection, the Contractor may withhold from payments to the Subcontractor an amount equivalent to the portion of the Contractor's Surety bond premium for which the Subcontractor is responsible in accordance with ORS 279C.560 (Oregon House Bill 4006, 2024).

Within 30 Days after a Subcontractor's request the Contractor shall provide a Surety bond as described above, and the Agency will accept the Surety bond unless:

- the Agency finds in writing good cause for rejection based on unique project circumstances in accordance with ORS 279C.560;

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- a Surety bond is not commercially available;
- the Subcontractor refuses to pay to the Contractor the Subcontractor's portion of the Surety bond premium; or
- the Subcontractor refuses to provide the Contractor with a Surety bond that meets the requirements of ORS 279C.560(1)(b).

Notwithstanding 00195.50(d), within 30 Days of receiving a Surety bond from Contractor at a Subcontractor's or Supplier's request, Agency will release to the Contractor the amount held as retainage that is equivalent to the amount the Contractor submitted as a Surety bond. Contractor shall, within 30 Days after receiving a Surety bond from a Subcontractor or Supplier, release to the Subcontractor or Supplier the amount the Contractor holds as retainage that is equivalent to the amount of the Surety bond submitted, in accordance with ORS 279C.560(8).

00195.50(c)(3) Bonds, Securities, and Other Instruments - Replace this subsection, except for the subsection number and title, with the following:

Contractor may deposit bonds, securities or other instruments with the Agency or in a bank or other financial institution, to be held by Agency instead of cash retainage for the benefit of the Agency, which the Agency will accept unless the Agency first finds in writing good cause for rejection based on unique project circumstances, in accordance with ORS 279C.560(1)(c).

If the Contractor deposits bonds, securities or other instruments, and Agency does not reject the bonds, securities or other instruments as permitted by ORS 279C.560(1)(c), the Agency will reduce the cash retainage by an amount equal to the value of the bonds, securities and other instruments. Interest or earnings on the bonds, securities and other instruments accrue to the Contractor.

Bonds, securities and other instruments deposited instead of cash retainage shall be of a character approved by the Director of the Oregon Department of Administrative Services, including, but not limited to:

- Bills, certificates, notes or bonds of the United States;
- Other obligations of the United States or agencies of the United States;
- Obligations of a corporation wholly owned by the federal government;
- Indebtedness of the Federal National Mortgage Association;
- General obligation bonds of the State of Oregon or a political subdivision of the State of Oregon;
- Irrevocable letters of credit issued by an insured institution, as defined in ORS 706.008.

00195.50(f) Prompt Payment Policy - Replace this subsection, except for the subsection number and title, with the following:

Payments shall be made promptly according to ORS 279C.560, ORS 279C.570, ORS 279C.580 and other applicable legal requirements.

END OF SECTION

Section 00196 – Payment for Extra Work

Comply with Section 00196 of the Standard Specifications **supplemented and/or modified as follows:**

00196.91 Extra Work Allowance – Add the following new section:

The Bid schedule of prices contains a bid item for a pre-determined amount of Engineer ordered extra work. All Bidders shall reflect this same amount in their total Bid. No Bidder shall presume in the preparation of the bid or in the course of contract work that there will be a certain payment under that item or a certain order for extra work.

END OF SECTION

Section 00197 – Payment for Force Account Work

Comply with Section 00197 of the Standard Specifications.

END OF SECTION

Section 00199 – Disagreements, Protests and Claims

Comply with Section 00199 of the Standard Specifications supplemented and/or modified as follows:

00199.40 Claim Decision; Review; Exhaustion of Administrative Remedies –

Delete the entire section and replace with the following:

The Contractor must properly submit a claim as detailed in 00199.30.

(a) Engineer Claim Review - The Engineer or Project Manager will, as soon as practicable, consider and investigate a Contractor's properly submitted claim for additional compensation, Contract Time, or for a combination of additional compensation and Contract Time. Once the Engineer or Project Manager determines the Agency is in receipt of a properly submitted claim, the Engineer or Project Manager will arrange a meeting, within 28 Calendar Days, or as otherwise agreed by the parties, with the Contractor in order to present the claim for formal review and discussion. A person authorized by the Contractor to execute Change Orders on behalf of the Contractor must be present and attend all claim meetings.

If the Engineer or Project Manager determines that the Contractor must furnish additional information, records, or documentation to allow proper evaluation of the claim, the Engineer will schedule a second meeting, to be held within 14 calendar days, or as otherwise agreed by the parties, at which the Contractor shall present the requested information, records and documentation.

The Engineer or Project Manager will advise the Contractor of the decision to accept or reject the claim. If the Engineer or Project Manager finds the claim has merit, an equitable adjustment will be offered. If the Engineer or Project Manager finds the claim has no merit, no offer of adjustment will be made and the claim will be denied. The County intends to resolve claims at the lowest possible level.

If, at any step in the claim decision or review process, the Contractor fails to promptly submit requested information or documentation that the Agency deems necessary to analyze the claim, the Contractor is deemed to have waived its right to further review, and the claim will not be considered properly filed and preserved.

If the Engineer or Project Manager has denied a claim, in full or in part, for Contract Time only according to 00180.80, or has denied a claim, in full or in part, for correction of final compensation according to 00195.95, those disputed claims may then be resolved, in full or in part, at either of the two progressive steps of claim review procedure as specified in this Subsection. For all claims, all of the actions and review under each step of the review process shall occur before the review can be advanced to the next higher step.

(b) Director Claim Review - Upon request by the Contractor, the Department Director will review the Engineer or Project Manager's decision on the claim and advise the Contractor of the decision in writing. If the Director finds the claim has merit, and equitable adjustment will be offered. If the Director finds the claim has no merit, no offer of adjustment will be made and the claim will be denied.

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Once the Engineer determines the Agency is in receipt of a properly submitted claim, the Engineer will arrange a meeting, within 21 Calendar Days or as otherwise agreed by the parties, with the Contractor in order to present the claim for formal review and discussion.

If the Engineer determines that the Contractor must furnish additional information, records or documentation to allow proper evaluation of the claim, the Engineer will schedule a second meeting, to be held within 14 Calendar Days or as otherwise agreed by the parties, at which the Contractor shall present the requested information, records and documentation.

The Director shall evaluate the claim based on the information provided by the Contractor to the Engineer or Project Manager. However, if the Department Director (or designee) determines that the Contractor must furnish additional information, records or documentation to allow proper evaluation of the claim, the Department Director (or designee) will schedule a meeting, to be held within 14 Calendar Days, or as otherwise agreed by the parties, at which the Contractor shall present the requested information, records and documentation.

The claim is subject to records review, if not all of the records requested by the Department Director (or designee) were furnished. If applicable, advancement of the claim is subject to the provisions regarding waiver and dismissal of the claim or portions of the claim.

The decision of the Department Director shall be the final decision of the Agency.

(c) Commencement of Litigation - If the Contractor does not accept the Director's decision, then the Contractor shall commence any suit or action to collect or enforce any claim filed in accordance with 00199.30 within a period of one (1) year following the mailing of the decision or within one (1) year following the date of "Second Notification", whichever is later. If said suit or action is not commenced in said one (1) year period, the Contractor expressly waives any **and** all claims for additional compensation and any and all causes of suit or action for the enforcement thereof that he might have had.

The Contractor must follow each step in order, and exhaust all available administrative remedies before resorting to litigation. Litigation of a claim that cannot be resolved through the process described above shall be initiated by filing a complaint in the Clackamas County Circuit Court for the State of Oregon.

In any litigation, the entire text of any order or permit issued by the County or any other governmental or regulatory authority, as well as any documents referenced or incorporated therein by reference, shall be admissible for purposes of Contract interpretation.

The Contract shall not be construed against either party regardless of which party drafted it. Other than as modified by the Contract, the applicable rules of contract construction and evidence shall apply. This Contract shall be governed by and construed according to the laws of the State of Oregon without regard to principles of conflict of laws.

The Contractor shall comply with 00170.00.

00199.50 Mediation - Delete the entire section.

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00199.60 Review of Determination Regarding Records - Delete the entire section.

END OF SECTION

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SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications.

SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC

Comply with Section 00220 of the Standard Specifications modified as follows:

00220.03(b) Closures - Add the following bullet to the end of the bullet list:

- **Floatable Natural Waterway** - A minimum of 35 Calendar Days before restricting or closing the public access sites, listed below:

- **Public Access Location** – Knights Bridge Park

After receiving Engineer's written approval, provide a minimum of 14 Calendar Days' public notification before closing the Public Access Location by placing advance notification signing at the following upstream river access locations:

- East Shore of the OR99 Bridge crossing the Molalla River
 - Canby Community (River) Park
 - Elks RV Park
 - Arrowhead Golf Club

Add the following subsection:

00220.42 Bridge Site Road Closure - Close the road to traffic at the Bridge site during rehabilitation of the Bridge for a single maximum closure duration of 120 consecutive Calendar Days. Submit a Clackamas County Road Closure application at least 30 Calendar Days prior to bridge closure. Application for closure may be obtained at:

<https://www.clackamas.us/how-to-apply-for-a-permit>

Do not close the road until all Materials and Equipment are on hand or guaranteed to be delivered so that the Work can be done in an efficient manner with a minimum period of road closure.

The road closure will not be allowed until the area and the detour route are signed according to the TCP and the requirements of Section 00221 and Section 00222.

Add the following subsection:

00220.45 Load Restrictions on Bridges -

Structure No. 06520 is on the Restricted Bridge List or has a condition rating of 4 or less. If the Contractor plans to park vehicles or Equipment on the Bridge or store Materials on the Bridge submit, 30 Calendar Days before loading, stamped loading calculations and data according to 00150.35.

SECTION 00221 - COMMON PROVISIONS FOR WORK ZONE TRAFFIC CONTROL

Comply with Section 00221 of the Standard Specifications modified as follows:

00221.06 Traffic Control Plan - Replace this subsection with the following subsection:

00221.06 Traffic Control Plan and Tourist-Oriented Directional and Business Logo Signs –

(a) Traffic Control Plan - Submit one of the following, 5 Calendar Days before the preconstruction conference:

(1) Agency Traffic Control Plan - If the Contractor intends to use the Agency TCP without modification, a written notification indicating that the Agency TCP will be used without modification.

(2) Contractor-Modified Traffic Control Plan - The Contractor may request to use a Contractor-modified Agency TCP, or a TCP developed by the Contractor. Do not use a modified TCP, or a TCP developed by the Contractor, unless approved by the Engineer. Use the Agency TCP unless a modified TCP, or a TCP developed by the Contractor is accepted.

The Engineer is not obligated to consider any modified Agency TCP or a TCP developed by the Contractor. The Agency will not be liable to the Contractor for failure to accept or act upon any request for a modified Agency TCP or a TCP developed by the Contractor.

To conserve time and funds, the Contractor may first submit a written request for a preliminary review by the Engineer. The request should contain a description of the proposal together with a rough estimate of anticipated dollar and time impacts. The Engineer will, within a reasonable time, respond to the Contractor in writing whether or not the request would be considered by the Agency.

If requesting a Contractor-modified Agency TCP, or a TCP developed by the Contractor, at a minimum the request shall meet all requirements of the Contract documents and comply with the Project transportation management plan (TMP). Provide the following information:

- Stamped Working Drawings according to 00150.35 that include the proposed TCP showing all TCM and quantities of TCD.
- A TPAR plan that includes:
 - Details and features used to provide pedestrian accessibility.
 - Pedestrian staging Plans at a scale no smaller than 1 inch = 50 feet.
 - Temporary alternate facilities or detour routes for pedestrian traffic.

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- Staging sequences and details for Work affecting vehicular, pedestrian, and bicycle traffic.
- Proposed order and duration of the TCM.
- A detailed temporary striping plan.

If the Contractor's request to use a Contractor-modified Agency TCP, or a TCP developed by the Contractor is approved in whole or in part, acceptance will be made by a Change Order.

The Engineer will establish prices that represent a fair measure of the value of Work to be added, changed, or deleted as a result of any accepted modifications to the Agency TCP or an accepted TCP developed by the Contractor.

Once a TCP has been accepted by the Engineer, any additional modifications must be submitted by the Contractor for Agency review following the procedure described above. The Engineer is not obligated to consider additional modifications to a previously approved TCP.

(b) Tourist-Oriented Directional and Business Logo Signs - Submit one of the following for approval, at least 5 Calendar Days before the preconstruction conference:

(1) No Signs - If there are no tourist-oriented directional (TOD) or business logo signs on the Project, a written notification that no TOD or business logo signs exist within the Project limits or

(2) Signs - Submit one copy of a sketch map of the Project showing all existing TOD and business logo signs and a written narrative describing how these signs will be kept in service and protected throughout all the construction stages. If modifications are necessary, submit updated information to the Engineer for approval at least 21 Calendar Days before the change is needed.

00221.90(b) Temporary Protection and Direction of Traffic – Replace the bullet that begins “Providing, Surfacing, maintain...” with the following bullet:

- Providing, surfacing, maintaining, removing, and restoring the TPAR.

SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS

Comply with Section 00222 of the Standard Specifications modified as follows:

00222.40(e) Temporary Sign Placement - Add the following to the end of the bullet list:

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- At least ten Calendar Days before closing a pedestrian pathway at Bridge No. 06520, place a "SIDEWALK CLOSED, Full Time" (CW11-4) sign in advance of each future closure point. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade or on a single-post TSS. Do not place the sign or sign support such that it narrows the pedestrian pathway to a width of less than 4 feet.
- Maintain the "SIDEWALK CLOSED, Full Time" (CW11-4) signs until the bridge is open to pedestrian traffic.
- At least ten Calendar Days before closing the Public Access Location, place a minimum of two 60 inch x 24 inch "Knights Bridge Park Closed – No River Takeout" signs at the upstream river access locations specified in 00220.03(b). Locate and orient the signs so they can be clearly seen from the river access locations.
- Maintain the "Knights Bridge Park Closed – No River Takeout" signs until the public access location is open to pedestrian traffic.
- Install two sign flag boards, as shown on the Standard Drawings, above the following detour and road closed advance warning signs, where applicable:
 - "DETOUR AHEAD", "DETOUR XXXX FT", "DETOUR X/X MILE" (W20-2) signs.
 - "ROAD CLOSED AHEAD", "ROAD CLOSED XXXX FT", "ROAD CLOSED X/X MILE" (W20-3) signs.

SECTION 00223 - WORK ZONE TRAFFIC CONTROL LABOR AND VEHICLES

Comply with Section 00223 of the Standard Specifications.

SECTION 00224 - TEMPORARY TRAFFIC CHANNELIZING DEVICES

Comply with Section 00224 of the Standard Specifications.

SECTION 00226 - TEMPORARY ROADSIDE BARRIERS AND IMPACT ATTENUATORS

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Comply with Section 00226 of the Standard Specifications modified as follows:

00226.80(b)(2) Temporary Barrier - Add the following to the end this subsection:

The quantities will be limited to those shown in Table 00226-1. The estimated quantity of Temporary Barrier is:

TABLE 00226-1

Stage/Phase	Location (STA to STA)	Temporary Barrier (foot)	Temporary Barrier, Minimum Deflection (foot)
NA	Road closure points at both ends of Bridge No. 06520	50	
Total Quantity		50	

SECTION 00231 - TEMPORARY ACCESS ROAD

Section 00231, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00231.00 Scope - This Work consists of constructing, maintaining, and removing temporary, unpaved access roads for the use of Contractor and Agency Equipment and personnel as needed, shown, or directed.

Materials

00231.11 Geotextile - Furnish subgrade geotextile, embankment geotextile, or riprap geotextile, at the Contractor's option. Geotextile shall meet the requirements of Section 02320, with documentation according to 02320.10(c).

00231.12 Geogrid - Subgrade reinforcement geogrid, if used, shall meet the requirements of Section 02320.

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00231.13 Road Material - Furnish crushed Aggregate Base, stone embankment, or other suitable Granular Material capable of supporting the weight of Equipment intended to use the temporary access road.

Construction

00231.41 Clearing - Clearing brush and vegetation for temporary access roads is allowed in the areas shown or where directed. Preserve and protect trees as shown or directed.

00231.42 Temporary Access Road - Construct temporary access roads to the width, grade, profile, and depth of base sufficient to support the weight of Equipment using the road. Install geotextile or geogrid prior to placement of road material.

00231.43 Not for Public Traffic - Do not direct or allow Public Traffic to use temporary access roads constructed according to this Section.

00231.45 Verification of Original Ground - Test the density of the original ground according to TM 158, in the presence of the Engineer, before beginning construction of the temporary access road and after removing it. If post-removal density testing indicates that the original ground has been weakened by construction activities, or the presence or use of the temporary access road, correct the deficient condition in an approved manner and at no additional expense to the Agency.

Maintenance

00231.60 Surface Maintenance - Maintain temporary access roads so that the road surfaces remain firm, smooth, free of ruts or standing water, and are graded to prevent concentrations of runoff water. Promptly remove accumulations of mud or debris.

Finishing and Cleaning Up

00231.70 General - When a temporary access road is no longer needed, do the following:

- Remove all Materials.
- Restore areas occupied by the temporary access road to the original ground contours or as directed.
- Apply permanent seeding to the area occupied by the temporary access road according to Section 01030.
- Dispose of excess materials according to 00330.41(a)(5).

Measurement

00231.80 Measurement - Except for permanent seeding, no measurement of quantities will be made for Work performed under this Section.

Permanent seeding will be measured according to 01030.80.

Payment

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00231.90 Payment - The accepted quantities of Work performed under this Section, except for permanent seeding work, will be paid for at the Contract Lump Sum amount for the item "Construct and Remove Temporary Access Road".

Payment will be payment in full for furnishing and placing all Materials, and for furnishing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

No separate or additional payment will be made for removing and disposing of temporary access road materials, erosion and sediment control or slope protection required for temporary cut or fill slopes, or for restoring the areas to original ground contours.

Permanent seeding Work will be paid for according to 01030.90.

SECTION 00237 - AGENCY- PROVIDED STAGING AREAS

Section 00237, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00237.00 Scope - This Work consists of utilizing Agency provided prospective or mandatory staging areas as the Contractor elects or as required for the construction of the Contract.

Locate staging area(s) in previously improved area(s) that have been paved or compacted and graveled, unless otherwise shown or approved.

00237.01 Prospective Staging Areas - If the Contractor elects not to utilize the listed prospective staging areas or elects to use other or additional staging areas, 00290.10 applies.

(a) Prospective Staging Area, Knights Bridge Park, Partial Parking Lot:

- **Location** - 45.2668, -122.7113
- **Access** - 0.2 mi west of Bridge No. 06520i
- **Available Area** - 1.0 acres

(b) Prospective Staging Area, Clackamas County Maintenance Yard:

- **Location** - Woodburn-Estacada Hwy (OR211) MP 15.41 (45.1608, -122.5359)
- **Access** - 2.1 mi east of intersection of OR211 and S. Mathias Road, Molalla
- **Available Area** - .5 acres

Delineate the limits of each site with temporary fence according to Section 00270 for the duration of the Project. Remove the fencing when the Project is complete and the site has been restored to preconstruction conditions. Do not stage Equipment, store Materials, or operate beyond the staging area boundary shown or delineated unless otherwise directed in writing.

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If used, restore the sites to preconstruction condition, as directed, by:

- Removing all imported fabric, rock, and other construction and non-combustible debris
- Removing all solid waste and hazardous materials, including spills, and dispose properly
- Removing work zone fencing
- Regrading smooth to drain and compact all graveled parking areas

00237.05 Pre-Work Meeting - Before occupying a staging area, attend a pre-work meeting at the staging area with the Engineer and the following owners or representatives:

Subsection	Source Name	Contact Names and phone numbers
00237.01(a)	Clackamas County	Stan Monte, Project Manager, 503-742-4678
00237.01(a)	Canby Utility	Jason Berning, Operations Manager, 503-266-1156 Jason Peterson, Operations Field Supervisor, 503-266-1156
00237.01(a)	Oregon Department of Fish and Wildlife	Ben Walczak, District Fish Biologist, 971-673-6013
00237.01(a)	AKS	Julie Wirth-McGee, Environmental Lead, 503-400-6028
00237.01(a)	Level3 Communications/Century Link	877-366-8344
00237.01(a)	Zayo FNA Abovenet	801-364-1063

00237.41 Restrictions and Protection of Resources - Comply with the following for all operations within the staging area operations:

- Protect cultural resources according to 00290.50.
- Protect migratory birds according to 00290.36(a).

00237.44 Staging Area Operations - The following apply during staging area operations:

- Develop a site-specific Pollution Control Plan for the staging area(s) according to 00290.30(b), and submit it to the Engineer at or before the pre-work meeting. In addition to the requirements of 00290.30(b) include the following in the Pollution Control Plan:
 - For materials capable of causing water pollution if discharged, locate storage facilities in an area that prevents spillage into waterways or Wetlands.

00237.47 Staging Area Vacating - Before vacating the staging area(s) the following apply:

- Remove all structures, construction debris and trash, and equipment from the staging area.

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- Remove solid waste and hazardous material from the site and dispose of properly. Provide documentary evidence of proper disposal and verify the amount of material removed.
- If a spill or dumping has occurred or if a spill or dumping is suspected to have occurred, 00290.20(3)(g) applies.
- Attend a post-work meeting at each staging area to evaluate staging area rehabilitation work with the Engineer.
- Return staging area to as good or better as initial condition prior to project start.

00237.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

00237.90 Payment - No separate or additional payment will be made for Work performed under this Section.

SECTION 00245 - TEMPORARY WATER MANAGEMENT

Section 00245, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00245.00 Scope - This Work consists of furnishing, installing, operating, maintaining, and removing temporary water management facilities in regulated Work areas.

00245.01 Abbreviations:

TWM - Temporary Water Management

TWMF - Temporary Water Management Facility

TWMP - Temporary Water Management Plan

00245.02 Definitions:

Temporary Water Management Facility - A TWMP that conveys water around or through Work areas, removes water from Work areas, and treats and discharges water at locations outside Work areas.

00245.03 Temporary Water Management Plan - The Agency TWMP is a concept plan. 28 Calendar Days before beginning Work in regulated Work areas, submit stamped Working Drawings of a Contractor-developed TWMP, according to 00150.35, based on either the Agency's concept plan or an independent plan that meets water quality and environmental guideline requirements and does not negatively affect neighboring properties or water rights.

Include the following minimum information in the TWMP:

- The sequence and schedule for dewatering, fish salvage, and re-watering. This sequence and schedule must include when to contact the Engineer prior to dewatering, fish salvage, and re-watering.

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- How the Work area is isolated from the active stream flow upstream, through, and downstream.
- How the stream flow is routed and conveyed around or through the isolated Work area.
- How fish passage is provided around the Work area, if required.
- How the isolated Work area is de-watered.
- How the pumped water is treated, if necessary, before it is discharged downstream.
- How river traffic will be accommodated through the site.
- Description of all construction stages, including appropriate contact points for each stage.
- A list of on-site backup Materials and Equipment.
- Provide the name of the TWM Subcontractor (if applicable) and Contractor's superintendent, and their 24-hour contact phone number 10 Days before the pre-Work meeting. If changes in the appointment of the TWM Subcontractor or Contractor's superintendent occur during the term of the Contract, provide written notice to the Engineer within 5 Calendar Days of the change.
- Calculations of water withdraw pump's capacity.
- Details of the proposed water intake screen used to isolate in-water Work area and how it meets the requirements of 00290.34(c)(3).

Any change to the TWMP during construction requires approval prior to implementation.

Obtain the Engineer's written approval before beginning Work in in-water Work areas.

00245.04 Pre-Work Meeting - Before beginning any TWM Work, attend a pre-work meeting at the Project Site with the Engineer no more than 8 Calendar Days prior to implementation of TWM. Required meeting attendees include:

- Engineer
- Contractor
- TWM Subcontractor (if applicable)
- Agency Environmental Coordinator or their appointed representative

The pre-Work meeting agenda typically includes the method of TWM, the TWMP, fish salvage plan and strategy, describe environmental risks, turbidity monitoring, energy dissipation, dewatering and re-watering plan and strategy, site clean-up expectations, and the circumstances under which contacting the Engineer is required.

Materials

00245.10 Materials - Furnish Materials meeting the following requirements:

Concrete Barrier	00820.11
Plastic Sheetting	00280.14(a)
Sandbags	00280.15(a)
Water Intake Screening.....	00290.34(c)

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Furnish pumps that are:

- Self-priming.
- Equipped with a variable speed governor.
- Equipped with a power source.
- Able to pump water that contains soft and hard solid.

Construction

00245.40 Fish Removal - Qualified Agency, ODFW, or ODOT consultant biologists will remove fish and other aquatic organisms from the isolation Work areas. Coordinate fish removal with the Engineer at least 28 Calendar Days before beginning Work in regulated Work areas. Allow access into the isolation Work areas before, during and after installation of the TWMF to perform the specified tasks as follows:

- **Before Installation of TWMF** - Before any in-water Work, including installing TWMF, qualified personnel will remove fish and other native aquatic organisms from within the proposed isolated Work area.
- **After Installation of TWMF** - After installing TWMF and the reduction of the water level through the isolated Work area has begun, qualified personnel will remove all fish and aquatic organisms as the water level is reduced. Do not completely de-water the isolation area until all fish and aquatic organisms have been removed.

00245.41 Installation - During installation of the temporary water management facility, maintain a downstream water flow rate of at least 50 percent of the upstream water flow rate.

00245.42 Operation - Operate temporary water management as follows:

- Protect fish and fish habitat according to 00290.34.
- Maintain and control water flow downstream of the isolated Work area for the duration of the diversion to prevent downstream de-watering.
- Clean, maintain and repair water intake screening to ensure adequate flows and protection of aquatic organisms.
- In the event of containment failure immediately notify the Engineer so arrangements can be made to remove fish and aquatic organisms from the isolation Work areas prior to the continuation of Work within the ordinary high water limits.

Maintenance

00245.60 Maintenance - Monitor water turbidity according to 00290.30(a)(8).

Finishing and Cleaning Up

00245.70 Removal - Prior to removal of the TWMF, obtain approval from the Engineer after completion of all Work within ordinary high water limits. Remove the TWMF and re-water and restore the stream flow. Maintain downstream water flow during removal of the facility. Staged or metered re-watering may be required and will be determined by the Engineer.

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Measurement

00245.80 Measurement - No measurement of quantities will be made for temporary water management facilities.

The estimated quantities of Materials required for the temporary water management facility are:

Temporary Water Management Facility:

Concrete Barrier	260 Feet
Plastic Sheeting	250 Square Yard
Sandbags	700 Each

Payment

00245.90 Payment - The accepted quantities of temporary water management facilities will be paid for at the Contract lump sum amount for the item "Temporary Water Management Facility".

Payment will be payment in full for furnishing and placing all Materials, and for furnishing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Turbidity monitoring will be paid for according to 00290.90.

No separate or additional payment will be made for TWMP, maintaining, operating, monitoring, moving, or removing the facility.

SECTION 00253 - TEMPORARY WORK ACCESS AND CONTAINMENT

Comply with Section 00253 of the Standard Specifications modified as follows:

00253.00 Scope - Add the following paragraph to the end of this subsection:

On Structure No. 06520, provide temporary work access and containment system(s) for Preparing and Coating Metal Structures as specified in Section 00594 completing the Work shown on spans 1 through 6. Provide temporary work access and containment system(s) for Bent Strengthening. Provide temporary work access to Bents for removal of structures and obstructions. Provide temporary work access to all bents for shear key retrofit, cable restrainers, and end bent seat extension. Provide temporary work access for steel girder post tensioning. Provide temporary work access for preparation of existing concrete surfaces and concrete repairs.

00253.01 General - Add the following paragraph to the end of this subsection:

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Work platforms and containment are allowed on the Bridge year round above the ordinary high water level. Conform to Section 00290.34(a) for access below the ordinary high water level.

Add the following subsection:

00253.09 Work Platform, Scaffolding and Containment Structural Design Requirements -

Design work platforms, scaffolding, and containment Structures for dead load, live load, and wind load. Obtain basic wind speed as shown on Standard Drawing TM671 and applied in the most critical direction. For Structures with fundamental frequency less than 1 Hz, design for wind loads accounting for structural dynamic effects.

Provide designs with a factor of safety of at least six for wire ropes and connecting hardware and at least four for all other components for containment Structure and work platform components.

Verify structural adequacy of the Bridge with added loading from containment Structures and work platforms using AASHTO *Standard Specifications for Highway Bridges*, Group II, III, V, and VI load combinations.

(a) Containment Structures Positioned Symmetrically on any Span - For containment structures positioned symmetrically on any span, design calculations for the bridge structural members are not required if all of the following conditions are satisfied:

- Total combined live load and dead load of all work platforms and containment Structures supported by the span, including all personnel, Equipment, Materials, and collected debris or water, does not exceed 40 pounds per square foot.
- Point loads do not exceed the magnitude nor encroach on the horizontal spacing provided as follows:
 - 4500 pounds at each point and point loads are spaced at least 6 feet in both horizontal directions. Point loads are applied to deck within one foot of a girder, cross beam, or diaphragm, or directly to a girder, cross beam or diaphragm.
 - 8000 pounds at each point and point loads are spaced at least 15 feet in both horizontal directions. Point loads are applied to deck within one foot of a girder, cross beam, or diaphragm, or directly to a girder, cross beam or diaphragm.
- For winds transverse to Roadway, total combined projected area of containments installed on span 1 does not exceed 1400 square feet if wind speeds are at or below 70 mph and does not exceed 750 square feet if wind speeds are between 70 mph and 95 mph.
- For winds transverse to Roadway, total combined projected area of containments installed on span 2 does not exceed 1475 square feet if wind speeds are at or below 70 mph and does not exceed 800 square feet if wind speeds are between 70 mph and 95 mph.
- For winds transverse to Roadway, total combined projected area of containments installed on span 3 does not exceed 2000 square feet if wind speeds are at or below

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70 mph and does not exceed 1100 square feet if wind speeds are between 70 mph and 95 mph.

- For winds transverse to Roadway, total combined projected area of containments installed on span 4 does not exceed 1100 square feet if wind speeds are at or below 70 mph and does not exceed 600 square feet if wind speeds are between 70 mph and 95 mph.
- For winds transverse to Roadway, total combined projected area of containments installed on span 5 does not exceed 1100 square feet if wind speeds are at or below 70 mph and does not exceed 600 square feet if wind speeds are between 70 mph and 95 mph.
- For winds transverse to Roadway, total combined projected area of containments installed on span 5 does not exceed 1000 square feet if wind speeds are at or below 70 mph and does not exceed 550 square feet if wind speeds are between 70 mph and 95 mph.
- For all spans, containment structures are not allowed when wind speeds are greater than 95 mph.
- For winds parallel to Roadway, total combined projected area of containments installed on all spans does not exceed 1000 square feet if wind speeds are at or below 70 mph and does not exceed 550 square feet if wind speeds are between 70 mph and 95 mph.
- For all spans, containment structures are not allowed when wind speeds are greater than 95 mph.

(b) Containment Structures Positioned Asymmetrically on any Span - For containment structures positioned asymmetrically on any span, design calculations for the bridge structural members are not required if all of the following conditions are satisfied:

- Total combined live load and dead load of all work platforms and containment Structures supported by the span, including all personnel, Equipment, Materials, and collected debris or water, does not exceed 40 pounds per square foot.
- Point loads do not exceed the magnitude nor encroach on the horizontal spacing provided as follows:
 - 4500 pounds at each point and point loads are spaced at least 6 feet in both horizontal directions. Point loads are applied to deck within one foot of a girder, cross beam, or diaphragm.
 - 8000 pounds at each point and point loads are spaced at least 15 feet in both horizontal directions. Point loads are applied to deck within one foot of a girder, cross beam, or diaphragm, or directly to a girder, cross beam or diaphragm.
- For winds transverse to Roadway, total combined projected area of containments installed on span 1 does not exceed 1400 square feet if wind speeds are at or below 70 mph and does not exceed 750 square feet if wind speeds are between 70 mph and 95 mph.
- For winds transverse to Roadway, total combined projected area of containments installed on span 2 does not exceed 1475 square feet if wind speeds are at or below 70 mph and does not exceed 800 square feet if wind speeds are between 70 mph and 95 mph.

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- For winds transverse to Roadway, total combined projected area of containments installed on span 3 does not exceed 2000 square feet if wind speeds are at or below 70 mph and does not exceed 1100 square feet if wind speeds are between 70 mph and 95 mph.
- For winds transverse to Roadway, total combined projected area of containments installed on span 4 does not exceed 1100 square feet if wind speeds are at or below 70 mph and does not exceed 600 square feet if wind speeds are between 70 mph and 95 mph.
- For winds transverse to Roadway, total combined projected area of containments installed on span 5 does not exceed 1100 square feet if wind speeds are at or below 70 mph and does not exceed 600 square feet if wind speeds are between 70 mph and 95 mph.
- For winds transverse to Roadway, total combined projected area of containments installed on span 5 does not exceed 1000 square feet if wind speeds are at or below 70 mph and does not exceed 550 square feet if wind speeds are between 70 mph and 95 mph.
- For all spans, containment structures are not allowed when wind speeds are greater than 95 mph.
- For winds parallel to Roadway, total combined projected area of containments installed on all spans does not exceed 1000 square feet if wind speeds are at or below 70 mph and does not exceed 550 square feet if wind speeds are between 70 mph and 95 mph.
- For all spans, containment structures are not allowed when wind speeds are greater than 95 mph.

(c) High Wind Events - If removal of containment walls is used to comply with projected area limits at high wind speed, removal is required when actual wind speed or predicted wind speed exceeds allowable limits. 24-hour weather watch is required during non-work times. Predicted wind speeds are obtained from:

forecast.weather.gov/MapClick.php?lat=45.24658&lon=-122.77098&unit=0&lg=english&FcstType=graphical

Actual wind speeds are measured using a handheld wind speed measuring instrument with certified accuracy 3% of reading.

Add the following subsection:

00253.44 Marine Traffic Restrictions -

The Molalla River channel beneath Bridge No. 06520 may not be closed to rafters and tubers. Provide a minimum 20 foot horizontal clear width between existing column(s) and any work isolation measures and temporary work platforms to accommodate recreational river traffic. Elevated work platforms must provide a minimum 6 foot vertical clearance from the water surface to the temporary structure(s).

A single section of floatable river defined to be 2 feet in depth and 12 feet in width extending 20 feet upstream and downstream of the bridge rails shall remain open to recreational river users.

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Add the following subsection:

00253.46 Loads Placed on Structure Roadway, Shoulders, and Sidewalks - When a Traffic Lane, Shoulder or sidewalk is closed the following loading may be applied to the Structure(s):

When a Traffic Lane or Shoulder closures are allowed on Structure No.06520:

- Equipment, vehicles, and Materials may be placed in the closed:
 - Traffic Lane
 - Shoulder
- Equipment, vehicles, and Materials may NOT be placed in or on:
 - Active Traffic Lane
 - Sidewalk
- No more than one vehicle operating under D.O.T. overload permit will be allowed within the closed area on each span of the Structure.

The combined effect of all loads including those identified in 00253.09 in the closed area(s) will be limited to the lesser of:

- 5500 pounds in any single square foot;
- 12,000 pounds in any 100 square feet of surface area of the Structure;
- total of 80,000 pounds for each span of the Structure;

SECTION 00280 - EROSION AND SEDIMENT CONTROL

Comply with Section 00280 of the Standard Specifications modified as follows:

00280.00 Scope - Replace the paragraph that begins "This Work also consists of providing temporary ..." with the following paragraph:

This Work also consists of providing temporary erosion and sediment control (ESC) measures and furnishing, installing, moving, operating, maintaining, inspecting, and removing ESC throughout the Project area according to the Standard Drawings, the erosion and sediment control plan (ESCP), the Specifications, or as directed, until the site is permanently stabilized. Included also is the monitoring of weather, of stormwater and receiving waters, the reporting of monitoring observations, the reporting of corrective actions (when necessary) and the updates and revisions of the ESCP, including ESCP cover sheet, necessary to keep it representative of current site conditions and compliant with the 1200-CA permit if applicable.

Delete the paragraph that begins "When contaminants, pollutants or hazardous materials..."

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Add the following paragraph to the end of this subsection:

The Agency's NPDES 1200-CA permit is applicable to the Project.

00280.04 Erosion and Sediment Control Plan on Agency Controlled Lands - Replace the bullet that begins "Information required under 1200-CA..." with the following bullet:

- Information required under 1200-CA permit, if applicable.

Add the following paragraphs to the end of this subsection:

Fill in required information listed on the ESCP cover sheet prior to beginning of construction and submit revised cover sheet to Engineer 10 Days before the preconstruction meeting. Monitor weather, stormwater runoff, and receiving waters, and document monitoring observations. Immediately upon discovery, notify Engineer if a 1200-CA permit non-compliance occurs. Provide updates and revisions of the ESCP, including ESCP cover sheet, necessary to keep it representative of current site conditions and compliant with the 1200-CA permit.

When contaminants, pollutants or hazardous materials are discovered in the Project location in soils or groundwater comply with 00290.20(f) and, provide an environmental management plan (EMP) as required by the 1200-CA permit if applicable.

00280.16(k) Active Treatment System – Add the following sentence to the end of this subsection:

Obtain approval of the active treatment system from DEQ prior to use.

00280.30 Erosion and Sediment Control Manager –

Add the following bullet to the beginning of the bullet list under "The ESCM duties include:"

- Be present at the Project Site during all ground disturbing activities.

Replace the bullet that begins "Monitor rainfall, snow melt and runoff ..." with the following bullet:

- Visually monitor rainfall, snow melt and runoff at the Project Site.

Replace the bullet that begins "Monitor water quality in receiving streams in ..." with the following bullet:

- Visually monitor water quality in receiving streams in the vicinity of the Project Site.

Replace the bullet that begins "Monitor water in sediment traps receiving ..." with the following bullet:

- Monitor the pH of the water in sediment traps receiving runoff from soils amended with cementitious material for acidity or alkalinity.

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00280.41(f) Hauling Material – Replace this subsection, except for the subsection number and title, with the following:

Cover loads carrying soil or sediment which may generate dust. Haul saturated loads in water tight beds or drain saturated loads prior to leaving the Project Site.

00280.41(g) Underground Injection Controls (UIC) – Replace this subsection, except for the subsection number and title, with the following:

Do not allow storm water from work area to enter Underground Injection Control (UIC) inlets, UIC catch basins or UIC wells.

00280.48 Emergency Materials - Add the following paragraphs after the paragraph that begins "Provide, stockpile, and protect...":

Provide and stockpile the following emergency Materials on the Project site:

Item	Quantity
Sediment Barrier, Type 3	240 Feet
Sediment Barrier, Type 4	50 Each
Straw Bale	20 Each

When emergency materials are used, restock emergency materials within 48 hours of use.

00280.62 Inspecting and Monitoring – Delete the paragraph that begins “Inspect the Project Site...”.

00280.62(a) Inspection - Replace the paragraph that begins "Perform site inspection, complete..." with the following paragraph:

Inspect the Project Site and all ESC devices for Effective Function and potential erosion or sediment movement and complete all applicable parts of the ODOT Erosion Control Monitoring Form, and submit the form to the Agency as follows:

00280.64(a) Corrective Action Timelines – Delete the bullet that begins “If completion of corrective action is not feasible...”

Delete the bullet that begins “Provide a schedule for clean-up and corrective actions...”

Delete the bullet that begins “Provide all corrective action documentation and photographs...”

00280.64(b) Corrective Action Documentation – Add the following bullets to the beginning of the bullet list:

- If completion of corrective action is not feasible within 24 hours, document the reasons why the time line cannot be met.

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- Provide a schedule for clean-up and corrective actions that restores Effective Functioning as soon as feasible. If schedule cannot be met document the reasons for the delay.
- Provide all corrective action documentation and photographs to Agency within 24 hours of completion of corrective actions.

SECTION 00290 - ENVIRONMENTAL PROTECTION

Comply with Section 00290 of the Standard Specifications modified as follows:

00290.10 Staging and Disposal Sites – Replace the paragraph that begins “Locate staging areas...” with the following paragraph:

Locate staging areas and disposal sites in previously improved or disturbed sites, including existing Roadways, pullouts, turnouts, parking lots, and storage yards that have been compacted, and graveled or paved, unless otherwise specified in Section 00237 or approved, in writing, by the Engineer.

Add the following subsection:

00290.30(a)(7) Water Quality:

- Do not discharge water contaminated by pollutants including sediment, drilling fluids and waste, concrete, grout, or water contained within a work area isolation, into any waters of the State or U.S. or conveyances draining thereto until it has been treated using Materials such as those listed in 00280.15 or 00280.16 or by pumping to a vegetated upland location. Do not allow Project discharges to increase the concentration of any pollutant in the receiving water to a level that exceeds the limits prescribed by OAR 340-041.
- Do not use permanent stormwater quality treatment facilities to treat construction runoff unless prescribed by an ESCP approved under Section 00280.
- If construction discharge water is released using an outfall or diffuser port, do not exceed velocities more than 4 feet per second, and do not exceed an aperture size of 1 inch.
- Implement containment measures adequate to prevent pollutants from entering waters of the State or U.S. Such pollutants include but are not limited to construction and demolition materials, waste spoils, fuel or petroleum products, detergents, silt, welding slag and grindings, concrete sawcutting by-products and sandblasting abrasives.
- Do not allow curing concrete or grout to be submerged within waters of the State or U.S. less than 24 hours after placement, except within work area isolation. Do not end-

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dump riprap into the waters of the State or U.S. Place riprap from above the ordinary high water line.

- Monitor weather and streamflow forecasts and conditions to anticipate high flows that may unintentionally inundate any portion of the Project Site.
- If high flow conditions occur or are anticipated to occur that may unintentionally inundate any portion of the Project Site, remove all potentially affected Equipment, Materials, and debris from the potential inundation area. Cease Work in the area until water recedes and the risk of further high water events passes. The Engineer retains the authority to temporarily halt or modify the Work in case of excessive turbidity or damage to natural resources.
- If Work in or around waters of the State or U.S. violate permit conditions or any requirement of this subsection, stop such Work and notify the Engineer.

Add the following subsection:

00290.30(a)(8) Meter Turbidity Monitoring - In addition to the requirements of 00280.62(c) to monitor the receiving stream to identify water quality issues, during Work in waters of the State or U.S., implement best management practices (BMPs) to minimize turbidity, and monitor turbidity using a turbidity meter that has been maintained and calibrated according to the manufacturer's specifications and according to the following:

- Measure upcurrent and downcurrent turbidity at two-hour intervals and perform work based on turbidity measurements according to the following:
 - Take upcurrent samples at a location representative of background turbidity approximately 100 feet from the work area.
 - Take downcurrent samples at a location approximately 100 feet from the work area at approximately mid-depth of the water body and within any visible turbidity plume.
 - If the downcurrent reading is less than 5 nephelometric turbidity units (NTU) higher than the upcurrent reading, continue to Work and take readings every two hours.
 - If the downcurrent reading is greater than or equal to 5 and less than 30 NTU higher than the upcurrent reading, modify work procedures and repair or upgrade BMPs, continue Work, and continue to take readings every two hours. If after four hours the downcurrent reading is still greater than or equal to 5 NTU higher than the upcurrent reading, stop all work in water and repair or upgrade BMPs. Resume work in water only after the downcurrent reading is less than 5 NTU above the upcurrent reading.
 - If the downcurrent reading is greater than or equal to 30 and less than 50 NTU higher than the upcurrent reading, modify work procedures, repair or upgrade BMPs and continue Work. If, at the subsequent two-hour reading, the downcurrent reading is still more than 30 NTU higher than the upcurrent reading, stop all work in water and repair or upgrade BMPs. Resume work in water only after the downcurrent reading is less than 5 NTU above the upcurrent NTU reading.
 - If the downcurrent reading is 50 NTU or more higher than the upcurrent reading, stop all work in water, repair or upgrade BMPs, and inform the Engineer. Resume work in water only after the downcurrent reading is less than 5 NTU above the

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upcurrent NTU, as determined by continued readings made no more than two hours apart.

- Document all turbidity monitoring observations on form 734-2755, "Turbidity Monitoring Report", or another form approved by the Engineer. Submit reports to the Engineer weekly during work in water and keep copies of the reports at the Project Site.
- Meter turbidity monitoring may be temporarily suspended if all of the following conditions are met:
 - Temporary water management and work area isolation measures have been installed and are functioning as designed.
 - The Engineer, after consultation with DEQ, has authorized the suspension of turbidity monitoring. The Engineer will provide information to be documented on the turbidity monitoring form, including the date of the DEQ authorization and the name of the DEQ employee providing the authorization.
- Resume the turbidity monitoring protocol if Work during a temporary suspension of meter turbidity monitoring causes a release of a visible turbidity plume.

00290.32 Noise Control - Add the following paragraph to the end of this subsection:

Review Canby Municipal Code Chapter 9.48 / Clackamas County Code Chapter 6.05 which describes noise control regulations. Obtain and be responsible for necessary permits described in Canby Municipal Code Chapter 9.48 / Clackamas County Code Chapter 6.05. Comply with the applicable noise control requirements for Project Work.

00290.34 Protection of Fish and Fish Habitat - Add the following paragraph:

Meet with the Agency Biologist, Resource Representative, Engineer, and inspector on site, before moving equipment on-site or beginning any work, to ensure that all parties understand the locations of sensitive biological sites and the measures that are required to be taken to protect them.

00290.34(a) Regulated Work Areas - Add the following to the end of this subsection:

The regulated work area is the area at or below the ordinary high water (OHW) elevation shown on the plans.

Perform work within the regulated work area only during the in-water work period. The in-water work period is from July 15 to August 31.

The total volume of material filled or discharged into waters of the State and waters of the U.S. shall not exceed 2,122 cubic yards.

Submit a schedule to complete all work within the regulated work area within the in-water work period at least 10 Days prior to the preconstruction conference.

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00290.34(b) Prohibited Operations - Add the following to the end of this subsection:

- Allow entry within the regulated work area.
- Install steel piles greater than 24 inches in diameter or H-pile larger than designation HP 24 within the regulated work area.

Add the following subsection:

00290.34(c) Aquatic Species Protection Measures Required by Environmental Permits:

(1) General Requirements:

- Do not install fish ladders (for example: pool and weirs, vertical slots, fishways) or fish trapping systems.
- Do not apply surface fertilizer within 50 feet of any stream channel.

Use heavy equipment as follows:

- Choice of equipment must have the least adverse effects on the environment (for example: minimally sized, low ground pressure).
- Secure absorbent material around all stationary power equipment (for example: generators, cranes, drilling equipment) operated within 150 feet of wetlands, waters of the State, waters of the U. S., drainage ditches, or water quality facilities to prevent leaks, unless suitable containment is provided to prevent spills from entering waters of the State or waters of the U.S.
- Do not cross directly through a stream for construction access, unless shown or approved. If shown or approved, cross perpendicular to the stream and do not block stream flow. When a crossing is no longer needed, completely remove the crossing and restore the soils and vegetation to the original condition.
- Store fuel and maintain all equipment in staging areas that are at least 150 feet away from any waters of the State, waters of the U.S., or storm inlet or on an impervious surface that is isolated from any waters of the State, waters of the U.S., or storm inlet.
- If temporary access roads are needed within 150 feet of any body of water, use existing routes unless new routes are shown or approved.
- Before beginning work on temporary access routes that are not shown, submit a proposal to the Engineer for approval.

(2) Work Area Isolation - Provide work isolation according to Section 00245. Provide safe passage around or through the isolated work area for adult and juvenile migratory fish unless passage did not previously exist.

(3) Water Intake Screening - Install, operate, and maintain fish screens on each water intake used for project construction, including pumps used to isolate an in-water work

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area. When drawing or pumping water from any stream, protect fish by equipping intakes with screens having a minimum 27 percent open area and meeting the following requirements:

- Perforated plate openings shall be 3/32 inch or smaller.
- Mesh or woven wire screen openings shall be 3/32 inch or smaller in the narrowest direction.
- Profile bar screen or wedge wire openings shall be 1/16 inch or smaller in the narrow direction.

Choose size and position of screens to meet the following criteria in Table 00290-1:

Table 00290-1

Type	Approach Velocity ¹ (Ft./Sec.)	Sweeping Velocity ² (Ft./Sec.)	Wetted Area of Screen (Sq. Ft.)	Comments
Ditch Screen	≤ 0.4	Shall exceed approach velocity	Divide max. water flow rate (cfs) by 0.4 fps	If screen is longer than 4 feet, angle 45° or less to stream flow
Screen with proven self-cleaning system	≤ 0.4	–	Divide max. water flow rate (cfs) by 0.4 fps	–
Screen with no cleaning system other than manual	≤ 0.2	–	Divide max. water flow rate (cfs) by 0.2 fps	Pump rate 1 cfs or less
¹ Velocity perpendicular to screen face at a distance of approximately 3 inches ² Velocity parallel to screen				

Provide ditch screens with a bypass system to transport fish safely and rapidly back to the stream.

(4) Site Restoration - Restore damaged streambanks to a natural slope, pattern, and profile suitable for establishment of permanent woody vegetation unless precluded by pre-project conditions (for example: natural rock substrate):

- Replant all damaged streambanks before the first April 15 following construction.
- If use of large wood, native topsoil, or native channel material is required for the site restoration according to the roadside development plans, stockpile all large wood, native vegetation, weed-free topsoil, and native channel material displaced by construction. Cut trees or large wood and trees into pieces of no less than 20 feet in length, or as shown on the roadside development plans or as directed. Stockpiled native wood and vegetation remain the property of the Agency.
- Stabilize all disturbed soils, including obliteration of temporary access roads, following any break in work unless construction will resume in 4 Calendar Days.

(5) Piling Removal - Remove temporary or permanent piling according to the following:

- Dislodge the piling with a vibratory hammer, whenever feasible.
- Once loose, place the piling onto the construction barge or other appropriate dry storage site.
- When piles are not completely removed, locate each unremoved pile and submit the locations to the Agency. Submitted pile locations shall be accurate to within 10 feet of the actual pile location.

a. Non-Treated Piling - Use the following methods to remove non-creosote piling:

- If a pile in uncontaminated sediment cannot be removed or breaks, cut or push the pile or stump off at least 3 feet below the surface of the sediment and cover with a cap of clean, native substrates that match surrounding streambed materials.

(6) Injured Fish Notification - If a dead or injured fish is found in the project area, immediately notify the Agency. If the injured fish is in a location where further injury or stress may take place, attempt to move the fish to a safer location, if one is available, near the capture site while keeping the fish in the water and reducing its stress as much as possible. Do not disturb the fish after it has been moved. If the fish is dead or dies while being captured or moved, save the fish and any tags. The Agency will notify appropriate regulatory agencies about the injured or dead fish and provide additional direction to the Contractor.

00290.36(a) Migratory Birds - Add the following to the end of this subsection:

Do not disturb migratory bird nesting habitat (shrubs, trees, and structures), or clear vegetation from March 1 to September 1 of each year without prior written approval from the Engineer. Notify the Engineer, in writing, a minimum of 10 Calendar Days prior to starting activities that could harm nesting birds.

00290.41 Protection of Waters of the U.S. or State - Add the following to the end of this subsection:

Permits have been obtained for this project from the US Army Corps of Engineers (Corps) and the Department of State Lands (DSL). Keep a copy of Corps and DSL permits at the project site during construction. Changes to the project that may increase the amount of fill placed or material removed in waters of the U.S. or State, or the acreage of waters impacted are not authorized. The following waters of the U.S. or State are present and have been determined to be unavoidable as indicated in Table 00290-2:

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Table 00290-2

Impact Waters of the US or State	Removal Volume (cu yds.)	Fill Volume (Cu yds)	Location	Duration of Impact (Temporary or Permanent)	Area of impact (Acres)
Molalla River	1,450	1,450	Knights Bridge Rehabilitation Project	Permanent	0.33
Molalla River	2	2	Off-Site Streambed Enhancement	Permanent	0.0004
Molalla River	670	670	Knights Bridge Rehabilitation Project	Temporary	0.07

Add the following subsection:

00290.42 Work Containment Plan - A Work Containment Plan (WCP) is required on this Project for bridge rehabilitation activity(ies).

Develop and submit a WCP for approval at least 28 Calendar Days prior to mobilization for bridge rehabilitation activity(ies). Maintain a copy of the WCP on the Project Site at all times during construction, readily available to employees and inspectors. Ensure that all employees comply with the provisions of the WCP. Design the WCP to avoid or minimize disturbance to protected features (sensitive cultural or natural resources, regulated work areas, aquatic life or habitat in regulated work areas) related to Contractor operations.

Before developing the WCP, meet with Agency to review the Contractor's activities that require the WCP to ensure that all parties understand the locations of protected features to be avoided and the measures needed to avoid and protect them.

Notify the Engineer at least 10 Calendar Days before beginning work access or containment construction activities.

The Agency reserves the right to stop Work and require the Contractor to change the WCP methods and Equipment before any additional Contract Work, at no additional cost to the Agency, if and when, in the opinion of the Agency, such methods jeopardize sensitive cultural or natural resources, regulated work areas, or aquatic life or habitat in regulated work areas.

The WCP shall identify how the Contractor's construction operations will protect regulated features during mobilization, construction, maintenance, and demolition. Include a narrative describing compliance with Section 00290 as related to construction, operation, and demolition activities specified in Section 00253.

Design, construct, maintain, and remove temporary work access and containment systems according to Section 00253.

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00290.90 Payment - Add the following paragraph(s) to the end of this subsection:

The work containment plan will be paid for at the Contract lump sum amount for the item "Work Containment Plan".

Payment will be payment in full for furnishing all Materials, Equipment, labor, and Incidentals necessary to complete the Work as specified. Payment includes providing and updating the Work Containment Plan.

The accepted quantities of turbidity monitoring will be paid for at the Contract lump sum amount for the item "Turbidity Monitoring".

Payment for turbidity monitoring will be payment in full for furnishing and placing all Materials and for furnishing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

No separate or additional payment will be made for work zone fencing.

SECTION 00296 - PAINT AND PAINTED MATERIALS

Section 00296, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00296.00 Scope - In addition to the requirements of Section 00290, remove lead, chromium, and cadmium based paints, and materials coated with lead, chromium, and cadmium based paints, according to the following Specifications.

Lead, chromium and cadmium based paints coat the metal on the rails, girders, and secondary members on the Knights Bridge Road Bridge No. 06520. Analysis of paint samples collected from this Bridge detected the concentrations of total lead, cadmium, and chromium in the metal paint indicated in Table 00296-3 below:

Table 00296-1

Sample Location and Material	Total Lead (mg/kg)	Total Chromium (mg/kg)	Total Cadmium (mg/kg)
Green/Orange paint on bridge rails (Representative of paint on girders)	16,000	2,300	ND
Brown paint on bridge guardrails	4,300	39.0	45.0

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ND = not detected above the laboratory detection limit.

Toxicity Characteristic Leaching Procedure (TCLP) analysis of bulk painted metal samples, representative of the waste that will be generated during demolition, detected the concentrations of TCLP lead, chromium, and cadmium indicated in Table 00296-2 below:

Table 00296-2

Sample Location and Material	TCLP Lead (mg/L)	TCLP Chromium (mg/L)	TCLP Cadmium (mg/L)
Green/Orange paint on bridge rails (Representative of paint on girders)	47	<0.20	NA
Brown paint on bridge guardrails	NA	NA	NA

ND = not detected above the laboratory detection limit.

The August 2022, Shannon & Wilson, report, titled Hazardous Material Survey Report documenting these analyses, is available from the Engineer.

Unless otherwise tested, assume that all coatings contain lead, chromium, and cadmium and handle paint and painted materials accordingly during removal, resurfacing, and demolition.

00296.03 Submittals - Submit the following documents:

- A job specific written compliance program, according to 29 CFR 1926.62(e)(2), at least 10 Calendar Days before the pre-construction conference. When applicable, include compliance procedures for cadmium and chromium VI, according to 29 CFR 1926.1127 and 29 CFR 1926.1126.
- Modifications to the written compliance program within 7 Calendar Days of the modifications.
- Current employee training certificates and medical surveillance information before beginning work that disturbs paint containing lead, cadmium or chromium.
- Within 48 hours of completing or receiving them:
 - Disposal and recycling facility permits.
 - Transport manifests and bill-of-ladings.
 - All reuse, recycling, and disposal receipts.
 - All analytical test results.

00296.04 Documentation - Include paint and painted materials management and planned reuse, recycling, and disposal information in the pollution control plan. Obtain Engineer approval for the specific reuse, recycling, and disposal methods for all materials before beginning demolition work.

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Complete, sign and pay all required fees for all required permits, manifests, and bill-of-lading forms for transport and disposal of the paint and painted materials.

Labor

00296.30 Personnel Qualifications - Provide employees trained in lead awareness, according to 29 CFR 1926.62(l), and also trained according to 29 CFR 1926.1126(j)(2) for chromium and 29 CFR 1926.1127(m)(4) for cadmium, during demolition of painted portions of the Structures.

Construction

00296.40 Handling - Minimize employee exposure to the metals contained in the paint. Provide containment that prevents release of paint chips to the environment. Do not remove or separate paint from painted substrates, unless required to accomplish repair activities.

00296.43 Painted Metal Management - Reuse, recycle, or dispose of painted metal according to any of the following:

- **Reuse by Others** - Provide or sell painted non-structural scrap metal to the following:
 - Provide to ODOT for use on other projects.
 - Provide to ODOT Maintenance Section.
 - Provide or sell to other government Agencies.
 - Provide or sell to contractors for their reuse.

Obtain the recipients signature on the attached disclaimer form, acknowledging their awareness that the scrap metal contains lead, chromium, and cadmium based paint before giving them possession.

- **Recycle at Recycling Facility** - Transport the painted scrap metal along with the paint analytical results to a recycling facility. Obtain the recipients signature on the attached disclaimer form, acknowledging their awareness that the scrap metal contains lead, chromium and cadmium based paint.

00296.46 Hazardous Waste Paint Management - When hazardous waste paint is separated from its substrate, store all the separated paint waste in labeled, sealed, watertight containers and handle the hazardous waste according to 00290.20(d).

Measurement

00296.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

00296.90 Payment - No separate or additional payment will be made for Work performed under this Section. Payment will be included in payment made for the appropriate items under which this Work is required.

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Attachment A
Lead, Chromium, and Cadmium Based Paint Acknowledgement Form

[Contractor] _____
[Bridge Identification] _____
[Description of Scrap Metal] _____

_____ [Recipient] acknowledges that they are aware that metal and materials received from _____ [Contractor] on _____ [Date(s)] may contain lead, chromium, or cadmium based paint. Recipient further acknowledges that it is aware of the risk to human health and the environment posed by exposure to lead, chromium and cadmium based paint. All storage, use, sale, and disposal of materials containing lead, chromium or cadmium based paint and any removal of lead, chromium, or cadmium based paint from the materials by Recipient will be conducted in compliance with all applicable Federal and State statutes and regulations, including but not limited to 40 CFR 262 through 265 and OAR Chapter 340, Divisions 100 through 106. Recipient acknowledges that they are solely responsible for any liability or damages resulting from the storage, use, sale, and disposal of the materials and removal of lead, chromium or cadmium based paint by Recipient and Recipient will indemnify and hold harmless the Contractor and the Oregon Department of Transportation from any such claims of liability or damages.

_____ [Signature]
_____ [Title]
_____ [Date]

SECTION 00305 - CONSTRUCTION SURVEY WORK

Comply with Section 00305 of the Standard Specifications.

SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Comply with Section 00310 of the Standard Specifications modified as follows:

00310.00 Scope – Replace this subsection with the following subsection:

00310.00 Scope – This work consists of removing and disposing of man-made materials and cleaning up areas they occupy.

Remove existing piles, existing concrete abutment, concrete footing, concrete boat ramp panels, concrete, asphalt fill debris, steel reinforcement, CMP culverts, and timber debris as shown.

00310.41(a) General – Add the following sentence to the end of this subsection:

Perform pile, concrete abutment, concrete footing, concrete boat ramp panels, steel reinforcement, CMP culverts, and timber debris removal according to Section 00290.

SECTION 00320 - CLEARING AND GRUBBING

Comply with Section 00320 of the Standard Specifications modified as follows:

00320.40(c) Tree and Vegetation Trimming - Replace the bullet that begins “Trim branches obstructing sight...” with the following bullet:

- Trim and remove branches, vegetation, or other materials obstructing sight distance at intersections or impairing visibility of signs, signals, illumination, and other TCD.

SECTION 00330 - EARTHWORK

Comply with Section 00330 of the Standard Specifications modified as follows:

00330.03 Basis of Performance - Add the following paragraph to the end of this subsection:

Perform all earthwork under this Section except for Extra for Selected Native Backfill Material on the excavation basis.

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00330.41(a)(4) Excess Materials - Replace this subsection, except for the subsection number and title, with the following:

If the quantities of excavated materials are greater than required to construct embankments and to do all filling and backfilling, the Contractor may use the remaining materials to uniformly widen embankments or to flatten slopes in a manner satisfactory to the Engineer. Place all excess material above the Ordinary High Water elevation, as shown.

00330.41(a)(5) Waste Materials - Replace this subsection, except for the subsection number and title, with the following:

Unless otherwise specifically allowed and subject to the requirements of Section 00280, dispose of materials, classed as waste materials in 00330.41(a)(3), outside and beyond the limits of the Project and Agency controlled property according to 00290.20. Do not dispose of materials on Wetlands, either public or private, or within 300 feet of rivers or streams.

00330.92 Kinds of Incidental Earthwork - Add the following bullets to the end of the bullet list:

- Excess material used to widen embankments or flatten slopes according to 00330.41(a)(4).

SECTION 00350 - GEOSYNTHETIC INSTALLATION

Comply with Section 00350 of the Standard Specifications.

SECTION 00390 - RIPRAP PROTECTION

Comply with Section 00390 of the Standard Specifications.

SECTION 00501 - BRIDGE REMOVAL

Comply with Section 00501 of the Standard Specifications modified as follows:

00501.00 Scope - Add the following paragraph(s) to the end of this subsection:

Conduct a survey of the existing Bent 3, 4 and 5 footings to locate all rebar protruding above existing grade of the Molalla River, Knights Bridge Rd Br. No 06520. Remove existing rebar protruding from existing Bent 3, 4, and 5 footings as shown.

Add the following subsection:

00501.02 Plans - Plans of the existing Structure are available from the Engineer. Prints of these plans are available upon request.

Add the following subsection:

00501.03 Submittals - Submit unstamped bridge removal plans according to 00150.35 10 Calendar Days before beginning removal work.

Include the following information in the submittal:

- Removal sequence, including contractor staging and traffic staging.
- Detailed schedule of bridge removal work.
- Type of equipment that will be used, including size and capacity.
- Equipment location during removal operations.

Do not begin bridge removal work until the bridge removal plans have been approved.

00501.40 Removal and Disposal – Add the following to the end of this subsection:

Cut steel reinforcing bars protruding from footings as shown a minimum of 1 inch behind the final surface. Fill the void left by removal of the steel reinforcing bar with mortar. Match the color of the mortar to the existing concrete surface as nearly as practicable.

SECTION 00504 - CONCRETE DECK SURFACE PREPARATION

Comply with Section 00504 of the Standard Specifications modified as follows:

00504.01 Definitions: Replace this subsection with the following subsection:

00504.01 Definitions and Acronym:

(a) Definitions:

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Bonded Membrane - A polymer or spray-on waterproofing membrane system that is fully or partially bonded to the concrete deck.

Class 1 Preparation - Deck surface preparation for a membrane or overlay system on an existing bridge deck, where the existing concrete is sound, and minimal concrete removal is required to reach sound concrete.

Class 2 Preparation - Deck surface preparation in areas that are determined by the Engineer to have Unsound Concrete that requires concrete removal beyond the limits of Class 1 Preparation.

Class 3 Preparation - Deck surface preparation in areas where concrete removal extends through the full thickness of the deck.

Fabric Membrane - A rolled or sheet waterproofing membrane system that is installed below or between layers of asphalt Pavement.

Unsound Concrete - Delaminated or otherwise deteriorated concrete identified by a deck delamination survey or during surface preparation operations.

(b) Acronym:

ICRI - International Concrete Repair Institute

00504.21(b) Scarifying Equipment – Replace the paragraph that begins “Furnish power-operated diamond grinding...” with the following paragraph:

Furnish power-operated diamond grinding, micro-milling, or shot blasting scarifying Equipment capable of uniformly removing the existing surface to depths required.

00504.21(b)(3) Shot-blasting - Replace this subsection, except for the subsection number and title, with the following:

Furnish mono-directional or bi-directional shot blast machines with single or multiple blast wheels that conform to EPA air pollution requirements by containing dust and steel abrasive media and that can prepare concrete surfaces according to *ICRI Technical Guideline No. 310.2R*, to the project specific Concrete Surface Profiles (CSP) profile. Furnish shot type S-330 or larger diameter. If the Equipment is not equipped for simultaneous bi-directional blasting, make separate passes in opposite directions to ensure equal cleaning on all sides of the exposed aggregate.

00504.21(b)(4) Hydroblasting – Delete this subsection.

00504.40(f) Structural Overlay Removal - Replace the paragraph that begins “Remove the existing Structural Overlay to the parent ...” with the following paragraph:

Remove the existing Structural Overlay to the parent deck surface. Use Equipment that can sufficiently remove the overlay without exceeding 1/2 inch of parent deck removal.

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00504.41(b) Class 1 Preparation – Replace this subsection, except for the subsection number and title, with the following:

- Roughen the existing concrete surface to an exposed aggregate surface texture meeting the following volumetric profiles and ICRI CSP:
 - Polymer overlays (MPCO's and PPC's) and membranes require minimum profile depth of 1/16 inch and CSP 5.
 - Structural cementitious overlays (SCO's and HESC's) require a minimum profile depth of 1/8 inch and CSP 7.
- Determine profile depth according to ASTM E965 (standard volumetric test). Perform four tests per 500 square yards of concrete surface prepared, with a minimum of four tests per Day. Visually verify CSP profile with ICRI CSP chips.
- Protect visible reinforcing steel and reinforcing steel where the Plans show it to be within 1/2 inch of the surface.
- When not in conflict with this Specification, follow surface preparation requirements in ICRI Technical Guideline No. 310.2R.

00504.42(a) PPC, MPCO, and Membrane Installations – Replace this subsection with the following:

00504.42(a) PPC, MPCO, Deck Seal, and Membrane Installations - Prepare all surfaces that are to be in contact with the membrane, deck seal or overlay, including vertical contact areas, as follows:

- Clean the entire surface by shot-blasting within 24 hours of placing the membrane or overlay.
- Sweep the area magnetically to remove metal residue.
- Blow clean the surfaces with compressed air.
- Immediately after surface preparation is complete cover the prepared deck with clear plastic, overlapping it to prevent contaminants from construction vehicles or other sources from contacting the deck. Maintain the covering until PPC, MPCO, deck seal or membrane installation.
- If the prepared surface becomes contaminated by spills, rain, or other contaminant before placing the membrane or overlay, prepare the surface again according to this Subsection.

00504.42(b) SCO Overlays – Replace the bullet that begins “Clean the entire surface by shot-blasting...” with the following bullet:

- Clean the entire surface by shot-blasting. Shot-blasting is not required on final surfaces that were prepared by chipping or jack hammering.

SECTION 00510 - STRUCTURE EXCAVATION AND BACKFILL

Comply with Section 00510 of the Standard Specifications modified as follows:

00510.04(a) Defined Shoring Systems – Replace the sentence that begins “Select Shoring systems...” with the following sentence:

Select Shoring systems for construction from the list of defined Shoring systems provided in Section 16.3.26 of the ODOT GDM.

Add the following to the end of this subsection:

Construct shoring at the location(s) listed below:

1. Between Bent 2 and Bent 3 in order to facilitate the excavation required to place Keyed Riprap as shown. Length of shoring is expected to be approximately 95 ft measured along a line perpendicular to the bridge centerline as shown.
2. Between Bent 4 and 5 in order to facilitate the excavation required to place Keyed Riprap as shown and to protect in place the spread footing at Bent 5. Length of shoring is approximately 95 ft measured along a line perpendicular to the bridge centerline as shown.
3. Between Bent 1 and 2 as needed in order to facilitate the excavation required to place Keyed Riprap as shown and to stabilize the soil uphill from Bent 2. Length of shoring is approximately 95 ft measured along a line perpendicular to the bridge centerline as shown.

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SHORING DESIGN CHECKLIST

Instructions - This shoring design checklist was developed to facilitate the design, review, and erection of shoring to be used for Agency construction projects. This checklist is intended to act as a reminder to design or check for specific important aspects of this construction. It is not a substitute for plan and/or design criteria or specification requirements.

The Checklist is to be completed by the shoring design engineer. Answer every question. Attach to the Checklist an explanation of any negative responses.

Submit this Shoring Design Checklist for each stage and phase of the project, along with the shoring design summary, Working Drawings and calculations according to 00510.04.

	YES	NO	N/A
A. General			
1. Are the shoring Working Drawings and supporting calculations prepared, stamped, and signed by an engineer registered to practice in the state of Oregon?	_____	_____	_____
2. Are the temporary shoring installation plans, construction sequence, and removal plan compatible with the project construction staging/phasing?	_____	_____	_____
B. Design Standards			
1. Does the shoring design comply with standards identified in ODOT GDM 16.3.26.3 and related sections?	_____	_____	_____
2. Is the design standard and edition identified in the shoring design calculations?	_____	_____	_____
C. Loading			
1. Have the design loads, including special loading conditions (e.g. cranes, stockpiles, etc.), used for shoring design of all members been noted in the design calculations?	_____	_____	_____
2. Have the appropriate load and resistance factors or factors of safety on the shoring system been identified, for all applicable load combinations or load cases?	_____	_____	_____
3. If public traffic is near or directly above the shoring system, has a minimum traffic live load surcharge of 250 psf been applied?	_____	_____	_____
4. Have the loads from actual construction equipment and not less than 250 psf been included in the shoring system design?	_____	_____	_____

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5. Have the construction loads for different stages of construction been considered and included in the calculations?

6. Have the effects of any construction activities adjacent to the shoring system on the stability/performance of the shoring system been addressed in the shoring design (e.g., excavation or soil disturbance in front of the wall or slope, excavation dewatering, vibrations and soil loosening due to soil modification/construction activities)?

7. Have earth pressure diagrams been included?

8. Does the shoring design consider the effect of water saturated soil pressure acting on the full height of the shoring?

D. Geotechnical and Structural Analysis

1. Has internal stability been evaluated?

2. Has eccentricity/overturning stability been evaluated?

3. Has sliding been evaluated?

4. Has overall/global stability been evaluated?

5. Has bearing capacity been evaluated?

6. Have displacement constraints or other performance objectives of the shoring system been identified and evaluated?

7. Has each stage of the shoring system construction been evaluated to carry traffic and construction loads and ensure internal and external stability through the construction and loading sequence?

8. Are the allowable stress and the calculated stress listed in the summary for each different shoring member?

9. Have steel beams been checked for bending, shear, web crippling and buckling of the compression flange?

10. Have connections for all phases of construction and removal been designed for all interim loading?

11. Has buckling, bracing strength, and stiffness been evaluated for all compression members?

E. Materials

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1. Are all soil, rock, and other material properties used for the design of the shoring system provided and consistent with GDM and the subsurface field and lab data? _____
2. Are timber grades noted on shoring drawings and in accompanying calculations? _____
3. Are the minimum lumber dimensions shown in the calculations and noted on the Working Drawings? _____
4. Are steel structural shapes, bolts, connections, and plates identified by ASTM number on the shoring Working Drawings and in the calculations? _____

F. Shoring Working Drawings

1. Is the field verified ground topography above and below the shoring wall shown? _____
2. Are all existing, adjusted or new utilities, structures, and “no work zones” in proximity to the proposed shoring shown on the shoring Working Drawings and is protection of these items addressed? _____
3. Are horizontal and vertical clearance requirements identified and shown on the shoring Working Drawings? _____
4. Are plan view, elevation and cross sections drawn to scale, with dimensions defining location and size of the temporary shoring, components, and excavation limits? _____
5. Are the magnitude and location of all loads, equipment and personnel that will be supported by the shoring shown or noted on the shoring Working Drawings? _____
6. Has a dewatering plan been shown? _____
7. Have all connections been detailed? _____
8. Has bracing been detailed? _____

G. Testing and Monitoring

1. If a “yes” response to No. D-6, is a monitoring plan provided to verify adequate performance of the shoring system throughout the design life of the system? _____
2. Has a load testing program been provided for soil nails, tiebacks, or other applicable elements of the shoring system? _____

Design Engineer of Record Signature

Date

SECTION 00530 - STEEL REINFORCEMENT FOR CONCRETE

Comply with Section 00530 of the Standard Specifications modified as follows:

00530.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Concrete Inserts	02513.35
Deformed Bar Reinforcement	02510.10
Deformed Bar Reinforcement (Stainless Steel)	02513.10
Dowels	02510.50
Dowels (Stainless Steel).....	02513.50
Epoxy Coated Reinforcement.....	02510.11
Galvanized Coating	02510.30
Headed Bar Reinforcement	02510.25
Mechanical Splices.....	02510.20
Mechanical Splices (Stainless Steel)	02513.20
Ties and Supports	02510.60
Ties and Supports (Stainless Steel).....	02513.60
Welded Wire Reinforcement.....	02510.40

00530.41(a) Fabric - Replace this subsection with the following subsection:

00530.41(a) Welded Wire Reinforcement - If welded wire reinforcement is shipped in rolls, straighten it into flat sheets before placing.

00530.41(b) Ties and Supports – Replace the bullet that begins “When stainless steel rebar is specified...” with the following bullet:

- When stainless steel reinforcing is specified, use stainless steel ties and supports meeting the requirements of 02513.60.

Delete the bullet that begins “Tie stainless steel reinforcement ...”.

Delete the bullet that begins “Support stainless steel reinforcement...”.

Replace the bullet that begins "Do not allow direct contact between stainless ..." with the following bullet:

- Do not allow stainless steel reinforcement to directly contact ASTM A1035 CS reinforcement. Do not allow stainless steel reinforcement or ASTM A1035 CS reinforcement in direct contact with other reinforcement with a different type of metal. When stainless steel or ASTM A1035 CS reinforcing or dowels are located near other reinforcing with a different type of metal, use nylon or polyethylene spacers to maintain a minimum 1 inch clearance between the two metals and bind them with nylon cable ties. Where insufficient space exists to maintain this minimum, either bar may be sleeved with a continuous polyethylene or nylon tube extending at least 1 inch in each direction past the point of closest contact between the two dissimilar bars.

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Add the following bullets to the end of the bullet list:

- When ASTM A1035 CS reinforcing is specified, use epoxy coated ties and supports meeting the requirements of 02510.60(a).

00530.43 Splicing Welded Wire Fabric – Replace this subsection with the following subsection:

00530.43 Splicing Welded Wire Reinforcement - Overlap sheets of welded wire reinforcement as shown or provide edge and end laps not less than one mesh in width. Securely fasten sheets at the ends and edges according to 00530.41.

00530.80(a) Lump Sum - Add the following to the end of this subsection:

The estimated quantity of reinforcement is:

Structure Number	Uncoated Reinforcement Quantity (Pound)				
	Grade 60	Grade 80	Grade 100 ASTM A615	Grade 100 ASTM A706	Grade 100 ASTM A1035 ()
Molalla River, Knights Bridge Rd Br. No. 06520	900				

00530.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

The accepted quantities of reinforcement will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Reinforcement, Grade_____	Lump Sum or Pound
(b) Reinforcement, ASTM A1035_____	Lump Sum or Pound
(c) Coated Reinforcement, Grade_____	Lump Sum or Pound
(d) Coated Reinforcement, ASTM A1035_____	Lump Sum or Pound
(e) Stainless Steel Reinforcement, Grade _____	Lump Sum or Pound
(f) Welded Wire Reinforcement, Grade_____	Lump Sum or Pound

In items (a), (c), (e), and (f) the grade of reinforcement will be inserted in the blank.

In items (b) and (d) the ASTM chromium content, CS, CM, or CL will be inserted in the blank.

Item (a) and (b) include fabricating and placing uncoated reinforcement as specified.

Item (c) and (d) include placing epoxy coated reinforcement as specified.

Item (e) includes fabricating and placing stainless steel reinforcement as specified.

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Item (f) includes fabricating and placing welded wire reinforcement as specified.

Payment for reinforcement will be made when the reinforcement is incorporated into the concrete.

Payment will be payment in full for furnishing and placing all Materials, and for furnishing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

No separate or additional payment will be made for clips, wire, separators, wire chairs, or other Material used in fastening the reinforcement in place.

SECTION 00534 - SEISMIC RESTRAINTS

Section 00534, which is not a Standard Specification, is included for this Project by Special Provision.

Description

00534.00 Scope - This Work consists of providing seismic restraint devices at Molalla River, Knights Bridge Rd Br. No. 06520. Seismic restraint devices consist of Cable Restrainers and associated hardware. The specific type and location of seismic restraint devices are as shown.

Materials

00534.10 Cable Restrainers - Furnish cable restrainers meeting the requirements of Sections 00560 and 00594.

00534.21 Cable Assembly Testing - Select an independent laboratory to test cable assemblies. Cable assemblies include wire rope, socket connection, threaded rod, pin bars, nuts and washers as shown. Provide approximately 3 foot segments of cable with stud attachments at each end. Test the cable assembly to failure in tension. The tested cable assembly must develop a minimum strength of 68 kips and failure must not occur in the connecting parts. Galvanize the cable and stud attachments before testing. All cable segments must meet the testing requirements for cable assemblies to be accepted. If any cable segment fails to meet these requirements, revise the connection details and prepare and test three new cable segments.

Construction

00534.40 Steel Coring - Installation of longitudinal restrainers require drilling through sections of existing girder flanges. After each drilling operation, ensure that all removal debris is cleared away from the existing girder. Repair, prepare, and coat exposed steel surfaces according to 00594.

00534.41 Concrete Coring - Installation of longitudinal restrainers require drilling through sections of existing concrete bents and concrete girder webs. Use concrete core cutting

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Equipment to bore the holes. Use non-destructive testing methods to locate existing reinforcing bars prior to drilling holes. Do not damage or otherwise affect the Bridge, concrete adjacent to the holes, or any other Bridge element. After each drilling operation, ensure that all removal debris is cleared away from the existing bent or girder web.

Measurement

00534.80 Measurement - The quantities of seismic retrofit items will be measured on the unit basis.

Payment

00534.90 Payment - The accepted quantities of seismic retrofit items will be paid for at the Contract unit price, per unit of measurement for the following items:

Pay Item

Unit of Measurement

Cable Restrainers Each

Cable Restrainers includes field-verifying dimensions and installing cable assemblies.

Payment will be payment in full for placing all Materials, and for furnishing all Equipment, labor and Incidentals necessary to complete the Work as specified.

Payment for furnishing all Structural Steel Maintenance (Cable Restrainer System) including Girder Brackets and Restrainer Plates will be paid for according to 00560.90.

SECTION 00535 - POST-INSTALLED ANCHOR SYSTEMS

Comply with Section 00535 of the Standard Specifications modified as follows:

00535.40(a) General - Add the following sentence to the beginning of the first paragraph:

Use non-destructive testing methods to locate existing reinforcing bars prior to drilling holes. Do not damage or otherwise affect the Bridge, concrete adjacent to the holes, or any other Bridge element.

Add the following subsection:

00535.45(c) Anchor Test Summary - Test the installed anchors according to Table 00535-2 and Section 00165.

Table 00535-2

Str.	Sheet	Anchor	Demo.	Prod.
------	-------	--------	-------	-------

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#	#	System (Mech/ Resin)	Type (bolt/ rebar)	Size	Grade	Sustained Tension (yes/no)	Test (yes/no)	Test (yes/no)
0652 0	B09	Resin	Rebar	#5	60	No	Yes	Yes
0652 0	B11	Resin	Rebar	#5	60	No	Yes	Yes

Replace anchors that fail at no additional cost to the Agency.

SECTION 00540 - STRUCTURAL CONCRETE

Comply with Section 00540 of the Standard Specifications modified as follows:

Add the following subsection:

00540.51(b) Curing Concrete Bridge Decks – Replace the bullet that begins “Maintain a continuous water...” with the following bullet:

- Except for HPC(IC), maintain a continuous water cure of the concrete surface for 14 Days. For HPC(IC), maintain a continuous water cure of the concrete surface for 7 Days.

00540.80(a)(1) Lump Sum - Add the following to the end of this subsection:

The estimated quantity of concrete is:

Bridge No. 06520

Type and Class	Quantity (Cu. Yd.)
General Structural Concrete, Class 3000	6

FALSEWORK DESIGN CHECKLIST

Instructions - This checklist was developed to facilitate the design, review, and erection of falsework to be used for Oregon Department of Transportation bridge construction projects. This checklist is intended to act as a reminder to design or check for specific important aspects

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of this construction. It is not a substitute for plan and/or design criteria or specification requirements.

The Checklist is to be completed and signed by the Falsework Design Engineer. Answer every question. Attach to the Checklist an explanation of any negative responses.

Submit the Checklist according to 00540.41(a).

	YES	NO	N/A
A. Contract Plans, Specifications, Permits, Etc.			
1. Are the falsework plans prepared, stamped and signed by an engineer registered to practice in Oregon?	_____	_____	_____
2. Have three complete sets (five if railroad approval is required) of the design calculations been included with the falsework drawings submittal?	_____	_____	_____
3. Are falsework plans in compliance with the requirements of the construction plans general notes?	_____	_____	_____
4. Are falsework plans in compliance with contract plan structural details?	_____	_____	_____
5. Are falsework plans in compliance with the requirements of the Oregon Standard Specifications for Construction, subsection 00150.35?	_____	_____	_____
6. Are all existing, adjusted or new utilities in proximity with the proposed falsework shown on the falsework plans and is protection of these utilities addressed?	_____	_____	_____
7. Are clearance requirements satisfied and shown on the falsework plans?	_____	_____	_____
8. For construction in or over navigable waters have all requirements for construction of falsework that are called for in the Coast Guard Permit been incorporated in the falsework design?	_____	_____	_____
9. Has possible damage from traffic been considered in the falsework design?	_____	_____	_____
10. Has damage from stream drift been considered in the falsework design?	_____	_____	_____
11. Is the concrete placing sequence shown and is it consistent with the contract plans?	_____	_____	_____

B. Foundation Requirements

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1. Are driven falsework piling provided as called for on the contract plans?

 - a. Is a minimum pile tip elevation or penetration indicated on the drawings?

 - b. If timber falsework piles are specified, are the recommended order lengths sufficient to virtually eliminate the possibility of pile splices?

 - c. Is a detailed static pile capacity analysis included in the calculations?

 - d. If lateral loads are applied to the piling by equipment, dead loads, flowing water, or drift, is a detailed lateral load analysis included in the calculations?

 - e. When piling are in an active waterway, have the potential effects of scour on axial and lateral pile support been addressed in the calculations?

 - f. Does the proposed falsework pile hammer meet the minimum field energy requirements as listed in 00520.20(d)(2)?

 - g. Will a driving criteria graph [FHWA Gates Equation, in 00520.42(b)] plotting blow count versus stroke for an acceptable pile hammer be provided for the project inspector?

2. Is falsework supported on spread footings or mud sills?

 - a. Are the spread footing elevations shown on the drawings?

 - b. Has a rational method for determining the ultimate bearing capacity of the foundation materials been presented and described in the calculations?

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- c. Have the soil parameters used in calculating the ultimate bearing capacity been listed and confirmed by the designer?

- d. Has an appropriate Factor of Safety been used for calculating the allowable bearing capacity of the foundation materials?

- e. Are spread footing settlement estimates included in the calculations?

- f. Have effective stresses been used in the calculations, when applicable?

- g. When spread footings are founded near the top of a slope or in a slope, have the ultimate bearing capacity calculations been modified accordingly?

- h. When spread footings may be subjected to flowing water, have the potential effects of scour on ultimate bearing capacity been addressed in the calculations?

C. Loads

- 1. Are the magnitude and location of all loads, equipment and personnel that will be supported by the falsework shown and noted on the falsework plans?

- 2. Has the mass of specific equipment units to be supported by the falsework been included in the calculations or on the falsework plans?

- 3. Is the deck finishing machine supported in a manner that will not impose load on concrete forms except deck overhang brackets?

- 4. Are design loads and material properties used to determine design stresses for each different falsework member shown on the falsework plans?

- 5. Is the worst loading and member property condition, rather than the average condition, used to obtain design loads?

- 6. Are deck forms for concrete box girders supported from the girder stem and not from the bottom slab?

- 7. Are diaphragm loads or other concentrated loads included in the analysis of supporting beams?

- 8. If sloping structural members exert horizontal forces on the falsework, is bracing or ties used to resist these loads?

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D. Allowable Stresses

1. Has the method used for falsework design of all members except for manufactured assemblies been noted in the design calculations? _____
2. Are manufactured assemblies identified as to manufacturer, model, rated working capacity and ultimate capacity? _____
3. Is the allowable stress and the calculated stress listed in the summary for each different falsework member, except for manufactured assemblies? _____

E. Timber Falsework Construction

1. Are timber grades consistent with material to be delivered to the construction site, and noted on falsework drawings, and in accompanying calculations for all timber falsework material? _____
2. If "rough" lumber is specified for falsework by the falsework designer are the actual lumber dimensions used in calculations shown? _____
3. If plywood spans are governed by the strength of the plywood, are the allowable stress and the calculated stress shown on the submitted calculations? _____
4. If plywood spans are governed by the allowable spacing of supporting joists, are the allowable and the proposed spacing shown on the falsework plans? _____
5. Have timber stringers been checked for bending, shear, bearing stresses, and $1/240$ of the span length deflection? _____
6. Are joists identified as being continuous over 3 or more spans when they are not analyzed as simple spans? _____
7. Have stringers and cap beams been checked for bearing stresses perpendicular to the grain as well as for bending and shear stresses? _____
8. Have posts been checked as columns as well as for compression parallel to the grain? _____

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F. Steel Falsework Construction

- | | | | | |
|----|--|-------|-------|-------|
| 1. | Are steel structural shapes and plates identified by ASTM number on the falsework plans and in the calculations? | _____ | _____ | _____ |
| 2. | Have steel beams been checked for bending, shear, web crippling and buckling of the compression flange? | _____ | _____ | _____ |
| 3. | Has horizontal plane bracing been shown where required to limit compression flange buckling? | _____ | _____ | _____ |

G. Deflections and Settlement

- | | | | | |
|----|---|-------|-------|-------|
| 1. | Is falsework deflection for concrete dead load shown on the plans for all falsework spans? | _____ | _____ | _____ |
| 2. | Is falsework deflection from concrete dead load limited to 1/240 of the span length for all falsework spans? | _____ | _____ | _____ |
| 3. | Do stringers supporting cast-in-place concrete compensate for estimated camber? | _____ | _____ | _____ |
| 4. | For beam spans with cantilevers, has the upward deflection of the cantilevers due to load placed on the main spans been investigated? | _____ | _____ | _____ |
| 5. | Are provisions shown for taking up falsework settlement? | _____ | _____ | _____ |

H. Compression Members, Connections and Bracing

- | | | | | |
|----|--|-------|-------|-------|
| 1. | Has general buckling been evaluated for all compression members? | _____ | _____ | _____ |
| 2. | Has bracing been provided at all points of assumed support for compression members? | _____ | _____ | _____ |
| 3. | Was bracing in each direction considered in establishing the effective length used to check post capacity? | _____ | _____ | _____ |
| 4. | Is bracing strength and stiffness sufficient for the intended purpose? | _____ | _____ | _____ |
| 5. | If temporary bracing is required during intermediate stages of falsework erection, is it shown on the falsework plans? | _____ | _____ | _____ |
| 6. | Have all connections been designed and detailed? | _____ | _____ | _____ |
| 7. | Are web stiffeners required on steel cap beams to resist eccentric loads? | _____ | _____ | _____ |

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8. Are wedges required between longitudinal beams and cap beams to accommodate longitudinal slope or to reduce eccentric loading? _____
9. Has the width to height ratio of wedge packs been verified to fall within the limits given in the special provisions? _____
10. If overhang brackets are attached to girder webs, has the need for temporary bracing to prevent longitudinal girder distortion been investigated? _____
11. Have beams and stringers with height/width ratios greater than 2.5:1 been checked for stability? _____
12. Have sloping falsework members that exert horizontal forces on the falsework been braced or tied to resist these loads? _____
13. If beams supporting cast-in-place concrete have cantilever spans, have the falsework plans been noted to require the main spans be loaded before loading the cantilever spans? _____
14. Have timber headers set on shoring towers been checked for eccentric loads, and for shear and bending stresses produced by the eccentricity? _____

I. Highway and Railroad Traffic Openings (For falsework over or adjacent to highway or railroad traffic openings.)

1. Do falsework plans satisfy construction clearances shown on the contract plans? _____
2. Are posts designed for 150% of the calculated vertical loading and increased or readjusted for loads caused by prestressing forces? _____
3. Are mechanical connections 2,000 pounds minimum capacity shown at the bottom of posts to footing connections? _____
4. Are mechanical connections 1,000 pounds minimum capacity shown at the top of the post to cap connections? _____
5. Are beam tie downs 500 pounds minimum capacity shown for all beams? _____
6. Are 5/8 inch or larger diameter bolts used at connections for timber bracing? _____
7. Are temporary erection and removal bracing shown? _____

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J. Additional Requirements for Railroad Traffic Openings

- | | | | | |
|----|--|-------|-------|-------|
| 1. | Do falsework plans show collision posts as shown on the contract plans? | _____ | _____ | _____ |
| 2. | Do posts adjacent to the openings have a minimum section modulus of? | | | |
| | a. steel - 9.5 cubic inches | _____ | _____ | _____ |
| | b. timber - 250 cubic inches | _____ | _____ | _____ |
| 3. | Are soffit and deck overhang forming details shown? | _____ | _____ | _____ |
| 4. | Are falsework bents within 20 feet of centerline of the track sheathed solid between 3 feet and 17 feet above top of rail with 5/8 inch thick minimum plywood and properly blocked at the edges? | _____ | _____ | _____ |
| 5. | Is bracing on the bents within 20 feet of the centerline of the track adequate to resist the required assumed horizontal load or minimum 5,000 pounds, whichever is greater? | _____ | _____ | _____ |

_____ Designer's Signature	_____ Date
-------------------------------	---------------

SECTION 00542 - CONCRETE REPAIR

Section 00542, which is not in the Standard Specifications, is included in this Project by Special Provision.

Description

00542.00 Scope - This Work consists of locating and repairing damage concrete and reinforcement in Structures, and providing mortar or resin buildup over shallow reinforcement.

00542.01 Definitions:

Damaged Concrete - Concrete that is spalled or delaminated due to corroded reinforcement or metal appurtenances such as bearing devices, drains, and conduits; concrete that is debonded from corroded reinforcing bars; concrete with near-surface rock pockets; unsound or delaminated existing patches; and concrete that has been drilled, excavated, or removed during prior maintenance work or during the Work of this Contract.

Hand Patch - Installing hand-troweled repair mortar in concrete cavities up to 0.50 square foot surface area.

Pumped Repair - Installing Pumped Repair mortar in concrete cavities greater than 0.50 square foot surface area.

Saturated Surface Dry Condition - Surface condition where hardened concrete is thoroughly saturated with water, but any free water has been removed from the surface.

Shallow Rebar - Steel reinforcement with 1/2 inch or less of concrete cover.

00542.02 Submittals - Submit the following at least 21 Calendar Days before beginning concrete repair Work according to 00150.37. Within 21 Calendar Days after receipt of submittals, the Engineer will review the submittals and designate them in writing as "approved", "approved as noted", or "returned for correction".

(a) Concrete Repair Mortar - Submit before concrete repair work the following:

- A description of all relevant constituents and properties of the Material. Data published by manufacturer is acceptable unless certifications of the Material characteristics are required by the Specifications.
- For prepackaged products, the manufacturer's certification that the contents include cement and Aggregate and do not include silica fume, fly ash, or any other porosity-reducing admixture. Provide the proportion (by weight) of portland cement to Sand according to the provisions of 00165.35.
- The Specifications subsection with which each repair mortar complies.

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- If proposing alternative repair mortar to those specified in 00542.10, test data demonstrating compliance with 00542.10.

For alternate repair mortar submit three 4 by 8-inch cylinders of repair mortar cast in the presence of the Engineer using the proposed mix proportions, admixtures, and mixing and application Equipment, at least 10 Calendar Days before starting concrete repair Work. Cast and cure the cylinders according to AASHTO T 23 or R 39.

Submit records of mix proportions and which mix design was used in each repair location. Maintain and provide records that are complete enough to be able to match repaired areas with the mix records.

(b) Concrete Repair Procedure - Prior to beginning Work under this Section, submit a concrete repair procedure that includes the following:

- Manufacturer's specifications and operating instructions for all Equipment.
- Details of each step to accomplish the Work.
- Steps to regularly maintain quality control of all newly applied mortar.
- Plan to maintain records of verification of proportion (by weight) of Sand to portland cement and quantity of any additives for all mortar mixed on-site.
- Plan to maintain records identifying the mix design for each repaired area.

(c) Repair Damaged Reinforcing Bars - Submit a plan for accomplishing reinforcing bar repair that includes the following:

- Welder certifications according to AWS D1.4
- Pre-approved welding procedure specification (WPS) or procedure qualification record / welding procedure specification (PQR/WPS)
- Detailed procedure for electrode control measures
- Detailed procedure for achieving, maintaining, and monitoring pre-heat and inter-pass temperatures.

00542.03 Pre-welding Conference - Before beginning concrete repair Work, meet with the Contractor's supervisory personnel, concrete repair Subcontractor's supervisory personnel, the Contractor's certified welding inspector (CWI), and the Engineer at a mutually agreed upon time. The pre-welding conference includes discussion of the Contractor's quality control responsibilities, documentation requirements, welding procedures and Equipment, and demonstration of welder skills.

Materials

00542.10 Patch Material:

(a) Pumped Repair Mortar - Provide one of the following mortars with the required admixture as specified in 00542.15.

- Pumped BASF MasterEmaco S 440MC (formerly BASF LA Repair Mortar).

Alternative repair mortar conforming to the following:

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- Non-polymer flowable micro-concrete
- Suitable for pumping
- At least 4,000 psi 28-Day compressive strength
- “Low” potential for cracking and no cracking in 28 Calendar Days when tested according to ASTM C1581, including Appendix
- Electrical resistivity in the range of 2,000 to 20,000 ohm-cm

Submit proposed alternative Materials for approval according to 00542.02.

(b) Hand Patch Material - Provide Hand Patching Materials according to 02015.20 or 02015.30. Observe QPL remarks and follow the manufacturer's recommendation for application.

00542.11 Non-conductive Resin - Non-conductive resin is acceptable for filling cavities of 0.05 square feet or less and for resin buildup over Shallow Rebar in sound concrete. Furnish a non-conductive resin from the category “Resin Bonded Anchor System” of the QPL, mixed at a 1:1 ratio with clean abrasive blasting Material.

00542.12 Abrasive - Furnish clean, dry, non-metallic grit abrasive Material with no mineral constituents that break down and remain on the surface in visible quantity. Furnish hard angular shaped abrasives from 16 - 30 mesh.

00542.13 Water - Furnish water according to Section 02020.

00542.14 Reinforcement and Added Steel - Furnish ASTM A706 Grade 60 uncoated reinforcing bars conforming to 02510.10. Furnish uncoated, ungalvanized welded wire fabric conforming to 02510.40. Other metal embedded in the mortar to facilitate concrete replacement shall be uncoated and ungalvanized.

00542.15 Admixtures - Use only admixtures approved by the Engineer.

If using admixtures to reduce the water-cement ratio, or to retard or accelerate the development of strength, use only admixtures compatible with the mortar and at the rate specified by the manufacturer.

Labor

00542.30 Welders - Provide certified welders and welding inspectors according to AWS D1.4.

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00542.40 Work Access, Containment, and Disposal - Provide Work access and debris containment according to Section 00253.

Dispose of waste according to 00290.20.

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00542.41 Locating and Marking - Locate and mark the following:

- All concrete having visible spalling or delamination due to corrosion of reinforcement or metal appurtenances such as bearing devices, drains, and conduits. Include within the repair boundaries all Damaged Concrete at the edges of spalls.
- All visible unsound patches of Material.
- All concrete that is visibly loose, or that becomes dislodged or loosened when struck with a 16-ounce masonry hammer or by other approved technique.

Verify the presence of steel with a metal detector.

The Contractor is advised that concrete containing Aggregate larger than 2 inches can cause false readings. If no steel is present, readings in such areas should be disregarded.

Investigate all spots of rust visually and with a metal detector to determine if a metallic object is present. If a metal object is present mark the location.

In areas where spalling or delamination is not visually detectable, but is indicated by sounding, use a rebar locator and mark reinforcing bars and their minimum concrete cover. Remove a 4 inch wide (perpendicular to the bar) exploration area centered over the bar. The exploration boundary area shall have an initial length of 8 inches if splitting cracks are present directly over and parallel to reinforcing bar and suggest a potential for corrosion; remove as much splitting crack length as needed until clean bar is exposed. If rust scale or pitting is found on the exposed reinforcing bar, or if the remaining concrete is separated from the bar, mark the Damaged Concrete area for removal.

Do not use internal angles less than 45 degrees in defining the repair boundaries. Make all repairs at least 2 inches wide in each direction. Within these restrictions, mark boundaries such that repair areas can be efficiently sawed and excavated.

Determine and mark the location and extent of each repair excavation. Do not begin concrete removal until location and extent have been verified by the Engineer.

The Engineer will perform verification surveys of selected sections of the Work and determine the final quantity of repairs. Do not begin excavation until the Engineer has completed the verification surveys.

00542.42 Concrete Removal - Sawcut the boundaries of concrete to be removed, to a depth just missing the reinforcing bars with less than 1/2 inch concrete cover or to a minimum of 1/2 inch, whichever is less. Sawcuts shall not overrun at the corners of the marked boundaries. Sawcutting is not required if the Contractor can consistently provide, by another technique, a minimum 1/2 inch deep excavation surface that is uniformly perpendicular to the original concrete surface along the marked boundary.

Remove concrete within the marked boundaries with high-pressure waterjet blasting Equipment, pneumatic hammers, chipping guns, manual picks and chisels, or other Equipment approved by the Engineer. Do not use pneumatic hammers heavier than a nominal 15-pound class. Remove concrete in such a way that removal of sound concrete beyond established boundaries is kept to a minimum. When working around reinforcing bars, avoid loosening the reinforcement or fracturing the concrete around it beyond the repair area.

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Remove all Damaged Concrete within the marked boundaries to the depth of sound concrete. In areas where the reinforcing bar lacks bond with the existing concrete, continue to excavate to 1/2 inch beyond the depth of the reinforcing bar. In areas where it is difficult to determine if the reinforcing bar lacks bond with the existing concrete do not excavate beyond the depth of the reinforcing bar if a 4 inch wide exploration area shows the reinforcing bar to be free of rust scale or pitting and the reinforcing bar is not separated from the remaining concrete.

The depth of concrete damage, due to corrosion, in any member is not expected to be substantially greater than 1/2 inch beyond the depth of the reinforcing bar.

Do not remove sound concrete over Shallow Rebar.

00542.43 Repair Damaged Reinforcement Bars - Repair reinforcing bar showing 50 percent or greater section loss according to the following:

- Remove all Damaged Concrete
- Remove sound concrete as necessary so that there is a minimum of 3/4 inch clearance between the concrete and splice bars over entire length of repair
- Blast-clean all exposed reinforcing steel and concrete
- If feasible, place splice bars so as to allow 1/2 inch of concrete cover without raising the concrete surface
- Perform all weld splicing according to ANSI/AWS D1.4, "Structural Welding Code - Reinforcing Steel". Since the carbon content of existing reinforcement is unknown, assume that preheating is required under ANSI/AWS D1.4. Limit the temperature of reinforcing bar at concrete interface to 500 °F or less, verified using an infrared thermometer.
- Remove any additional concrete that cracks or spalls during welding
- Keep the existing spliced bars in place and avoid gouging and loosening reinforcing bar or damaging sound concrete outside of splice areas
- Keep the splice bar in the proper position during placement of concrete cover

Repair round bars with new splice bars the same size as the original bars. Repair square bars with new round splice bars with a diameter equal to the thickness of the square bars.

00542.44 Shallow Rebar in Sound Concrete - If Shallow Rebar exists in sound concrete and passes the sounding test, no concrete repair is necessary.

00542.45 Shallow Rebar in Damaged Concrete - Where directed, treat prefabricated mesh and other closely spaced shallow metals in the same manner as Shallow Rebar in Damaged Concrete. Place additional cover Material over Shallow Rebar in Damaged Concrete according to the following:

(a) Mortar Buildup over Shallow Rebar - Place additional mortar as needed to achieve at least 1/2 inch of cover over Shallow Rebar repairs.

(b) Resin Buildup over Shallow Rebar - In areas where additional buildup is not feasible, or where buildup would detract from the aesthetic appearance of the Structure,

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provide additional cover using non-conductive resin conforming to 00542.12. Apply the resin in 2 inch wide strips over the Shallow Rebar.

00542.46 Surface Preparation - Abrasive-blast or water-blast all concrete surfaces that are to receive additional mortar cover or patches, to remove all debris, loose concrete, concrete pulverized during removal, scale, and loose rust. Blast exposed reinforcing bars according to SSPC Standard SP6 "Commercial Blast Cleaning" or equivalent procedure. Do not allow prepared surfaces to remain exposed more than 36 hours before placing repair mortar.

Prepare surfaces that are to receive additional mortar or resin cover with a surface profile according to International Concrete Repair Institute (ICRI) Guideline 310.2R-2013 surface profile CSP 6 (1/8 inch surface profile).

Provide mechanical anchors for concrete surfaces that are to receive more than 1 inch of repair mortar and have reinforcing bar spacing greater than 9 inches. Install anchors by drilling hole diameter per manufacturer's specification with 1 inch deep embedment on a 9 inch maximum grid in the concrete substrate.

00542.48 Patch Installation:

(a) Forms - Provide smooth-surfaced form Materials. Provide adequate support and bracing of forms to prevent deflection under the weight and pressure of new mortar, and to prevent vibration damage to mortar during setting and curing. Leave forms in place for a minimum of 3 Days after mortar placement.

Provide watertight form Materials and a watertight form system to prevent loss of water during presoaking and repair mortar placement. Incorporate enough pumping ports to ensure consistent placement and enough vent holes or vent tubes to allow air to escape extreme surface irregularities and remote cavities. Limit port spacing to prevent mortar segregation.

Provide forms that can readily be removed and reinstalled for presoaking, flushing, blowdown, and for verification of Surface Saturated Dry Condition.

(b) Pre-soak - Saturate the substrate concrete for at least 24 hours before application of repair mortar. Use either a watertight form kept full of water; saturated burlap or foam Material packed inside the forms, in contact with the entire existing concrete surface, and soaked frequently; or any other method demonstrated to produce Saturated Surface Dry Condition.

After the substrate has been saturated, temporarily remove the form and, immediately before placing mortar, remove all dust, dirt, and other debris by flushing the surface with water pressurized to at least 60 psi, followed by blasting with clean compressed air to remove excess water. Provide a damp surface free of standing water and free of contaminants when applying repair mortar. Light surface rust that appears during the pre-soak stage does not need to be removed. When the concrete surface is in Saturated Surface Dry Condition and free of contaminants, and reinforcement is clean or has only light surface rust, immediately reinstall the forms and place mortar.

(c) Mixing - When a package of prepackaged repair mortar is opened, mix the entire contents of the package.

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Mix repair mortar according to the manufacturer's instructions including, but not limited to, mixing speed, mixing time, and mixing Equipment.

(d) Placing Repair Mortar - Pump repair mortar and achieve thorough and uniform hydration without the use of excess water.

Do not place mortar before acceptance of Saturated Surface Dry Condition by the Engineer.

Do not place mortar during freezing weather or if temperatures are likely to drop below freezing during the cure period for the mortar. Do not apply mortar to frosted surfaces. Follow the manufacturer's recommendations regarding temperature and weather conditions during mortar placement.

Provide adequate pumping pressure into each port to ensure mortar completely fills the cavity and mortar is observed at all vents. Vibrate only if approved by the Engineer in advance.

(e) Adjacent Surface Protection - Protect surfaces outside the repair area from mortar overshoot and drip. Remove the excess Material from these areas after the application has been completed.

(f) Mix Records - Record proportion (by weight) of Sand to portland cement and the quantity of any additives for all mortar mixed on-site at the start of each mortar placement operation and every time proportions or additives are changed. Keep a record of which mix is used for each repair area.

00542.49 Curing - Take care to avoid cracks in the new mortar due to excessive surface evaporation. Continuously cure all newly applied mortar according to the manufacturer's recommended curing schedule.

00542.50 Finish - Finish all exposed surfaces and surface defects to straight and true lines as shown. Provide a Class 2 surface finish according to 00540.53 on all exposed surfaces and a general surface finish according to 00540.53 on all other surfaces, with no coating on any surface unless otherwise directed.

00542.51 Delamination Survey - After mortar repair Work has cured, conduct a delamination survey of all repaired areas with the Engineer according to the following:

- Sound all repaired areas with a 1-pound masonry hammer or by other approved technique.
- Mark boundaries of all delaminations in the repaired areas.
- Identify the marked delamination that needs Patching.

Make repairs when delamination repair areas do not meet the acceptance criteria of 00542.52.

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Upon completion of the survey, prepare and sign a survey report that identifies all areas to be patched. Submit the survey report for review and acceptance by the Engineer. Repair the identified areas in a manner satisfactory to the Engineer.

After Patching the identified areas, repeat the delamination survey. Repeat the delamination survey and repair procedure until all areas of unsound concrete have been repaired and accepted.

Following the bond strength test of cores according to 00542.52(b), the Engineer will visually inspect the cores for sand pockets and voids. If sand pockets or voids are found, the area from which the core was taken will be marked by the Engineer to aid in the Contractor's delamination survey.

00542.52 Production Quality Control Testing - Acceptance of Work performed under this Section will be according to the following tests:

(a) Compressive Test - For each 15 square feet of mortar placed on the Bridge, but not less than once per production Work shift, cast at the same time and under the same conditions three 4 by 8 inch cylinders for testing. Cast the cylinders in single-use plastic molds. Cast and cure strength specimens according to AASHTO T 23 or AASHTO R 39. Test the cylinders for compressive strength according to AASHTO T 22 following a 28-Day cure.

The minimum acceptable 28-Day compressive strength of cylinders is 3300 psi.

(b) Pull-off Test - Following a 7-Day cure of the mortar patch, core one test specimen from each 15 square feet of newly applied mortar placed on the Bridge surface, but not less than one per core per mortar patch, at locations designated by the Engineer. Locate cores to avoid damaging reinforcing bar. Core approximately 1/2 inch into the original concrete. Do not break cores free before testing. Perform pull-off tests of the cores in the presence of the Engineer.

Measure the core bond strength according to ASTM C1583. Use pull-test dollies with the same diameter as the cores. Conduct the test until failure.

The minimum acceptable bond strength between the new and original concrete is 175 psi.

If the test shows failure at less than 100 psi, retest after checking Equipment and verifying core angle is perpendicular to the surface. If the patch area is too small for another test, use alternate patch location. If the retest shows failure at less than 100 psi, then a pull-off test may be performed on in situ concrete substrate in the vicinity of the patch area to determine the existing concrete substrate tensile strength. If in situ concrete substrate fails at 100 psi or less, the Engineer will re-evaluate the original concrete substrate.

Individually seal the cores taken from the Bridge in plastic bags and tag them for identification.

If any quality control test fails to meet the minimum requirements, any or all repair mortar represented by that test may be rejected by the Engineer.

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00542.53 Deficient Repair Mortar - Repair, at no additional cost to the Agency, all mortar patches that show an alligator cracking in the surface or uncontrolled cracks visible without magnification. Perform additional testing as directed to determine the extent of deficient mortar in the production test area represented. If additional patches are found to be deficient, repair the production test area represented according to the Specifications at no additional cost to the Agency. Repairs include, but are not limited to, removal and replacement of patches found to be substandard.

Repair small crevices a maximum of 0.4 inch deep and 0.1 inch wide at the edge of a patch with non-conductive resin mixed with abrasive blasting Material or other approved patch Material, at no additional cost to the Agency. Cut out pockets or other defects and replace with new repair mortar according to this Section.

Measurement

00542.80 Measurement - The quantities of Work performed under this Section will be measured according to the following:

- (a) Locate Concrete Repair** - No measurement of quantities will be made for locating concrete repairs. The estimated quantity of locating concrete repairs is 6 square feet.
- (b) Reinforcing Bar Repair** - Repair of damaged reinforcing bar will be measured on the unit basis, per each.
- (c) Concrete Repair** - Concrete repair will be measured on the area basis. Measurement will be the outside measurement of the area of Work marked for concrete repair, not including areas marked for mortar buildup over Shallow Rebar, after locating concrete repair and before concrete removal Work. The area of Work marked for concrete repair does not include initially sound concrete that is damaged or micro-fractured by the Contractor's operations.

Payment

00542.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price per unit of measurement for the following item(s):

Pay Item	Unit of Measurement
(a) Locate Concrete Repair	Lump Sum
(b) Reinforcing Bar Repair	Each
(c) Concrete Repair	Square Yard

Payment will be payment in full for furnishing and placing all Materials, and for furnishing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

No separate or additional payment will be made for providing mix proportion or mix design records.

No payment will be made for repair of initially sound concrete that is micro-fractured or otherwise damaged by the Contractor's operations.

SECTION 00555 - POST-TENSIONING

Comply with Section 00555 of the Standard Specifications modified as follows:

00555.00 Scope - Add the following paragraph to the end of this subsection:

This Work also consists of post-tensioning steel girders by furnishing, placing and tensioning stressing steel according to details shown and specified. This Work also includes furnishing and installing any items necessary for the stressing system used including, but not limited to, anchorage assemblies. Steel that is to be stressed by the post-tensioning method will be referred to as a member.

00555.03 Anchorage Devices - Add the following sentence to the end of this subsection:

High Strength Steel Bars shown for post tensioning steel girders are not required to be grouted. Provide bearing plate as shown.

00555.42 Stressing - Replace the first two sentences of subsection (f) as follows:

Conduct a visual survey of all surfaces of all stressed members immediately after tensioning is complete. Search for cracking, flange and web bending, distress, or other abnormalities and report findings in writing to the Engineer.

00555.13(b) Bleed – Replace the paragraph that begins "Determine bleed resistance according ..." with the following paragraph:

Determine bleed resistance according to ASTM C940 or ASTM C1741 and the PTI *Specification for Grouting of Post-Tensioned Structures M55.1*, modified as follows:

00555.80 Measurement - Add the following sentence to the end of this subsection:

The estimated quantity of prestressing steel, based on the use of prestressed bars, is 790 pounds.

00555.90 Payment - Add the following sentence to the end of this subsection:

Payment for structural steel bracket assembly, "Structural Steel Maintenance (Girder Strengthen)", will be paid for according to 00560.90.

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SECTION 00556 - MULTI-LAYER POLYMER CONCRETE OVERLAY

Comply with Section 00556 of the Standard Specifications modified as follows:

00556.10 Materials– Replace this subsection with the following:

00556.10 Materials – Furnish Materials meeting the following requirements:

00556.10(a) Primer – Furnish a low modulus epoxy concrete and crack sealer from section 02060.10 of the ODOT QPL.

00556.10(b) Multi-Layer Polymer Concrete Overlay – Furnish a MPCO from the QPL. Provide MPCO and primer from the same manufacturer. Resin shall meet the requirements of ASTM C881, Type III.

00556.10(c) Multi-Layer Polymer Concrete Overlay Aggregate – Furnish MPCO Aggregate from the QPL.

Sample the furnished Aggregate and test according to the following:

Property	Test Method	Requirements
Moisture Content *	AASHTO T 255	0.20% max.
Moisture Content **	AASHTO T 255	1.00% max.

* At time of aggregate production.

** Field test at time of mixing the polymer resin.

00556.42 Placing Multi-Layer Polymer Concrete Overlay – Reorder steps (a), (b), (c), and (d) as (b), (c), (d), and (e) respectively. Add the following step in position (a):

00556.42(a) Primer – After the Engineer has approved the surface preparation, completely flood the deck surface with primer at the rate recommended by the primer manufacturer, or as directed. Use heavy-nap rollers to work the primer into the concrete surface and all visible cracks. Fill all visible cracks to refusal. Allow the prime coat to pond and penetrate into the deck surface a minimum of 15 minutes. Before the resin becomes tack free, remove excess primer using a broom or heavy-nap roller to prevent ponding.

SECTION 00560 - STRUCTURAL STEEL BRIDGES

Comply with Section 00560 of the Standard Specifications modified as follows:

00560.29(d)(2)(c.) Inspection – Replace Table 00560-3 with the following table:

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Table 00560-3
Nut Rotation from Snug-Tight Condition ^{1,2}
Disposition of Outer Faces of Bolted
Parts

Bolt Length³ (underside of head to end of bolt)	Both faces normal to bolt axis	One face normal to bolt axis and other sloped not more than 1:20 (beveled washer not used)	Both Faces sloped not more than 1:20 from normal to bolt axis (beveled washer not used)
Up to and including 4 diameters	1/3 turn	1/2 turn	2/3 turn
Over 4 diameters but not exceeding 8 diameters	1/2 turn	2/3 turn	5/6 turn
Over 8 diameters but not exceeding 12 diameters	2/3 turn	5/6 turn	1 turn

¹ Nut rotation is relative to bolt, regardless of the element (nut or bolt) being turned. For all required nut rotations, the tolerance is plus 60 degrees (1/6 turn) and minus 0 degrees.

² Applicable only to joints in which all material within the grip is steel.

³ No research has been performed by the Research Council on Structural Connections to establish the turn-of-nut procedure for bolt lengths exceeding 12 diameters. Therefore, the required rotation shall be determined by actual test in a suitable tension measuring device according to 00560.29(d)(2).

00560.80 Measurement - Add the following to the end of this subsection:

The estimated quantity of structural steel is:

Structure	Steel Type	Quantity (Pound)
Molalla River, Knights Bridge Rd Br. No. 06520	Structural Steel Maintenance (Girder Strengthen)	2800
Molalla River, Knights Bridge Rd Br. No. 06520	Structural Steel Maintenance (Cable Restrainer System)	5300
Molalla River, Knights Bridge Rd Br. No. 06520	Structural Steel Maintenance	800

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00560.90 Payment – Add the following Pay Items to the Pay Item list:

Pay Item	Unit of Measurement
(i) Structural Steel Maintenance (Girder Strengthen)	Lump Sum
(j) Structural Steel Maintenance (Cable Restrainer System)	Lump Sum
(k) Structural Steel Maintenance	Lump Sum

00560.90 Payment – Add the following after the second sentence in this Section starting with “Payment will be...”:

Payment for Structural Steel Maintenance (Girder Strengthen) and Structural Steel Maintenance (Cable Restrainer System) will be payment for furnishing all Materials, and for furnishing all Equipment, labor, and Incidentals necessary to complete the Work as specified. Payment for furnishing and installing cable restrainers will be paid for according to 00534.90. Payment for furnishing and stressing prestressed bars will be paid for according to 00555.90.

00560.90 Payment – Add the following bullets to the end of the section

- Building, welding, cutting, and galvanizing structural steel to fit existing bridge.
- Associated hardware including rods, bolts, nuts, washers, pin bars, cotter pins, wire ropes, and grips, etc.
- Drilling and preparing existing bridge elements and associated containment.
- Cleaning, repairing, and restoring existing bridge elements.

SECTION 00565 - CARBON FIBER REINFORCED POLYMER STRENGTHENING - WET LAYUP SYSTEM

Section 00565, which is not in the Standard Specifications, is included for this Project by Special Provision.

Description

00565.00 Scope - This Work consists of the complete installation of Carbon Fiber Reinforced Polymer (CFRP) sheet and laminate material, applied to existing concrete surfaces as shown. This Work also includes the design of the CFRP strengthening by the CFRP system manufacturer’s Engineer based on the loading requirements and design parameters as shown.

00565.01 Abbreviations and References:

(a) Abbreviations:

CFRP - Carbon Fiber Reinforced Polymer

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ICRI - International Concrete Repair Institute

(b) References:

AASHTO Guide Specifications for Design of Bonded CFRP Systems for Repair

ACI 440.2R, *Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Concrete Structures*

ACI 546R, "Guide to Concrete Repair"

ICRI Technical Guideline No. 310.1R, *Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion*

ASTM D3039, *Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials*

ASTM D4541, *Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers*

ASTM D7522, *Standard Test Method for Pull-Off Strength for FRP Laminate Systems Bonded to Concrete Substrate*

00565.02 Submittals:

(a) Materials Certifications - At least 21 Calendar Days prior to starting CFRP system installation Work, provide manufacturer's material certifications for all CFRP materials and the strengthening system. Include the supplier's name and ranges of the properties listed below with test methods used for CFRP, epoxy, and system components.

Material	Properties to be Furnished
Primary Fibers	Tensile strength, Elongation, Tensile Modulus
Transverse Fibers	Tensile Strength, Elongation, Tensile Modulus, (Perpendicular to Surface Finishes Primary Fibers)
Epoxy Resin	Tensile Strength, Elongation, Tensile Modulus, Coefficient of Thermal Expansion, Mix Ratio, Pot Life, Shelf Life, UV Resistance
CFRP System	Tensile Properties, including method of reporting properties (net fiber or gross laminate), Test Methods used, and the statistical basis used for determining the properties

Submit the following information from the CFRP manufacturer:

- Installation instructions, inspection instructions, maintenance instructions, and general recommendations regarding each material to be used. Include surface preparation requirements in the installation procedures.
- Manufacturer's Material Safety Data Sheet (MSDS) for all materials to be used

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- Quality-control procedure for tracking CFRP materials and material certifications
- Durability test data for the CFRP system in the types of environments expected

(b) Test Results - At least 21 Calendar Days before starting CFRP system installation Work, conduct longitudinal tensile property testing on 5 samples of a single CFRP ply for each CFRP strengthening system according to ASTM D3039 and submit test results including tensile strength, elongation, modulus of elasticity, fabric material, epoxy, thickness, orientation of fibers, and curing method. Ensure CFRP system samples have the same physical properties as and are from the same manufacturer as the system to be installed in permanent Work.

(c) Personnel Qualifications - Submit personnel qualifications at the pre-construction conference according to 00565.30.

(d) Working Drawings and Calculations - Submit stamped Working Drawings, according to 00150.35(b), for each installation of composite material detailing all information required for the proper construction of the CFRP system at each location. The drawings must be accompanied by the stamped design calculations. Design the externally bonded CFRP system according to the requirements of ACI 440.2R or *AASHTO Guide Specifications for Design of Bonded CFRP Systems for Repair* given the design parameters as shown.

On the Stamped Working Drawings include, but not be limited to, the following information:

- Properties and locations of CFRP materials
- Number, thickness and fiber orientation of layers. Except for a complete wrap system, limit a number of CFRP plies to 3 or fewer, unless otherwise shown.
- A separate drawing showing the locations where each CFRP layer is discontinued, if thickness of the CFRP laminate is changed.
- Details of joints and ends
- Anchorage system details to enhance bond and to develop required strength of CFRP laminate. Design anchorage system having tensile capacity at least 5 percent greater than the design tensile strength of the CFRP strengthening system, unless otherwise shown.

As-constructed plans of the existing structure(s) are available from the Engineer.

Do not begin CFRP work until the stamped Working Drawings and supporting calculations have been reviewed by the Engineer.

Materials

00565.10 General - Select a manufacturer and Materials from the QPL. Furnish all components to construct CFRP strengthening system from a single manufacturer. No substitutions are allowed, except as recommended by the manufacturer and as approved by the Engineer.

00565.11 Acceptance Testing - The following test is required for acceptance of the CFRP strengthening work:

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(a) Bond Test - Conduct 5 bond tests to verify adhesion between CFRP laminate and the concrete surface. Prepare specimens at the Project Site, using the same CFRP materials, epoxy and number of CFRP plies used on each type of installation on the bridge. Ensure the test complies with the requirements of ASTM D4541, ASTM D7522 or other approved method. Under the bond test, ensure the bond between CFRP laminate and concrete is stronger than the shear strength of the concrete (the laminate should peel off with concrete still attached to the bond surface).

Submit test results and inspection results including fiber orientation, delaminations, cure of resins and cured thickness to the Engineer for evaluation and acceptance.

Labor

00565.30 Personnel Qualifications - Provide a CFRP Application Advisor, certified by the manufacturer of the CFRP materials to have been trained in installation of CFRP, to provide technical assistance prior to and during CFRP Work. Ensure the CFRP Application Advisor remains available for consultation until the completion and acceptance of all CFRP Work.

Provide trained personnel for installation of the CFRP system.

Provide the following information to verify the contractor's experience and the qualifications of personnel scheduled to perform the CFRP system:

(1) CFRP System Application Advisor Certification - Submit the CFRP manufacturer's certification of the Contractor's designated CFRP Application Advisor.

(2) CFRP System Application Advisor Certification Experience - Submit documentation showing that the Contractor's designated CFRP Application Advisor has experience as CFRP Application Supervisor, CFRP Application Advisor, or lead worker on 3 Bridge or building projects using CFRP wet-layup system in the last 5 years. The CFRP material used on projects submitted for experience does not need to be from the same manufacturer as material proposed for this Project.

For each project submitted, include:

- Project name
- Contract number
- Location
- Owner, including contact person's name and telephone number
- Date of contract acceptance (month and year)
- Material used and material manufacturer

(3) Applicators Certification - Submit certification from the CFRP material manufacturer, or from the Contractor's designated CFRP Application Advisor, affirming that the applicators installing the CFRP system have been trained in the installation of CFRP.

Construction

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00565.40 Surface Preparation - Prepare surfaces for CFRP application according to the following:

(a) Surface Cleaning - Prepare concrete surfaces to be coated with CFRP according to the manufacturer's recommendations. Grinding, sandblasting, or a combination of both may be necessary. Comply with ACI 546R, *Concrete Repair Guide* and ICRI Technical Guideline No. 310.1R, *Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion*. Provide a minimum concrete surface profile (CSP) 3 according to ICRI. The Engineer will resolve any conflict between the manufacturer's recommendations and the named guides. Ensure the concrete surface is clean, structurally sound, dry and free of standing water. Remove dust, laitance, grease, curing compounds, impregnation, waxes, foreign particles, any disintegrated materials and any other bond-inhibiting matter using abrasive techniques.

Collect material removed during surface-preparation operations on plastic tarps or geotextile fabric, or by other approved methods. Dispose of all materials according to 00290.20.

(b) Crack Repair - Inject cracks that are 1/64 inch and greater in width according to Section 00538.

(c) Surface Repair - Use approved repair mortar recommended by the CFRP manufacturer to repair uneven surfaces and fill voids larger than 1/2 inch diameter or 1/8 inch deep. After the surface is repaired, ensure the residual unevenness is no more than the tolerances recommended by the CFRP manufacturer or 1/32 inch over 1 foot, whichever is smaller.

(d) Concrete Substrate Test - Verify the adhesive strength of the concrete after surface preparation at a random location by using a pull-off test according to 00565.11(b). A minimum tensile strength of 200 psi with concrete substrate failure is acceptable.

(e) Corners - Where CFRP sheet wraps around the corners of rectangular cross sections, round and smooth the corners to a minimum 1/2 inch radius.

(f) Priming Concrete Surface - Apply primer to the concrete surface according to the CFRP manufacturer's recommendations.

(g) Epoxy Resin Undercoating - If required by the CFRP manufacturer, apply epoxy resin undercoating according to the CFRP manufacturer's recommendations and the instructions of the resin manufacturer. The Engineer will resolve any conflict between the CFRP manufacturer's recommendations and the resin manufacturer's instructions. Do not apply epoxy resin, unless surface temperature and ambient temperature are between 50 °F and 90 °F.

00565.41 Curing CFRP Material - Cure CFRP material using the manufacturer's suggested methods and temperatures. Ensure that cured composites have uniform thickness and density, complete bonding between layers, and no porosity.

00565.42 Application of Final Surface Finish - Apply the final surface finish recommended by the manufacturer to areas strengthened by the CFRP composite material to all exposed

Knights Bridge Rehabilitation Project

surfaces, unless shown otherwise. Provide a finish texture that matches the existing concrete. Provide a finish color of shade that matches existing concrete. Prior to applying the finish coat, prepare a 3 feet by 3 feet sample for the Engineer's approval on an inconspicuous area of the Structure. Allow to dry. Obtain the Engineer's approval of the color before proceeding with the final surface finish.

00565.43 Repair of Installed CFRP System Defects - Repair delamination areas of installed CFRP strengthening system with epoxy injection for defect size between 1/4 inches and 6 inches in diameter. Replace delamination areas for defect size greater than 6 inches in diameter.

Measurement

00565.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

The estimated quantity for the proposed CFRP strengthening is 614 square feet despite the number of layers. The estimated quantity for the Work performed under this section are the neat quantities without allowances for laps or waste.

Payment

00565.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract lump sum amount for the item "CFRP Strengthening - Wet Layup System."

Payment will be payment in full for furnishing and placing all Materials, and for furnishing all Equipment, tools, labor, and Incidentals necessary to complete the Work as specified.

No separate or additional payment will be made for:

- training and certification of personnel.
- repair of delamination areas due to installation defects.
- Surface preparation, crack and surface repair, associated containment, integrity testing, etc.

SECTION 00566 - CARBON FIBER REINFORCED POLYMER STRENGTHENING - NEAR SURFACE MOUNTED

Comply with Section 00566 of the Standard Specifications modified as follows:

00566.80 Measurement - Add the following to the end of this subsection:

The estimated length of required CFRP bars is shown below.

Knights Bridge Rehabilitation Project

Structure	Quantity (Feet)
Bridge No. 06520	160

566.80 Payment - Add the following to the end of this subsection:

No separate or additional payment will be made for saw cutting , epoxy resin, etc.

SECTION 00584 - ELASTOMERIC CONCRETE NOSING

Comply with Section 00584 of the Standard Specifications modified as follows:

00584.00 Scope - Add the following paragraph to the end of this subsection:

This Work also includes the replacement of existing elastomeric concrete nosing as shown and specified.

00584.90 Payment – Replace the paragraph that begins “Item (a) includes...” with the following paragraph:

Item (a) includes new placement of elastomeric nosing.

Replace the paragraph that begins “Item (b) includes...” with the following paragraph:

Item (b) includes the removal of existing elastomeric nosing, elastomeric concrete nosing replacement installed to a nominal depth of 2 inches, and the repair of existing joint edges and concrete deck surfaces.

Replace the paragraph that begins “Item (c) includes...” with the following paragraph:

Item (c) includes Materials only for concrete nosing replacement or repair depths greater than 2 inches.

SECTION 00585 - EXPANSION JOINTS

Comply with Section 00585 of the Standard Specifications modified as follows:

Knights Bridge Rehabilitation Project

00585.43 Armored Corners – Replace the title of this subsection with “**Armored Corners and Edgebeam**”

Replace the paragraph that begins "Provide joint corner armoring ..." with the following paragraph:

Provide joint corner armoring or edgebeam with anchors as shown or specified, and according to the following:

00585.43(a) Tolerance - Replace the paragraph that begins "Install armored corners that are straight..." with the following paragraph:

Install armored corners or edgebeams that are straight and do not deviate from a true line by more than 1/4 inch horizontal and 1/8 inch vertical over the length of the joint, nor more than 1/16 inch in either direction from a 12-foot straightedge.

00585.43(b) Installation - Replace the paragraph that begins "Furnish armored corners in the longest ..." with the following paragraph:

Furnish armored corners or edgebeams in the longest practical length as controlled by transportation and installation.

Replace the paragraph that begins "For new construction, install armored ..." with the following paragraph:

For new construction, install armored corners or edgebeams with anchors in preformed blockouts at least 14 Days after the deck is cast with the joint opening as shown. Support the armored corners or edgebeams securely in position before placing concrete in the joint blockout. Install the preformed seal at least 7 Days after the concrete blockouts have been cast and after the deck concrete reaches 3,000 psi.

00585.47 Strip Seal - Replace the bullet that begins "Use steel retainers acting ..." with the following bullet:

- Use steel retainers acting as the edgebeams according to 00585.43.

00585.80 Measurement - Add the following to the end of the subsection:

The estimated quantities of joints are:

Structure	Joint Type	Quantity (Foot)
Molalla River, Knights Bridge Rd Br. No. 06520	Poured Joint Seal	230

Knights Bridge Rehabilitation Project

SECTION 00594 - PREPARING AND COATING METAL STRUCTURES

Comply with Section 00594 of the Standard Specifications modified as follows:

00594.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

This Work consists of preparing and coating existing steel and new steel on Bridge No.06520.

The Molalla River, Knights Bridge Rd Bridge consists of 5 steel girder spans and one concrete span. The steel spans vary in length from 43 feet to 62 feet. Girder web depths are 36 inches and 42 inches and flange widths are 12 to 18 inches. The steel under the deck to be coated pertains to surfaces of the girders including bottom flanges, webs, and underside of top flanges. Intermediate crossframes, end frames, and transverse stiffeners shall also be coated. The area above the deck to be coated includes the tube rail and its attachments.

Mill scale will be exposed by the preparation and coating Work.

Lead-based coatings will be affected by the preparation and coating Work.

Coatings that contain chromates will be affected by the preparation and coating work.

00594.05 Waste Handling and Disposal - Add the following paragraph to the end of this subsection:

When lead is contained in the waste, dispose of waste material according to 00290.20, Section 00296, and the applicable requirements of SSPC-Guide 7.

00594.10 Materials - Add the following to the end of the subsection:

For steel bridge rail, steel girders, and secondary steel members on Bridge No. 06520:

Furnish a maintenance coating, 3 coat system with organic zinc from the ODOT QPL. Provide top-coat color that conforms to #24272 of SAE AMS-STD-595C.

00594.40(b) Existing Steel Structures - Add the following paragraphs and bullets to the end of this subsection:

Prepare and coat the following surfaces:

- All steel surfaces below the bridge deck on spans 1, 2, 4, 5, and 6.
- All steel rail posts, utility brackets, and handrails on Bridge No. 06520.

Do not coat the following:

- Existing thrie beam barrier rail on Bridge No. 06520.

SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS

Comply with Section 00850 of the Standard Specifications modified as follows:

00850.30 Manufacturer's Representative - Replace this subsection, except for the subsection number and title, with the following:

For Sections referencing 00850.30, the services of a manufacturer's representative are not required. Place Pavement markings only when the Pavement is ready for the Pavement marking material according to the manufacturer's installation instructions.

SECTION 00865 - LONGITUDINAL PAVEMENT MARKINGS - DURABLE

Comply with Section 00865 of the Standard Specifications.

SECTION 01030 - SEEDING

Comply with Section 01030 of the Standard Specifications modified as follows:

01030.13(f) Types of Seed Mixes - Add the following to the end of this subsection:

Provide the following seed mix formulas:

- **Native Plant Seeding:**

Botanical Name (Common Name)	PLS Specified Rate (lb/acre)
<u>Elymus Glaucus</u> (Blue wildrye)	21.9
<u>Festuca rubra rubra</u> (Native red fescue)	13.1
<u>Bromus carinatus</u> (California brome)	4.4
<u>Agrostis exarata</u> (Spike bentgrass)	4.4

* Oregon Certified Seed

01030.15 Mulch - Add the following paragraph and bullets to the end of this subsection:

Furnish straw mulch for all temporary roadside erosion control seeding, except hydromulch may be used under the following conditions:

Knights Bridge Rehabilitation Project

- Spring planting west of the Cascades between March 1 and May 15.
- Slopes are steeper than 1V to 1.5H and longer than 16 feet.
- Residential or commercial sites with low erosion potential such as sidewalk, Median, or parking lot planter strips.

Projects that have variable slopes may include straw mulch and hydromulch when approved.

01030.42 Weed Control - Add the following paragraph and bullets after the paragraph that begins "If a pesticide has been approved for..." and before subsection (a):

The Specified Weeds and plant species to be removed include the following:

- *Rubus armeniacus* (Himalayan blackberry)
- *Fallopia japonica* (Japanese knotweed)

01030.60 General - Add the following sentence after the last bullet:

The minimum living plant coverage for native plant seeding is 100 percent of ground surface.

01030.90 Payment – Delete Pay Items (l) and (m) from the Pay Item list.

SECTION 01040 - PLANTING

Comply with Section 01040 of the Standard Specifications modified as follows:

01040.04(a) Planting Work Plan – Replace the bullet that begins "Plant installation and..." with the following bullet:

- Plant installation

Add the following bullet to the end of the bullet list:

- Plant establishment plan according to 01040.70

Add the following subsection:

01040.05 Submittals – Submit the following for review and approval:

- Contract Growing Plan according to 01040.19(g).
- Planting work plan according 01040.04(a).
- Plant establishment plan according to 01040.70.

Knights Bridge Rehabilitation Project

- Weed Control Work Plan according to 01030.42(a).
- Photo log 10 Days after each plant establishment visit and periodic inspection. Date stamped photographs in photo log of each plant establishment site visit with photos of multiple individual plants, seeded areas, and weed control areas, sufficiently close as to display plant condition and that are representative of the health, vigor and growth of the site plantings.

01040.71 Plant Care and Success Criteria - Add the following to the end of this subsection:

The following watering frequencies are required:

- All deciduous trees, water at a frequency of 1 inch of water per week.
- All shrubs, water at a frequency of 1 inch of water per week.

SECTION 01050 - FENCES

Comply with Section 01050 of the Standard Specifications.

SECTION 01091 - WATERWAY ENHANCEMENTS

Section 01091, which is not a Standard Specification, is included in this Project by Special Provision.

Description

01091.00 Scope - This Work consists of constructing waterway enhancements such as fish Rocks, large woody Material (LWM), engineered streambed Material, and other types of waterway items as shown or directed.

01091.05 Pre-Work Meeting - Attend a pre-work meeting at the Project Site with the Engineer, at a mutually agreed upon time, at least 8 Calendar Days prior to implementation of any waterway enhancement work. Required attendees include:

- Engineer

Knights Bridge Rehabilitation Project

- Contractor
- Waterway Enhancement Subcontractors

The pre-work meeting agenda typically includes the methods of accomplishing all phases of the waterway enhancement work, including:

- environmental risks discussion
- turbidity monitoring
- site clean-up expectations
- circumstances under which contacting the Engineer is required

Representatives from interested permitting agencies will be invited by the Agency.

Materials

01091.10 Material - Furnish Materials meeting the following requirements:

(a) Fish Rocks:

Type 1 - 700 pounds to 900 pounds size, hard, durable, angular shaped Rock. Furnish a single Rock with a thickness of not less than one-third its length. Round Rock, non-durable Rock, shale, or Rock with shale seams will not be accepted.

Type 2 - Greater than 900 pounds to 1,800 pounds size, hard, durable, angular shaped Rock. Furnish a single Rock with a thickness of not less than one-third its length. Round Rock, non-durable Rock, shale, or Rock with shale seams will not be accepted.

Type 3 - Greater than 1,800 pounds to 2,200 pounds size, hard, durable, subangular Rock. Furnish a single Rock with a thickness of not less than three-fourths its length. Non-durable Rock, shale or Rock with shale seams will not be accepted.

(b) Large Woody Material - Furnish 18 inch minimum diameter by 20 to 32 feet long conifer trees with root-wad. Furnish structurally sound logs that are free of rot and disease.

Construction

01091.40 General - Obtain all permits and perform Work in and around water according to Section 00290, Section 00245 and the following:

(a) Fish Rocks - Place Rocks as shown or as directed.

(b) Large Woody Material - Place LWM as shown or as directed. Place LWM with the root-wad end projecting into the water with the trunk placed at a 45 degree horizontal angle to the bank. Bury the trunk end approximately two-thirds the total length into the embankment.

Measurement

Knights Bridge Rehabilitation Project

01091.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

The estimated quantities of Materials required for streambed enhancement are:

Item	Quantity
Excavation.....	800 cu. yd.
Fish Rocks, Type 3.....	8 each
Large Woody Material	10 each
Selected Native Backfill Material	600 cu. yd.

Payment

01091.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract lump sum amount for the item "Streambed Enhancement".

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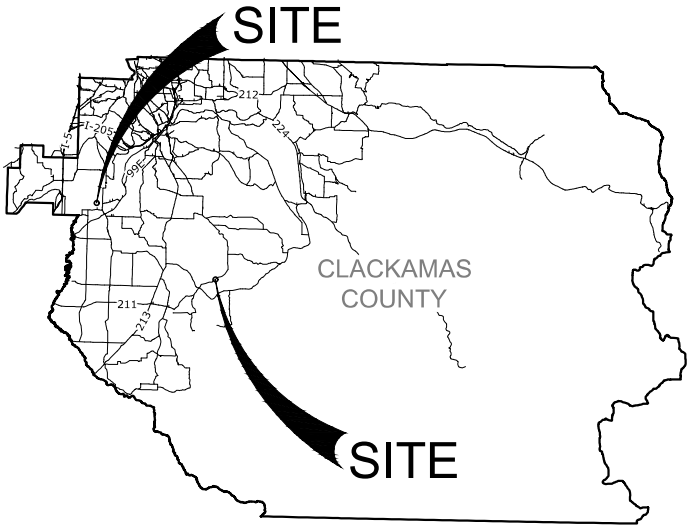
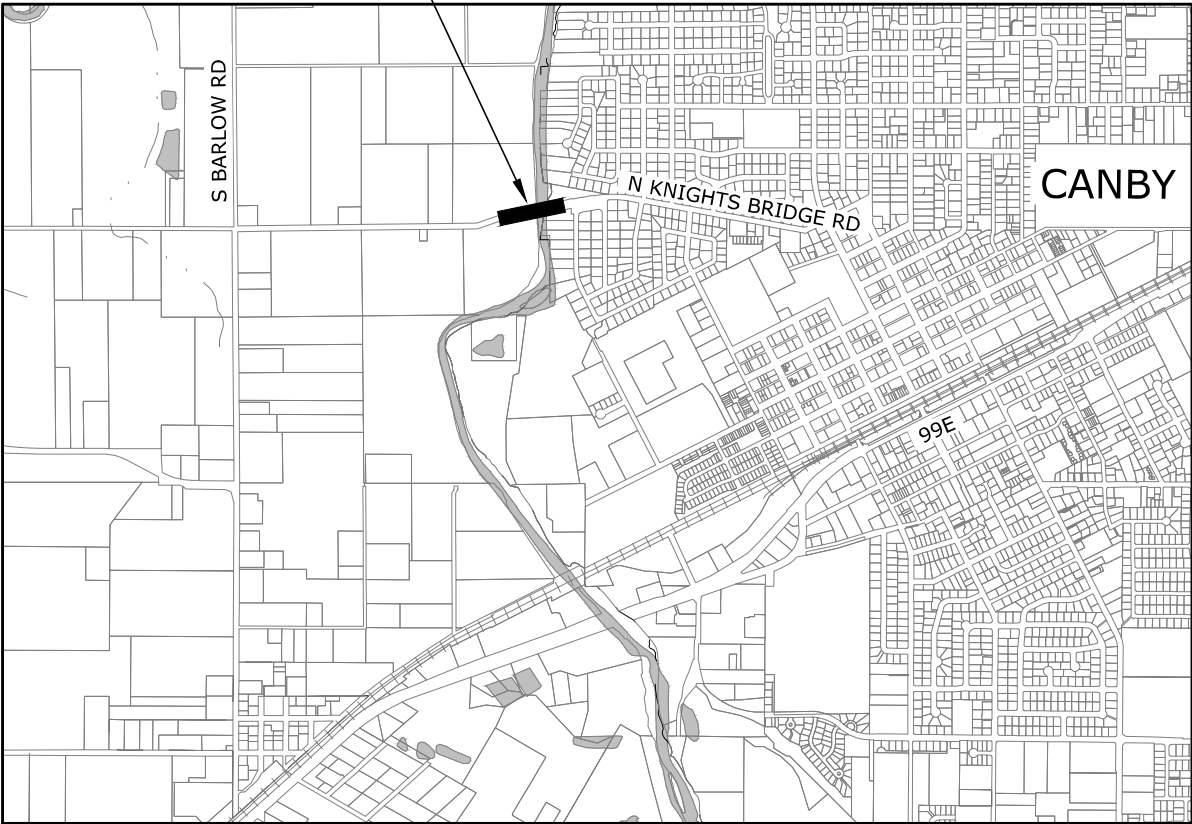
CLACKAMAS COUNTY
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
KNIGHTS BRIDGE ROAD: MOLALLA RIVER BRIDGE #06520

CLACKAMAS COUNTY
OREGON

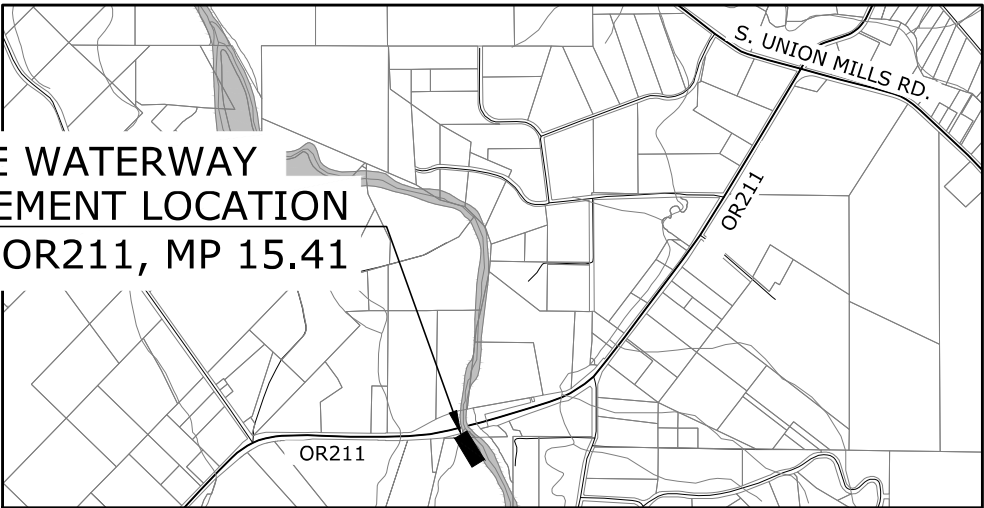


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B02	WORK ITEMS & TYPICAL SECTION
B03	GENERAL NOTES
B04	KEYED RIPRAP PLAN
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B09	END BENT EXTENSION DETAILS
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HD01	TEMPORARY WATER MANAGEMENT FACILITY
PL01	OFF-SITE PLANTING PLAN
PL02	OFF-SITE PLANTING NOTES AND DETAILS
TC01	DETOUR PLAN

PROJECT LOCATION



OFF-SITE WATERWAY
ENHANCEMENT LOCATION
OR211, MP 15.41



VICINITY MAP

Clackamas Co. Project No.
300321303
Bridge No. 06520
State Funded Local Project (SFLP)
Agreement No. 34365
ODOT Proj. No. C005(116)
Key No. 21885
EA No. CON04426

SCALE WARNING
IF THIS SCALE LINE DOES NOT
MEASURE ONE INCH, THEN
DRAWING IS NOT TO SCALE



consor

TITLE SHEET

KNIGHTS BRIDGE REHABILITATION

CLACKAMAS COUNTY

DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



Dan Johnson

DTD Director

DESIGNED BY:
RWN

DRAFTED BY:
SHC

CHECKED BY:
JWO

REVISIONS

NO. DATE:

Sheet No.

T01

1 of 26

DATE: SEPT 2023 | PROJECT NO.: 300321303

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WORK ITEMS:

Not all work items visible in Plan and Elevation

- 1

Keyed Riprap, Class 2000, see sheet B04.
- 2

Concrete Repair, see sheet B06
- 3

Pile removal, see sheet G02.
- 4

Shear key retrofit, see sheet B11.
- 5

Cable restrainer retrofit, see sheet B12.
- 6

End bent seat extension, see sheet B09.

7

Bent strengthening, see sheet B10.

8

Poured joint seal, See Oregon Std. Dwg. no. BR140.

9

Deck rehabilitation, see sheet B07.

10

Steel girder post tensioning, see sheet B08.

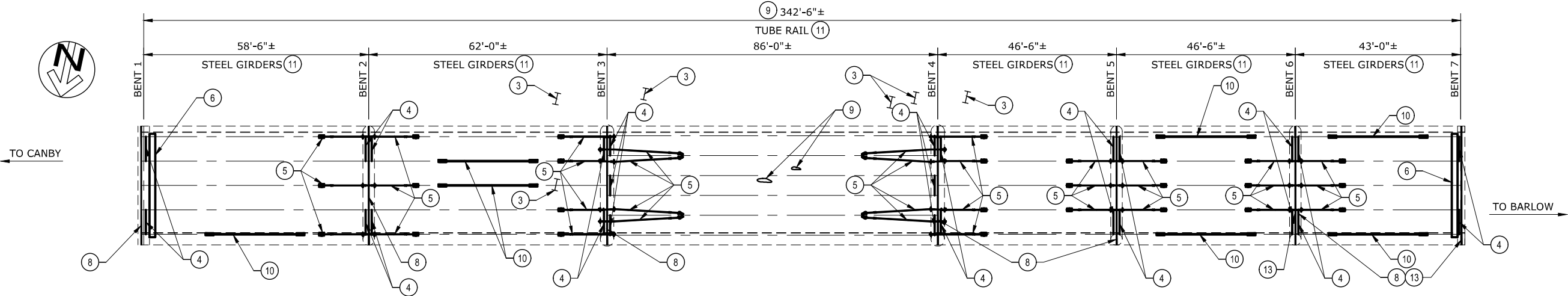
11

Paint bridge, see section 00594.

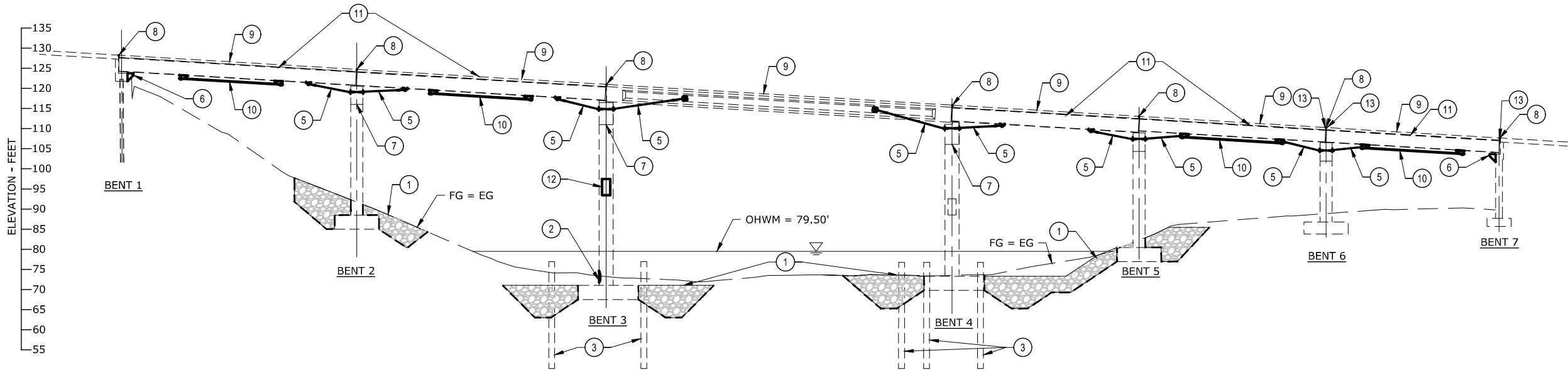
12

Link beam repair, see sheet B06.

13

Repair elastomeric concrete nosing, See Oregon Std. dwg. BR140

PLAN
SCALE: 1"=30'



ELEVATION
SCALE: 1"=30'

SCALE WARNING
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PLAN AND ELEVATION

KNIGHTS BRIDGE REHABILITATION

CLACKAMAS COUNTY

DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



DTD Director

Dan Johnson

DESIGNED BY: C.J.H.
DRAFTED BY: S.H.C.
CHECKED BY: R.W.

REVISIONS

NO.	DATE:

Sheet No.

B01

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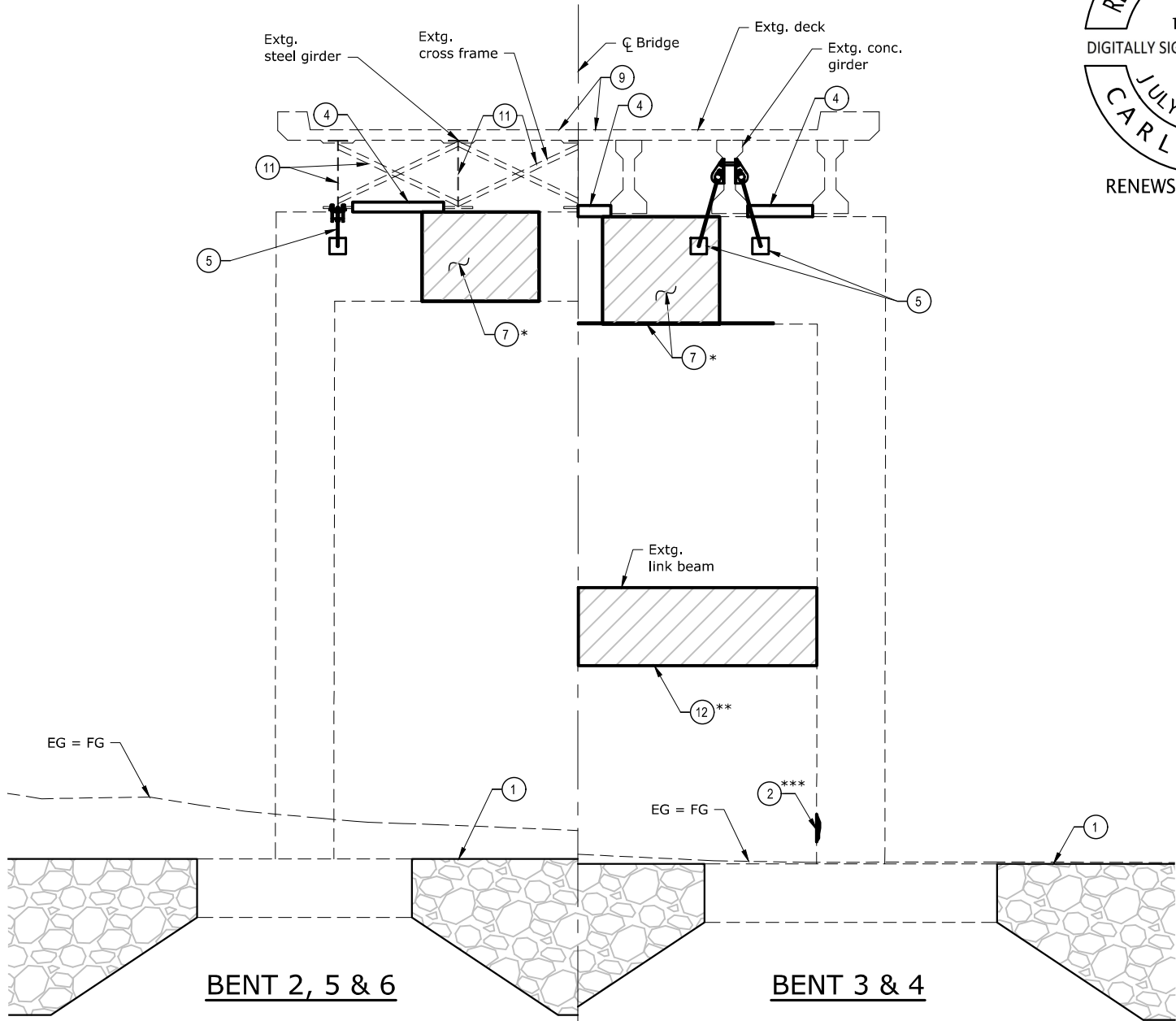
DATE: SEPT 2023 | PROJECT NO.: 300321303

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WORK ITEMS:

Not all work items visible in typical section

- ① Keyed Riprap, Class 2000, see sheet B04.
- ② Concrete repair, see sheet B06.
- ④ Shear key retrofit, see sheet B11.
- ⑤ Cable restrainer retrofit, see sheet B12.
- ⑦ Bent strengthening, see sheet B10.
- ⑨ Deck rehabilitation, see sheet B07.
- ⑪ Paint bridge, see section 00594.
- ⑫ Link beam repair, see sheet B06.

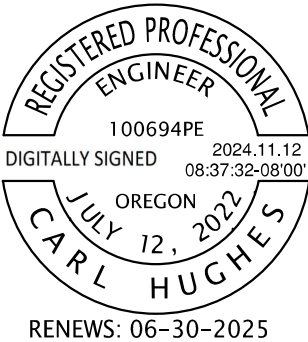


* CFRP wet-layup to occur at bents 2 and 3.
** Link beam repair to occur at bent 3 only.
*** Concrete Repair to occure at Bent 3 south column only.

SCALE WARNING
IF THIS SCALE LINE DOES NOT
MEASURE ONE INCH, THEN
DRAWING IS NOT TO SCALE



consor



REVISIONS		DESIGNED BY:	DRAFTED BY:	CHECKED BY:
NO. DATE:		CJH	SHC	RW

Sheet No.
B02

4 of 26

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



Dan Johnson DTD Director

WORK ITEMS & TYPICAL SECTION

KNIGHTS BRIDGE REHABILITATION

DATE: SEPT 2023 PROJECT NO.: 300321303

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General notes:

Provide all materials and perform all work according to the "ODOT Standard Specifications for Construction 2024".

Bridge strengthening is designed in accordance with the 2017 edition of the "AASHTO LRFD Bridge Design Specifications" (including 2016 interim revisions), the 2018 edition of the "ODOT LRFR manual", and the April 2022 edition of the "Oregon Bridge Design Manual", with an allowance for all of the following live loads:

Legal vehicles:

- Type 3
- Type 3s2
- Type 3-3
- Type 3-3 & legal lane
- Type 3-3 train & legal lane
- Su4 truck
- Su5 truck
- Su6 truck
- Su7 truck
- Ev2 truck
- Ev3 truck

Many aspects of this work are dependent upon the geometry of the existing structure. Dimensions and geometry of existing features shown in these plans are based upon information shown in the as-constructed drawings and shall be considered approximate. Contractor shall field verify all dimensions before ordering or fabricating any material or beginning any work.

Longitudinal restrainers, concrete shear keys, and seat extenders are designed per the Oregon Bridge Design Manual for a Phase 1 Seismic Retrofit so that the girders will not become unseated during a seismic event.

At intermediate bents longitudinal restrainers, and concrete shear keys are designed to resist the overstrength moment (Mo=1.2*Mp) and associated shear (Vo) of the columns.

At end bents, concrete shear keys and seat extenders are designed to resist the overstrength moment (Mo=1.2*Mp) and associated shear (Vo) of the adjacent columns.

Existing steel crossframes have not been retrofitted and may fail prior to providing adequate capacity to resist the overstrength moment and associated overstrength shear described above.

FRP Strengthening Notes:

Provide Fiber-Reinforced Polymer (FRP) products for CFRP - wet lay up system from the ODOT Qualified Products List (QPL), Section 00565.

Provide Carbon Fiber Reinforced Polymer bars with the following design properties:

- Ultimate tensile strength = 250 ksi
- Tensile modulus of elasticity = 0.0130 in/in
- Minimum ultimate bond strength = 1000 psi

Existing material properties of the strengthened elements used for the design:

- Concrete, f'c = 3ksi
- Reinforcing steel, fy = 40ksi

Design and construct CFRP strengthening according in accordance with the 2008 edition of ACI 440.2R-08, "Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Concrete Structures."

Provide all (other) reinforcing steel according to ASTM specification A706, or AASHTO M31 (ASTM A615) Grade 60. (Provide field bent stirrups according to ASTM Specification A706.) Use the following splice lengths (Unless shown otherwise):

Reinforcing Splice Lengths (Class B) Grade 60 f'c = 3.3 ksi λ rc= 0.4, 2in min. Concrete clear cover										
Bar size	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14 & #18
Uncoated	1'-4"	1'-9"	2'-2"	2'-7"	3'-0"	3'-5"	3'-10"	4'-4"	4'-10"	Not permitted

Increase all splice lengths 30% for horizontal or nearly horizontal bars so placed that more than 12" of fresh concrete is cast below the bar.

Splice reinforcing steel at alternate bars, staggered at least one splice length or as far as possible, unless shown otherwise.

Place bars 2" clear of the nearest face of concrete (unless shown otherwise). The top bends of stirrups extending from beam stems into the top slab may be shop or field bent (unless shown otherwise).

Provide Class 3300 - 1 ½", 1" or ¾" concrete for all concrete.

Structural Steel Notes:

All structural steel shall conform to ASTM specifications A572, Grade 50, except as noted.

Paint structural steel in accordance with the specifications unless shown otherwise.

Welding Notes:

Produce welds according to the latest edition of AWS D1.5 Bridge Welding Code. Weld sizes not labeled on the plans must conform to Table 4.1 Minimum Fillet Weld Size of 2020 AWS D1.5.

Bolting Notes:

Provide high-strength bolts according to ASTM specification F3125 GR A325 unless shown otherwise. All high-strength bolts are to be hot dipped galvanized.

Provide 1.25" diameter Grade 150 high strength post tension rods for steel girder post tensioning according to ASTM Specification A722 Type 2.

Provide 7/8" diameter A603 wire rope with Class C coated for all cable restrainers.

Provide 1½" threaded steel rods for all cable restrainer systems according to ASTM specification A449.

Provide hot-dip galvanized socket connections. Ensure socket connection can develop the minimum breaking strength of the connecting wire rope.

All new steel and associated hardware for the cable restrainer system shall be hot-dipped galvanized.

All new steel and associated hardware for the steel girder post tensioning system shall be hot-dipped galvanized.

All structural steel connections are slip critical connections with Class B faying surfaces unless shown otherwise. (Bolt threads shall be excluded from shear plane.)

Tighten all high-strength bolts using the "Turn-of-Nut Tightening" method, except as noted.

Coat all steel girders and tube rail as shown, in accordance with the specifications. See sheet B01 & B07 for coating limits. Produce the finish coat on all girders according to Section 00594.

1. Assumed design temperature is 52° F.



GENERAL NOTES

KNIGHTS BRIDGE REHABILITATION

DATE: SEPT 2023 | PROJECT NO.: 300321303

CLACKAMAS COUNTY

DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



DTD Director

Dan Johnson

DESIGNED BY:

CJH

DRAFTED BY:

SHC

CHECKED BY:

RW

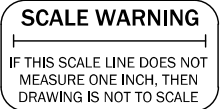
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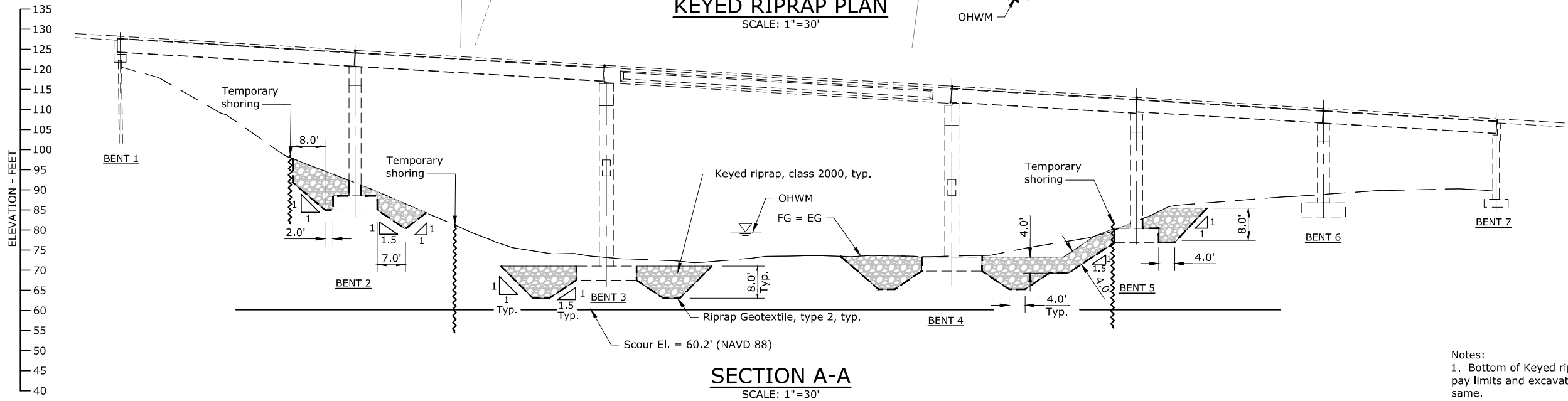
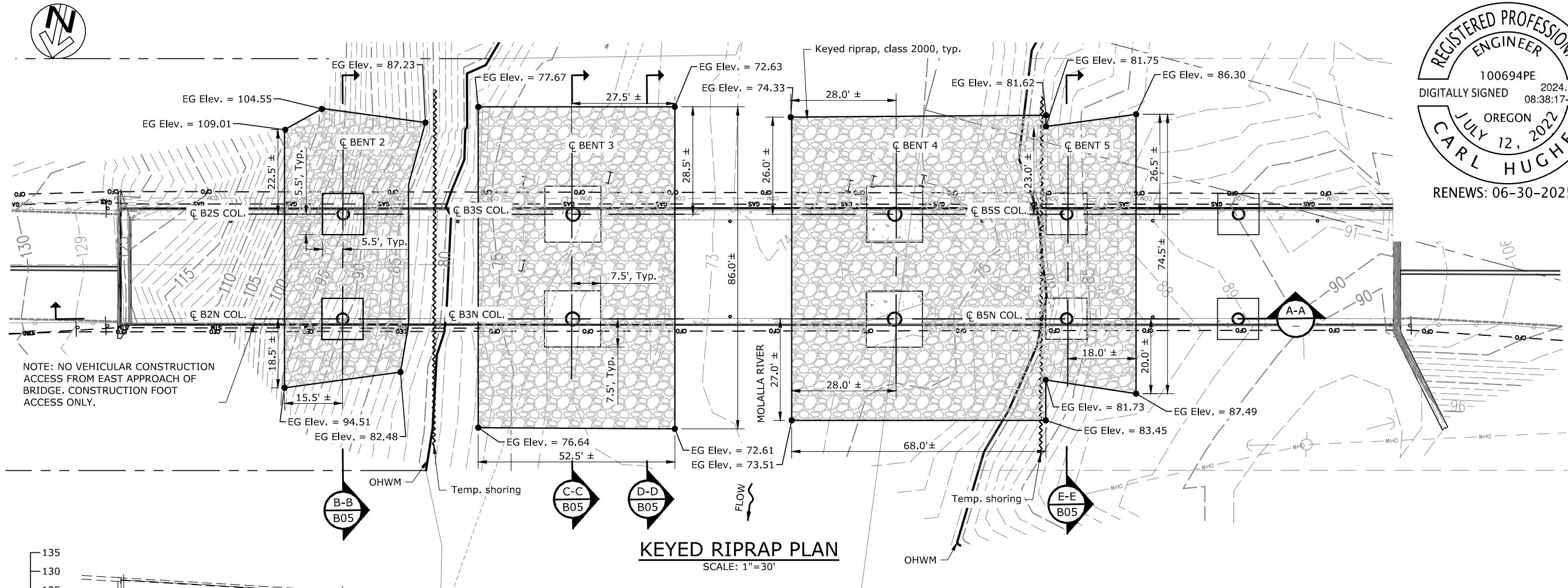
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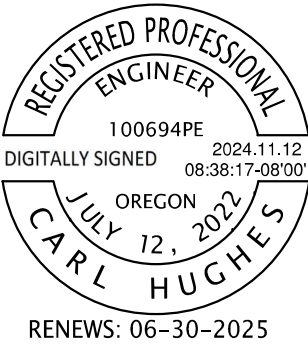
- Notes:
- Bottom of Keyed riprap, Class 2000 pay limits and excavation limits are the same.
 - Plan ± dimensions are dependent on existing ground elevations and existing footing elevations, widths, and lengths.
 - Protect existing footings and columns in place.
 - See sheet HD01 for OHWM elevation.

SCALE WARNING

IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE



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Sheet No.
B04

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CLACKAMAS COUNTY

DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



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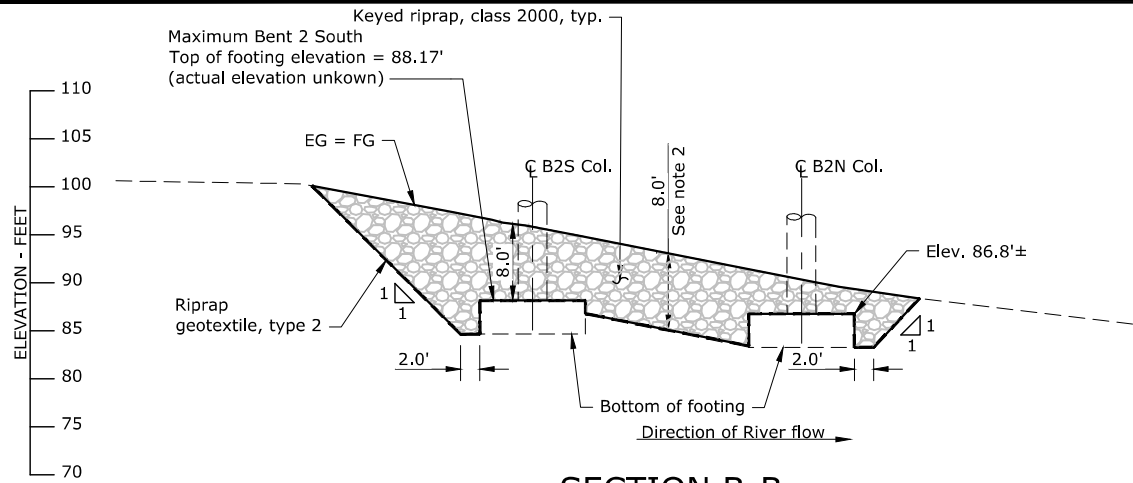
DTD Director

KEYED RIPRAP PLAN

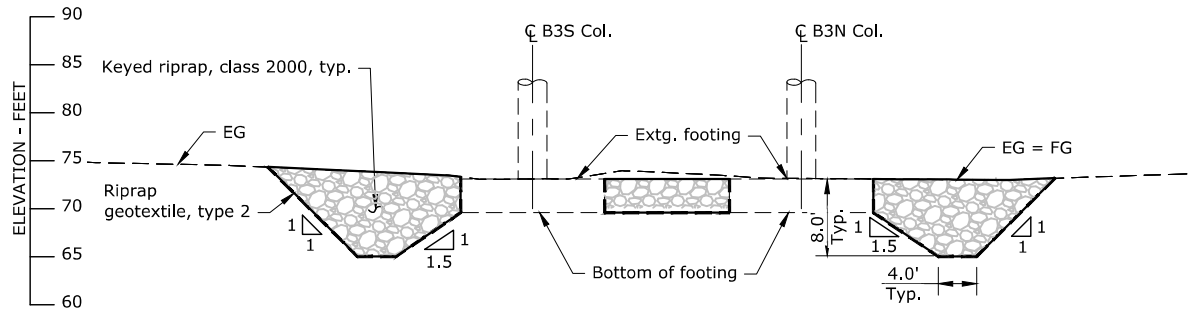
KNIGHTS BRIDGE REHABILITATION

DATE: SEPT 2023 | PROJECT NO.: 300321303

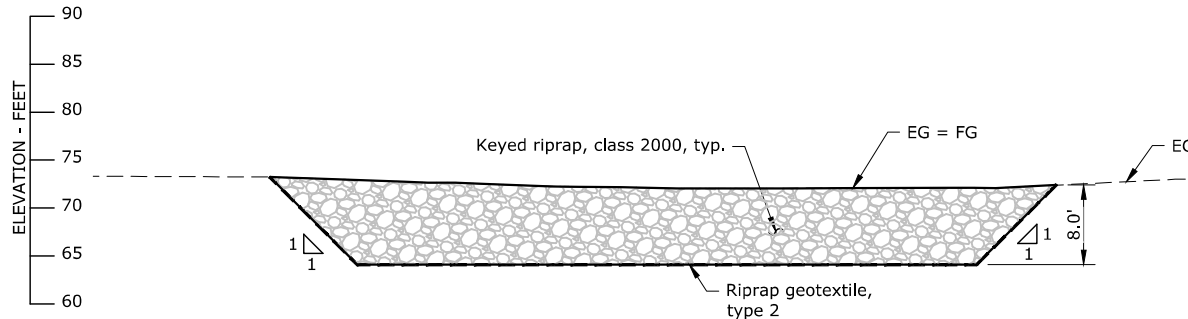
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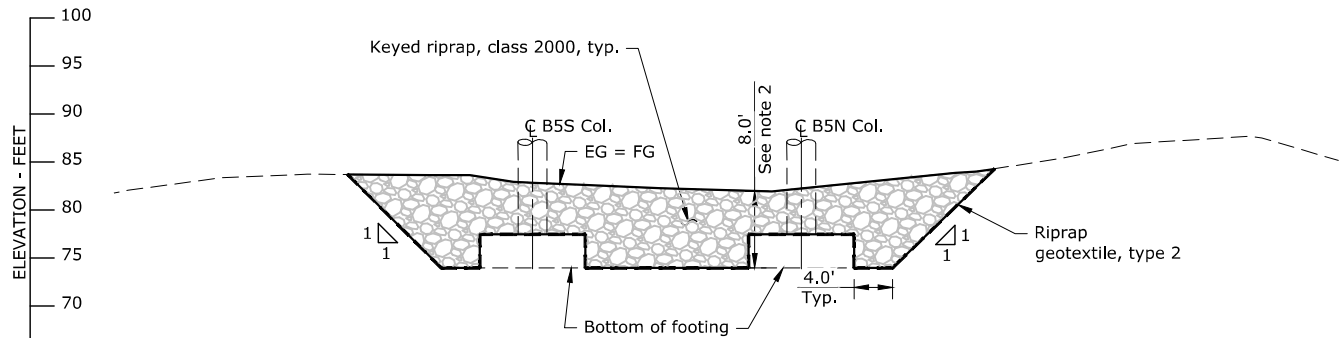
SECTION B-B
SCALE: 1"=20'



SECTION C-C
SCALE: 1"=20'

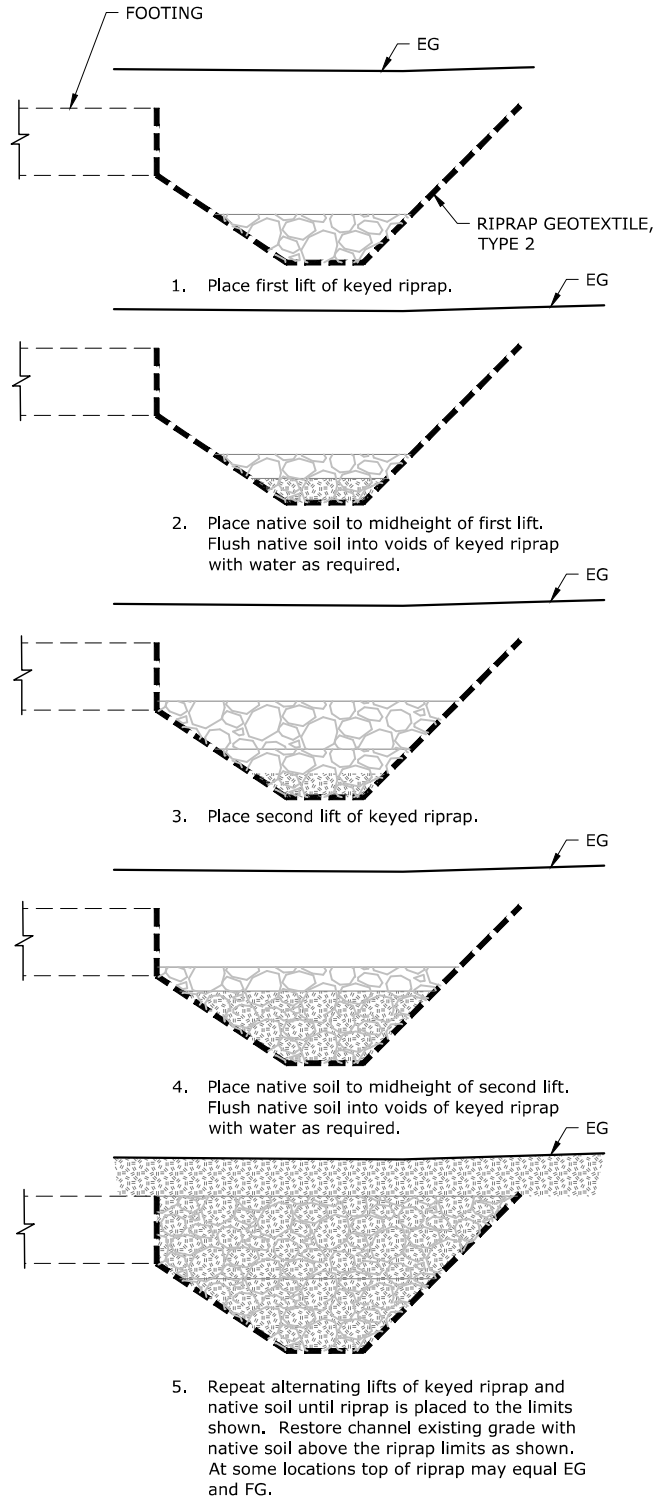


SECTION D-D
SCALE: 1"=20'



SECTION E-E
SCALE: 1"=20'

KEYED RIPRAP PAYMENT LIMITS



PLACEMENT SEQUENCE

SCALE WARNING
IF THIS SCALE LINE DOES NOT
MEASURE ONE INCH, THEN
DRAWING IS NOT TO SCALE

- Notes:
1. Bottom of Keyed riprap, Class 2000 pay limits and excavation limits are the same.
 2. Bottom elevation of riprap not to exceed bottom of footing elevation in Section B-B and E-E.
 3. Place keyed riprap in lifts of 24" or less.



KEYED RIPRAP DETAILS

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KNIGHTS BRIDGE REHABILITATION

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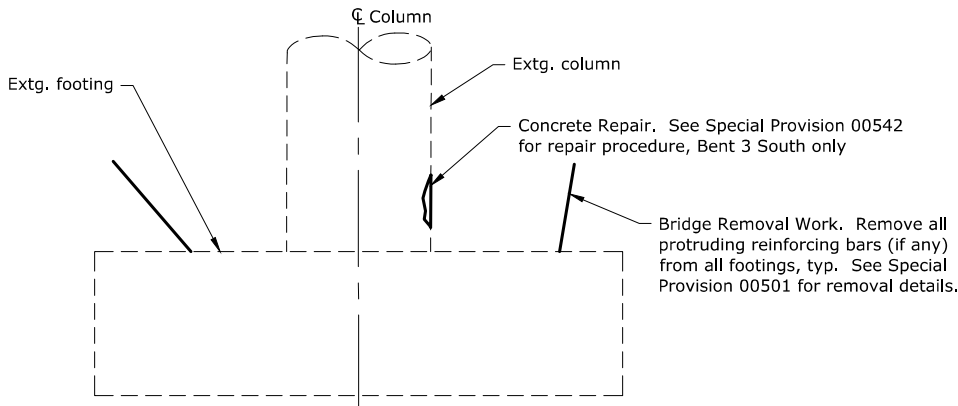
Dan Johnson

DATE: SEPT 2023 | PROJECT NO.: 300321303

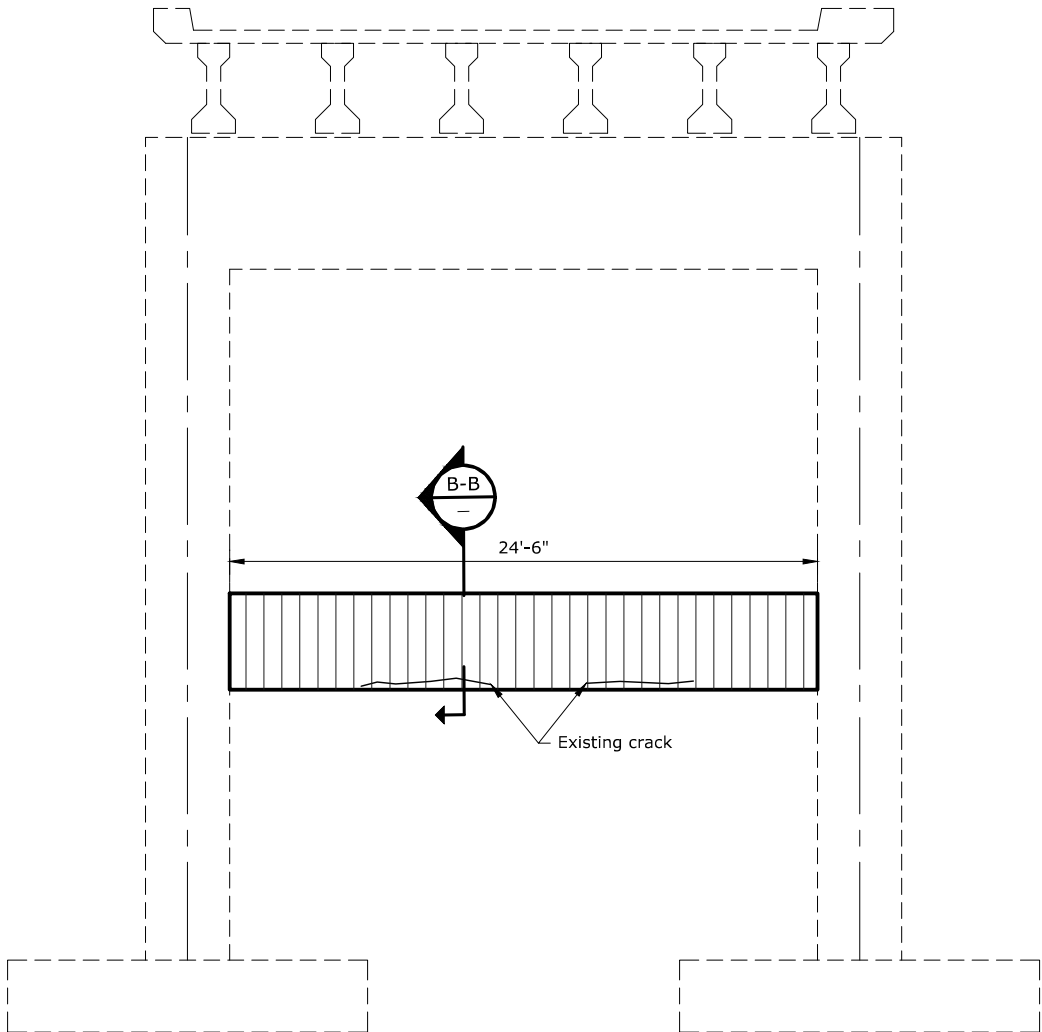


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BENT 3, 4 & 5
MISCELLANEOUS WORK
Scale: 1/4" = 1'-0"

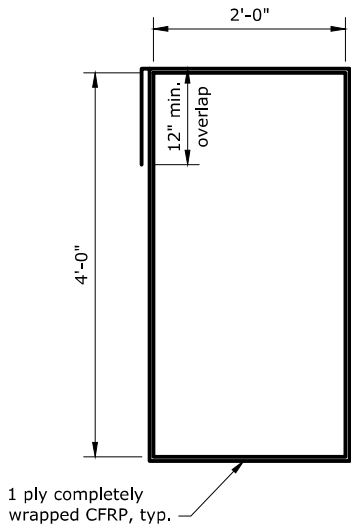


BENT 3 LINK BEAM REPAIR
CFRP STRENGTHENING - WET LAYUP SYSTEM
Scale: 1/8" = 1'-0"



CFRP sheet minimum material properties:

CE	0.85	
F_{tu}^*	128	Ksi
E_{tu}^*	0.09	in/ in
E_f	14000	ksi
t(min)	0.04	in



SECTION B-B
SCALE: 1/2 " = 1'-0"

- NOTES:
1. Provide CFRP wrap from the QPL as shown. Fully wrap the link beam as shown. See Special Provision 00565 for installation procedures.
 2. Provide one ply of CFRP fabric fully wrapping the link beam as shown.
 3. Special Provision 00565.40 (b) and (c) are not required at this location.

SCALE WARNING
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MISCELLANEOUS DETAILS

CLACKAMAS COUNTY

DEPT. OF TRANSPORTATION
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150 BEAVERCREEK ROAD
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DESIGNED BY:
CJH

DRAFTED BY:
SHC

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RW

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B06

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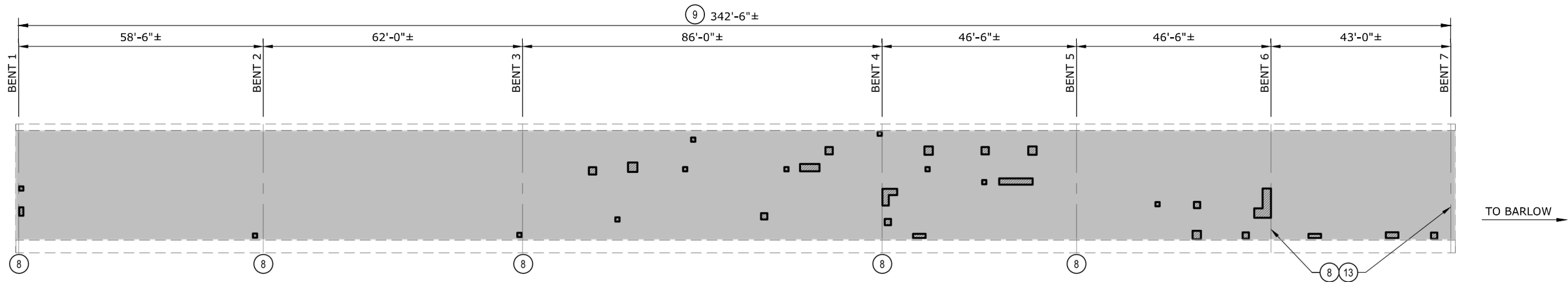
DATE: SEPT 2023 PROJECT NO.: 300321303

KNIGHTS BRIDGE REHABILITATION

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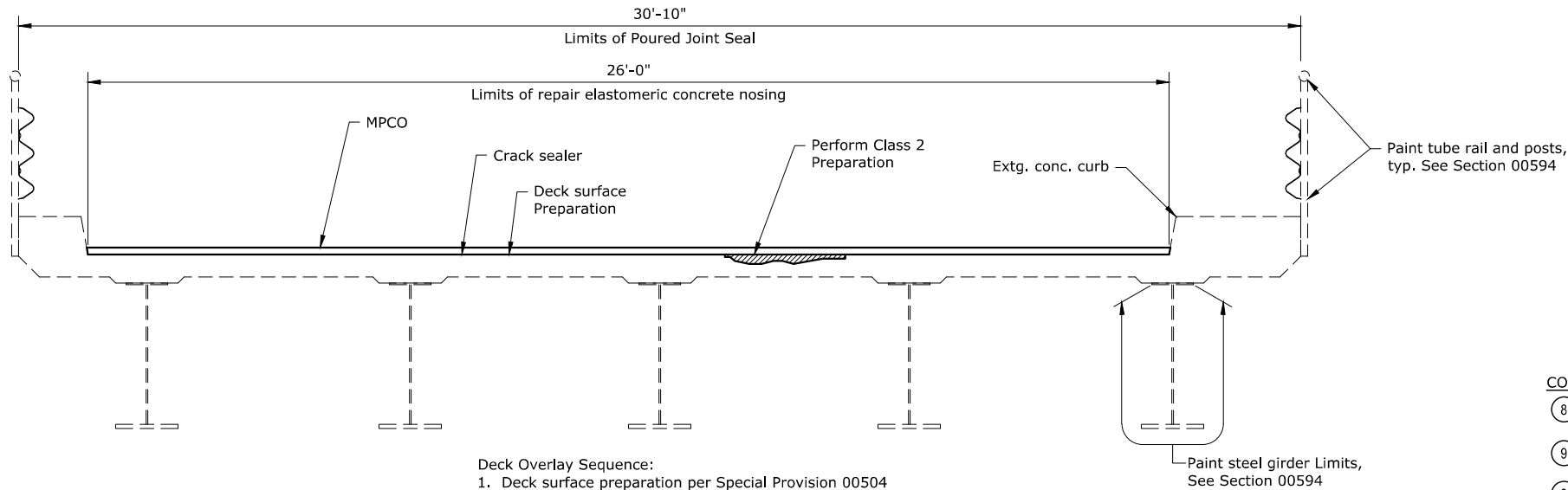


TO CANBY



DECK REHABILITATION PLAN

SCALE: 1/4"=1'-0"



- Deck Overlay Sequence:
- 1. Deck surface preparation per Special Provision 00504
 - 2. Apply crack sealer per Special Provision 00556
 - 3. Apply MPCO per Special Provision 00556

DECK REHABILITATION TYPICAL SECTION & PAINTING LIMITS

SCALE: 1/4"=1'-0"

CONSTRUCTION NOTES:

- 8 Poured joint seal, see Oregon std. dwg. no. BR140
- 9 Perform Class 2 preparation as needed
- 9 Install MPCO on concrete deck
- 13 Repair elastomeric concrete nosing, see Oregon std. dwg. no. BR140

SCALE WARNING
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DRAFTED BY: S.H.C.
CHECKED BY: R.W.

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B07

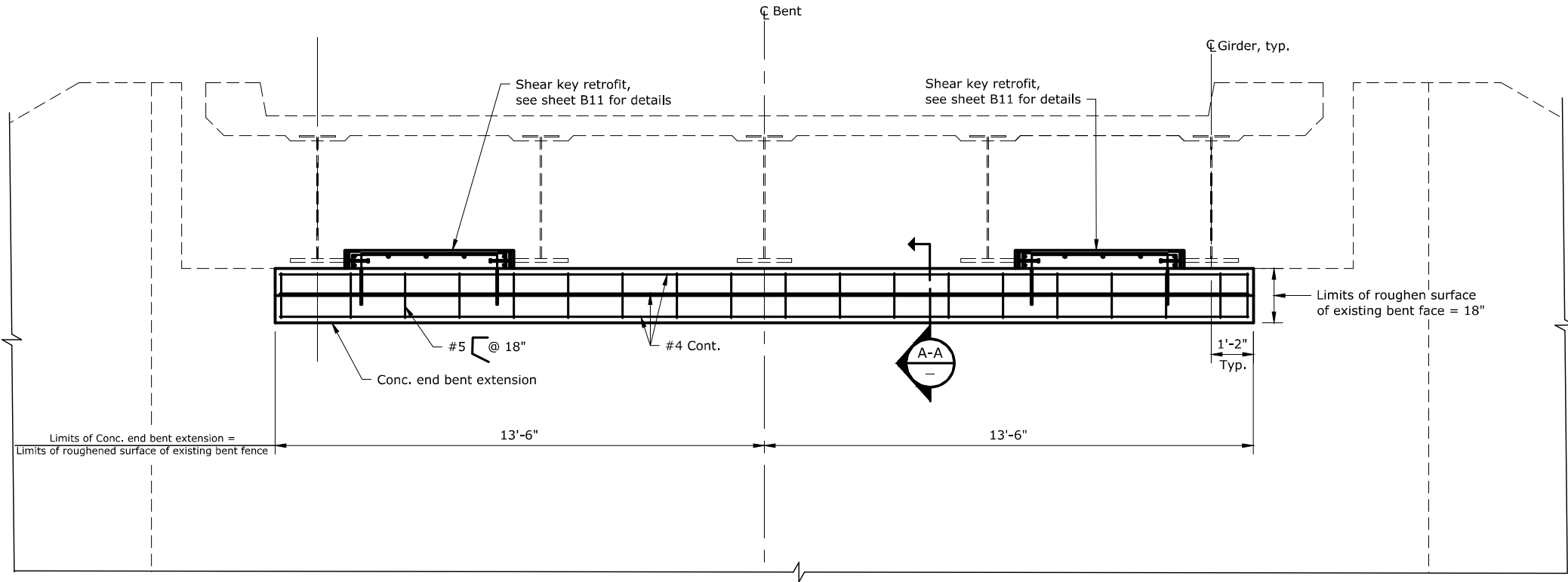
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DECK REHAB AND PAINTING LIMITS

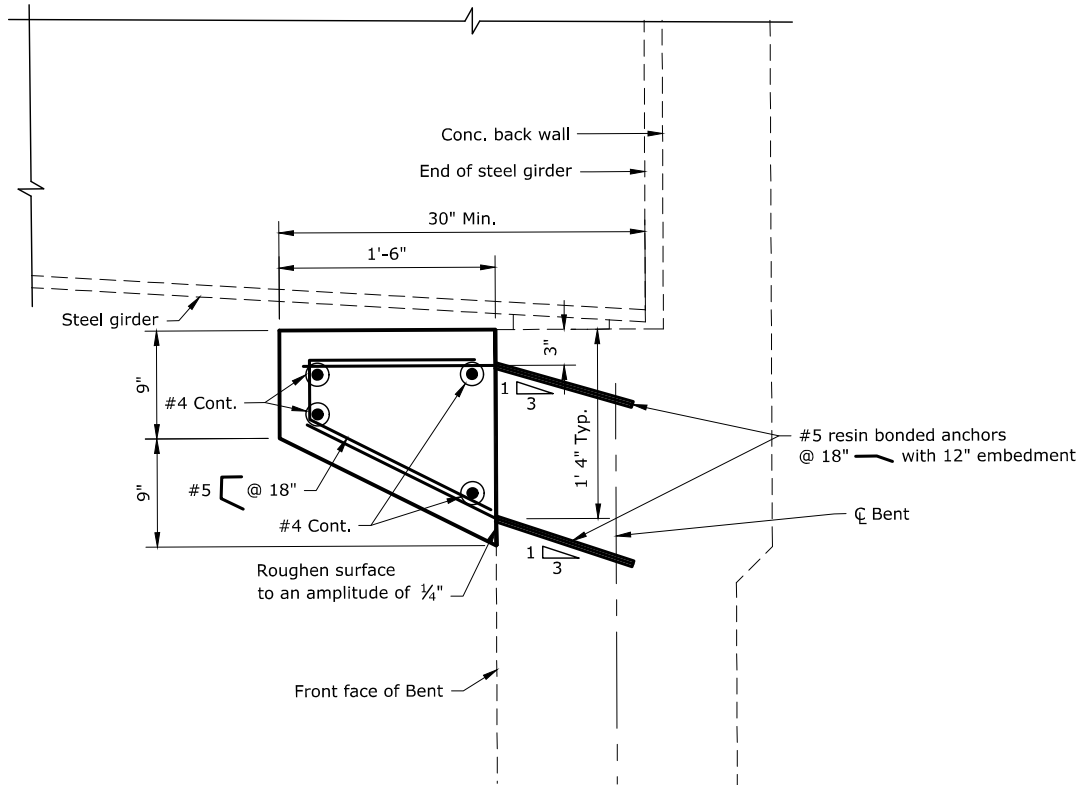
KNIGHTS BRIDGE REHABILITATION

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BENT 7 ELEVATION (BENT 1 SIMILAR)
SCALE: 1/4"=1'-0"



SECTION A-A
SCALE: 3/4"=1'-0"

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END BENT EXTENSION DETAILS

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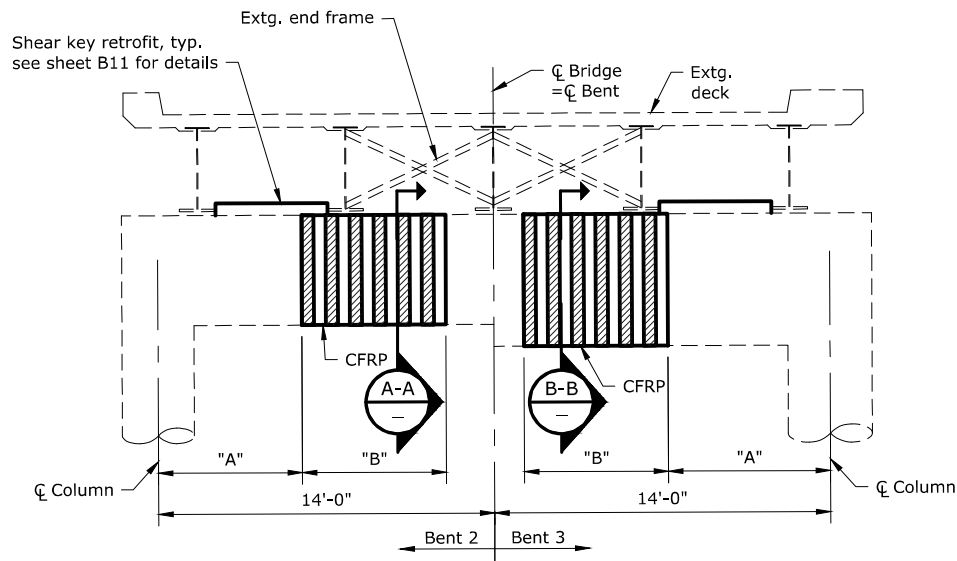
Dan Johnson

DTD Director

KNIGHTS BRIDGE REHABILITATION

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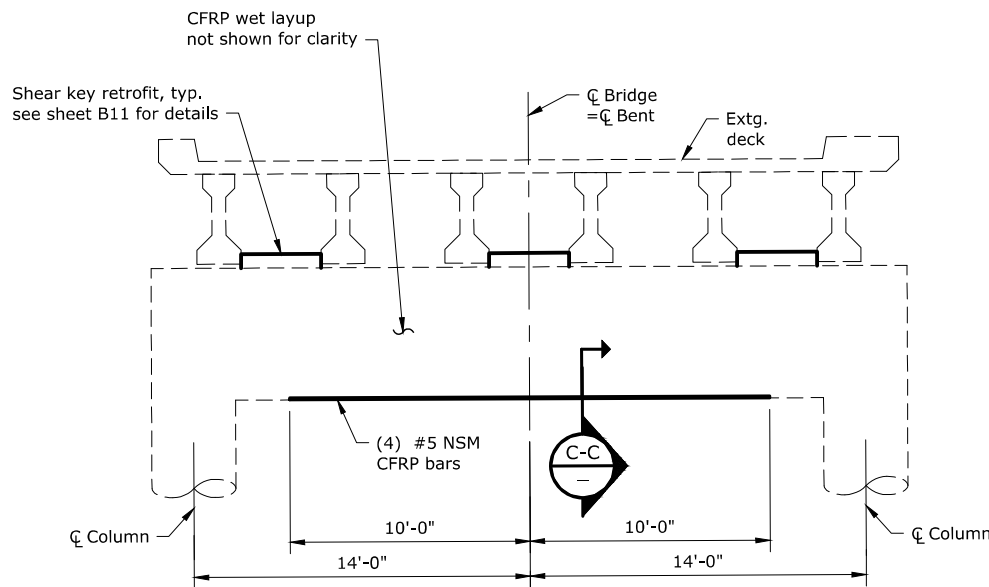
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CFRP STRENGTHENING - WET LAYUP SYSTEM

BENTS 2 AND 3

SCALE: 1/8"=1'-0"



CFRP STRENGTHENING - NEAR SURFACE MOUNTED

BENTS 3 AND 4

SCALE: 1/8"=1'-0"

Table 1

Location	"A"	"B"	Factored load (kips)	Existing capacity (kips)	Additional unfactored strength required (kips)
Bent 2	6'-0"	6'-0"	218.3	226	42
Bent 3	6'-9"	6'-0"	242.0	268	27

Strengthening notes:

1. Provide CFRP wrap from the ODOT QPL as shown. See Section 00565 for installation procedures. See Table 1 for design loads.

2. Bent strengthening to be symmetrical about C Bent .

CFRP sheet minimum material properties:

CE	0.85	
F_{tu}^*	128	Ksi
E_{tu}^*	0.09	in/ in
E_f	14000	ksi
$t(\text{min})$	0.04	in

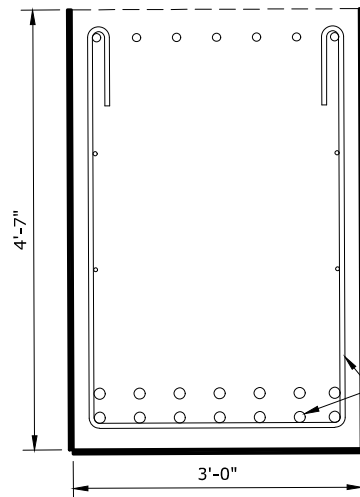
Table 2

Location	Factored load (kip-ft)	Existing unfactored capacity (kip-ft)	Additional unfactored strength required (kip-ft)
Bent 3 & 4	3140	3473	738

CFRP bar material properties:

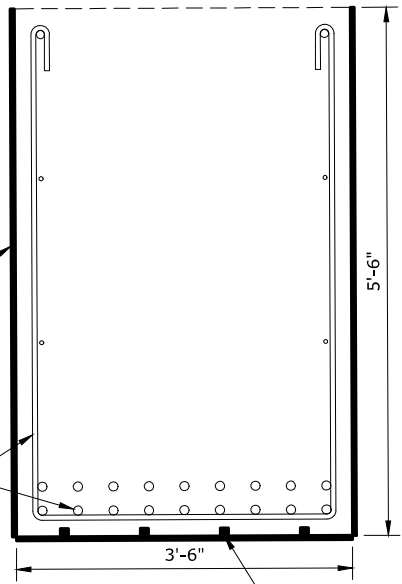
CE	0.85	
F_{tu}^*	250	Ksi
E_{fu}^*	0.0130	in/in
E_f	19000	ksi

Minimum average bond strength = 1000 psi



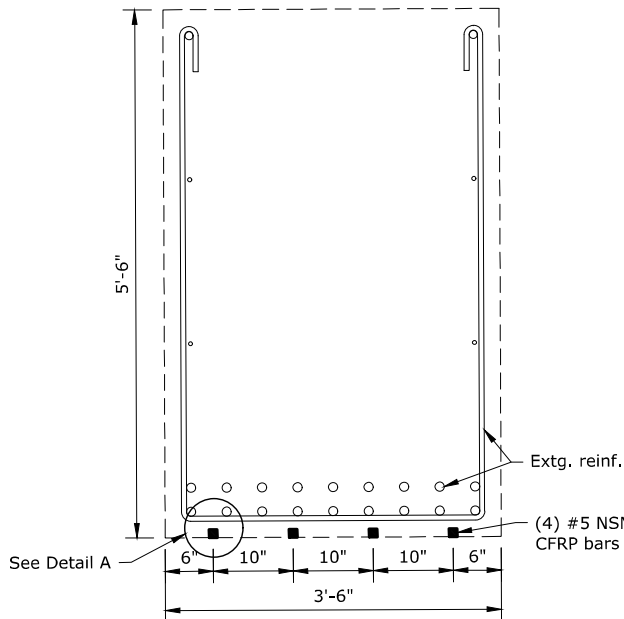
SECTION A-A

SCALE: 1/2"=1'-0"



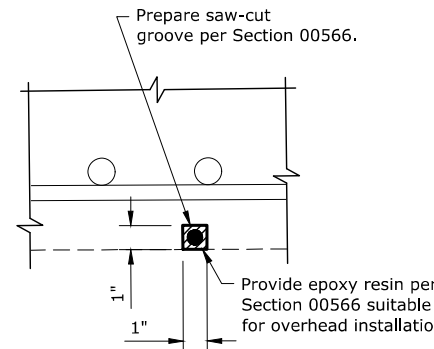
SECTION B-B

SCALE: 1/2"=1'-0"



SECTION C-C

SCALE: 1/2"=1'-0"



DETAIL A

SCALE WARNING

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BENT STRENGTHENING

KNIGHTS BRIDGE REHABILITATION

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OREGON CITY, OR 97045



DTD Director

Dan Johnson

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CJH

DRAFTED BY:
SHC

CHECKED BY:
RW

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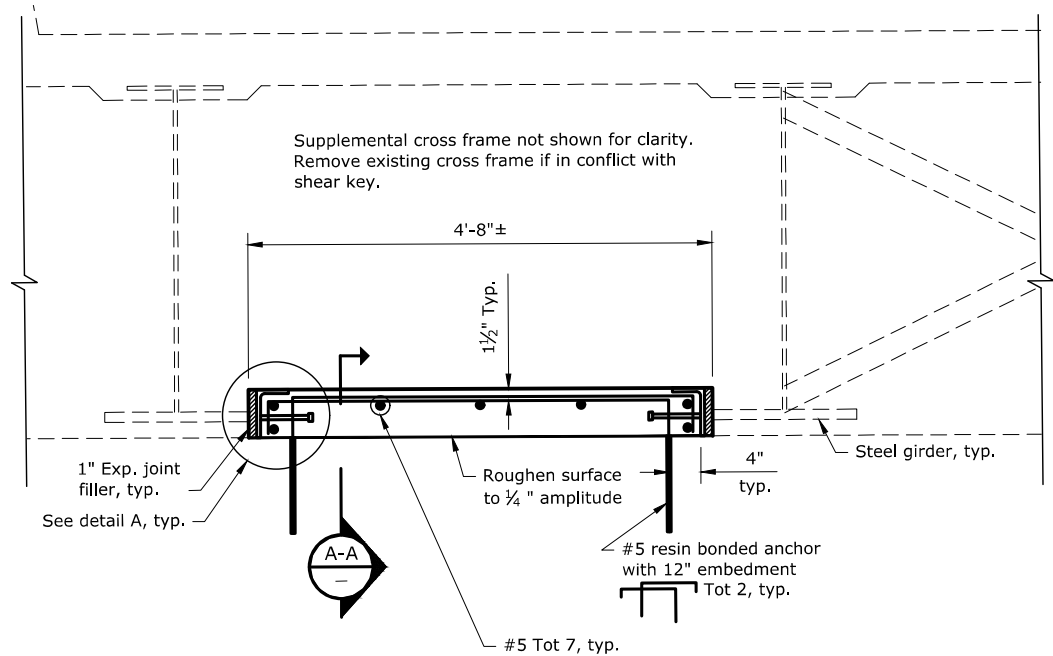
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B10

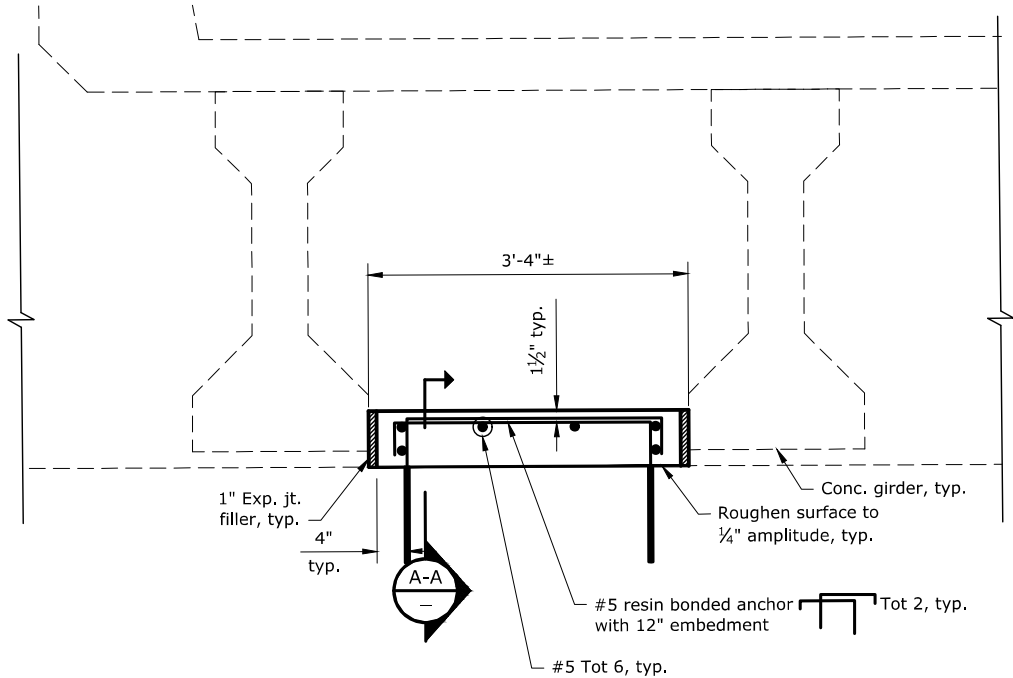
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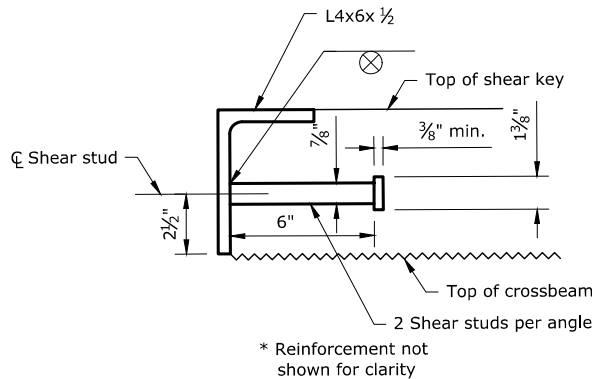
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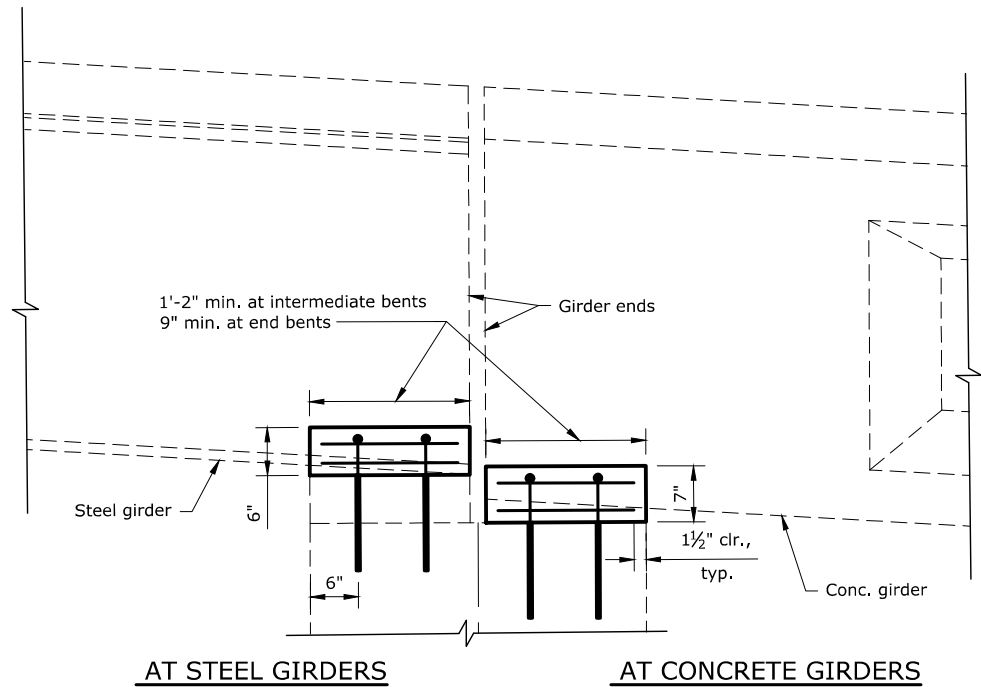
SHEAR KEY RETROFIT AT STEEL GIRDERS
NO SCALE



SHEAR KEY RETROFIT AT CONCRETE GIRDERS
NO SCALE



DETAIL A



SECTION A-A
SCALE: 1/2"=1'-0"

SCALE WARNING
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SHEAR KEY RETROFIT DETAILS

CLACKAMAS COUNTY
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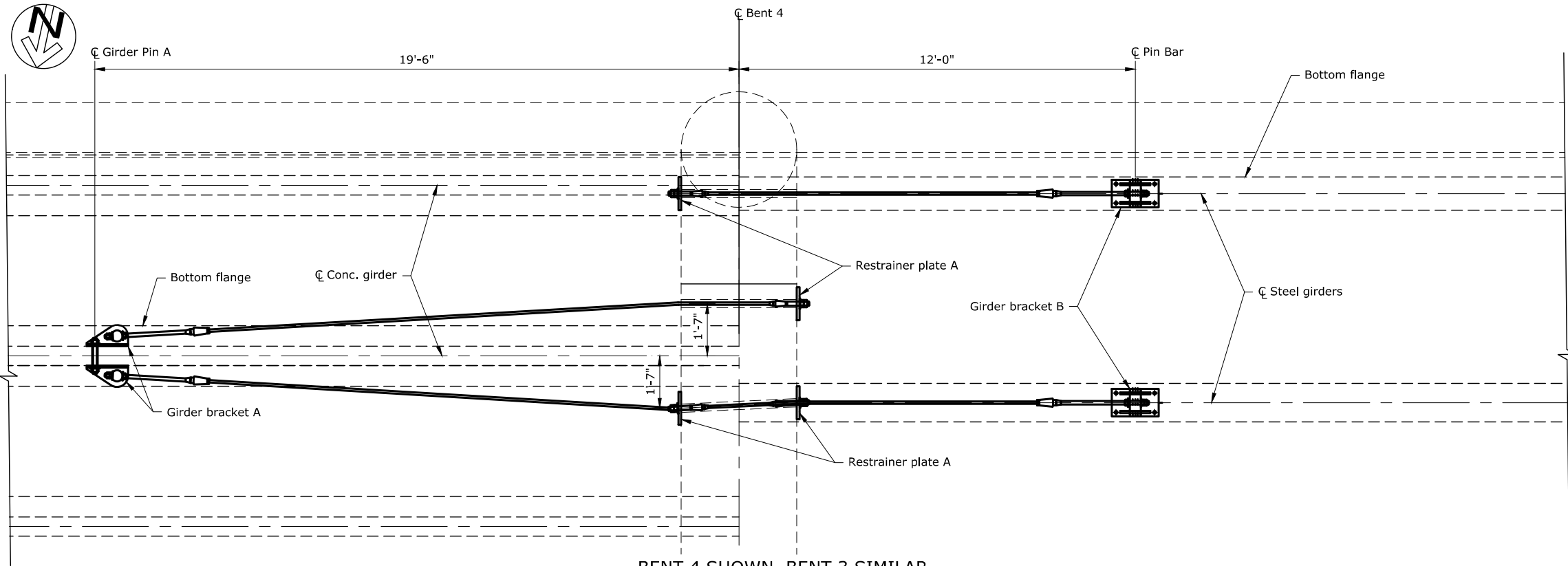
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KNIGHTS BRIDGE REHABILITATION

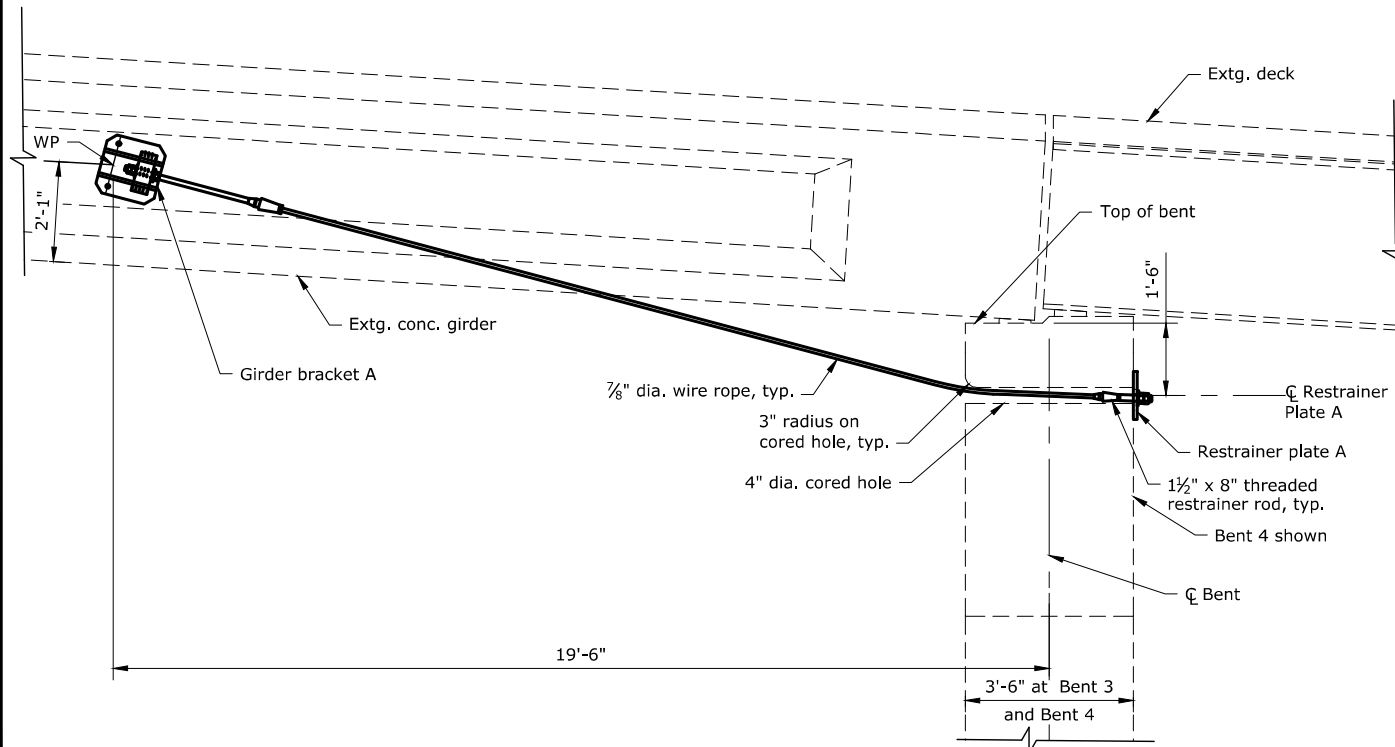
DTD Director
Dan Johnson

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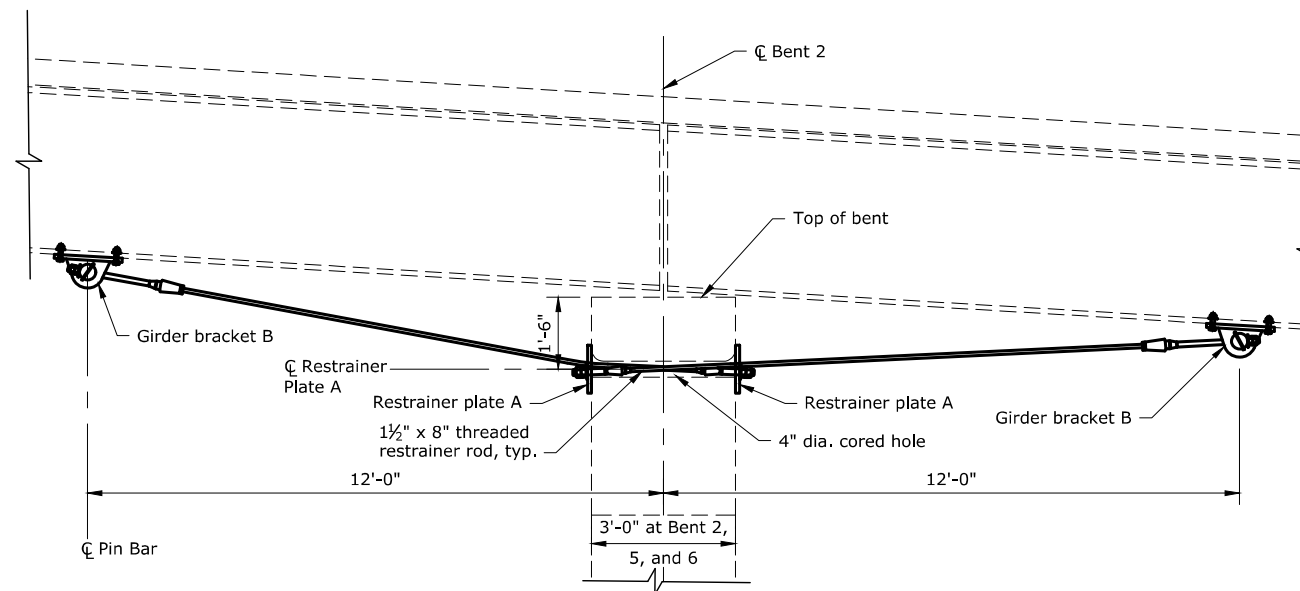


BENT 4 SHOWN, BENT 3 SIMILAR
CABLE RESTRAINER PLAN
SCALE: 1/4"=1'-0"



CABLE RESTRAINER ELEVATION AT CONCRETE GIRDER
SCALE: 1/4"=1'-0"

NOTES:
For details, see sheet B14



BENT 2 SHOWN
CABLE RESTRAINER ELEVATION AT STEEL GIRDERS
SCALE: 1/4"=1'-0"

SCALE WARNING
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CABLE RESTRAINER DETAILS - 1

KNIGHTS BRIDGE REHABILITATION

DATE: SEPT 2023 PROJECT NO.: 300321303

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- NOTES:
1. PROTECT ALL EXIST UTILITIES IN PLACE.
 2. DO NOT CLEAR/ REMOVE TREES WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
 3. CONTRACTOR STAGING AREA CONSISTS OF EXISTING GRAVEL PARKING AREA AND WILL REMAIN SO UPON COMPLETION OF CONSTRUCTION.
 4. SEE SHEET EC01 FOR STABILIZATION AND RESTORATION REQUIREMENTS

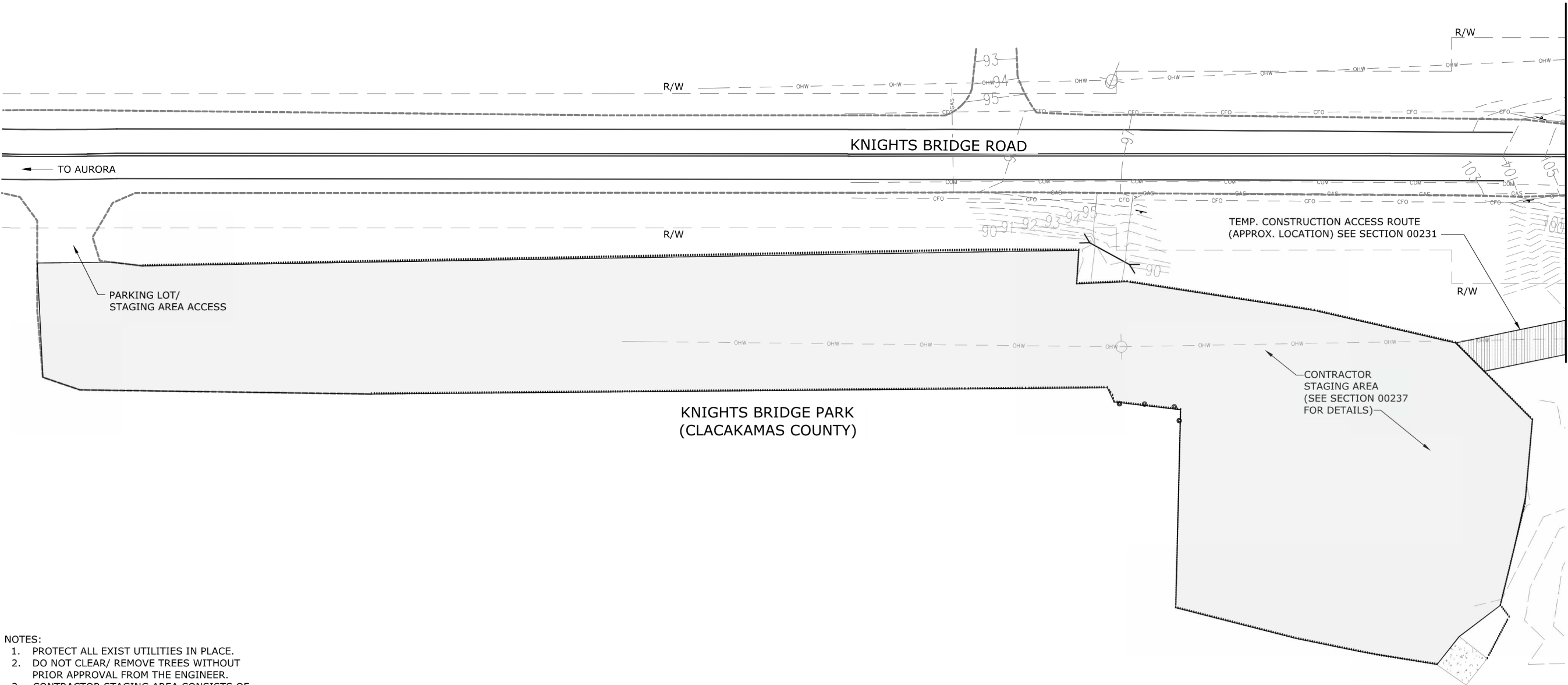


SITE PLAN
SCALE: 1"=50'

SCALE WARNING
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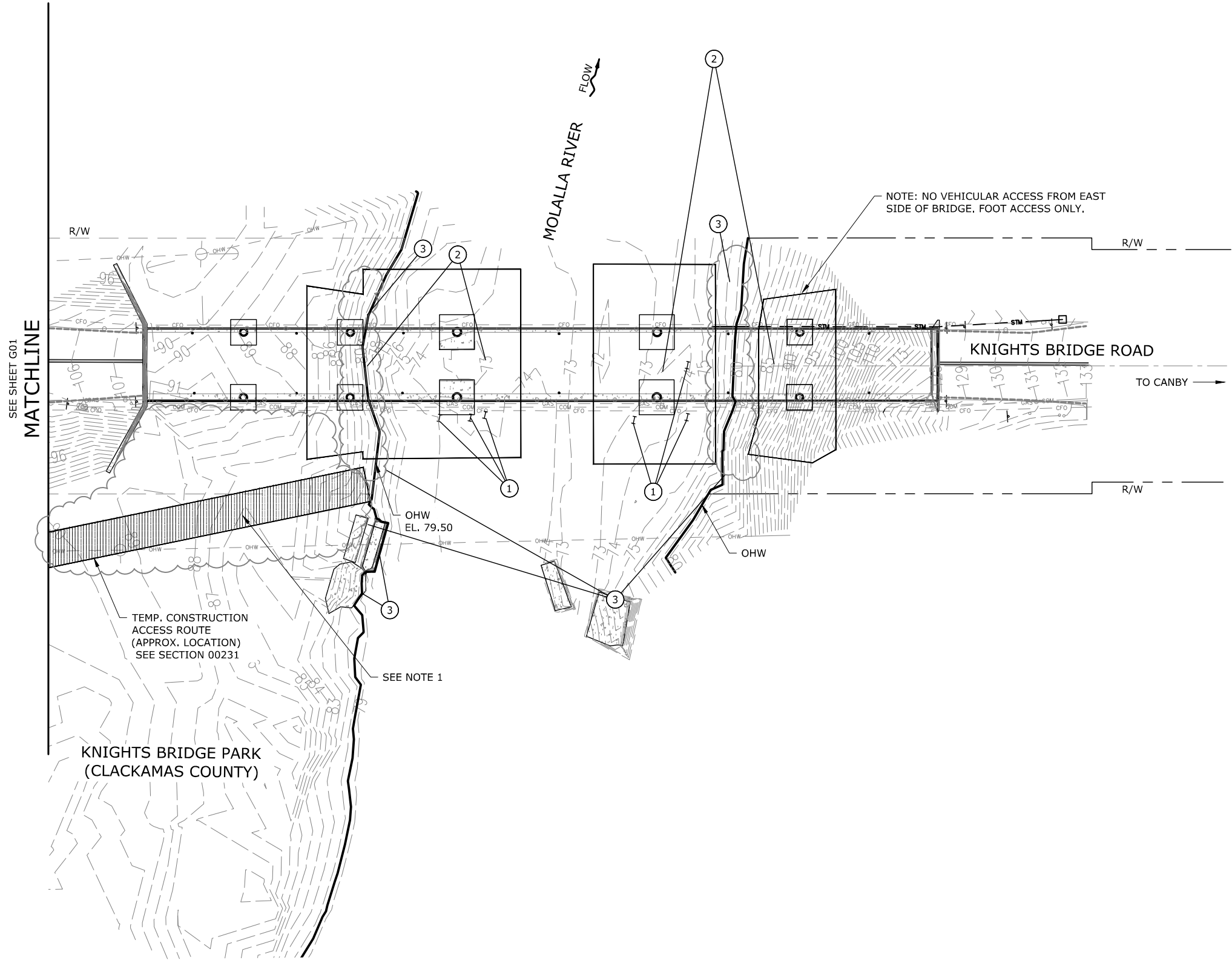
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SITE PLAN

KNIGHTS BRIDGE REHABILITATION

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CONSTRUCTION KEYNOTES:

- 1 REMOVE EXIST. PILES - 6 EA.
- 2 INST. RIPRAP GEOTEXTILE, TYPE 2 - 2,411 SY
INST. KEYED RIPRAP, CLASS 2000 - 2,613 CY
COVER RIPRAP WITH SELECTED NATIVE MATERIAL
SEE SHEETS B04 & B05.
- 3 REMOVE EXIST. CONC. BOAT RAMP PANELS, ABUTMENT,
FOOTINGS, PILES, REINFORCEMENT, CMP PIPES, AND
TIMBER DEBRIS



- NOTES:
- 1. EXIST. CONC. BOAT RAMP PANELS IN THIS
AREA. IF ENCOUNTERED, NOTIFY ENGINEER.
REMOVE CONC. DEBRIS IN CONJUNCTION
WITH ACCESS ROAD RESTORATION.



SITE PLAN
SCALE: 1"=50'

SCALE WARNING

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MEASURE ONE INCH, THEN
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SITE PLAN

KNIGHTS BRIDGE REHABILITATION

CLACKAMAS COUNTY

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Dan Johnson

DTD Director

DESIGNED BY: RWN
DRAFTED BY: SHC
CHECKED BY: JWO

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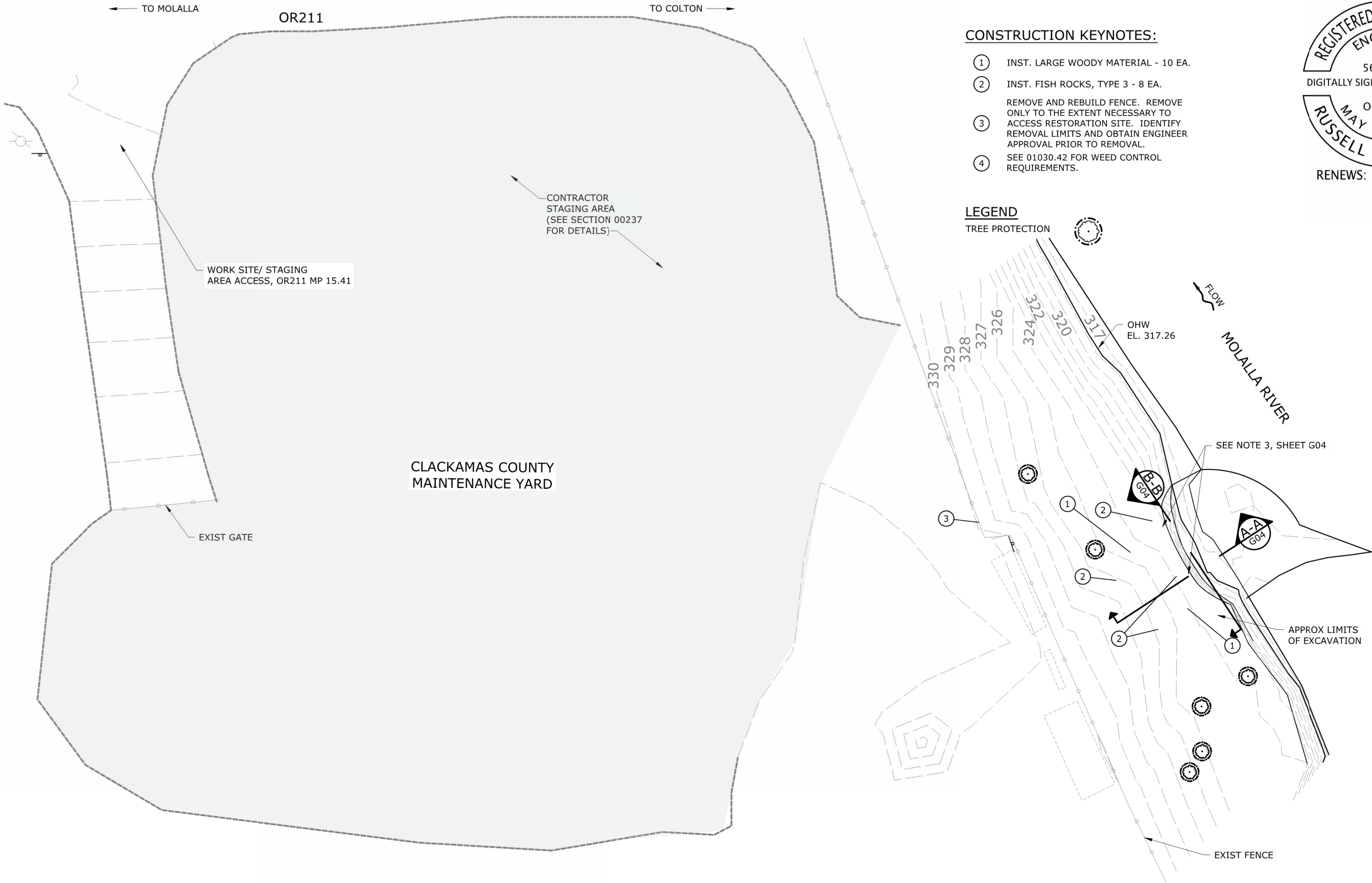
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DATE: SEPT 2023 PROJECT NO.: 300321303

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STREAMBED ENHANCEMENT PLAN

CLACKAMAS COUNTY

DEPT. OF TRANSPORTATION
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150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



Dan Johnson DTD Director

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RWN

NO. DATE:

DRAFTED BY:
SHC

CHECKED BY:
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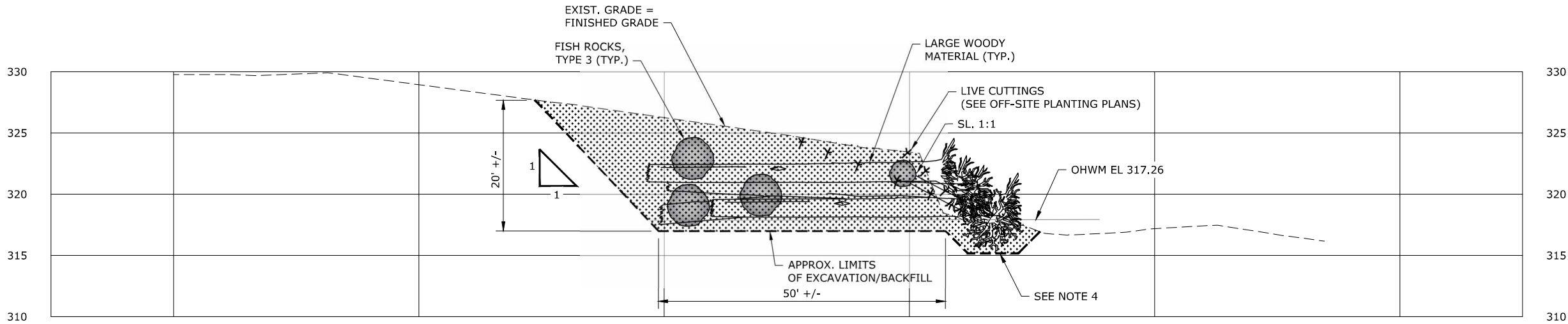
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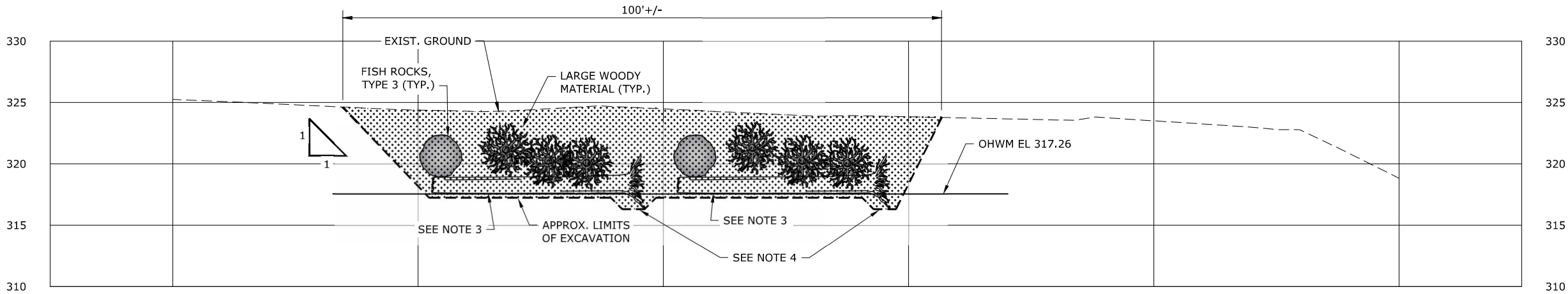
KNIGHTS BRIDGE REHABILITATION

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SECTION A-A
SCALE: 1"=10'



SECTION B-B
SCALE: 1"=10'

- NOTES:
1. EXCAVATE AND STOCKPILE MATERIAL WITHIN EXCAVATION LIMITS. BACKFILL LWM AND FISH ROCKS WITH STOCKPILED MATERIAL.
 2. BACKFILL LARGE WOODY MATERIAL AND FISH ROCKS WITH SELECTED NATIVE BACKFILL MATERIAL.
 3. PLACE LONGITUDINAL LWM TRUNKS AT OHWM EL 317.26.
 4. SHAPE EXCAVATIONS TO ACCOMMODATE SELECTED LWM ROOT WADS.

SCALE WARNING
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STREAMBED ENHANCEMENT DETAILS

CLACKAMAS COUNTY

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150 BEAVERCREEK ROAD
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Dan Johnson

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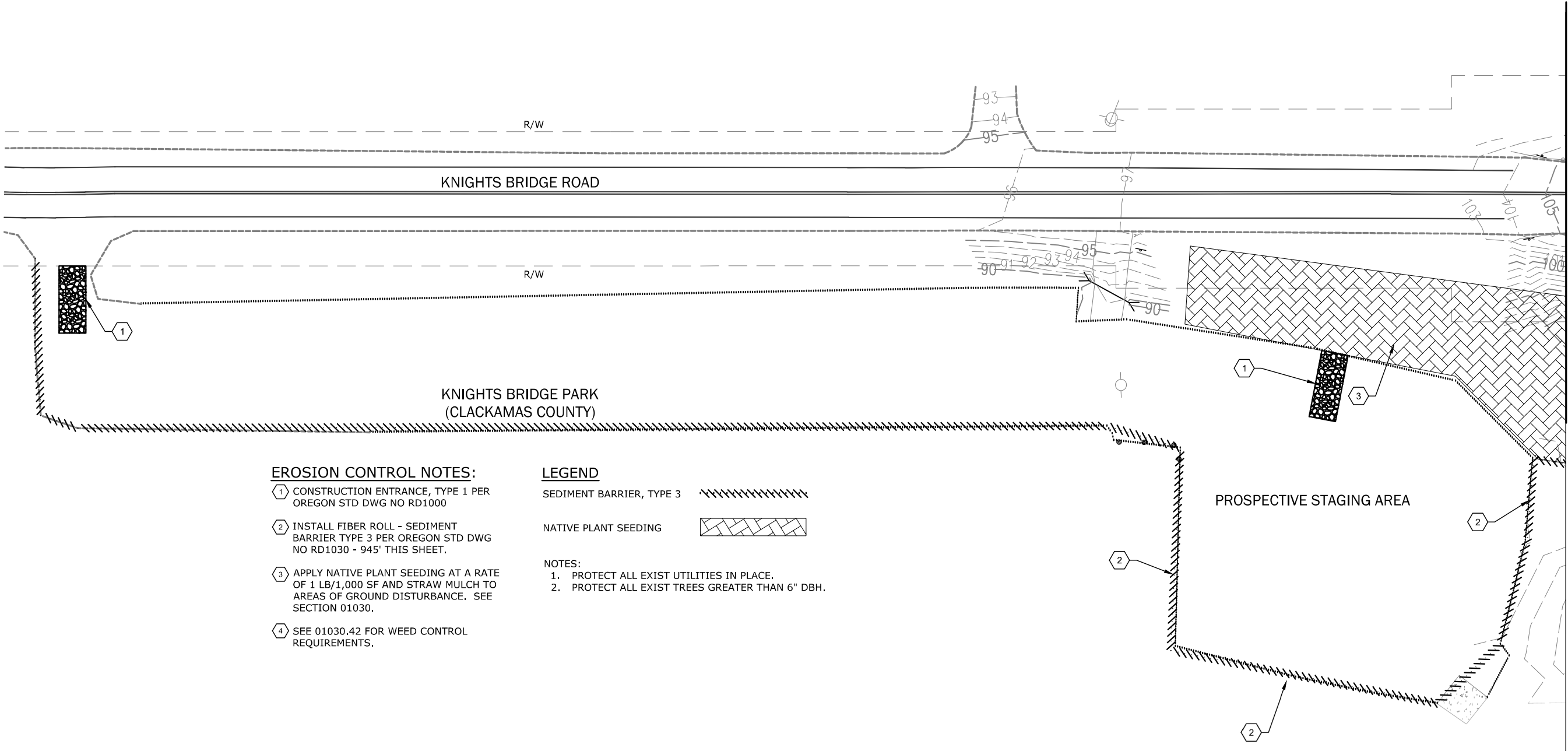
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KNIGHTS BRIDGE REHABILITATION

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EROSION CONTROL NOTES:

- 1 CONSTRUCTION ENTRANCE, TYPE 1 PER OREGON STD DWG NO RD1000
- 2 INSTALL FIBER ROLL - SEDIMENT BARRIER TYPE 3 PER OREGON STD DWG NO RD1030 - 945' THIS SHEET.
- 3 APPLY NATIVE PLANT SEEDING AT A RATE OF 1 LB/1,000 SF AND STRAW MULCH TO AREAS OF GROUND DISTURBANCE. SEE SECTION 01030.
- 4 SEE 01030.42 FOR WEED CONTROL REQUIREMENTS.

LEGEND

- SEDIMENT BARRIER, TYPE 3
- NATIVE PLANT SEEDING

- NOTES:
1. PROTECT ALL EXIST UTILITIES IN PLACE.
 2. PROTECT ALL EXIST TREES GREATER THAN 6" DBH.



PLAN
SCALE: 1"=50'

SCALE WARNING
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EROSION CONTROL PLAN

CLACKAMAS COUNTY

DEPT. OF TRANSPORTATION
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150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



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DRAFTED BY: SHC
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REVISIONS

NO.	DATE:

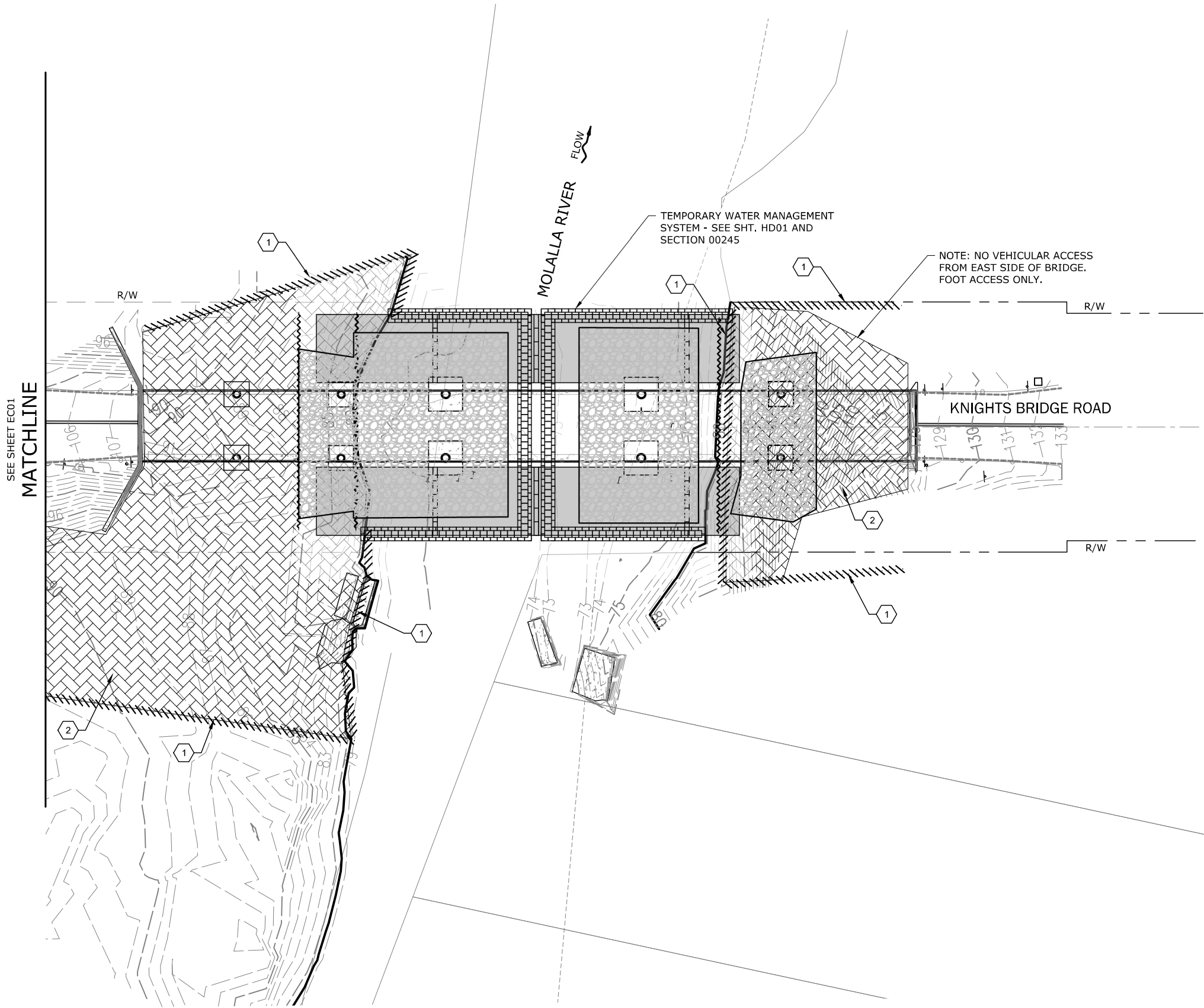
Sheet No.
EC01

20 of 26

KNIGHTS BRIDGE REHABILITATION

DATE: SEPT 2023 | PROJECT NO.: 300321303

O:\Engineering\Client\Clackamas County\22-3442 Knights Bridge Rd Br\CAD\Sheets\22-3442-OR-EC.dwg EC02 10/10/2024 11:02 AM RYAN.HASELTON 24.1s (LMS Tech)



EROSION CONTROL NOTES:

- 1. INSTALL FIBER ROLL - SEDIMENT BARRIER TYPE 3 PER OREGON STD DWG NO RD1030 - 675' THIS SHEET.
- 2. APPLY NATIVE PLANT SEEDING AT A RATE OF 1 LB/1,000 SF AND STRAW MULCH TO AREAS OF GROUND DISTURBANCE. SEE SECTION 01030.
- 3. SEE 01030.42 FOR WEED CONTROL REQUIREMENTS.

LEGEND

- SEDIMENT BARRIER, TYPE 3
- NATIVE PLANT SEEDING

- NOTES:
- 1. PROTECT ALL EXIST UTILITIES IN PLACE.
 - 2. PROVIDE A MIN. 20' HORIZONTAL CLEAR WIDTH BETWEEN EXIST. COLUMN(S) AND WORK ISOLATION MEASURES AND TEMPORARY WORK PLATFORMS. SEE 00253.44 FOR DETAILS.



PLAN
SCALE: 1"=50'

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE



consor

DESIGNED BY:		DRAFTED BY:		CHECKED BY:	
RWN		SHC		JWO	
NO.		DATE:			

REVISIONS

Sheet No.
EC02

21 of 26

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



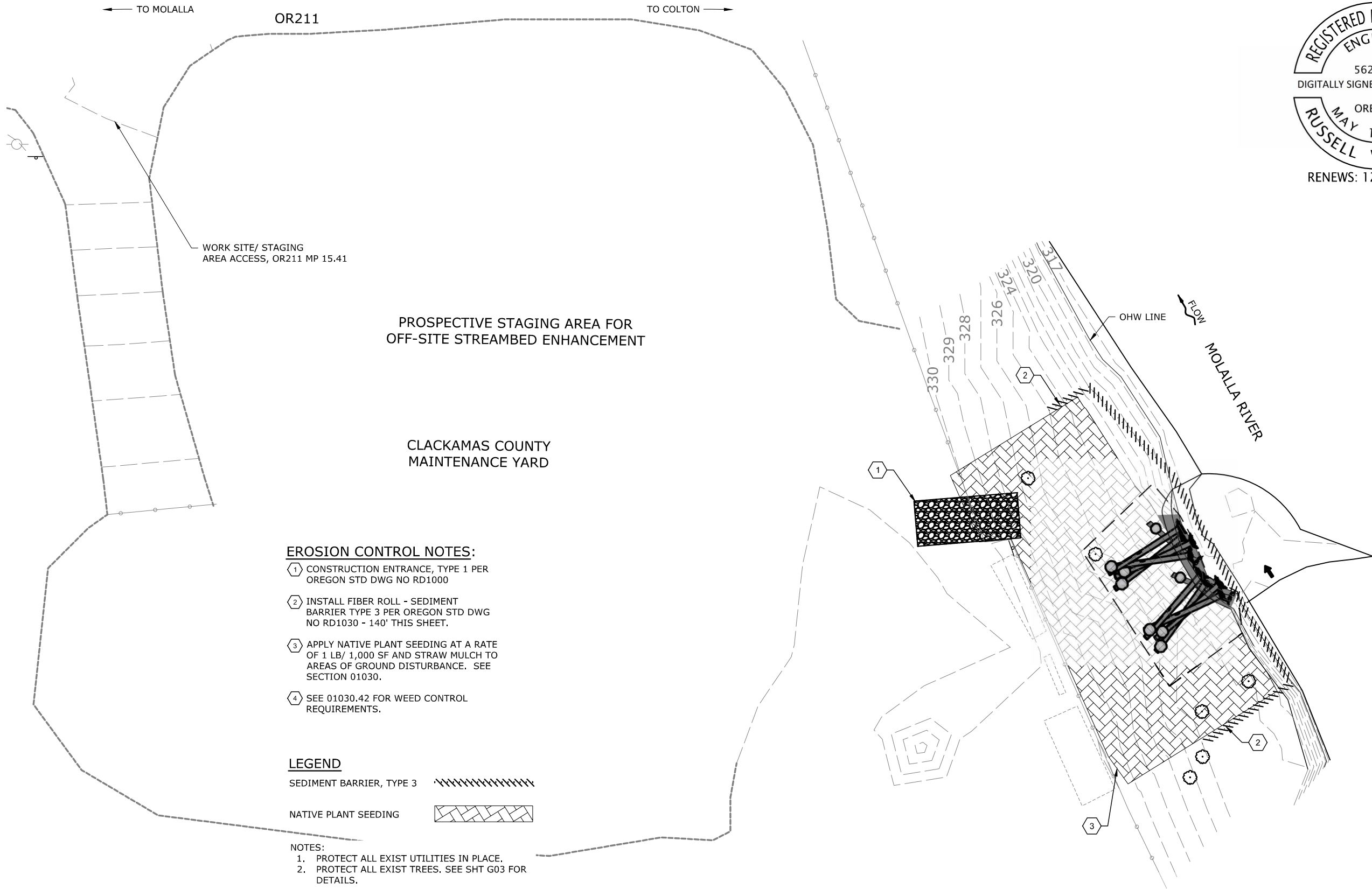
Dan Johnson DTD Director

EROSION CONTROL PLAN

KNIGHTS BRIDGE REHABILITATION

DATE: SEPT 2023 PROJECT NO.: 300321303

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EROSION CONTROL NOTES:

- 1 CONSTRUCTION ENTRANCE, TYPE 1 PER OREGON STD DWG NO RD1000
- 2 INSTALL FIBER ROLL - SEDIMENT BARRIER TYPE 3 PER OREGON STD DWG NO RD1030 - 140' THIS SHEET.
- 3 APPLY NATIVE PLANT SEEDING AT A RATE OF 1 LB/ 1,000 SF AND STRAW MULCH TO AREAS OF GROUND DISTURBANCE. SEE SECTION 01030.
- 4 SEE 01030.42 FOR WEED CONTROL REQUIREMENTS.

LEGEND

- SEDIMENT BARRIER, TYPE 3
- NATIVE PLANT SEEDING

- NOTES:
- 1. PROTECT ALL EXIST UTILITIES IN PLACE.
 - 2. PROTECT ALL EXIST TREES. SEE SHT G03 FOR DETAILS.



EROSION CONTROL PLAN		KNIGHTS BRIDGE REHABILITATION		DATE: SEPT 2023 PROJECT NO.: 300321303	
CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		Dan Johnson DTD Director			
DESIGNED BY: RWN		DRAFTED BY: SHC		CHECKED BY: JWO	
NO. DATE:					
Sheet No.		EC03			
22		of		26	



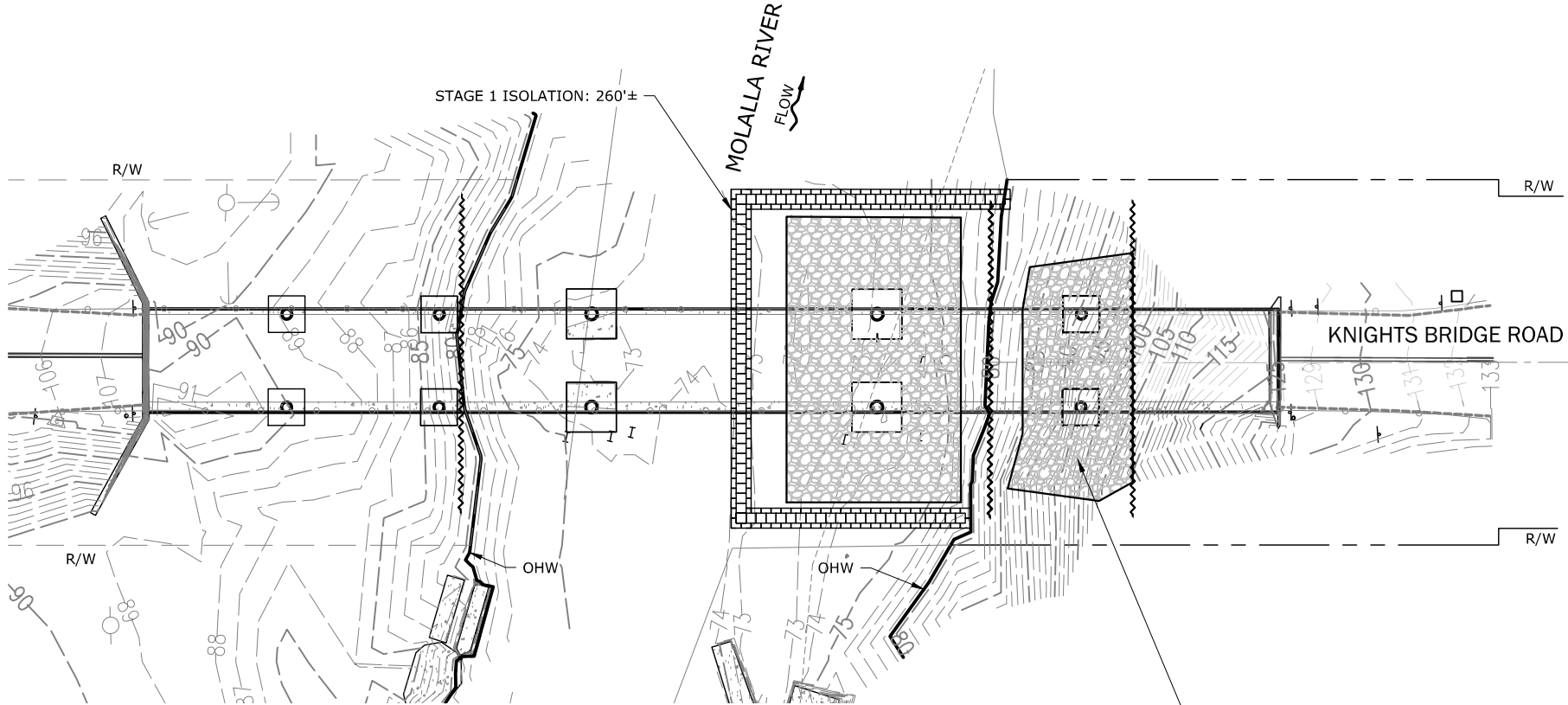
PLAN
SCALE: 1"=30'

SCALE WARNING
IF THIS SCALE LINE DOES NOT
MEASURE ONE INCH, THEN
DRAWING IS NOT TO SCALE

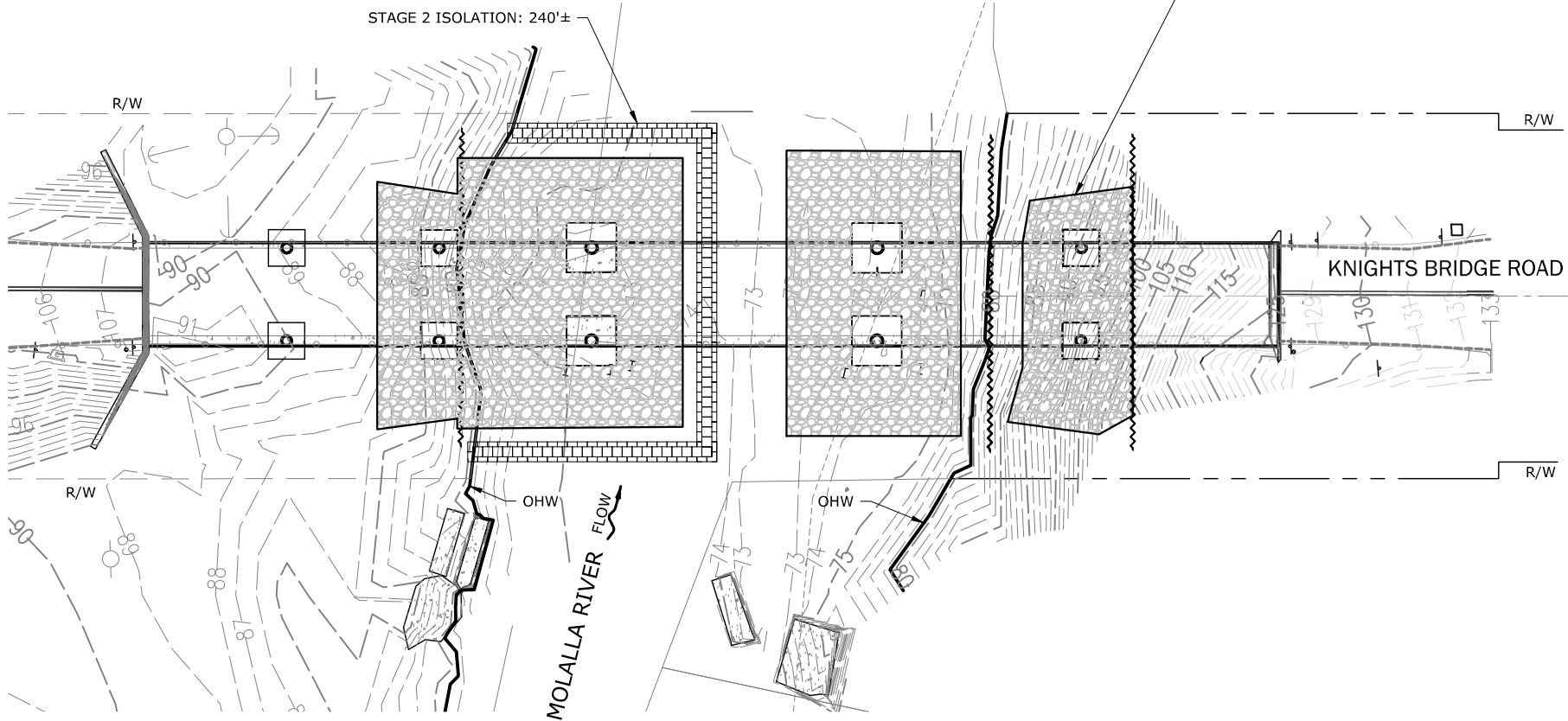


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ISOLATION PLAN - STAGE 1
SCALE: 1"=50'



ISOLATION PLAN - STAGE 2
SCALE: 1"=50'

NOTES:

- ISOLATION PLAN SHOWN IS CONCEPTUAL ONLY. CONTRACTOR SHALL DETERMINE NECESSARY WATER ISOLATION MEASURES AND METHOD OF WATER MANAGEMENT, SEE SECTION 00245 FOR ADDITIONAL INFORMATION.
- MAINTAIN WATERWAY ACCESS AT ALL TIMES. SEE 00220.03(B) & 00253.44 FOR DETAILS.
- SEE SHEETS B04 & B05 FOR RIPRAP DETAILS.

LEGEND

- TEMPORARY WATER MANAGEMENT FACILITY
- TEMPORARY SHORING
- ORDINARY HIGH WATER
- Keyed Riprap, Class 2000

SCALE WARNING
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TEMPORARY WATER MANAGEMENT FACILITY

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



DTD Director

Dan Johnson

DESIGNED BY:	RWN
DRAFTED BY:	SHC
CHECKED BY:	JWO

REVISIONS

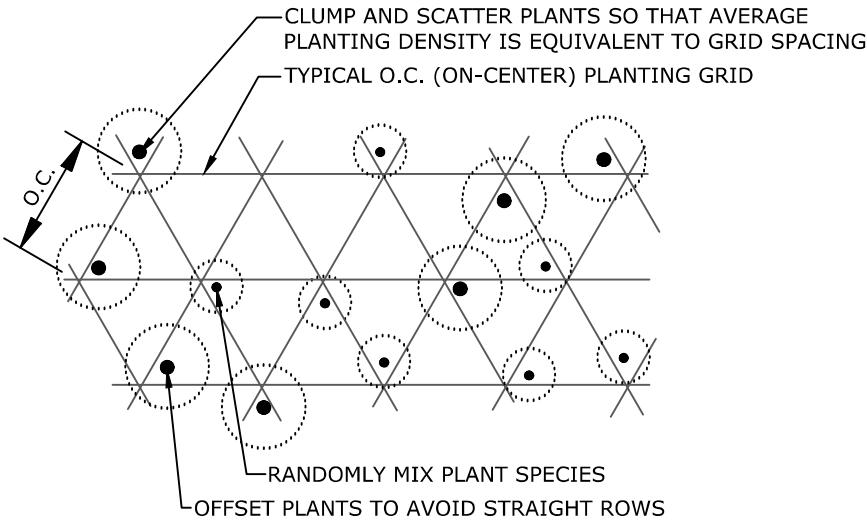
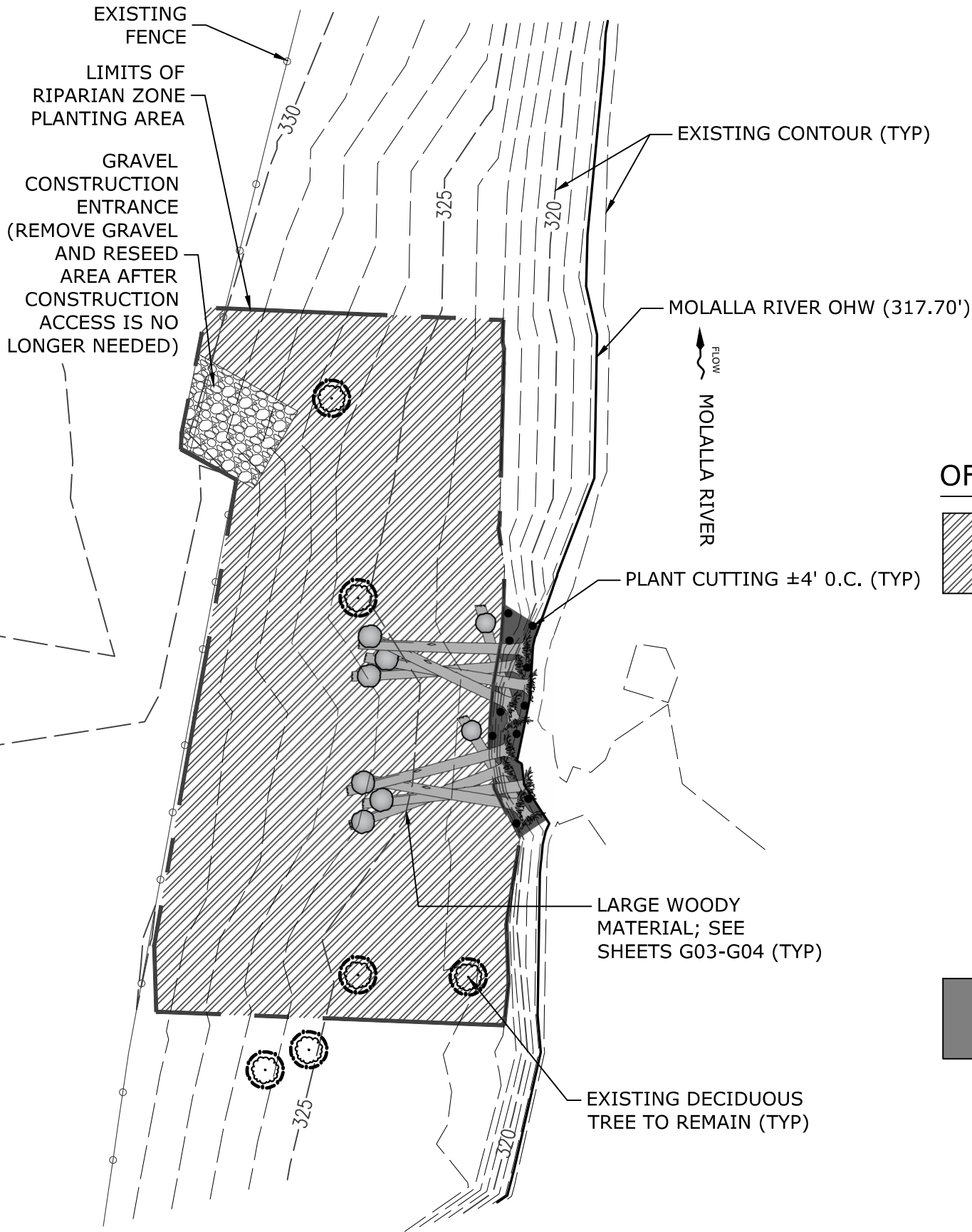
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HD01

23 of 26

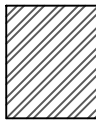
KNIGHTS BRIDGE REHABILITATION

DATE: SEPT 2023 | PROJECT NO.: 300321303



RANDOM PLANTING PATTERN
NTS

OFF-SITE PLANTING SPECIFICATIONS



RIPARIAN ZONE PLANTINGS (±4,690 SF)

SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	QUANTITY
ALNUS RUBRA	RED ALDER	#1 CONT.	15' O.C.	10
RHAMNUS PURSHIANA	CASCARA	#1 CONT.	15' O.C.	10
ACER CIRCINATUM	VINE MAPLE	#1 CONT.	6' O.C.	50
SYMPHORICARPOS ALBUS	COMMON SNOWBERRY	#1 CONT.	4' O.C.	70
GAULTHERIA SHALLON	SALAL	#1 CONT.	4' O.C.	70

TOTAL: 210 WOODY NATIVE PLANTS

SCIENTIFIC NAME	COMMON NAME	SEEDING RATE
ELYMUS GLAUCUS	BLUE WILDRYE	1 PLS LBS PER 1,000 SF/ 43.8 PLS LBS PER ACRE
FESTUCA RUBRA RUBRA	NATIVE RED FESCUE	
BROMUS CARINATUS	CALIFORNIA BROME	
AGROSTIS EXARATA	SPIKE BENTGRASS	

TOTAL: 100% COVERAGE ALL DISTURBED AREAS



PLANT CUTTINGS PLANTING AREA (±160 SF)

SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	QUANTITY
SALIX SPP.*	WILLOW	>1"	4' O.C.	5
CORNUS ALBA*	RED-OSIER DOGWOOD	>1"	4' O.C.	5

TOTAL: 10 LIVE CUTTINGS

* EXACT SPECIES INSTALLED MAY VARY AT TIME OF PLANTING BASED ON AVAILABILITY. ALL LIVE CUTTINGS WILL BE NATIVE SPECIES.



100% SUBMITTAL



PLAN
SCALE: 1"=20'



SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE



OFF-SITE PLANTING PLAN

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



DESIGNED BY: JWM/KAH
DRAFTED BY: KAH
CHECKED BY: JWM

REVISIONS

NO.	DATE:

Sheet No.
PL01

24 of 26

DTD Director

Dan Johnson

DATE: AUG 2024 PROJECT NO.: 300321303

KNIGHTS BRIDGE REHABILITATION

PLANTING NOTES:

1. RESTORATION ACTIVITIES SHALL INCLUDE THE FOLLOWING:

1.1. NATIVE PLANT SEEDING WITHIN ALL TEMPORARILY DISTURBED UPLANDS AT THE PROJECT SITE, SEE SHEETS EC01 AND EC02.

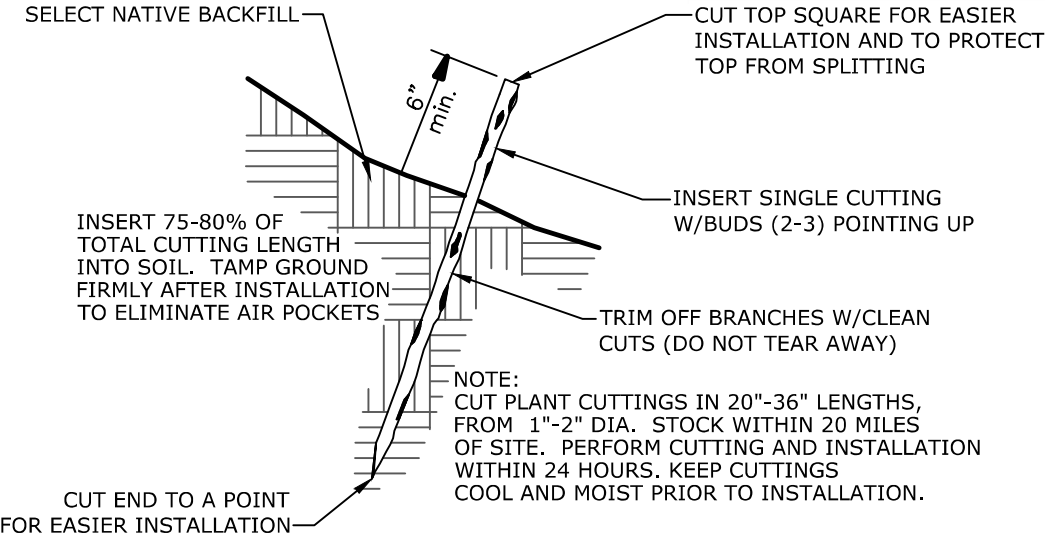
1.2. NATIVE PLANT SEEDING AND DECIDUOUS TREES AND SHRUB PLANTINGS WITHIN THE RIPARIAN ZONE AT THE OFF-SITE PLANTING AREA.

1.3. INSTALLATION OF PLANT CUTTINGS AT 4-FEET ON CENTER (O.C.) AROUND THE INSTALLED LARGE WOODY MATERIAL (LWM) AT THE OFF-SITE PLANTING AREA.
2. MINIMAL SHRUB AND TREE COVER IS CURRENTLY PRESENT AT THE OFF-SITE PLANTING AREA AND NO TREE REMOVAL SHOULD BE NECESSARY DURING INSTALLATION OF THE LWM. CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT AND PRESERVE EXISTING NATIVE VEGETATION DURING INVASIVE SPECIES REMOVAL/CONSTRUCTION ACTIVITIES.
3. ALL NON-NATIVE INVASIVE VEGETATION SHALL BE REMOVED FROM PLANTING AREAS PRIOR TO INSTALLING NATIVE PLANTINGS. INVASIVE SPECIES CONTROL SHALL BE CONSISTENT WITH 2024 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE PROJECT SPECIAL PROVISIONS.
4. RIPARIAN PLANTINGS SHALL BE MULCHED A MINIMUM OF 3-INCHES IN DEPTH TO RETAIN SOIL MOISTURE AND DISCOURAGE WEED GROWTH AROUND NEWLY INSTALLED PLANT MATERIAL. MULCH SHALL CONSIST OF COMMERCIALY MANUFACTURED MEDIUM COMPOST MATERIAL MEETING THE REQUIREMENTS OF SECTION 03020.
5. SUBSTITUTION OF PLANT SPECIES SHALL ONLY BE APPROVED IN CASES OF PLANT UNAVAILABILITY. ALL SUBSTITUTIONS MUST BE APPROVED BY THE PROJECT BIOLOGIST OR ENGINEER PRIOR TO ORDERING IN ACCORDANCE WITH SECTION 01040.
6. HATCHED AREAS ARE INTENDED TO SHOW GENERAL PLANTING AREAS. CONTRACTOR SHALL VERIFY CONDITIONS IN THE FIELD AND MAKE ADJUSTMENT TO PLANTING LOCATION AS NECESSARY TO AVOID CONFLICTS WITH EXISTING NATIVE VEGETATION, LWM, SLOPES, SOIL HYDROLOGIC CONDITIONS, NATURAL FEATURES, ETC. PLANTINGS SHALL PROVIDE EQUAL COVERAGE ACROSS THE OFF-SITE PLANTING AREA. PLACEMENT SHALL BE CONSISTENT WITH NATURALLY OCCURRING PLANT COMMUNITIES. TREES SHALL BE PLACED IN SINGLES AND SHRUBS SHALL BE PLACED IN CLUSTERS OF THE SAME SPECIES TO PROVIDE A NATURAL PLANTING SCHEME AND PROMOTE MAXIMUM VEGETATION COVER TO MINIMIZE WEED ESTABLISHMENT. LAYOUT OF PLANTINGS SHALL BE APPROVED BY THE AGENCY PER SECTION 01040.49.
7. THE CONTRACTOR SHALL PROVIDE SUPPLEMENTAL WATERING FOR ALL NEWLY INSTALLED PLANT MATERIAL DURING THE ONE-YEAR ESTABLISHMENT PERIOD AT A RATE OF 1-INCH PER WEEK (INCLUDING ANY NATURAL RAINFALL THAT MAY OCCUR) FROM JUNE 15 THROUGH OCTOBER 15.

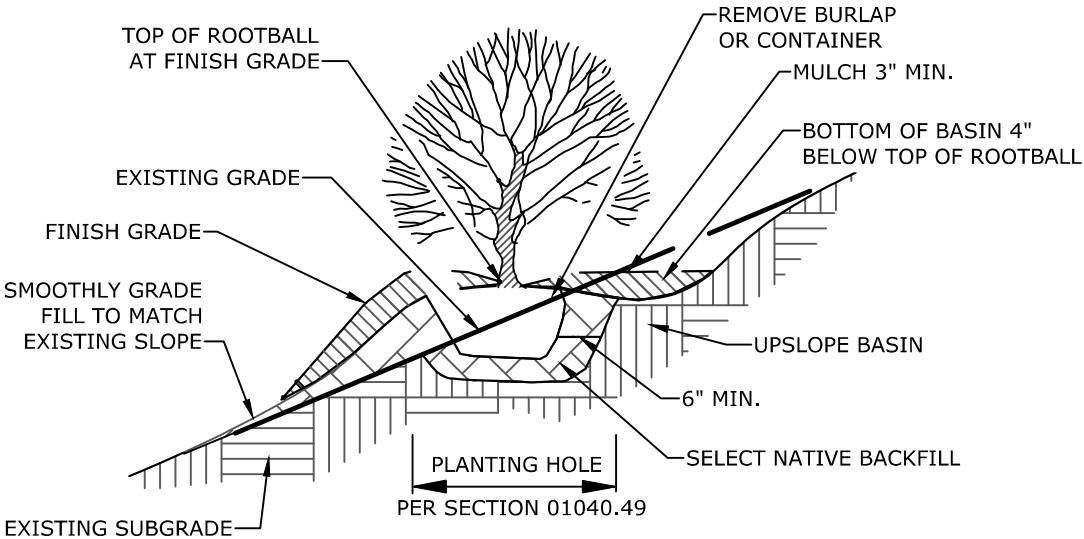
SITE RESTORATION PERFORMANCE STANDARDS:

1. PLANT CARE SHALL BE PROVIDED DURING THE PLANT ESTABLISHMENT PERIOD IN ACCORDANCE WITH SECTION 01040.71.
2. ALL PLANTED MATERIAL SHALL MEET THE SUCCESS CRITERIA IDENTIFIED IN SECTION 01040.71.

100% SUBMITTAL



PLANT CUTTING INSTALLATION
NTS



SLOPED AREA TREE AND SHRUB PLANTING
NTS

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE



OFF-SITE PLANTING NOTES AND DETAILS

KNIGHTS BRIDGE REHABILITATION

DATE: AUG 2024 PROJECT NO.: 300321303

CLACKAMAS COUNTY

DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



DTD Director

Dan Johnson

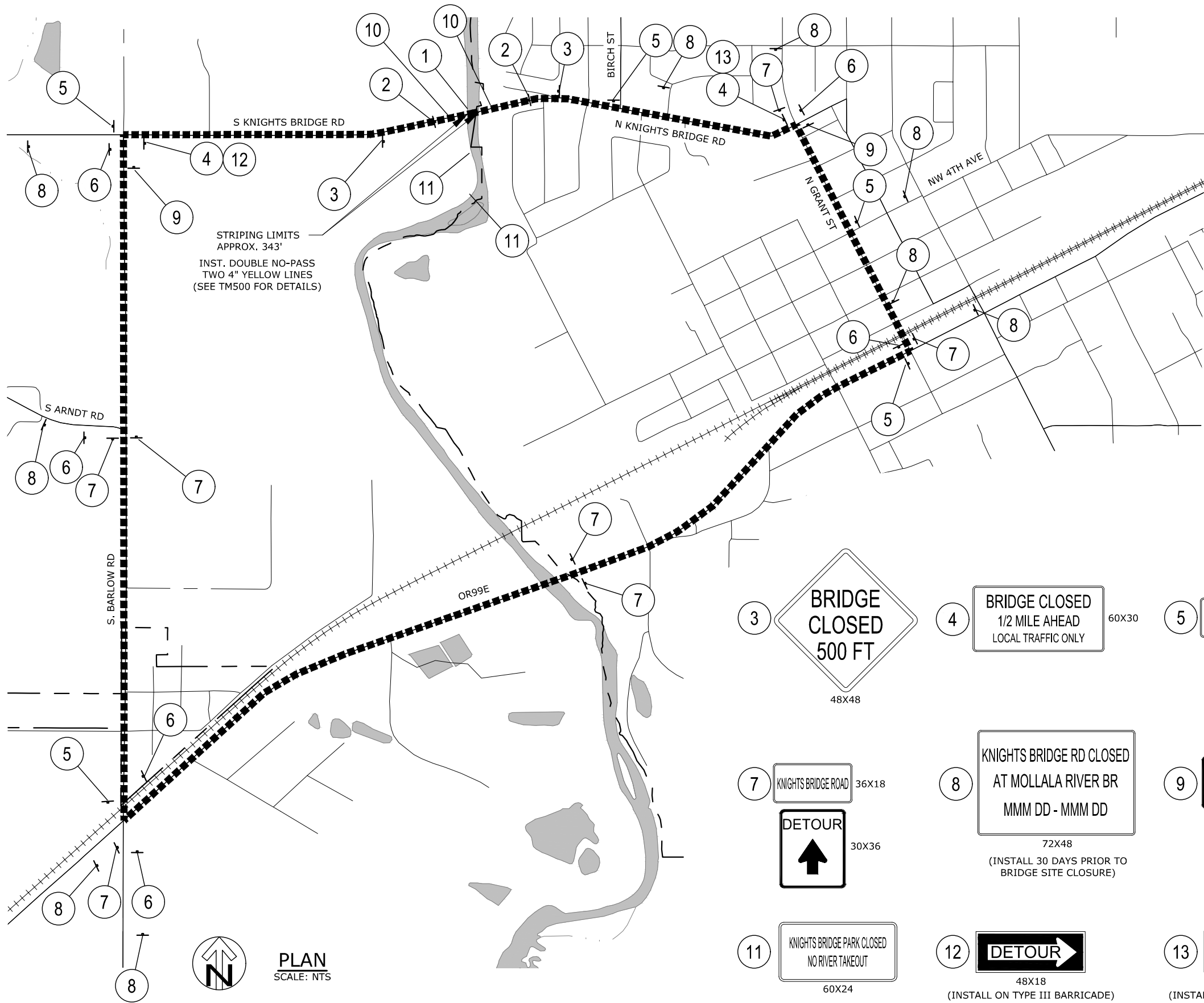
DESIGNED BY: JWM/KAH
DRAFTED BY: KAH
CHECKED BY: JWM

REVISIONS

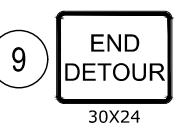
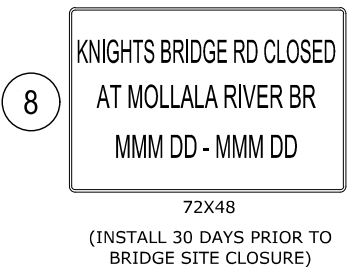
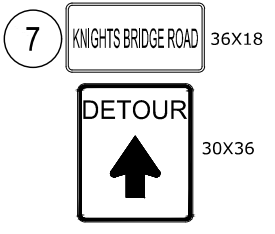
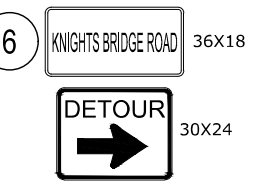
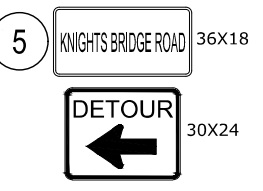
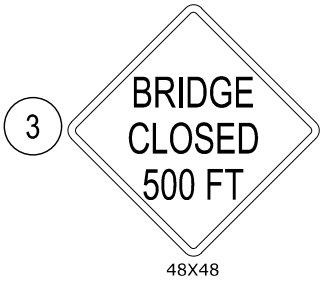
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PL02
25 of 26

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1 PROJECT SITE



10 PLACE TEMP. CONC. BARRIER
ACROSS KNIGHT'S BRIDGE ROAD
AT BRIDGE CLOSURE POINTS



SCALE WARNING
IF THIS SCALE LINE DOES NOT
MEASURE ONE INCH, THEN
DRAWING IS NOT TO SCALE



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DETOUR PLAN

KNIGHTS BRIDGE REHABILITATION

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



DTD Director

Dan Johnson

DESIGNED BY: RWN
DRAFTED BY: SHC
CHECKED BY: JWO

REVISIONS

NO.	DATE:

Sheet No.
TC01



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, PORTLAND DISTRICT
P.O. BOX 2946
PORTLAND, OR 97208-2946

July 3, 2024

Regulatory Branch
Corps No. NWP-2023-363

Mr. Stan Monte
Clackamas County
150 Beavercreek Road
Oregon City, OR 97045
StanMon@clackamas.us

Dear Mr. Monte:

The U.S. Army Corps of Engineers (Corps) received your request for Department of the Army authorization to discharge approximately 2,122 cubic yards across 0.41 acre in the Molalla River to conduct maintenance on the Knights Bridge Road Bridge (Knights Bridge). The project is proposed in Molalla River located at Knights Bridge Park in Canby, Clackamas County, Oregon at Latitude/Longitude: 45.267250°, -122.710528°. This letter verifies your project as depicted on the enclosed drawings (Enclosure 1) is authorized by Nationwide Permit (NWP) No. 27, Aquatic Habitat Restoration, Establishment, and Enhancement Activities (Federal Register, December 27, 2021, Vol. 86, No. 245) and NWP No. 14, Linear Transportation Projects (Federal Register, December 27, 2021, Vol. 86, No. 245).

Clackamas County proposes to discharge approximately 2,122 cubic yards (cy) across 0.41 acre in the Molalla River to conduct maintenance on the Knights Bridge Road Bridge (Knights Bridge). Permanent scour protection and abrasion repair is required at Bents 2, 3, 4 and 5, however, only activities at Bents 3, 4 and 5 will require work below the ordinary high-water mark (OHWM).

Class 2000 riprap totaling 1,450 cy would be permanently discharged across 14,489 square feet (sq. ft.) for scour protection and abrasion repair of Knights Bridge at Bents 3, 4 and 5. Twenty-five (25) cy of abandoned concrete footing would be placed across 45 sq. ft. for scour protection to be above the general scour depth to ensure adequate long-term protection of the existing in-stream piers. The backfill placed in the holes left from the removal of steel piles would result in a net fill of 5 cy across 6 sq. ft. to ensure long term protection of the existing in-stream piers at Bents 3 and 4.

The applicant would temporarily place 90 cy of Eco Blocks across 360 sq. ft. to construct (2) temporary work access platforms to work on Bents 2, 3, and 4. Super sacks filled with 550 cy river rock would temporarily be placed across 2,844 sq. ft. to isolate work areas within the Molalla River for Bents, 3, 4 and 5 to remove abandoned

piles. Once work areas are isolated, the area will be de-fished. The work area will be dewatered for installation of scour protection.

Thirty (30) cy of steel sheet piles would temporarily be installed across 50 sq. ft. to shore along roughly 50 linear feet of the riverbank to preclude bank failure during excavation around Bents 2 and 5 that is anticipated during construction.

The applicant will install riprap around Bents 3, 4, and 5 below the OWHM. Up to 1,450 cy Class 2000 riprap will be placed over 0.33 acre for permanent scour protection and abrasion repair. Additionally, once the applicant dredges 1,450 cy of material from around Bents 3, 4, 5 for the installation of long-term abrasion and scour protection (dredging work not regulated by the Corps), the placement of this riprap will bring the dredged areas back to pre-construction elevations. The work will be accomplished utilizing an excavator and bucket. The dredged material will be placed into a dump truck for storage and then used over the riprap. The native material is proposed to be used as top dressing over the riprap.

The temporary work platforms will remain in place for the duration of the in-water work window and will be removed in a similar fashion as they were installed.

The applicant proposes to place two (2) cy of large woody debris (LWD) and live cuttings across 16 sq. ft. upstream of the Molalla River. The LWD will be secured with boulder ballasts and the area will be backfilled with approximately 2 cy of native material to match into upstream and downstream contours along the bank.

The applicant will place 25 cy of native fill below the OWHM within the 45 sq. ft. void left from the removal of the abandoned footing. The native materials would be excavated from the site during the installation of the Class 2000 riprap or use river rock from the supersacks.

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed Nationwide Permit 14 Terms and Conditions (Enclosure 2) and Nationwide Permit 27 Terms and Conditions (Enclosure 3); the Oregon Department of Environmental Quality (DEQ) Section 401 Water Quality Certification Conditions (Enclosure 4); and the following special conditions:

- a. All in-water work shall be performed during the in-water work period of July 15 to August 31 to minimize impacts to aquatic species.
- b. This Corps permit does not authorize you to take an endangered species in particular those species identified in Enclosure 5. In order to legally take a listed species, you must have separate authorization under the Endangered Species

Act (ESA) (e.g., an ESA Section 10 permit, or a biological opinion under ESA Section 7, with “incidental take” provisions with which you must comply). The National Marine Fisheries Service (NMFS) Stormwater, Transportation and Utilities programmatic biological opinion dated March 14, 2014 (NMFS Reference Number NWR-2013-10411), contains the mandatory terms and conditions to implement the reasonable and prudent measures that are provided in the “incidental take” statement associated with the opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the applicable mandatory terms and conditions associated with the incidental take statement. Failure to comply with the applicable terms and conditions associated with incidental take of this opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute noncompliance with your Corps permit. The NMFS is the appropriate authority to determine compliance with the terms and conditions of its opinion and with the ESA.

- c. Permittee shall fully implement all applicable Project Design Criteria (PDC) of the SLOPES V Stormwater, Transportation and Utilities programmatic biological opinion. A detailed list of the PDCs are enclosed (Enclosure 5). The applicable PDCs for the project include numbers: 5, 6, 7, 9, 14, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 27, 30, 31, 34, 35, and 41.
- d. Permittee shall complete and submit an Action Completion Report form, which is provided in Enclosure 5, within 60 days of completing all work below ordinary high water. Submit the form by email to cenwp.notify@usace.army.mil and include the Corps project number and county in the email subject line.
- e. Permittee shall complete and submit a Fish Salvage Report form, which is provided in Enclosure 5, within 60 days of completing a capture and release of ESA-listed fish. Submit the form by email to cenwp.notify@usace.army.mil and include the Corps project number in the email subject line.
- f. If human remains or cultural resources are discovered during the performance of the authorized work the permittee shall implement the Inadvertent Discovery Plan procedures (Enclosure 6) and immediately notify the U.S. Army Corps of Engineers, Portland District, Regulatory Branch.

We have reviewed your project pursuant to the requirements of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act and the National Historic Preservation Act. We have determined the project complies with the requirements of these laws provided you comply with all of the permit general and special conditions. The requirements of the Endangered Species Act were met through a programmatic biological opinion as listed in the special condition above. The complete

text of the biological opinion is available for your review on our website (<https://www.nwp.usace.army.mil/environment/>).

The DEQ has issued a Section 401 Water Quality Certification for this project. No further coordination with DEQ is required provided the work is performed in accordance with all of the enclosed conditions.

The Corps did not prepare a jurisdictional determination for this project. The Corps has treated the aquatic resource to be affected by this project as jurisdictional waters of the U.S. for purposes of computing impacts and compensatory mitigation requirements. If you believe the Corps does not have jurisdiction over some or all of the aquatic resources at the project site, you may request an Approved Jurisdictional Determination (AJD). If one is requested, please be aware that we may require the submittal of additional information to complete the AJD and work authorized in this letter may not occur until the Corps completes the AJD.

The verification of this NWP is valid until March 14, 2026, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date and you have commenced or are under contract to commence this activity before March 14, 2026, you will have until March 14, 2027, to complete the activity under the enclosed terms and conditions of this NWP. If the work cannot be completed by March 14, 2027, you will need to obtain a new NWP verification or authorization by another type of Department of the Army permit.

Our verification of this NWP is based on the project description and construction methods provided in your permit application. If you propose changes to the project, you must submit revised plans to this office and receive our approval of the revisions prior to performing the work. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act. You must also obtain all local, state, and other federal permits that apply to this project.

Upon completing the authorized work, you must fill out and return the enclosed *Compliance Certification* form (Enclosure 7). We would like to hear about your experience working with the Portland District, Regulatory Branch. Please complete a customer service survey form available on our website (<https://regulatory.ops.usace.army.mil/customer-service-survey/>).

If you have any questions regarding this NWP verification, please contact Ms. Kayla Woods by telephone at (503) 808-4337 or by email at kayla.a.woods@usace.army.mil.

FOR THE COMMANDER, LARRY D. CASWELL, JR., PE, PMP, COLONEL, U.S. ARMY,
DISTRICT COMMANDER and DISTRICT ENGINEER:

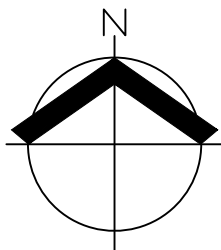
Melody White

For: William D. Abadie
Chief, Regulatory Branch

Enclosures

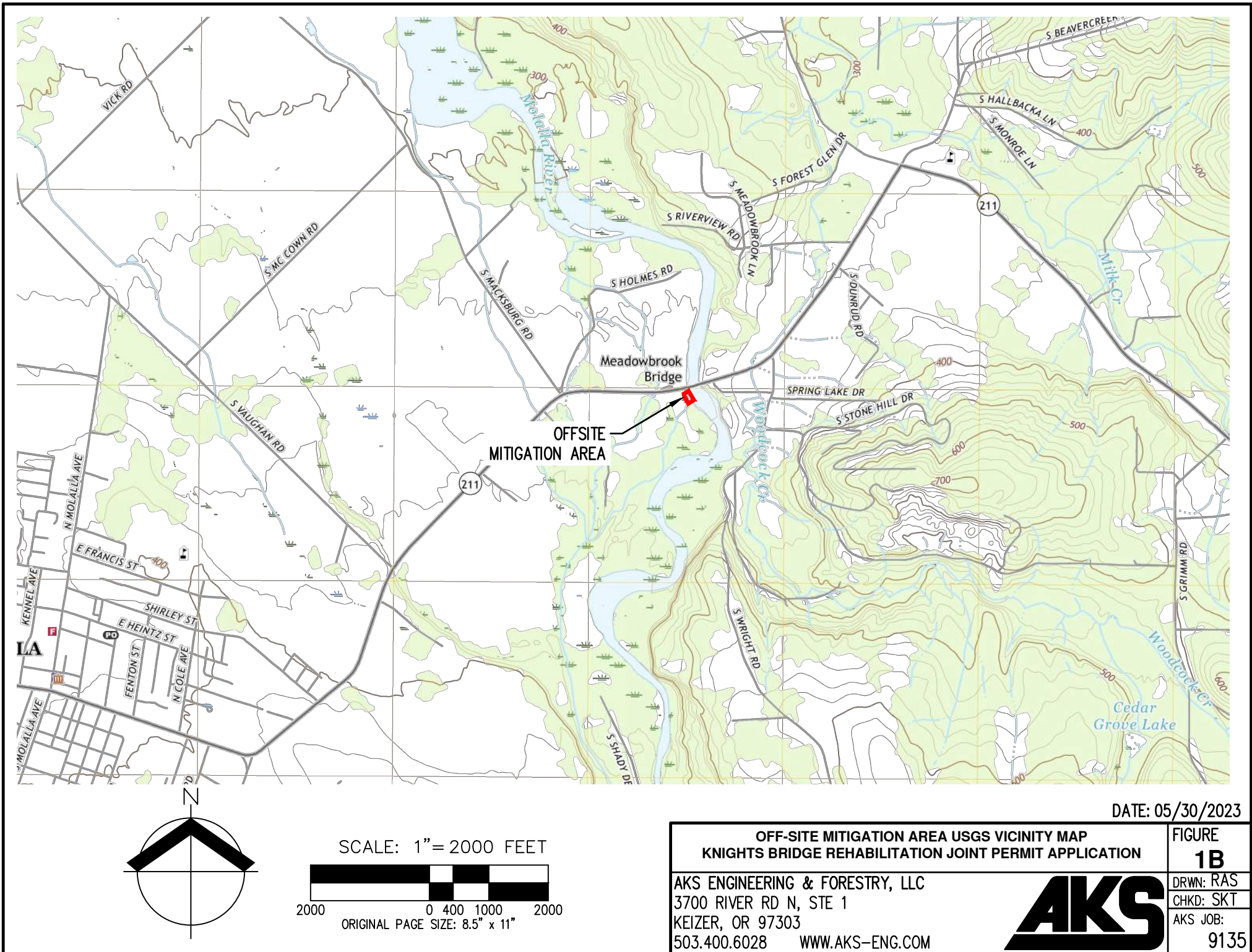
cc:

AKS Engineering & Forestry, LLC (Julie Wirth-McGee, wirthmcgee@aks-eng.com)
Oregon Department of State Lands (Katie Blauvelt, katie.blauvelt@usace.army.mil)
Oregon Department of Environmental Quality (401applications@deq.oregon.gov; Delia
Negru, delia.negru@deq.oregon.gov)

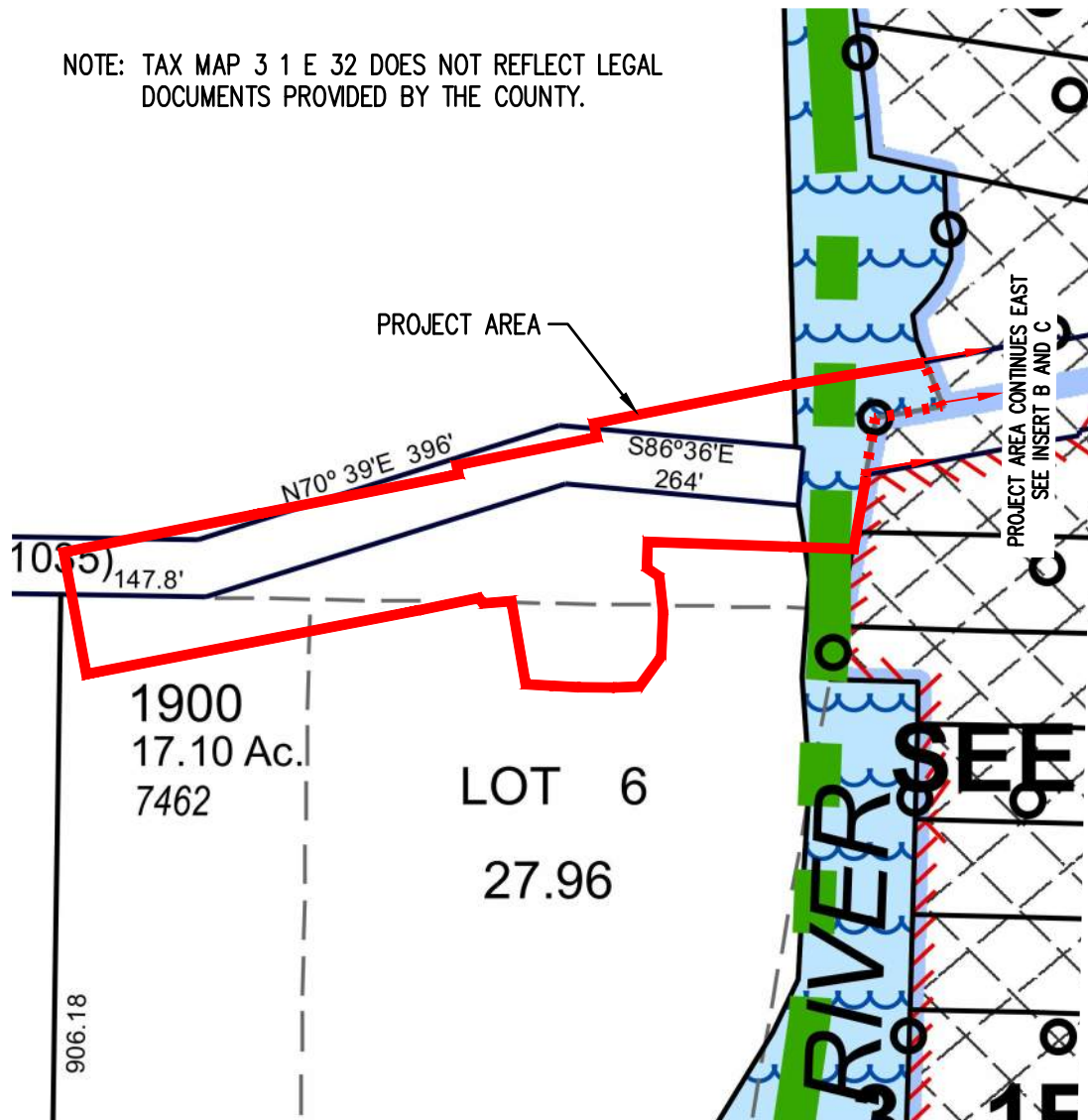


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CHKD:	SKT
AKS JOB:	9135



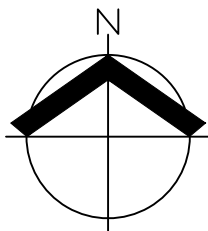


NOTE: TAX MAP 3 1 E 32 DOES NOT REFLECT LEGAL DOCUMENTS PROVIDED BY THE COUNTY.

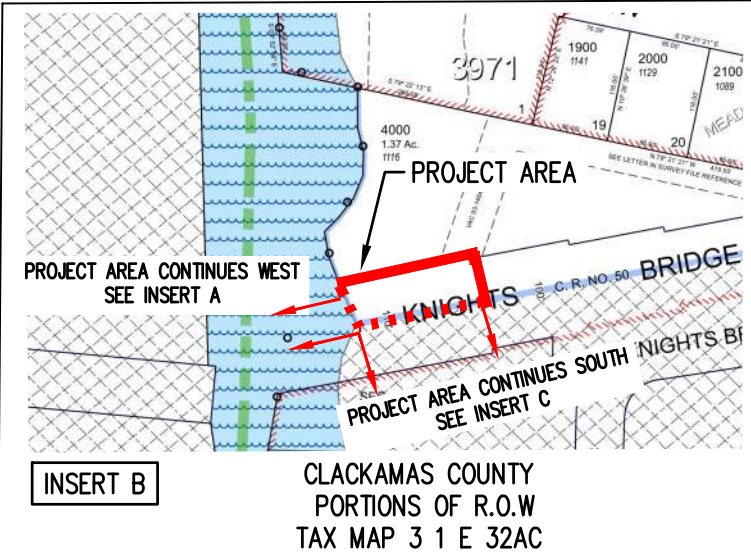
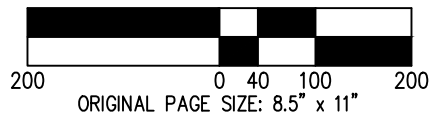


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CLACKAMAS COUNTY
PORTIONS OF TAX LOT 1900
AND R.O.W
TAX MAP 3 1 E 32

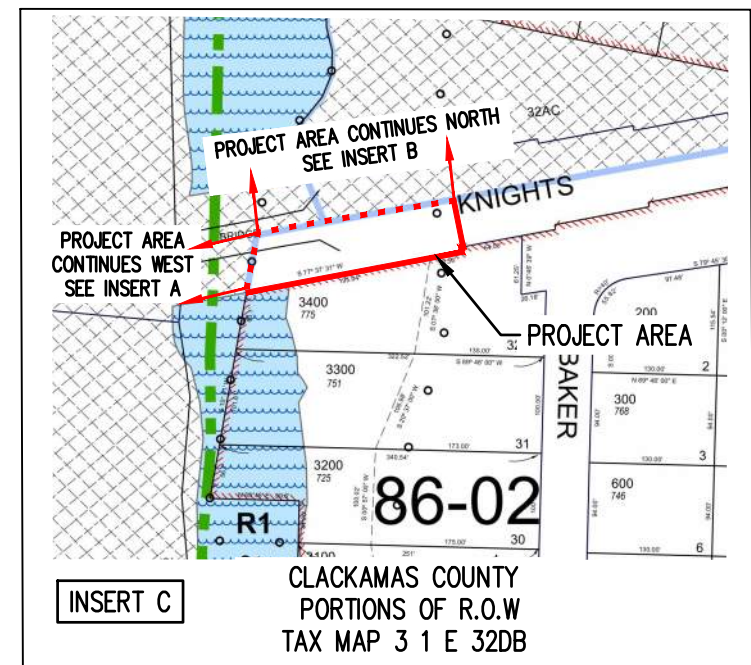


SCALE: 1" = 200 FEET



INSERT B

CLACKAMAS COUNTY
PORTIONS OF R.O.W
TAX MAP 3 1 E 32AC

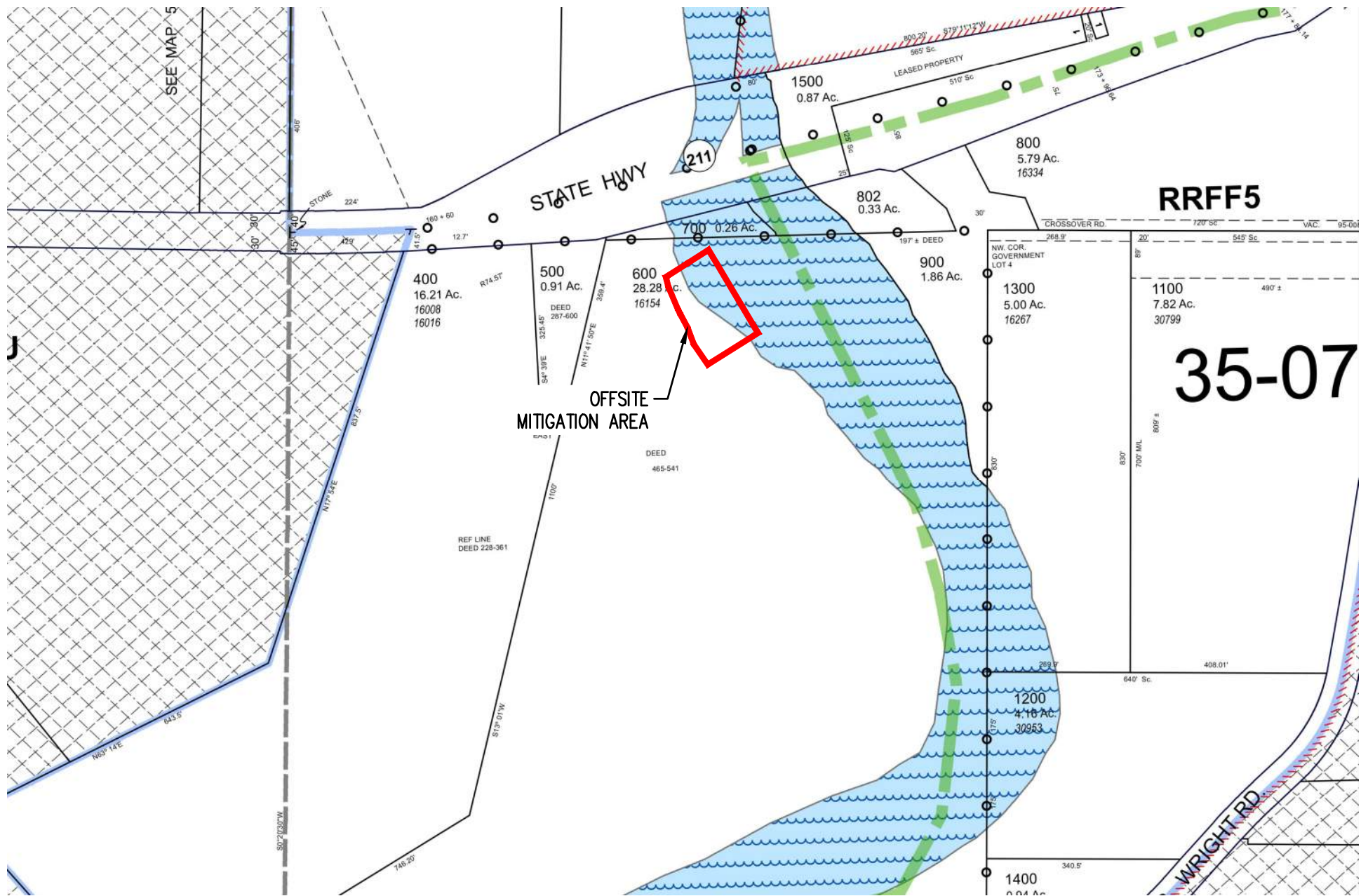


INSERT C

CLACKAMAS COUNTY
PORTIONS OF R.O.W
TAX MAP 3 1 E 32DB

DATE: 05/30/2023

PROJECT SITE TAX MAPS (MAP 3 1 E 32), (MAP 3 1 E 32DB), (MAP 3 1 E 32AC)		FIGURE
KNIGHTS BRIDGE REHABILITATION JOINT PERMIT APPLICATION		2A
AKS ENGINEERING & FORESTRY, LLC 3700 RIVER RD N, STE 1 KEIZER, OR 97303 503.400.6028 WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT
AKS		AKS JOB: 9135



CLACKAMAS COUNTY
PORTION OF TAX LOT 600
TAX MAP 5 2E 2C

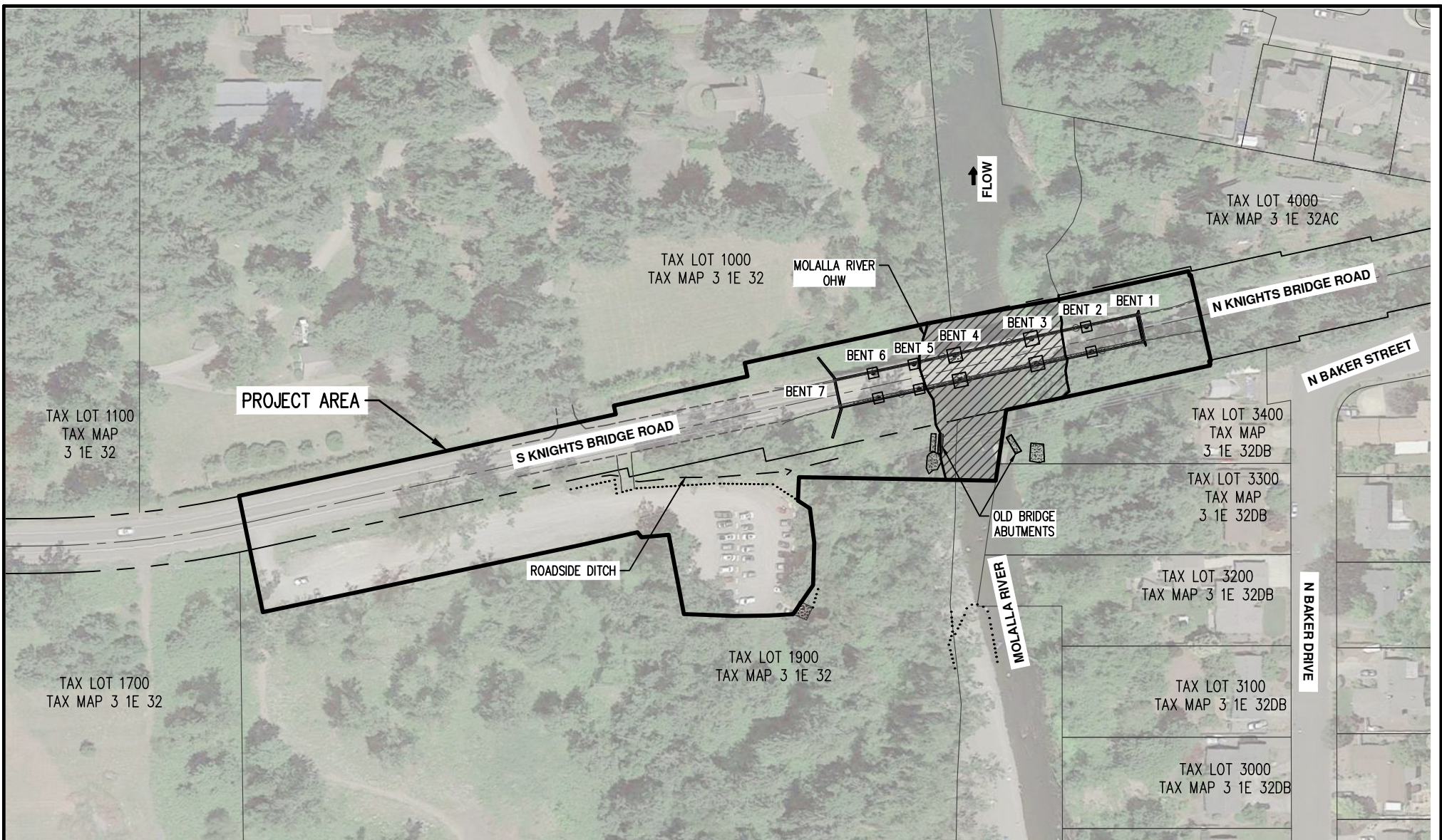
OFF-SITE MITIGATION AREA TAX MAP (MAP 5 2E 2C)
KNIGHTS BRIDGE REHABILITATION JOINT PERMIT APPLICATION

FIGURE
2B

AKS ENGINEERING & FORESTRY, LLC
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KEIZER, OR 97303
503.400.6028 WWW.AKS-ENG.COM

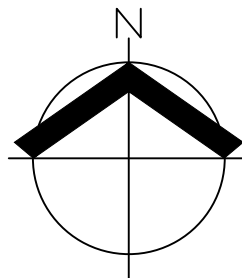
AKS

DRWN: RAS
CHKD: SKT
AKS JOB:
9135

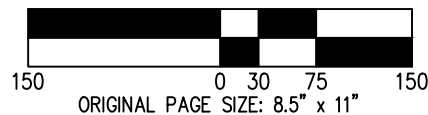


AERIAL DERIVED FROM GOOGLE EARTH (JUNE 2021)

DATE: 05/30/2023



SCALE: 1" = 150 FEET



**PROJECT SITE AERIAL MAP
KNIGHTS BRIDGE REHABILITATION JOINT PERMIT APPLICATION**

AKS ENGINEERING & FORESTRY, LLC
3700 RIVER RD N, STE 1
KEIZER, OR 97303
503.400.6028 WWW.AKS-ENG.COM



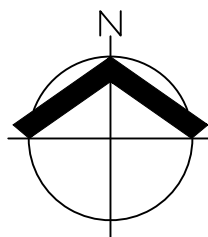
**FIGURE
3A**

DRWN: RAS
CHKD: SKT
AKS JOB:
9135

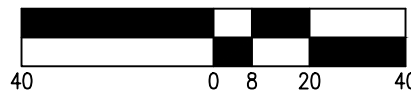


AERIAL DERIVED FROM GIS DATA BASE (2018)

DATE: 05/30/2023



SCALE: 1" = 40 FEET



ORIGINAL PAGE SIZE: 8.5" x 11"

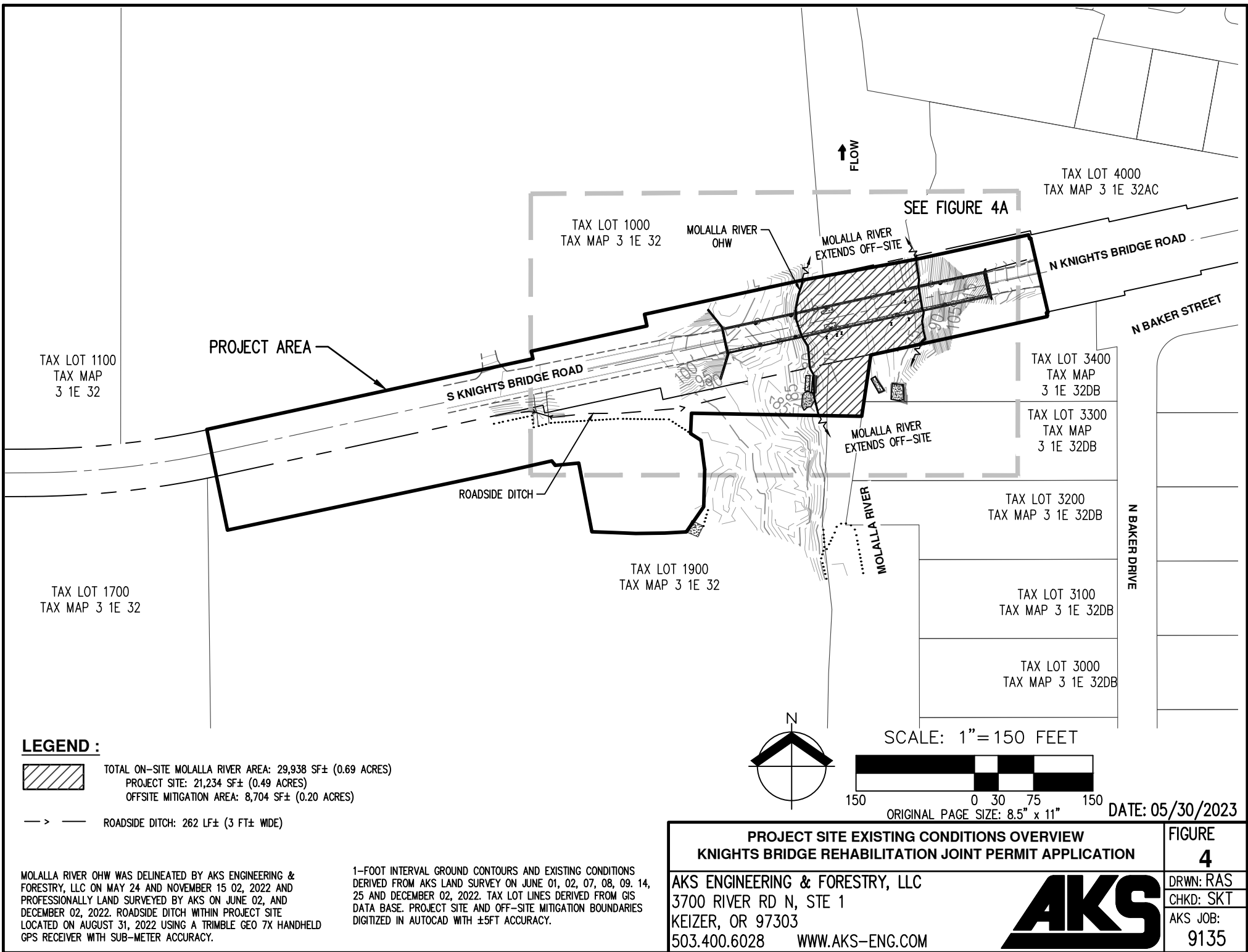
**OFF-SITE MITIGATION AREA AERIAL MAP
KNIGHTS BRIDGE REHABILITATION JOINT PERMIT APPLICATION**

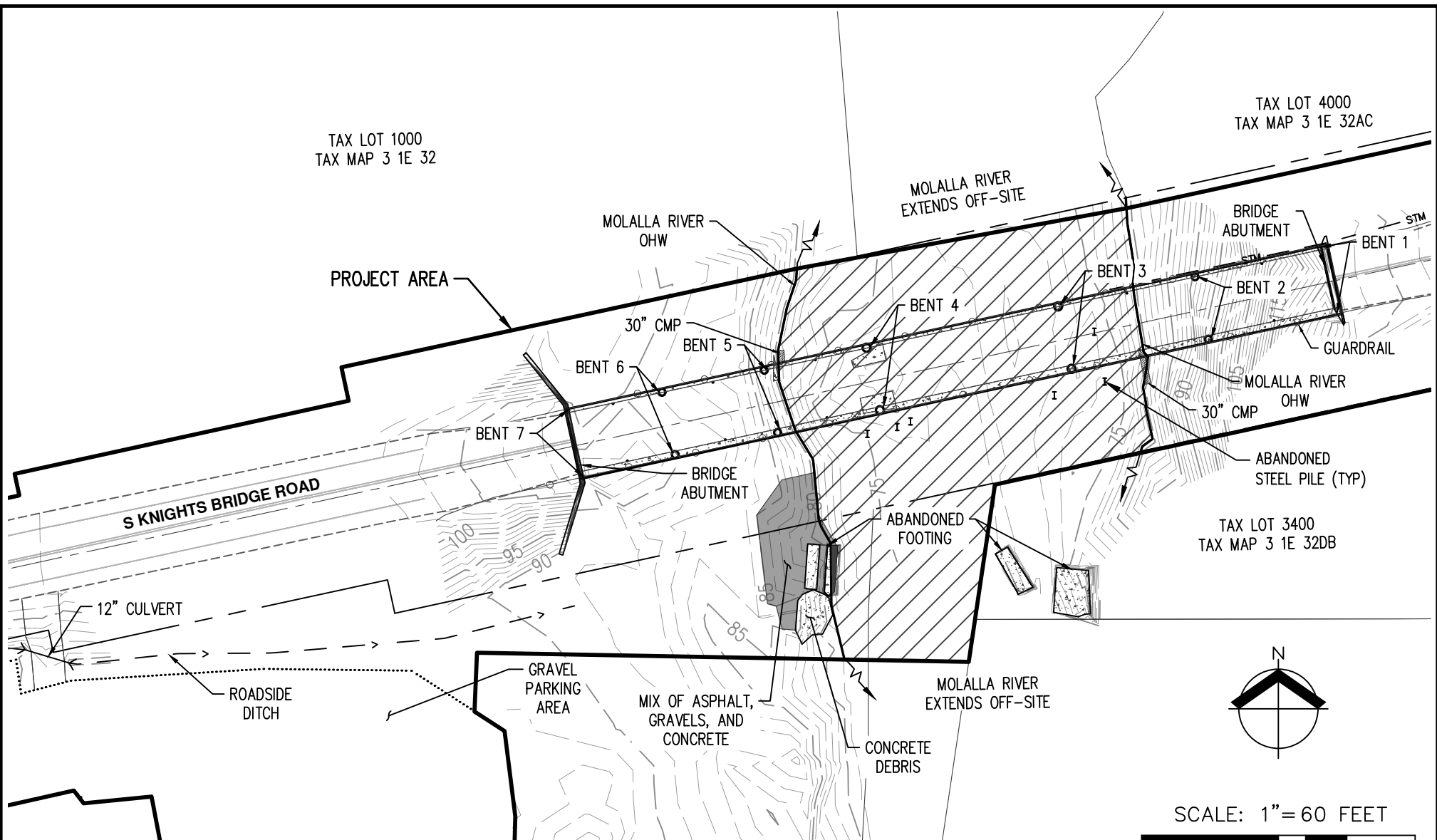
AKS ENGINEERING & FORESTRY, LLC
3700 RIVER RD N, STE 1
KEIZER, OR 97303
503.400.6028 WWW.AKS-ENG.COM



**FIGURE
3B**

DRWN: RAS
CHKD: SKT
AKS JOB:
9135





LEGEND :



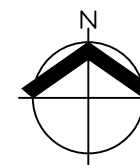
TOTAL ON-SITE MOLALLA RIVER AREA: 29,938 SF± (0.69 ACRES)
PROJECT SITE: 21,234 SF± (0.49 ACRES)
OFFSITE MITIGATION AREA: 8,704 SF± (0.20 ACRES)



ROADSIDE DITCH: 262 LF± (3 FT± WIDE)

MOLALLA RIVER OHW WAS DELINEATED BY AKS ENGINEERING & FORESTRY, LLC ON MAY 24 AND NOVEMBER 15 02, 2022 AND PROFESSIONALLY LAND SURVEYED BY AKS ON JUNE 02, AND DECEMBER 02, 2022. ROADSIDE DITCH WITHIN PROJECT SITE LOCATED ON AUGUST 31, 2022 USING A TRIMBLE GEO 7X HANDHELD GPS RECEIVER WITH SUB-METER ACCURACY.

1-FOOT INTERVAL GROUND CONTOURS AND EXISTING CONDITIONS DERIVED FROM AKS LAND SURVEY ON JUNE 01, 02, 07, 08, 09, 14, 25 AND DECEMBER 02, 2022. TAX LOT LINES DERIVED FROM GIS DATA BASE. PROJECT SITE AND OFF-SITE MITIGATION BOUNDARIES DIGITIZED IN AUTOCAD WITH ±5FT ACCURACY.



SCALE: 1"= 60 FEET



ORIGINAL PAGE SIZE: 8.5" x 11"

DATE: 10/24/2023

PROJECT SITE EXISTING CONDITIONS KNIGHTS BRIDGE REHABILITATION JOINT PERMIT APPLICATION

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FIGURE
4A

DRWN: RAS

CHKD: SKT

AKS JOB:
9135

TAX LOT 700
TAX MAP 5 2E 2C

PROJECT AREA

MOLALLA RIVER
EXTENDS OFF-SITE

MOLALLA RIVER
EXTENDS OFF-SITE

TAX LOT 600
TAX MAP 5 2E 2C

TAX LOT 600
TAX MAP 5 2E 2C

LOCATION OF
SCARP

CONCRETE
BLOCKS

MOLALLA RIVER
OHW

MOLALLA RIVER
EXTENDS OFF-SITE

FENCE

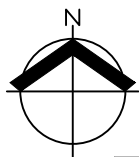
LEGEND :



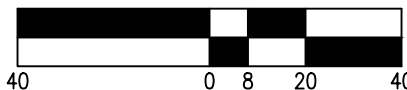
TOTAL ON-SITE MOLALLA RIVER AREA: 29,938 SF± (0.69 ACRES)
PROJECT SITE: 21,234 SF± (0.49 ACRES)
OFFSITE MITIGATION AREA: 8,704 SF± (0.20 ACRES)

MOLALLA RIVER OHW WAS DELINEATED BY AKS ENGINEERING & FORESTRY, LLC ON MAY 24 AND NOVEMBER 15 02, 2022 AND PROFESSIONALLY LAND SURVEYED BY AKS ON JUNE 02, AND DECEMBER 02, 2022. ROADSIDE DITCH WITHIN PROJECT SITE LOCATED ON AUGUST 31, 2022 USING A TRIMBLE GEO 7X HANDHELD GPS RECEIVER WITH SUB-METER ACCURACY.

1-FOOT INTERVAL GROUND CONTOURS AND EXISTING CONDITIONS DERIVED FROM AKS LAND SURVEY ON JUNE 01, 02, 07, 08, 09, 14, 25 AND DECEMBER 02, 2022. TAX LOT LINES DERIVED FROM GIS DATA BASE. PROJECT SITE AND OFF-SITE MITIGATION BOUNDARIES DIGITIZED IN AUTOCAD WITH ±5FT ACCURACY.



SCALE: 1"= 40 FEET



ORIGINAL PAGE SIZE: 8.5" x 11"

DATE: 05/30/2023

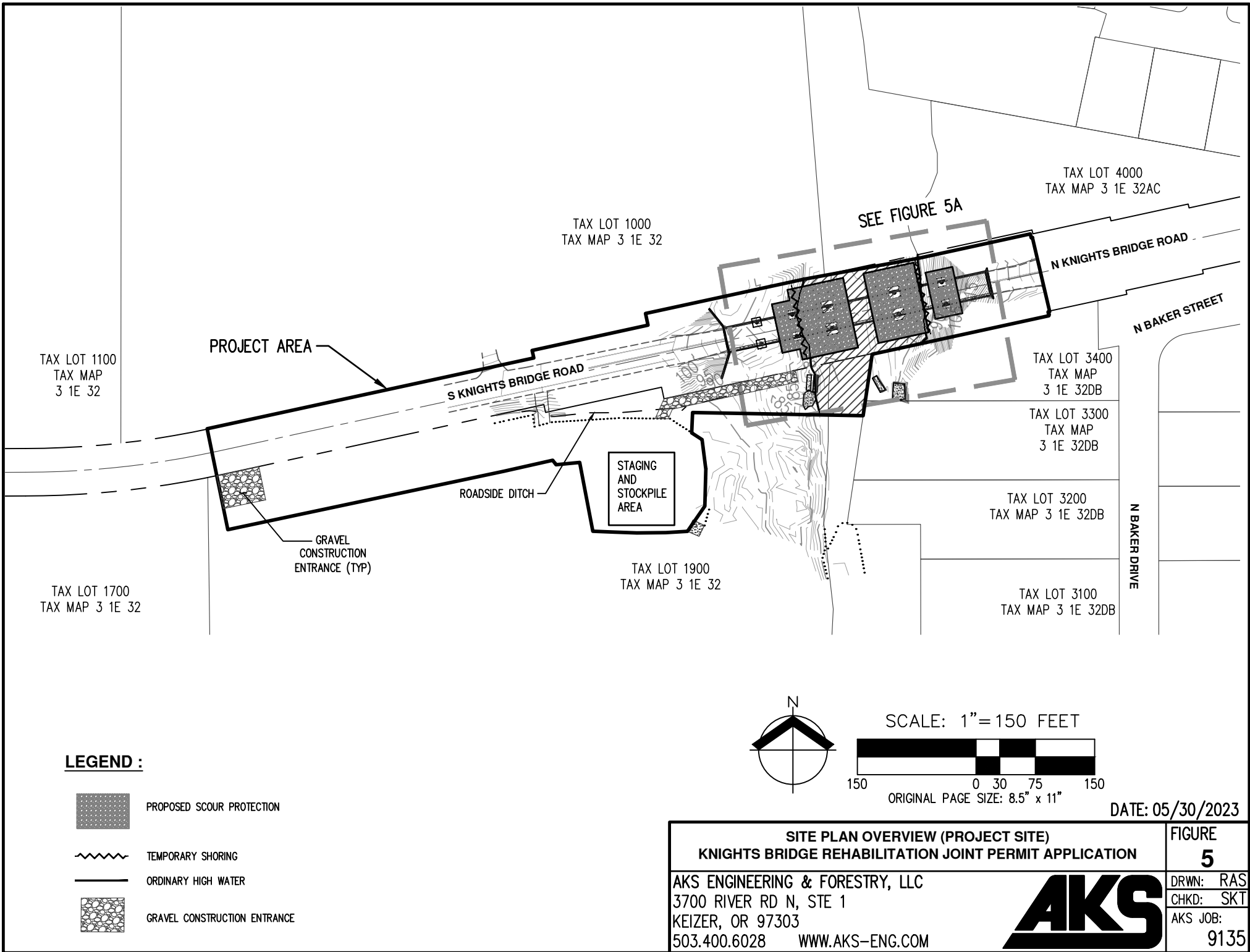
OFF-SITE MITIGATION AREA EXISTING CONDITIONS
KNIGHTS BRIDGE REHABILITATION JOINT PERMIT APPLICATION

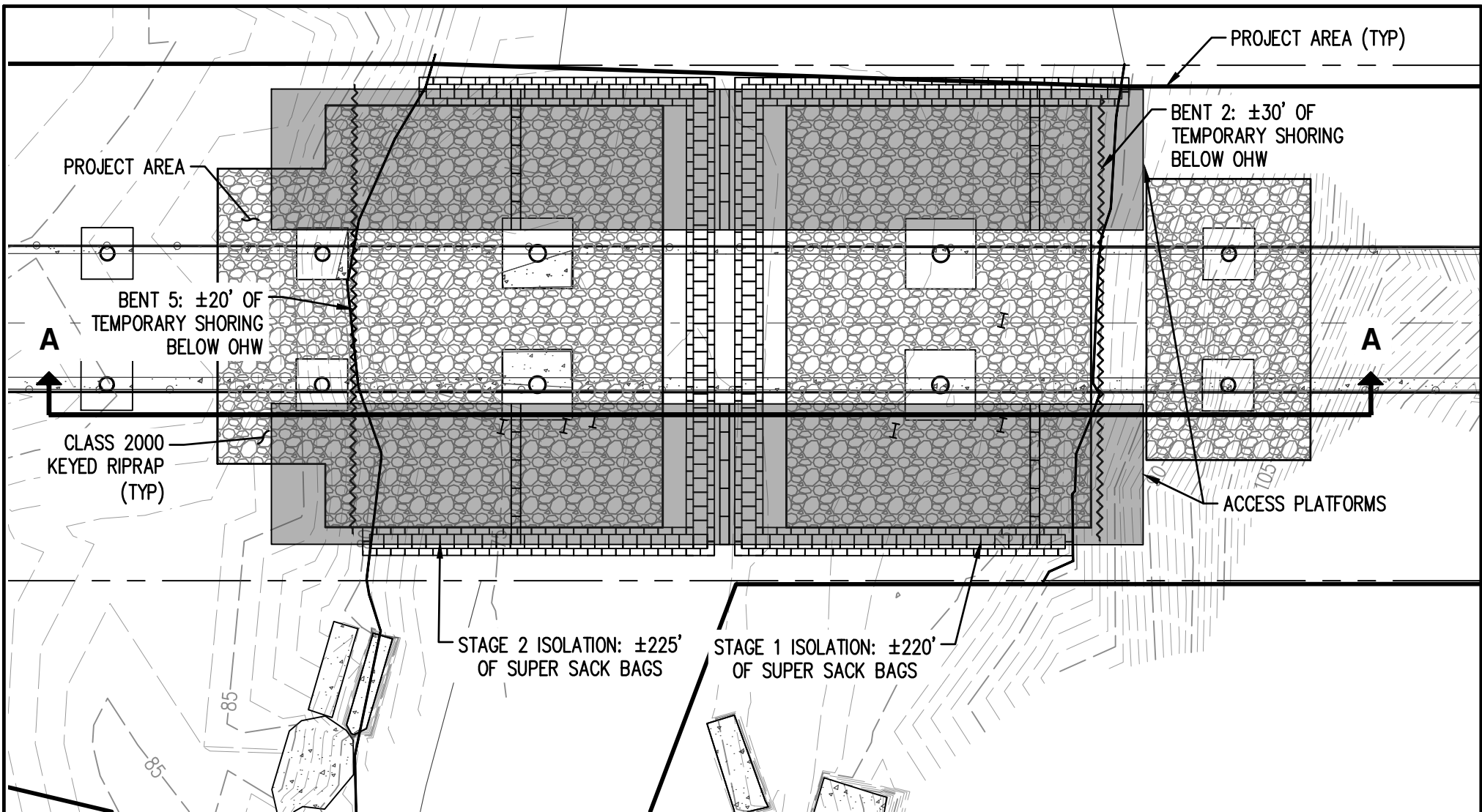
FIGURE
4B

AKS ENGINEERING & FORESTRY, LLC
3700 RIVER RD N, STE 1
KEIZER, OR 97303
503.400.6028 WWW.AKS-ENG.COM





DRWN: RAS
CHKD: SKT
AKS JOB:
9135








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
- 

TEMPORARY ISOLATION IMPACTS (2,844 SF)
 BOTTOM LAYER (BAGS): 2W X 1H
 TOP LAYER (BAGS): 1W X 1H
 SUPER SACK DIMENSIONS 3' X 3' X 3.5'H
- 

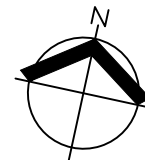
TEMPORARY SHORING (192 SF)
- 

ORDINARY HIGH WATER
- 

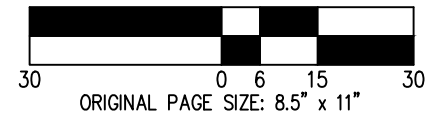
ACCESS PLATFORM
- 

ECOBLOCK (360 SF)
- 

PROPOSED SCOUR PROTECTION (14,489 SF)



SCALE: 1" = 30 FEET



DATE: 10/19/2023

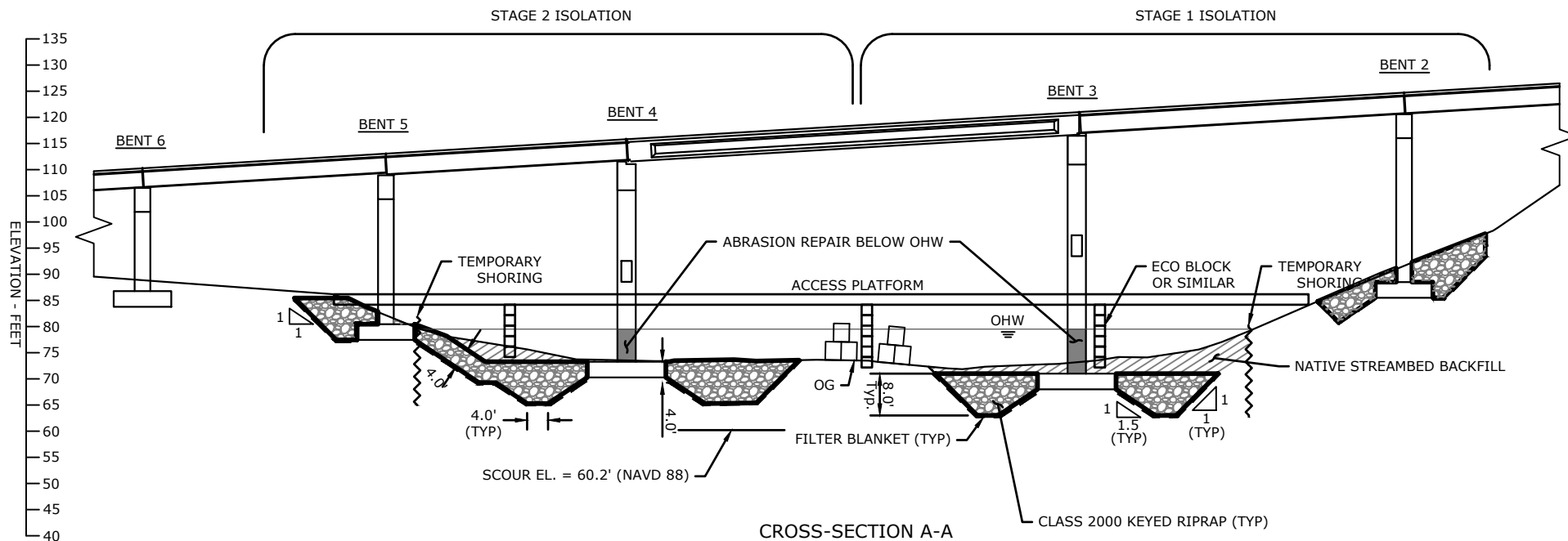
PROJECT SITE SITE PLAN KNIGHTS BRIDGE REHABILITATION JOINT PERMIT APPLICATION

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 3700 RIVER RD N, STE 1
 KEIZER, OR 97303
 503.400.6028 WWW.AKS-ENG.COM



FIGURE
5A

DRWN: RAS
 CHKD: SKT
 AKS JOB:
 9135

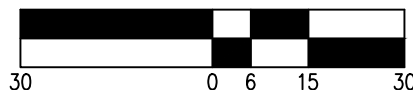


IMPACT SUMMARY TABLE

CONSTRUCTION ACTIVITY	IMPACT DURATION	IMPACT AREA (S.F.)	FILL VOLUME (C.Y.)	REMOVAL VOLUME (C.Y.)
WORK ACCESS PLATFORMS	TEMPORARY	360	90	90
WORK AREA ISOLATION	TEMPORARY	2,844	550	550
SHORING	TEMPORARY	50	30	30
SCOUR PROTECTION/ABRASION REPAIR	PERMANENT	14,489	1,450	1,450

DATE: 10/19/2023

SCALE: 1" = 30 FEET



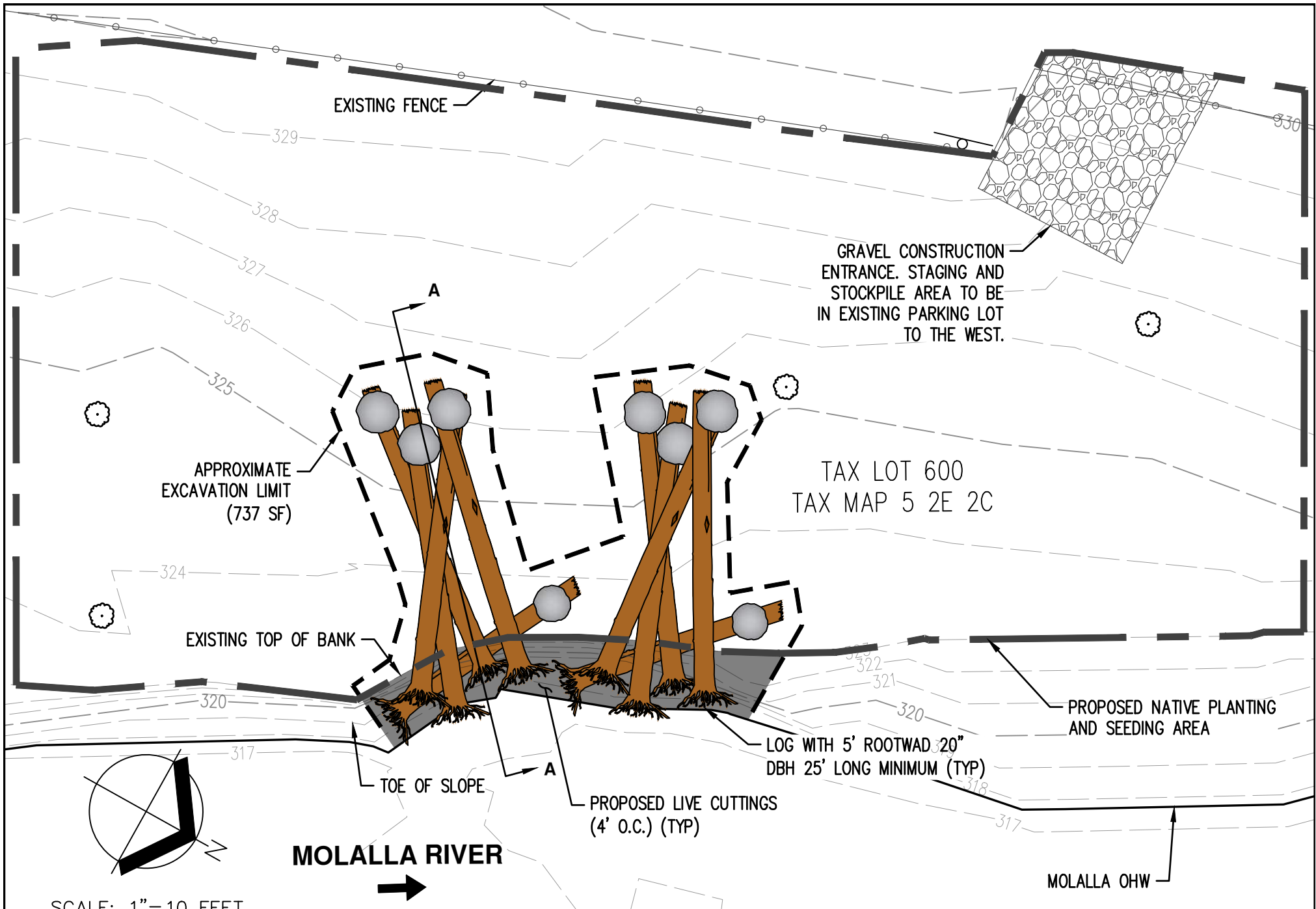
PROJECT SITE BRIDGE ELEVATION VIEW
KNIGHTS BRIDGE REHABILITATION JOINT PERMIT APPLICATION

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KEIZER, OR 97303
503.400.6028 WWW.AKS-ENG.COM



FIGURE
6

DRWN: RAS
CHKD: SKT
AKS JOB:
9135

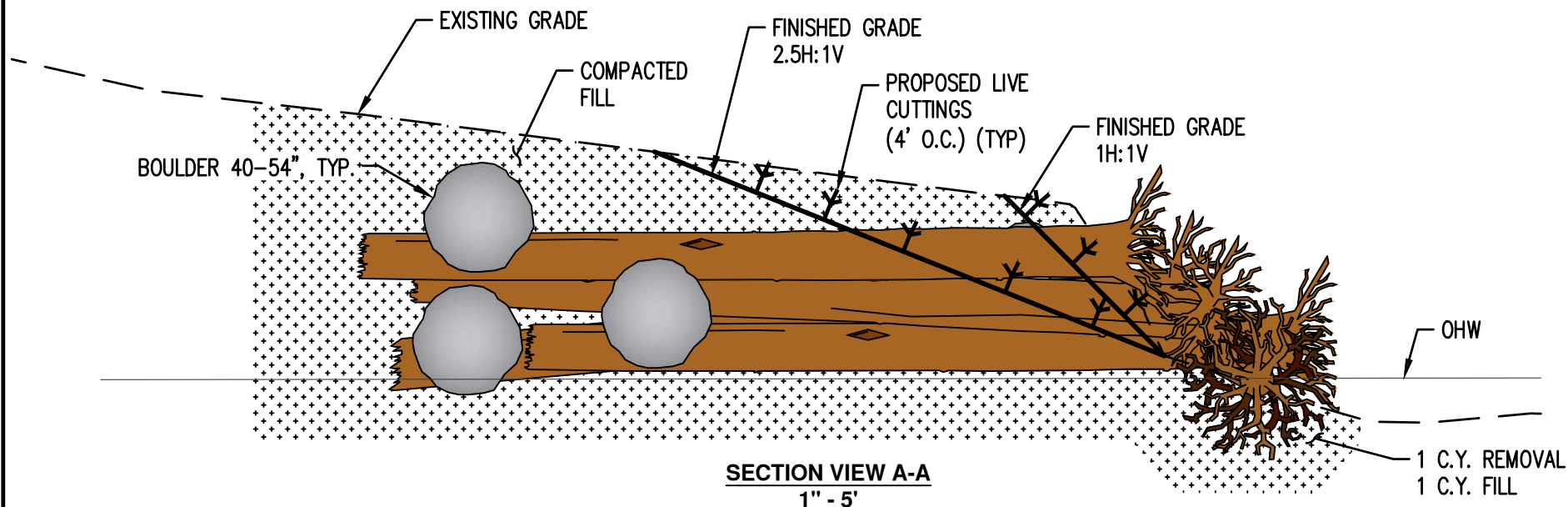


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KNIGHTS BRIDGE REHABILITATION
OFF-SITE MITIGATION HABITAT
LOG DETAILS

DATE: 10/23/2023	
DRWN: MDT	CHKD: JWM
AKS JOB: 9135	FIGURE 7



IMPACT SUMMARY TABLE

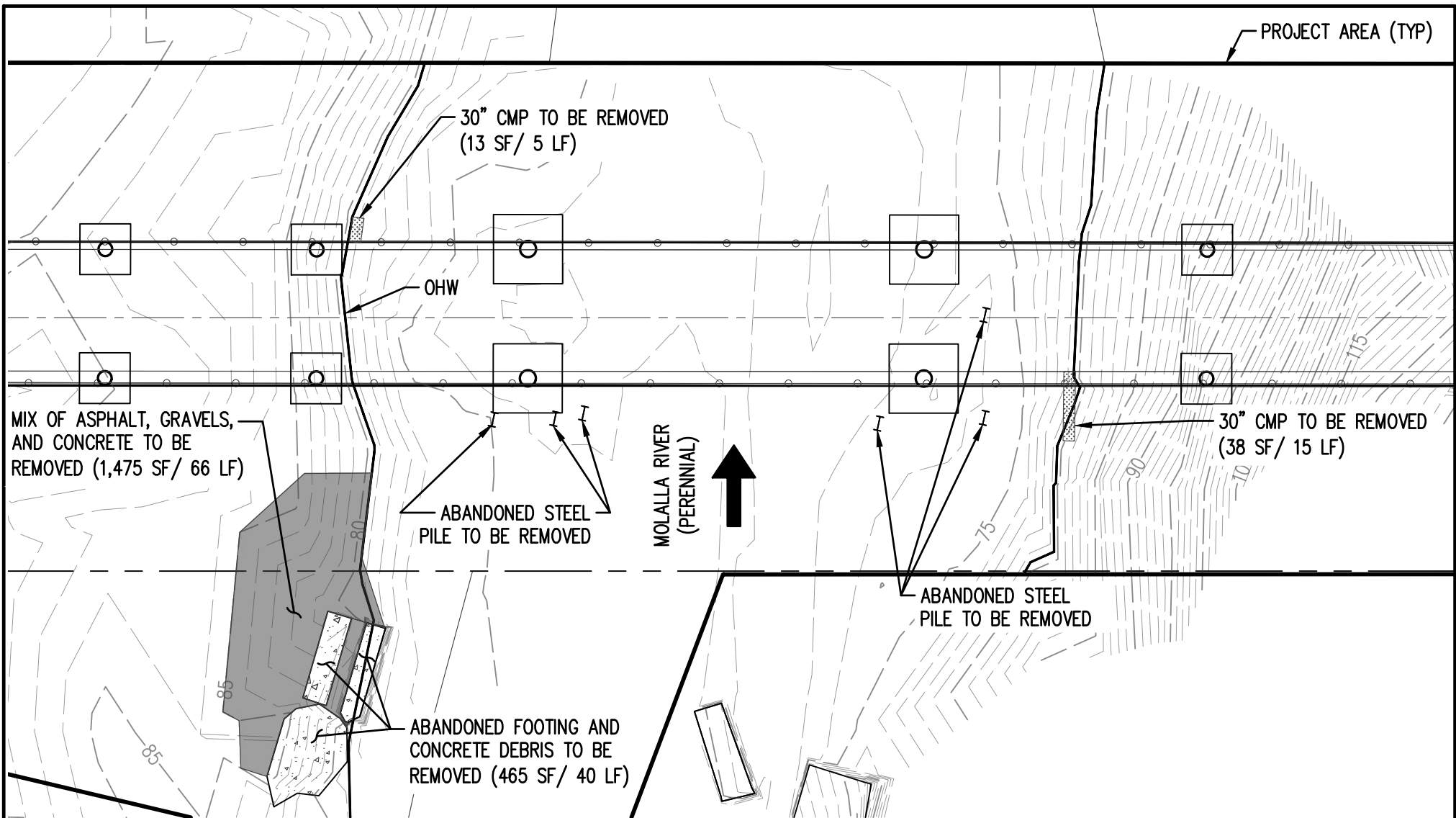
CONSTRUCTION ACTIVITY	IMPACT DURATION	IMPACT AREA (S.F.)	FILL VOLUME (C.Y.)	REMOVAL VOLUME (C.Y.)
OFFSITE MITIGATION	PERMANENT	16	2	2

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


**KNIGHTS BRIDGE REHABILITATION
OFF-SITE MITIGATION HABITAT
LOG DETAILS**

DATE: 05/30/2023	
DRWN: MDT	CHKD: JWM
AKS JOB: 9135	FIGURE 7A

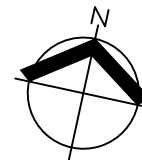


LEGEND :

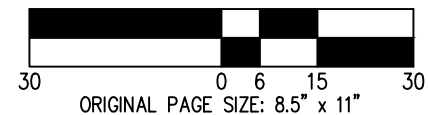
-  ORDINARY HIGH WATER (OHW)
-  MIX OF BURIED ASPHALT, GRAVELS, AND CONCRETE TO BE REMOVED:
1,475 SF± (66 LF±)
-  ABANDONED FOOTING AND CONCRETE DEBRIS TO BE REMOVED:
465 SF± (40 LF±)
-  EXISTING/PARTIALLY BURIED 30" CORRUGATED METAL PIPE (CMP) TO BE REMOVED:
51 SF± (20 LF±)
-  ABANDONED STEEL PILE TO BE REMOVED 6 SF± (6 LF±)

TOTAL SF REMOVED: 1,997 SF±

TOTAL LF REMOVED: 132 LF±



SCALE: 1" = 30 FEET



DATE: 10/24/2023

ON-SITE MITIGATION (STRUCTURE REMOVAL)
KNIGHTS BRIDGE REHABILITATION JOINT PERMIT APPLICATION

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KEIZER, OR 97303
503.400.6028 WWW.AKS-ENG.COM



FIGURE
8

DRWN: GPM
CHKD: JWM
AKS JOB:
9135

TAX LOT 4000
TAX MAP 3 1E 32AC

TAX LOT 1000
TAX MAP 3 1E 32

PROJECT AREA

PROPOSED
SEEDING AREA

OHW

MOLALLA RIVER
(PERENNIAL)

OHW

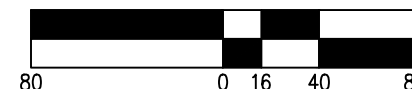
S KNIGHTS BRIDGE ROAD

TAX LOT 3400
TAX MAP
3 1E 32DB

TAX LOT 3300
TAX MAP
3 1E 32DB

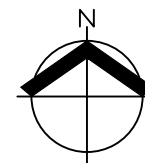
NATIVE SEEDING: THE FOLLOWING NATIVE SEED MIX IS PROPOSED TO TRY AND RESTORE SOME NATIVE COVER WITHIN THE TEMPORARILY IMPACTED RIPARIAN ZONES AT THE PROJECT SITE AND OFF-SITE MITIGATION AREA (SEE FIGURE 7). SEEDING WILL OCCUR WITHIN THE SAME GROWING SEASON AS THE IMPACTS OCCUR.

SCALE: 1" = 80 FEET



ORIGINAL PAGE SIZE: 8.5" x 11"

DATE: 10/24/2023



Sunmark Seeds "Native Uplands" Seed Mix		
Scientific Name	Common Name	Seeding Rate
<i>Elymus glaucus</i>	Blue wildrye	1.00 PLS lbs. per 1000 sq. ft. 43 PLS lbs. per acre
<i>Festuca rubra rubra</i>	Native red fescue	
<i>Bromus carinatus</i>	California brome	
<i>Agrostis exarata</i>	Spike bentgrass	

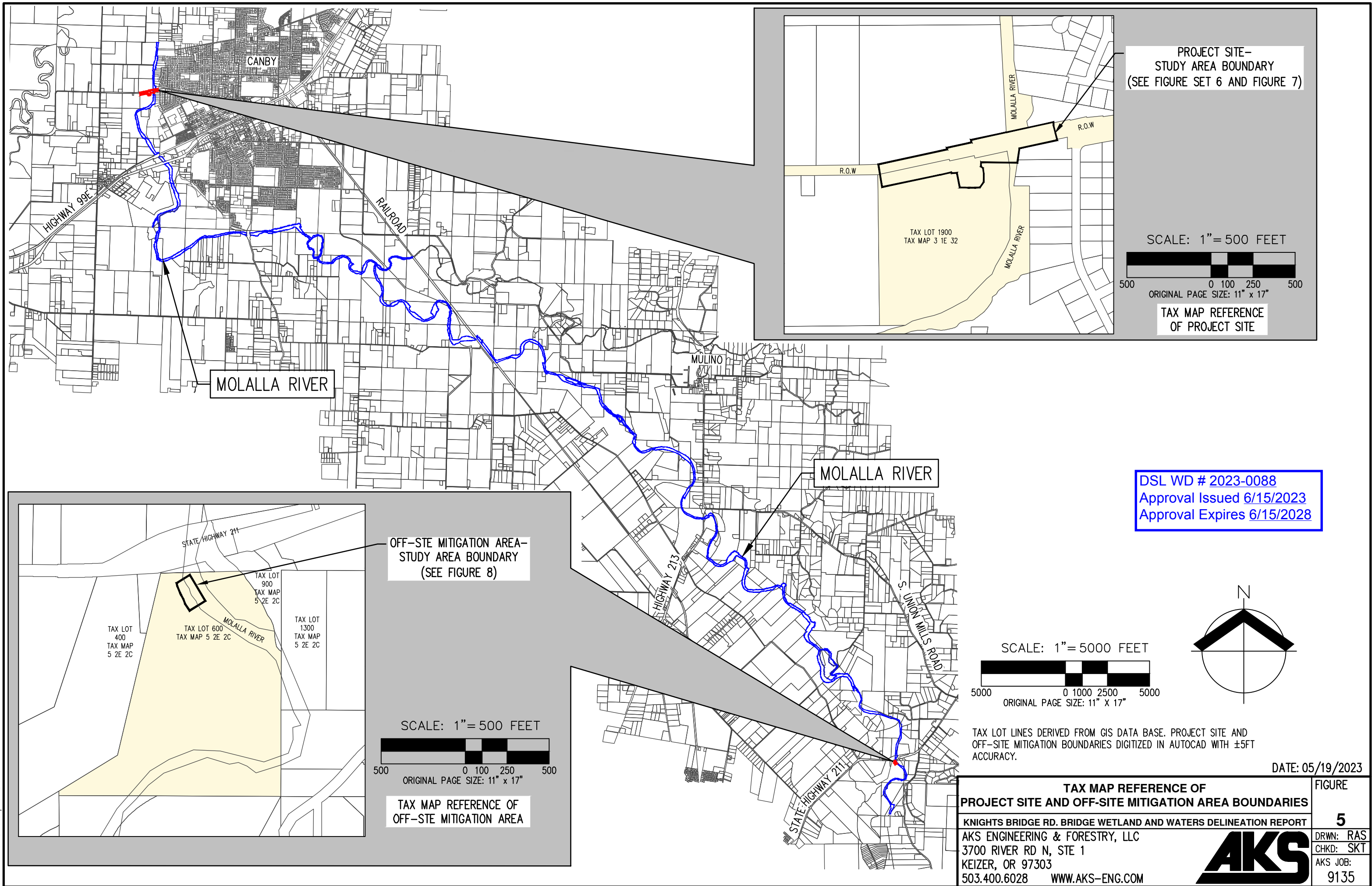
PROPOSED RIPARIAN NATIVE SEEDING PLAN
KNIGHTS BRIDGE REHABILITATION JOINT PERMIT APPLICATION

AKS ENGINEERING & FORESTRY, LLC
3700 RIVER RD N, STE 1
KEIZER, OR 97303
503.400.6028 WWW.AKS-ENG.COM



FIGURE
8A

DRWN: GPM
CHKD: JWM
AKS JOB:
9135





US Army Corps
of Engineers®
Portland District

Nationwide Permit 14

Terms and Conditions

Effective Date: February 25, 2022

-
- A. Description of Activities Authorized by Nationwide Permit 14
 - B. Nationwide Permit General Conditions
 - C. District Engineer's Decision
 - D. Further Information
 - E. Portland District Regional General Conditions
-

In addition to any special conditions that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit authorization to be valid in Oregon.

A. Description of Activities Authorized by Nationwide Permit (NWP) 14

14. Linear Transportation Projects. Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, driveways, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States

exceeds 1/10-acre; or (2) there is a discharge of dredged or fill material in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges of dredged or fill material for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

B. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. *Navigation.* (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein

authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. *Aquatic Life Movements.* No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. *Spawning Areas.* Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. *Migratory Bird Breeding Areas.* Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. *Shellfish Beds.* No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. *Suitable Material.* No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. *Water Supply Intakes.* No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. *Adverse Effects from Impoundments.* If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. *Management of Water Flows.* To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not

restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. *Fills Within 100-Year Floodplains*. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. *Equipment*. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. *Soil Erosion and Sediment Controls*. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. *Removal of Temporary Structures and Fills*. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. *Proper Maintenance*. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. *Single and Complete Project*. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. *Wild and Scenic Rivers*. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management

responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>.

17. *Tribal Rights*. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. *Endangered Species*. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA Section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of “effects of the action” for the purposes of ESA Section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA Section 7 regarding “activities that are reasonably certain to occur” and “consequences caused by the proposed action.”

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA Section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under Section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation)

that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA Section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWP.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA Section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA Section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA Section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA Section 7 consultation conducted for the ESA Section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA Section 7 consultation for the ESA Section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA Section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA Section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA Section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.

19. *Migratory Birds and Bald and Golden Eagles.* The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. *Historic Properties.* (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under Section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with Section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information

submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of Section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA Section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. If NHPA Section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that Section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal,

and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. *Designated Critical Resource Waters.* Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. *Mitigation.* The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the

framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. *Safety of Impoundment Structures.* To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. *Water Quality.* (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA Section 401, a CWA Section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA Section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. *Coastal Zone Management.* In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a

presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA Section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

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

(Transferee)

(Date)

30. *Compliance Certification.* Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. *Activities Affecting Structures or Works Built by the United States.* If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires Section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the Section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. *Pre-Construction Notification.* (a) *Timing.* Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete.

The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) *Contents of Pre-Construction Notification:* The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse

environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the

name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for Section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification:* The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency Coordination:* (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity’s compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity’s adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

C. District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused

by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse

environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

D. Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

E. Portland District Regional Conditions

1. *Notification:* For permittees that received written NWP approval, upon starting the authorized activities, you shall notify the U.S. Army Corps of Engineers, Portland District, Regulatory Branch that the work has started. Notification shall be provided by e-mail to cenwp.notify@usace.army.mil and the email subject line shall include: Corps project number and the project location by county.

2. *Aquatic Resources of Special Concern:* Pre-construction notification to the District Engineer is required for all activities proposed in waters of the U.S. within, or directly

affecting, an aquatic resource of special concern. Aquatic resources of special concern are resources that are difficult to replace, unique, and/or have high ecological function. For the purpose of this regional condition, aquatic resources of special concern are native eel grass (*Zostera marina*) beds, mature forested wetlands, bogs, fens, vernal pools, alkali wetlands, wetlands in dunal systems along the Oregon coast, estuarine wetlands, Willamette Valley wet prairie wetlands, marine gardens, marine reserves, kelp beds, and rocky substrate in tidal waters.

In addition to the content requirements of NWP General Condition (GC) 32, the pre-construction notification must include a statement explaining why the effects of the proposed activity are no more than minimal. Written approval from the District Engineer must be obtained prior to commencing work.

Note: If the District Engineer determines that the adverse effects of the proposed activity are more than minimal, then the District Engineer will notify the applicant that either:

- a. the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit;
- b. the activity is authorized under the NWP subject to submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or
- c. the activity is authorized under the NWP with specific modifications or conditions.

3. *Cultural Resources and Human Burials-Inadvertent Discovery Plan:* In addition to the requirements in NWP GCs 20 and 21, the permittee shall immediately notify the District Engineer if, at any time during the course of the work authorized, human burials, cultural items, or historic properties, as defined by the National Historic Preservation Act and Native American Graves Protection and Repatriation Act, are discovered. The permittee shall implement the following procedures as outlined on the Inadvertent Discovery Plan posted on the Portland District Regulatory website at <https://www.nwp.usace.army.mil/Missions/Regulatory/Nationwide.aspx>

Notify the Portland District Engineer as soon as possible following discovery but in no case later than 24 hours. Notification shall be sent electronically (cenwp.notify@usace.army.mil) and shall identify the Corps project number and clearly specify the purpose is to report a cultural resource discovery. The permittee shall also notify the Corps representative (by email and telephone) identified in the verification letter.

4. *Essential Fish Habitat:* Activities which may adversely affect essential fish habitat, as defined under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), are not authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees must submit a pre-construction notification to the District Engineer if essential fish habitat may be affected

by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific coast salmon, Pacific coast groundfish, and/or Coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at NOAA's website: <http://www.westcoast.fisheries.noaa.gov>

5. Bank Stabilization: Permittee shall include the use of bioengineering techniques and natural materials in the project design to the maximum extent practicable and shall minimize the use of rock. Bioengineering bank stabilization techniques are those that increase the strength and structure of soils with a combination of biological and mechanical elements (e.g., vegetation, root wads and woody debris, rock structures). Riparian plantings shall be included in all project designs unless the permittee can demonstrate that such plantings are not practicable.

6. Work Area Isolation and Dewatering: Appropriate best management practices shall be implemented to prevent erosion and to prevent sediments from entering waters of the U.S.

a. All in-water work shall be isolated from the active channel or conducted during low seasonal stream flows to the maximum extent practicable.

b. Cofferdams shall be constructed of non-erosive material, such as concrete jersey barriers, sand and gravel bag dams, or water bladders. Constructing a cofferdam by pushing material from the streambed or sloughing material from the streambanks is not authorized.

c. Sand and gravel bag dams shall be lined with a plastic liner or geotextile fabric to reduce permeability and prevent sediments and/or construction materials from entering waters of the U.S.

d. Upstream and downstream flows shall be maintained by routing flows around the construction site.

e. When dewatering is necessary for construction, a sediment basin, or other applicable method, shall be used to settle sediments prior to releasing the water back into the waterbody. Settled water shall be returned to the waterbody in such a manner as to avoid erosion. Sediment basins shall be placed in uplands.

f. Fish and other aquatic species must be salvaged (i.e., safely captured and relocated away from the project or development site) prior to dewatering. Contact ODFW for additional information regarding fish salvage.

7. Dredging: For NWP-authorized activities that involve removal of sediment from waters of the U.S., the permittee shall ensure that any necessary sediment characterization regarding

size, composition, and potential contaminants is conducted and reviewed prior to dredging. Sediment characterization must be conducted per the Sediment Evaluation Framework for the Pacific Northwest (available at: <http://www.nwp.usace.army.mil/Missions/Environmental-Stewardship/DMM.aspx>).

Note: The return water from a contained disposal area is defined as a discharge of dredged material by 33 CFR part 323.2(d) and requires separate authorization from the District Engineer (e.g., by NWP 16).

8. *Mechanized Equipment:* In addition to the requirements in NWP GC 11, permittee shall implement the following practices to prevent or minimize impacts to the aquatic environment from mechanized equipment:

- a. Operate equipment from the top of a streambank and conduct work outside of the active stream channel, unless specifically authorized by the District Engineer.
- b. Spill prevention and containment materials shall be maintained and be readily accessible at vehicle staging areas. The amount of spill response materials (such as straw matting/bales, geotextiles, booms, diapers, and other absorbent materials, shovels, brooms, and containment bags) maintained on-site must be appropriate for the size of the authorized activity.

Note: See Regional Condition 10 regarding timeframes for temporary fills.

9. *Erosion Control:* During construction and until the site is stabilized, the permittee shall ensure all practicable measures are implemented and maintained to prevent erosion and runoff. Temporary stockpiles of excavated or dredged material shall be stabilized to prevent erosion. Once soils or slopes have been stabilized, permittee shall completely remove and properly dispose of or re-use all non-biodegradable components of installed control measures.

10. *Temporary Fills and Impacts:* To ensure no more than minimal adverse environmental effects from temporary fills and impacts to waters of the U.S.:

- a. Temporary fills and/or impacts to waters of the U.S. shall not exceed six months unless otherwise approved by the District Engineer.
- b. No more than one-half ($\frac{1}{2}$) acre of waters of the U.S. may be temporarily filled or impacted unless otherwise approved by the District Engineer (temporary fills and impacts do not affect specified limits for loss of waters associated with specific nationwide permits).
- c. Native soils and/or sediments removed from waters of the U.S. for project construction shall be stockpiled and used for site restoration to the maximum extent practicable.
- d. Site restoration of temporarily filled or impacted areas shall include returning the

area to pre-project ground surface contours. The permittee shall appropriately revegetate temporarily filled or impacted areas with native, noninvasive herbs, shrubs, and/or tree species sufficient in number, spacing, and diversity to replace affected aquatic functions.

Note: The Corps will determine compensatory mitigation requirements for temporary fills and impacts on a case-by-case basis depending on the duration and nature of the temporary fill or impact and the type of aquatic resource affected.

11. *Contractor Notification of Permit Requirements:* The permittee must provide a copy of the Nationwide Permit verification letter, conditions, and permit drawings to all contractors and any other parties performing the authorized work, prior to the commencement of any work in waters of the U.S.

12. *Inspection of the Project Site:* The permittee shall allow representatives of the District Engineer to inspect the authorized activity to confirm compliance with nationwide permit terms and conditions. A request for access to the site will normally be made sufficiently in advance to allow a property owner or representative the option to be on site during the inspection.



US Army Corps
of Engineers®
Portland District

Nationwide Permit 27

Terms and Conditions

Effective Date: February 25, 2022

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- A. Description of Activities Authorized by Nationwide Permit 27
 - B. Nationwide Permit General Conditions
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In addition to any special conditions that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit authorization to be valid in Oregon.

A. Description of Activities Authorized by Nationwide Permit (NWP) 27

27. Aquatic Habitat Restoration, Enhancement, and Establishment Activities. Activities in waters of the United States associated with the restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas, the restoration and enhancement of non-tidal streams and other non-tidal open waters, and the rehabilitation or enhancement of tidal streams, tidal wetlands, and tidal open waters, provided those activities result in net increases in aquatic resource functions and services.

To be authorized by this NWP, the aquatic habitat restoration, enhancement, or establishment activity must be planned, designed, and implemented so that it results in aquatic habitat that resembles an ecological reference. An ecological reference may be based on the characteristics of one or more intact aquatic habitats or riparian areas of the same type that exist in the region. An ecological reference may be based on a conceptual model developed from regional ecological knowledge of the target aquatic habitat type or riparian area.

To the extent that a Corps permit is required, activities authorized by this NWP include, but are not limited to the removal of accumulated sediments; releases of sediment from reservoirs to maintain sediment transport continuity to restore downstream habitats; the installation, removal, and maintenance of small water control structures, dikes, and berms, as well as discharges of dredged or fill material to restore appropriate stream channel configurations after small water control structures, dikes, and berms are removed; the installation of current deflectors; the enhancement, rehabilitation, or re-establishment of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to enhance, rehabilitate, or re-establish stream meanders; the removal of stream barriers, such as undersized culverts, fords, and grade control structures; the backfilling of artificial channels; the removal of existing drainage structures, such as drain tiles, and the filling, blocking, or reshaping of drainage ditches to restore wetland hydrology; the installation of

structures or fills necessary to restore or enhance wetland or stream hydrology; the construction of small nesting islands; the construction of open water areas; the construction of oyster habitat over unvegetated bottom in tidal waters; coral restoration or relocation activities; shellfish seeding; activities needed to reestablish vegetation, including plowing or disking for seed bed preparation and the planting of appropriate wetland species; re-establishment of submerged aquatic vegetation in areas where those plant communities previously existed; re-establishment of tidal wetlands in tidal waters where those wetlands previously existed; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site.

This NWP authorizes the relocation of non-tidal waters, including non-tidal wetlands and streams, on the project site provided there are net increases in aquatic resource functions and services.

Except for the relocation of non-tidal waters on the project site, this NWP does not authorize the conversion of a stream or natural wetlands to another aquatic habitat type (e.g., the conversion of a stream to wetland or vice versa) or uplands. Changes in wetland plant communities that occur when wetland hydrology is more fully restored during wetland rehabilitation activities are not considered a conversion to another aquatic habitat type. This NWP does not authorize stream channelization. This NWP does not authorize the relocation of tidal waters or the conversion of tidal waters, including tidal wetlands, to other aquatic uses, such as the conversion of tidal wetlands into open water impoundments.

Compensatory mitigation is not required for activities authorized by this NWP since these activities must result in net increases in aquatic resource functions and services.

Reversion. For enhancement, restoration, and establishment activities conducted: (1) In accordance with the terms and conditions of a binding stream or wetland enhancement or restoration agreement, or a wetland establishment agreement, between the landowner and the U.S. Fish and Wildlife Service (FWS), the Natural Resources Conservation Service (NRCS), the Farm Service Agency (FSA), the National Marine Fisheries Service (NMFS), the National Ocean Service (NOS), U.S. Forest Service (USFS), or their designated state cooperating agencies; (2) as voluntary wetland restoration, enhancement, and establishment actions documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or (3) on reclaimed surface coal mine lands, in accordance with a Surface Mining Control and Reclamation Act permit issued by the Office of Surface Mining Reclamation and Enforcement (OSMRE) or the applicable state agency, this NWP also authorizes any future discharge of dredged or fill material associated with the reversion of the area to its documented prior condition and use (i.e., prior to the restoration, enhancement, or establishment activities). The reversion must occur within five years after expiration of a limited term wetland restoration or establishment agreement or permit, and is authorized in these circumstances even if the discharge of dredged or fill material occurs after this NWP expires. The five-year reversion limit does

not apply to agreements without time limits reached between the landowner and the FWS, NRCS, FSA, NMFS, NOS, USFS, or an appropriate state cooperating agency. This NWP also authorizes discharges of dredged or fill material in waters of the United States for the reversion of wetlands that were restored, enhanced, or established on prior-converted cropland or on uplands, in accordance with a binding agreement between the landowner and NRCS, FSA, FWS, or their designated state cooperating agencies (even though the restoration, enhancement, or establishment activity did not require a section 404 permit). The prior condition will be documented in the original agreement or permit, and the determination of return to prior conditions will be made by the Federal agency or appropriate state agency executing the agreement or permit. Before conducting any reversion activity, the permittee or the appropriate Federal or state agency must notify the district engineer and include the documentation of the prior condition. Once an area has reverted to its prior physical condition, it will be subject to whatever the Corps Regulatory requirements are applicable to that type of land at the time. The requirement that the activity results in a net increase in aquatic resource functions and services does not apply to reversion activities meeting the above conditions. Except for the activities described above, this NWP does not authorize any future discharge of dredged or fill material associated with the reversion of the area to its prior condition. In such cases a separate permit would be required for any reversion.

Reporting. For those activities that do not require pre-construction notification, the permittee must submit to the district engineer a copy of: (1) the binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement, or a project description, including project plans and location map; (2) the NRCS or USDA Technical Service Provider documentation for the voluntary stream enhancement or restoration action or wetland restoration, enhancement, or establishment action; or (3) the SMCRA permit issued by OSMRE or the applicable state agency. The report must also include information on baseline ecological conditions on the project site, such as a delineation of wetlands, streams, and/or other aquatic habitats. These documents must be submitted to the district engineer at least 30 days prior to commencing activities in waters of the United States authorized by this NWP.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing any activity (see general condition 32), except for the following activities:

- (1) Activities conducted on non-Federal public lands and private lands, in accordance with the terms and conditions of a binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement between the landowner and the FWS, NRCS, FSA, NMFS, NOS, USFS or their designated state cooperating agencies;
- (2) Activities conducted in accordance with the terms and conditions of a binding coral restoration or relocation agreement between the project proponent and the NMFS or

any of its designated state cooperating agencies;

(3) Voluntary stream or wetland restoration or enhancement action, or wetland establishment action, documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or

(4) The reclamation of surface coal mine lands, in accordance with an SMCRA permit issued by the OSMRE or the applicable state agency.

However, the permittee must submit a copy of the appropriate documentation to the district engineer to fulfill the reporting requirement. (Authorities: Sections 10 and 404)

Note: This NWP can be used to authorize compensatory mitigation projects, including mitigation banks and in-lieu fee projects. However, this NWP does not authorize the reversion of an area used for a compensatory mitigation project to its prior condition, since compensatory mitigation is generally intended to be permanent.

B. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. *Navigation*. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. *Aquatic Life Movements*. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. *Spawning Areas*. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. *Migratory Bird Breeding Areas*. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. *Shellfish Beds*. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. *Suitable Material*. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. *Water Supply Intakes*. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. *Adverse Effects from Impoundments*. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. *Management of Water Flows*. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. *Fills Within 100-Year Floodplains.* The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. *Equipment.* Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. *Soil Erosion and Sediment Controls.* Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. *Removal of Temporary Structures and Fills.* Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. *Proper Maintenance.* Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. *Single and Complete Project.* The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. *Wild and Scenic Rivers.* (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River

or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>.

17. *Tribal Rights*. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. *Endangered Species*. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA Section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of “effects of the action” for the purposes of ESA Section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA Section 7 regarding “activities that are reasonably certain to occur” and “consequences caused by the proposed action.”

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA Section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under Section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species

proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA Section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWP.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA Section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA Section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA Section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA Section 7 consultation conducted for the ESA Section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA Section 7 consultation for the ESA Section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA Section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA Section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA Section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.

19. *Migratory Birds and Bald and Golden Eagles.* The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. *Historic Properties.* (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under Section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with Section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district

engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of Section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA Section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. If NHPA Section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that Section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. *Discovery of Previously Unknown Remains and Artifacts.* Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. *Designated Critical Resource Waters.* Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public

comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in

accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party

or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. *Safety of Impoundment Structures.* To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. *Water Quality.* (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA Section 401, a CWA Section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA Section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. *Coastal Zone Management.* In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may

require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA Section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

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

(Transferee)

(Date)

30. *Compliance Certification.* Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. *Activities Affecting Structures or Works Built by the United States.* If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires Section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the Section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. *Pre-Construction Notification.* (a) *Timing.* Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a

general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) *Contents of Pre-Construction Notification:* The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional

general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing)

that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for Section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification:* The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency Coordination:* (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity’s compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity’s adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

C. District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an

applicant requests a waiver of an applicable limit, as provided for in NWP 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after

consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

D. Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

E. Portland District Regional Conditions

1. *Notification:* For permittees that received written NWP approval, upon starting the authorized activities, you shall notify the U.S. Army Corps of Engineers, Portland District, Regulatory Branch that the work has started. Notification shall be provided by e-mail to cenwp.notify@usace.army.mil and the email subject line shall include: Corps project number and the project location by county.

2. *Aquatic Resources of Special Concern:* Pre-construction notification to the District Engineer is required for all activities proposed in waters of the U.S. within, or directly affecting, an aquatic resource of special concern. Aquatic resources of special concern are

resources that are difficult to replace, unique, and/or have high ecological function. For the purpose of this regional condition, aquatic resources of special concern are native eel grass (*Zostera marina*) beds, mature forested wetlands, bogs, fens, vernal pools, alkali wetlands, wetlands in dunal systems along the Oregon coast, estuarine wetlands, Willamette Valley wet prairie wetlands, marine gardens, marine reserves, kelp beds, and rocky substrate in tidal waters.

In addition to the content requirements of NWP General Condition (GC) 32, the pre-construction notification must include a statement explaining why the effects of the proposed activity are no more than minimal. Written approval from the District Engineer must be obtained prior to commencing work.

Note: If the District Engineer determines that the adverse effects of the proposed activity are more than minimal, then the District Engineer will notify the applicant that either:

- a. the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit;
- b. the activity is authorized under the NWP subject to submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or
- c. the activity is authorized under the NWP with specific modifications or conditions.

3. *Cultural Resources and Human Burials-Inadvertent Discovery Plan:* In addition to the requirements in NWP GCs 20 and 21, the permittee shall immediately notify the District Engineer if, at any time during the course of the work authorized, human burials, cultural items, or historic properties, as defined by the National Historic Preservation Act and Native American Graves Protection and Repatriation Act, are discovered. The permittee shall implement the following procedures as outlined on the Inadvertent Discovery Plan posted on the Portland District Regulatory website at <https://www.nwp.usace.army.mil/Missions/Regulatory/Nationwide.aspx>

Notify the Portland District Engineer as soon as possible following discovery but in no case later than 24 hours. Notification shall be sent electronically (cenwp.notify@usace.army.mil) and shall identify the Corps project number and clearly specify the purpose is to report a cultural resource discovery. The permittee shall also notify the Corps representative (by email and telephone) identified in the verification letter.

4. *Essential Fish Habitat:* Activities which may adversely affect essential fish habitat, as defined under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), are not authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees must submit a pre-construction notification to the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by

the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific coast salmon, Pacific coast groundfish, and/or Coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at NOAA's website: <http://www.westcoast.fisheries.noaa.gov>

5. Bank Stabilization: Permittee shall include the use of bioengineering techniques and natural materials in the project design to the maximum extent practicable and shall minimize the use of rock. Bioengineering bank stabilization techniques are those that increase the strength and structure of soils with a combination of biological and mechanical elements (e.g., vegetation, root wads and woody debris, rock structures). Riparian plantings shall be included in all project designs unless the permittee can demonstrate that such plantings are not practicable.

6. Work Area Isolation and Dewatering: Appropriate best management practices shall be implemented to prevent erosion and to prevent sediments from entering waters of the U.S.

a. All in-water work shall be isolated from the active channel or conducted during low seasonal stream flows to the maximum extent practicable.

b. Cofferdams shall be constructed of non-erosive material, such as concrete jersey barriers, sand and gravel bag dams, or water bladders. Constructing a cofferdam by pushing material from the streambed or sloughing material from the streambanks is not authorized.

c. Sand and gravel bag dams shall be lined with a plastic liner or geotextile fabric to reduce permeability and prevent sediments and/or construction materials from entering waters of the U.S.

d. Upstream and downstream flows shall be maintained by routing flows around the construction site.

e. When dewatering is necessary for construction, a sediment basin, or other applicable method, shall be used to settle sediments prior to releasing the water back into the waterbody. Settled water shall be returned to the waterbody in such a manner as to avoid erosion. Sediment basins shall be placed in uplands.

f. Fish and other aquatic species must be salvaged (i.e., safely captured and relocated away from the project or development site) prior to dewatering. Contact ODFW for additional information regarding fish salvage.

7. Dredging: For NWP-authorized activities that involve removal of sediment from waters of the U.S., the permittee shall ensure that any necessary sediment characterization regarding size, composition, and potential contaminants is conducted and reviewed prior to dredging.

Sediment characterization must be conducted per the Sediment Evaluation Framework for the Pacific Northwest (available at: <http://www.nwp.usace.army.mil/Missions/Environmental-Stewardship/DMM.aspx>).

Note: The return water from a contained disposal area is defined as a discharge of dredged material by 33 CFR part 323.2(d) and requires separate authorization from the District Engineer (e.g., by NWP 16).

8. Mechanized Equipment: In addition to the requirements in NWP GC 11, permittee shall implement the following practices to prevent or minimize impacts to the aquatic environment from mechanized equipment:

- a. Operate equipment from the top of a streambank and conduct work outside of the active stream channel, unless specifically authorized by the District Engineer.
- b. Spill prevention and containment materials shall be maintained and be readily accessible at vehicle staging areas. The amount of spill response materials (such as straw matting/bales, geotextiles, booms, diapers, and other absorbent materials, shovels, brooms, and containment bags) maintained on-site must be appropriate for the size of the authorized activity.

Note: See Regional Condition 10 regarding timeframes for temporary fills.

9. Erosion Control: During construction and until the site is stabilized, the permittee shall ensure all practicable measures are implemented and maintained to prevent erosion and runoff. Temporary stockpiles of excavated or dredged material shall be stabilized to prevent erosion. Once soils or slopes have been stabilized, permittee shall completely remove and properly dispose of or re-use all non-biodegradable components of installed control measures.

10. Temporary Fills and Impacts: To ensure no more than minimal adverse environmental effects from temporary fills and impacts to waters of the U.S:

- a. Temporary fills and/or impacts to waters of the U.S. shall not exceed six months unless otherwise approved by the District Engineer.
- b. No more than one-half ($\frac{1}{2}$) acre of waters of the U.S. may be temporarily filled or impacted unless otherwise approved by the District Engineer (temporary fills and impacts do not affect specified limits for loss of waters associated with specific nationwide permits).
- c. Native soils and/or sediments removed from waters of the U.S. for project construction shall be stockpiled and used for site restoration to the maximum extent practicable.
- d. Site restoration of temporarily filled or impacted areas shall include returning the area to pre-project ground surface contours. The permittee shall appropriately revegetate

temporarily filled or impacted areas with native, noninvasive herbs, shrubs, and/or tree species sufficient in number, spacing, and diversity to replace affected aquatic functions.

Note: The Corps will determine compensatory mitigation requirements for temporary fills and impacts on a case-by-case basis depending on the duration and nature of the temporary fill or impact and the type of aquatic resource affected.

11. *Contractor Notification of Permit Requirements:* The permittee must provide a copy of the Nationwide Permit verification letter, conditions, and permit drawings to all contractors and any other parties performing the authorized work, prior to the commencement of any work in waters of the U.S.

12. *Inspection of the Project Site:* The permittee shall allow representatives of the District Engineer to inspect the authorized activity to confirm compliance with nationwide permit terms and conditions. A request for access to the site will normally be made sufficiently in advance to allow a property owner or representative the option to be on site during the inspection.



Oregon

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February 16, 2024

Stan Monte
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RE: 401 Water Quality Certification Approval for 2023-363, Knights Bridge Rehabilitation Project

The US Army Corps of Engineers (USACE) has determined that your project will be authorized under Nationwide Permit (NWP) category #14. As described in the application package received and reviewed by the Oregon Department of Environmental Quality (DEQ), the project qualifies for the expedited 401 Water Quality Certification (WQC), subject to the conditions outlined below. If you cannot meet all conditions of this 401 WQC, you may apply for a standard individual certification. A standard individual certification will require additional information, a public notice, and a higher review fee.

Certification Decision: Based on information provided by the USACE and the Applicant, DEQ has determined that implementation eligible activities under the proposed NWP will be consistent with water quality requirements including applicable provisions of Sections 301, 302, 303, 306, and 307 of the federal Clean Water Act, state water quality standards set forth in Oregon Administrative Rules Chapter 340 Division 41, and other appropriate requirements of state law, provided the following conditions are incorporated into the federal permit and strictly adhered to by the Applicant.

Duration of Certificate: This 401 WQC for impacts to waters, including dredge and fill activities, is valid for the duration of the USACE Section 404 permit. A new 401 WQC must be requested with any modification of the USACE 404 permit.

In addition to all USACE national and regional permit conditions, the following 401 WQC conditions apply to all NWP categories that qualify for the Nationwide 401 WQC.

401 GENERAL CERTIFICATION CONDITIONS

- 1) **Responsible parties:** This 401 WQC applies to the Applicant. The Applicant is responsible for the work of its contractors and sub-contractors, as well as any other entity that performs work related to this WQC.
Rule: 40 CFR 121, OAR 340-048-0015
Justification: DEQ must be aware of responsible parties to ensure compliance.
- 2) **Work Authorized:** Work authorized by this 401 WQC is limited to the work described in the Permit Application and additional application materials (hereafter "the permit application materials"), unless otherwise authorized by DEQ. If the project is operated in a manner not

consistent with the project description contained in the permit application materials, the Applicant is not in compliance with this 401 WQC and may be subject to enforcement.

Rule: OAR 340-048-0015

Justification: To ensure the project will comply with water quality standards, DEQ must understand all work involved in the construction and operation of the project.

- 3) **401 WQC on Site:** A copy of this 401 WQC must be kept on the job site and readily available for reference by the Applicant and its contractors and subcontractors, as well as by DEQ, USACE, National Marine Fisheries Service (NMFS), Oregon Department of Fish and Wildlife (ODFW), and other state and local government inspectors.
Rule: OAR 340-012
Justification: All parties must be aware of and comply with the 401 WQC, including on-site contractors.
- 4) **Project Changes:** DEQ may modify or revoke this 401 WQC, in accordance with OAR 340-048-0050, if the project changes or project activities are having an adverse impact on state water quality or beneficial uses, or if the Applicant is otherwise in violation of the conditions of this certification.
Rule: OAR 340-048-0050
Justification: To ensure the project will comply with water quality standards, DEQ must understand all work involved in the construction and operation of the project.
- 5) **Land Use Compatibility Statement:** In accordance with OAR 340-048-0020(2) (i), each Applicant must submit findings prepared by the local land use jurisdiction that demonstrates the activity's compliance with the local comprehensive plan. Such findings can be submitted using Section 11 of the Joint Permit Application, signed by the appropriate local official and indicating:
 - a. "This project is consistent with the comprehensive plan and land use regulations;" or,
 - b. "This project will be consistent with the comprehensive plan and land use regulations when the following local approvals are obtained," accompanied by the obtained local approvals.
 - c. Rarely, such as for federal projects on federal land, "this project is not regulated by the comprehensive plan" will be acceptable.

In lieu of submitting the appropriate section of the USACE & Department of State Lands (DSL) Joint Permit Application, the Applicant may use DEQ's Land Use Compatibility Statement form found at: <http://www.oregon.gov/deq/FilterDocs/lucs.pdf>

Rule: OAR 340-048-0020(2) (i), OAR 340-018
Justification: DEQ must ensure compliance with water quality land use laws at the local level.
- 6) **Access:** The Applicant and its contractors must allow DEQ access to the project site with or without prior notice, including staging areas, and mitigation sites to monitor compliance with these 401 WQC conditions, including:
 - a. Access to any records, logs, and reports that must be kept under the conditions of this 401 WQC;
 - b. To inspect best management practices (BMPs), monitoring or equipment or methods; and
 - c. To collect samples or monitor any discharge of pollutants.

Rule: OAR 340-012

Justification: DEQ must inspect facilities for compliance with all state rules and laws.

- 7) Failure of any person or entity to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce its terms.

Rule: OAR 340-012

Justification: If the project is not being constructed or operated as proposed, it may not be consistent with water quality requirements.

FOR PROJECTS THAT PROPOSE CONSTRUCTION, THE FOLLOWING GENERAL CONDITIONS APPLY

- 8) **Erosion and Sediment Control:** During construction, erosion control measures must be implemented to prevent or control movement of soil into waters of the state. The Applicant is required to develop and implement an effective erosion and sediment control plan. A project that disturbs more than one acre may be required to obtain a National Pollutant Discharge Elimination System (NPDES) 1200-C construction stormwater general permit. Contact the DEQ Stormwater Program for more information at: <https://www.oregon.gov/deq/wq/wqpermits/Pages/Stormwater-Construction.aspx>

In addition, the Applicant must:

- a. Maintain an adequate supply of materials necessary to control erosion at the project construction site.
- b. Prohibit erosion of stockpiles. Deploy compost berms, impervious materials, or other effective methods during rain events or when stockpiles are not moved or reshaped for more than 48 hours.
- c. Inspect erosion control measures daily and maintain erosion control measures as often necessary to ensure the continued effectiveness of measures. Erosion control measures must remain in place until all exposed soil is stabilized;
 - i. If monitoring or inspection shows that the erosion and sediment controls are ineffective, Applicant must mobilize immediately to make repairs, install replacements, or install additional controls as necessary.
 - ii. If sediment has reached 1/3 of the exposed height of a sediment or erosion control, Applicant must remove the sediment to its original contour.
- d. Use removable pads or mats to prevent soil compaction at all construction access points through, and staging areas in, riparian or wetland areas to prevent soil compaction, unless otherwise authorized by DEQ.
- e. Flag or fence off wetlands not specifically authorized to be impacted to protect from disturbance and/or erosion.
- f. Place dredged or other excavated material on upland areas with stable slopes to prevent materials from eroding back into waterways or wetlands.

- g. Place clean aggregate at all construction entrances, and utilize other BMPs, including, but not limited to as truck or wheel washes, when earth moving equipment is leaving the site and traveling on paved surfaces. The tracking of sediment off site by vehicles is prohibited.

Rule: OAR 340-041-0007(8), ORS 468B.050, CWA Section 402, OAR 340-045

Justification: DEQ must ensure that pollution does not enter waterways.

- 9) **Deleterious Waste Materials:** The Applicant is prohibited from placing biologically harmful materials and construction debris where they could enter waters of the state, including wetlands (wetlands are waters of the state). This includes, but is not limited to: petroleum products; chemicals; cement cured less than 24 hours; welding slag and grindings; concrete saw cutting by-products; sandblasted materials; chipped paint; tires; wire; steel posts; asphalt; and waste concrete.

The following specific requirements apply:

- a. Cure concrete, cement, or grout for at least 24 hours before any contact with flowing waters;
- b. Use only clean fill, free of waste and polluted substances;
- c. Employ all practicable controls to prevent discharges of spills of harmful materials to surface or groundwater;
- d. Maintain at the project construction site, and deploy as necessary, an adequate supply of materials needed to contain deleterious materials during a weather event;
- e. Remove all foreign materials, refuse, and waste from the project area

Rule: OAR 340-041-0007(8), ORS 468B.050, CWA Section 402

Justification: DEQ must ensure that pollution does not enter waterways.

- 10) **Spill Prevention:** The Applicant must fuel, operate, maintain and store vehicles, and must store construction materials, in areas that will not disturb habitat directly or result in potential discharges.

Rule: ORS 468B.025(1)(a)

Justification: DEQ must ensure that pollution does not enter waterways.

- 11) **Spill & Incident Reporting:**

- a. In the event that deleterious materials are discharged into state waters, or onto land with a potential to enter state waters, the discharge must be promptly reported to the Oregon Emergency Response Service (OERS, 1-800-452-0311) within 24 hours. Containment and cleanup must begin immediately and be completed as soon as possible.
- b. If the project operations cause a water quality problem that results in distressed or dying fish, the operator must immediately: cease operations; take appropriate corrective measures to prevent further environmental damage; collect fish specimens and water samples; and notify DEQ, ODFW, NMFS, and US Fish and Wildlife Service (USFW).

Rule: ORS 466.645(1); OAR 340-142-0030(1)(b)(B), OAR 340-041

Justification: DEQ must ensure that pollution does not enter waterways and must be protective of beneficial uses, including fish.

12) Vegetation Protection and Site Restoration:

- a. The Applicant must protect riparian, wetland, and shoreline vegetation in the authorized project area from disturbance through one or more of the following:
 - i. Minimization of project and impact footprint;
 - ii. Designation of staging areas and access points in open, upland areas;
 - iii. Fencing and other barriers demarking construction areas; and
 - iv. Use of alternative equipment (e.g., spider hoe or crane).
- b. If authorized work results in vegetative disturbance and the disturbance has not been accounted for in planned mitigation actions, the Applicant must successfully reestablish vegetation to a degree of function equivalent or better than before the disturbance.
- c. Pesticides (including herbicides) and fertilizers must be applied per manufacturer's instructions by a professionally licensed applicator. If chemical treatment is necessary, the Applicant is responsible for ensuring that pesticide application laws, including with the NPDES System 2300-A general permit, are met. Please review the information on the following website for more information:
<https://www.oregon.gov/deq/wq/wqpermits/Pages/Pesticide.aspx>
 - i. For pesticide application within stormwater treatment facilities or within 150 feet of waters of the state, the Applicant must adopt an Integrated Pest Management (IPM) plan that describes pest prevention, monitoring and control techniques with a focus on prevention of inputs to waters of the state, or coverage under an NPDES permit, if required.
 - ii. Pesticide application should be applied during the dry season and avoid direct water application;
 - iii. Unless otherwise approved in writing by DEQ, applying surface fertilizer within stormwater treatment facilities or within 50 feet of any stream channel is prohibited.

Rule: OAR 340-041, OAR 340-012, OAR 340-041-0033

Justification: Riparian, wetland, and shoreline vegetation help ensure excess sediment does not enter a waterway, and helps offset potential temperature impacts. DEQ must ensure that pollution does not enter waterways.

- 13) Buffers:** The Applicant shall avoid and protect from harm, all wetlands and provide a 50 foot buffer to waters of the state, unless proposed, necessary, and approved as part of the project. If a local jurisdiction has a more stringent buffer requirement, that requirement will take the place of this certification requirement.

Rule: OAR 340-041, OAR 340-012

Justification: Riparian, wetland, and shoreline buffers help ensure excess sediment does not enter a waterway, and helps offset potential temperature impacts. DEQ must ensure that pollution does not enter waterways.

- 14) Previously Contaminated Soil and Groundwater:** If any contaminated soil or groundwater is encountered, it must be handled and disposed of in accordance with the soil and groundwater management plan for the site, as well as local, state and federal regulations. The Applicant must notify the Environmental Cleanup Section of DEQ at 1-800-452-4011.

Rule: OAR 340-041, OAR 340-012, OAR 340-122, OAR 340-040

Justification: DEQ must ensure that pollution does not enter waterways. As sediments are disturbed, pollutants could become redistributed.

FOR PROJECTS THAT PROPOSE IN-STREAM WORK IN JURISDICTIONAL WATERS

- 15) **Fish protection/ Oregon Department of Fish and Wildlife timing:** The Applicant must perform in-water work only within the ODFW preferred time window as specified in the *Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources*, or as authorized otherwise under a USACE permit and/or DSL removal/fill permit. Exceptions to the timing window must be recommended by ODFW, NMFS and/or the USFW as appropriate, and approved by DSL when applicable.
Rule: OAR 340-041-0011
Justification: DEQ must be protective of all water quality standards, including beneficial uses such as fish.
- 16) **Aquatic life movements:** Any activity that may disrupt the movement of aquatic life living in the water body, including those species that normally migrate through the area, is prohibited. The Applicant must provide unobstructed fish passage at all times during any authorized activity, unless otherwise approved in the approved application.
Rule: OAR 340-041-0016; OAR 340-041-0028
Justification: DEQ must be protective of all water quality standards, including beneficial uses such as fish.
- 17) **Isolation of in-water work areas:** The Applicant must isolate in-water work areas from the active flowing stream, unless otherwise authorized as part of the approved application, or authorized by DEQ.
Rule: OAR 340-041, OAR 340-012, OAR 340-045
Justification: DEQ must ensure that pollution does not enter waterways.
- 18) **Cessation of Work:** The Applicant must cease project operations under high-flow conditions that will result in inundation of the project area. Only efforts to avoid or minimize turbidity or other resource damage as a result of inundation of the exposed project area are allowed during high-flow conditions.
Rule: OAR 340-041, OAR 340-012
Justification: DEQ must ensure that pollution does not enter waterways.
- 19) **Turbidity:** The Applicant must implement BMPs to minimize turbidity during in-water work. Any activity that causes turbidity to exceed 10% above natural stream turbidities is prohibited except as specifically provided below:
 - a. **Monitoring:** Turbidity monitoring must be conducted and recorded as described below. Monitoring must occur at two-hour intervals each day when in-water work is being conducted. A properly calibrated turbidimeter is required **unless another monitoring method is proposed and authorized by DEQ.**
 - i. **Representative Background Point:** The Applicant must take and record a turbidity measurement every two hours during in-water work at an undisturbed area. A background location shall be established at a representative location approximately 100 feet up-current of the in water activity unless otherwise authorized by DEQ. The background turbidity, location, date, tidal stage (if applicable) and time must be recorded immediately prior to monitoring down-current at the compliance point described below.
 - ii. **Compliance Point:** The Applicant must monitor every two hours. A compliance location shall be established at a representative location approximately 100 feet down-current from the disturbance at approximately mid-depth of the waterbody

and within any visible plume. The turbidity, location, date, tidal stage (if applicable) and time must be recorded for each measurement.

- b. **Compliance:** The Applicant must compare turbidity monitoring results from the compliance points to the representative background levels taken during each two – hour monitoring interval. Pursuant to OAR 340-041-0036, short term exceedances are allowed as followed:

MONITORING WITH A TURBIDIMETER EVERY 2 HOURS	
<i>TURBIDITY LEVEL</i>	<i>Restrictions to Duration of Activity</i>
0 to 4 NTU above background	No Restrictions
5 to 29 NTU above background	Work may continue maximum of 4 hours. If turbidity remains 5-29 NTU above background, stop work and modify BMPs. Work may resume when NTU is 0-4 above background.
30 to 49 NTU above background	Work may continue maximum of 2 hours. If turbidity remains 30-49 NTU above background, stop work and modify BMPs. Work may resume when NTU is 0-4 above background.
50 NTU or more above background	Stop work immediately and inform DEQ

c. **Reporting:**

- i. Record all turbidity monitoring required by subsections (a) and (b) above in daily logs which must include: calibration documentation; background NTUs; compliance point NTUs; comparison of the points in NTUs; and location; date; time; and tidal stage (if applicable) for each reading.
 - ii. A narrative must be prepared discussing all exceedances with subsequent monitoring, actions taken, and the effectiveness of the actions. Applicant must make available copies of daily logs for turbidity monitoring to regulatory agencies including DEQ, USACE, NMFS, USFWS, and ODFW upon request.
 - iii. Keep records on file for the duration of the permit cycle.
- d. **BMPs to Minimize In-stream Turbidity:** The Applicant must implement the following BMPs, unless accepted in writing by DEQ:
- i. Sequence/Phasing of work – The Applicant must schedule work activities so as to minimize in-water disturbance and duration of in-water disturbances.
 - ii. Bucket control - All in-stream digging passes by excavation machinery and placement of fill in-stream using a bucket must be completed so as to minimize turbidity. All practicable techniques such as employing an experienced equipment operator, not dumping partial or full buckets of material back into the wetted stream, adjusting the volume, speed, or both of the load, or using a closed-lipped environmental bucket must be implemented;

- iii. The Applicant must limit the number and location of stream-crossing events. Establish temporary crossing sites as necessary at the least sensitive areas and amend these crossing sites with clean gravel or other temporary methods as appropriate;
- iv. Machinery may not be driven into the flowing channel, unless authorized in writing by DEQ; and
- v. Excavated material must be placed so that it is isolated from the water edge or wetlands, and not placed where it could re-enter waters of the state uncontrolled.
- vi. Containment measures such as silt curtains, geotextile fabric, and silt fences must be in place and properly maintained in order to minimize in-stream sediment suspension and resulting turbidity.

Rule: OAR 340-041-0036, OAR 340-041

Justification: DEQ must ensure that pollution does not enter waterways.

SPECIFIC CONDITIONS FOR POST-CONSTRUCTION STORMWATER MANAGEMENT

- 20) **Post Construction Stormwater Management:** For projects which propose new impervious surfaces or the redevelopment of existing surfaces, the Applicant must submit a post-construction stormwater management plan to DEQ. The plan must be reviewed and approved prior to construction to ensure compliance with water quality standards. The Applicant must implement BMPs as proposed in the stormwater management plan, including construction, operation, and maintenance. If proposed stormwater facilities change due to site conditions, the Applicant must notify DEQ in writing.

In lieu of a complete stormwater management plan, the Applicant may submit documentation of acceptance of the stormwater into a DEQ permitted NPDES Phase I Municipal Separate Storm Sewer System (MS4).

Rule: ORS 468B.050, OAR 340-045, OAR 340-041

Justification: DEQ must ensure that pollution does not enter waterways.

- 21) **Stormwater Management & System Maintenance:** The Applicant is required to implement effective operation and maintenance practices for the lifetime of the proposed facility. Long-term operation and maintenance of stormwater treatment facilities will be the responsibility of the applicant or the entity listed in the approved post-construction stormwater management plan.

Maintenance of stormwater treatment facilities subject to an MS4 permit is regulated by the permit.

Rule: OAR 340-041, OAR 340-012, OAR 340-045

Justification: DEQ must ensure that pollution does not enter waterways.

- 22) **Corrective Action May Be Required:** DEQ retains the authority to require corrective action in the event the stormwater management facilities are not built or performing as described in the plan.

Rule: OAR 340-041, OAR 340-012

Justification: DEQ must ensure that pollution does not enter waterways.

CATEGORY SPECIFIC CONDITIONS

In addition to all national and regional conditions of the USACE permit and the 401 Water Quality Certification general conditions above, the following conditions apply to the noted specific categories of authorized activities.

NWP 7 – Outfall Structures and Associated Intake Structures:

7.1) The following actions are denied certification:

- a. Discharge outfalls that are not subject to an NPDES permit; and
- b. Outfalls that discharge stormwater without pollutant removal demonstrated to meet water-quality standards prior to discharge to waters of the state.

Rule: OAR 340-041, OAR 340-012, OAR 340-048, OAR 340-045

Justification: DEQ must ensure that pollution does not enter waterways. Untreated stormwater is considered pollution.

7.2) If an Applicant cannot obtain an NPDES permit or submit an approvable stormwater management plan per DEQ's Guidelines found at: <http://www.oregon.gov/deg/FilterDocs/401wqcertPostCon.pdf> the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

Rule: OAR 340-041, OAR 340-012, OAR 340-048, OAR 340-045

Justification: DEQ must ensure that pollution does not enter waterways. Untreated stormwater is considered pollution.

NWP 13 – Bank Stabilization:

13.1) Projects that do not include bioengineering are denied certification, unless a registered professional engineer provides a written statement that non-bioengineered solutions are the only means of protection.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways. Hard armoring can increase erosion upstream and downstream of the structure.

13.2) Projects that propose permanent fill in adjacent wetlands are denied certification.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways. Water adjacent wetlands provide water quality benefits.

13.3) To apply for certification for a project without bioengineering, the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

Rule: OAR 340-041-0059

Justification: DEQ must ensure that pollution does not enter waterways. Hard armoring can increase erosion upstream and downstream of the structure.

NWP 14 – Linear Transportation:

- 14.1) For projects that include bank stabilization, bioengineering must be a component of the project, unless a registered professional engineer provides a written statement that non-bioengineered solutions are the only means of protection.
Rule: OAR 340-041, OAR 340-012, OAR 340-048
Justification: DEQ must ensure that pollution does not enter waterways. Hard armoring can increase erosion upstream and downstream of the structure.
- 14.2) To apply for certification for a project without bioengineering, the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.
Rule: OAR 340-041-0059
Justification: DEQ must ensure that pollution does not enter waterways. Hard armoring can increase erosion upstream and downstream of the structure.

NWP 16 - Return Water from Contained Upland Disposal Areas: Water-quality criteria and guidance values for toxics, per OAR 340-041-0033, are available in Tables 30, 31, and 40 at: <https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=68746>.

- 16.1) Discharge of return water from contaminated dredged material that exceeds a chronic or acute toxicity water quality standard is prohibited.
Rule: OAR 340-041-0053(b)(A), OAR 340-041
Justification: DEQ must ensure that pollution does not enter waterways.
- 16.2) Water removed with contaminated dredged material that could or does exceed chronic water-quality criteria must be contained and disposed of at an appropriately sized and sealed upland facility by evaporation or infiltration.
Rule: OAR 340-041-0053(b)(A), OAR 340-041
Justification: DEQ must ensure that pollution does not enter waterways.
- 16.3) If a Modified Elutriate Test (MET) is performed for the known contaminants of concern (CoCs) and CoC concentrations are below DEQ chronic water-quality criteria, return water discharge is not limited.
- a. The MET must be performed before dredging.
 - a. DEQ must approve the list of CoCs and analytical method prior to the Applicant performing the MET.
 - b. DEQ must review the results and provide approval of discharge from return water, in writing, prior to dredging.
- Rule:** OAR 340-041, OAR 340-012, OAR 340-048
Justification: DEQ must ensure that pollution does not enter waterways.

NWP 20 – Response Operations for Oil and Hazardous Waste:

- 20.1) Coordination with DEQ's Emergency Response program is required. See: <http://www.oregon.gov/deq/Hazards-and-Cleanup/env-cleanup/Pages/Emergency-Response.aspx>.
Rule: OAR 340-142-0130(3), OAR 340-041
Justification: DEQ must ensure that pollution does not enter waterways.

NWP 22 – Removal of Vessels:

- 22.1) Coordination with DEQ's Emergency Response program is required. See:

<http://www.oregon.gov/deq/Hazards-and-Cleanup/env-cleanup/Pages/Emergency-Response.aspx>.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways. Vessels may contain various fuels, lubricants, and other possible sources of pollution.

NWP 31 – Maintenance of Existing Flood Control Facilities:

- 31.1) Projects in streams with temperature TMDLs which result in a net reduction of riparian shade are prohibited.

Rule: OAR 340-041-0028, OAR 340-041

Justification: DEQ must ensure that pollution does not enter waterways.

NWP 38 – Cleanup of Hazardous and Toxic Waste:

- 38.1) For removal of contaminated material from waters, dredging method is limited to diver assisted hydraulic suction, hydraulic suction, closed-lipped environmental bucket, or excavation in the dry, unless otherwise authorized by DEQ.

a. For in-water isolation measures, the Applicant is referred to Appendix D of DEQ's Oregon Erosion and Sediment Control Manual, April 2005 (or most current version), at: [DEQ Erosion and Sediment Control Manual](#)

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways.

- 38.2) Discharge to waters of the state resulting from dewatering during dredging or release of return water from an upland facility is prohibited except as provided below.

- a. All water removed with sediment must be contained and disposed of at an appropriately sized and sealed upland facility by evaporation or infiltration; or,
- b. A Modified Elutriate Test (MET) may be performed for the known Contaminants of Concern (CoCs) and if CoC concentrations are below DEQ chronic water-quality criteria; return water discharge is not limited.
 - i. The MET must be performed before dredging.
 - ii. DEQ must approve the list of CoCs and analytical method prior to the Applicant performing the MET.
 - iii. DEQ must review the results and provide approval of discharge from dewatering and return water in writing prior to dredging.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways.

- 38.3) Dredged material must be disposed of in compliance with DEQ Rules governing Hazardous Waste (see: <http://www.oregon.gov/deq/Hazards-and-Cleanup/hw/Pages/default.aspx>) or Solid Waste (see: <http://www.oregon.gov/deq/mm/swpermits/Pages/Solid-Waste-Disposal-Sites-and-Landfill.aspx>).

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways.

- 38.4) The new in-water surface must be managed to prevent exposure or mobilization of contaminants.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways.

NWP 41 - Reshaping Existing Drainage Ditches:

- 41.1) To the extent practicable, the Applicant must work from only one bank in order to minimize disturbance to existing vegetation, preferably the bank with the least existing vegetation;

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways.

- 41.2) Following authorized work, the Applicant must establish in-stream and riparian vegetation on reshaped channels and side-channels using native plant species wherever practicable. Plantings must be targeted to address water-quality improvement (e.g., provide shade to water to reduce temperature or provide bank stability through root systems to limit sediment inputs). Planting options may include clustering or vegetating only one side of a channel, preferably the side which provides maximum shade.

Rule: OAR 340-041-0004(5)(a)

Justification: Riparian, wetland, and shoreline buffers help ensure excess sediment does not enter a waterway and helps offset potential temperature impacts. DEQ must ensure that pollution does not enter waterways.

NWP 42 – Recreational Facilities:

- 42.1) For facilities that include turf maintenance actions, the permittee must develop and implement an Integrated Pest Management Plan (IPM) that describes pest prevention, monitoring and control techniques with a focus on prevention of chemical and nutrient inputs to waters of the state, including maintenance of adequate buffers for pesticide application near salmonid streams, or coverage under an NPDES permit, if required (information is available at:

<http://www.oregon.gov/deq/wq/wqpermits/Pages/Pesticide.aspx>).

Rule: OAR 340-041-0033, OAR 340-041

Justification: DEQ must ensure that pollution does not enter waterways, including excess pesticides and fertilizers.

NWP 43 – Stormwater Management Facilities:

- 43.1) Projects that propose the following elements are denied expedited certification:

- a. In-stream stormwater facilities;
- b. Discharge outfalls not subject to an MS4 NPDES permit; and,
- c. Proposals that do not demonstrate pollutant removal to meet water quality standards prior to discharge to waters of the state.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways; stormwater is considered a pollutant.

- 43.2) To apply for certification for a project with in-stream stormwater facilities, without an NPDES permit, or without submittal of an approvable stormwater management plan per DEQ's Guidelines (at: <http://www.oregon.gov/deq/FilterDocs/401wqcertPostCon.pdf>), the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

Rule: OAR 340-041-0059

Justification: DEQ must ensure that pollution does not enter waterways; stormwater is considered a pollutant.

NWP 44 – Mining Activities:

- 44.1) Projects that do not obtain an NPDES 700-PM or Individual permit are denied expedited certification.
Rule: OAR 340-045-0033, OAR 340-041
Justification: DEQ must ensure that pollution does not enter waterways. Excess turbidity can be considered pollution.
- 44.2) To apply for certification for a project without an NPDES permit, the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.
Rule: OAR 340-041-0059
Justification: DEQ must ensure that pollution does not enter waterways.
- 44.3) The State of Oregon requires an In-Water Blasting Permit be obtained per OAR, 635-425-0000. Permittee is advised to contact the nearest ODFW office for further information at: <https://www.dfw.state.or.us/lands/inwater/>
Rule: OAR 340-041-0011
Justification: DEQ must be protective of all water quality standards, including beneficial uses such as fish.

NWP 51 – Land-Based Renewable Energy Generation Facilities:

- 51.1) For associated utility lines with directionally-bored stream or wetland crossings proposed, condition D.1 must be applied.
Rule: OAR 340-041, OAR 340-012, OAR 340-048
Justification: DEQ must ensure that pollution does not enter waterways

NWP 53 – Removal of Low-Head Dams:

- 53.1) Projects that do *not* go through a PSET review if sediments are being dispersed are denied certification.
Rule: OAR 340-041, OAR 340-012, OAR 340-048
Justification: DEQ must ensure that pollution does not enter waterways. Sediments can be a carrier of contaminants.
- 53.2) To apply for certification for a project without a PSET, the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.
Rule: OAR 340-041-0059
Justification: DEQ must ensure that pollution does not enter waterways. Sediments can be a carrier of contaminants.

NWP 54 – Living Shorelines:

- 54.1) Projects that do not include bioengineering are denied certification, unless a registered professional engineer provides a written statement that non-bioengineered solutions are the only means of protection.
Rule: OAR 340-041, OAR 340-012, OAR 340-048
Justification: DEQ must ensure that pollution does not enter waterways. Hard armoring can increase erosion in the system.

NWP 58 – Utility Lines:

- 58.1) For proposals that include directionally-bored stream or wetland crossings:

- a. All drilling equipment, drill recovery and recycling pits, and any waste or spoil produced, must be completely isolated, recovered, then recycled or disposed of to prevent entry into waters of the state. Recycling using a tank instead of drill recovery/recycling pits is preferable;
- b. In the event that drilling fluids enter a water of the state, the equipment operator must stop work, immediately initiate containment measures and report the spill to the Oregon Emergency Response System (OERS) at 1-800-452-0311.
- c. An adequate supply of materials needed to control erosion and to contain drilling fluids must be maintained at the project construction site and deployed as necessary.
- d. The Applicant must have a contingency plan in place prior to construction for the inadvertent return of drilling lubricant.

Rule: OAR 340-142-0030, OAR 340-142-0040(1)

Justification: Drilling equipment and fluids that enter a waterbody would likely cause contamination of that waterbody.

58.2) For proposals that include utility lines through wetlands, include anti-seep collars or equivalent technology to prevent draining the wetlands.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways

If the Applicant is dissatisfied with the conditions contained in this certification, a hearing may be requested. Such request must be made in writing to DEQ's Office of Compliance and Enforcement at 700 NE Multnomah St, Suite 600, Portland Oregon 97232, within 20 days of the mailing of this certification.

The DEQ hereby certifies that this project complies with the Clean Water Act and state rules, with the above conditions. If you have any questions, please contact Delia Negru, at 503-593-2493, by email at delia.negru@deq.oregon.gov, or at the address on this letterhead.

Sincerely,

Theresa Burcsu

Theresa Burcsu (Feb 16, 2024 14:30 PST)

Theresa Burcsu,
Water Quality Manager
Northwest Region

ec: Kayla Woods, USACE
Marcus Chatfield, DSL
Julie Wirth-McGee, AKS Engineering & Forestry, LLC

401 Water Quality Certification Turbidity Monitoring Report

Project Name:	USACE Project #	DSL Project #
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Name of Inspector(s):		Turbidimeter Model:		Calibration Standard Type (Circle One) Formazin Solution or Gelex		Calibration Standard Expiration Date:	
Sampling Date:	Calibration Values: _____ NTU (Standard) = _____ NTU (Reading) _____ NTU (Standard) = _____ NTU (Reading) _____ NTU (Standard) = _____ NTU (Reading)			*Upstream (Background) Point Location: Latitude: Longitude:		*Downstream (Compliance) Point Location: Latitude: Longitude:	

In-Water Work Start Time:	In-Water Work End Time:	Description of In-Water Work:
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Upstream Sample		Downstream Sample		Change in Turbidity (NTU)	Observation of waterbody		NOTES (Describe any modifications made to BMPs)
Time	Turbidity (NTU)	Time	Turbidity (NTU)		Tidal Stage	Note any plume, sheen, floatables, color	

401 Water Quality Certification Turbidity Monitoring Report

* Include a figure with the turbidity sampling forms showing the sampling locations.

Turbidity: The Applicant must implement appropriate Best Management Practices (BMPs) to minimize turbidity during in-water work. Any activity that causes turbidity to exceed 10% above natural stream turbidity is prohibited except as specifically provided below:

Monitoring: Turbidity monitoring must be conducted and recorded as described below. Monitoring must occur at two hour intervals each day during daylight hours when in-water work is being conducted, including while dewatering or work area isolation measures are in place. A properly calibrated turbidimeter is required unless another monitoring method is proposed and authorized by DEQ.

Representative Background Point: The Applicant must take and record a turbidity measurement every two hours during in-water work at an undisturbed area. A background location shall be established at a representative location approximately 100 feet upcurrent of the in water activity unless otherwise authorized by DEQ. The background turbidity, location, date, tidal stage (if applicable) and time must be recorded immediately prior to monitoring downcurrent at the compliance point described below.

Compliance Point: The must monitor every two hours. A compliance location shall be established at a representative location approximately 100 feet downcurrent from the disturbance at approximately mid-depth of the waterbody and within any visible plume. The turbidity, location, date, tidal stage (if applicable) and time must be recorded for each measurement.

Compliance: The Applicant must compare turbidity monitoring results from the compliance points to the representative background levels taken during each two – hour monitoring interval. Pursuant to OAR 340-041-0036, short term exceedances of the turbidity water quality standard are allowed as shown in the monitoring table shown here.

Reporting: The Applicant must record all turbidity monitoring required by subsections (a) and (b) above in daily logs, kept on file for the duration of the permit cycle. The daily logs must include calibration documentation; background NTUs; compliance point NTUs; comparison of the points in NTUs; location; date; time; and tidal stage (if applicable) for each reading. Additionally, a narrative must be prepared discussing all exceedances with subsequent monitoring, actions taken, and the effectiveness of the actions. Applicant must make available copies of daily logs for turbidity monitoring to DEQ, USACE, NMFS, USFWS, and ODFW upon request.

BMPs to Minimize In-stream Turbidity: The Applicant must implement the following BMPs, unless otherwise accepted by DEQ:

- i. Sequence/Phasing of Work – The Applicant must schedule work activities so as to minimize in-water disturbance and duration of in-water disturbances;
- ii. Bucket control - All in-stream digging passes by excavation machinery and placement of fill in-stream using a bucket must be completed so as to minimize turbidity. All practicable techniques such as employing an experienced equipment operator, not dumping partial or full buckets of material back into the wetted stream, adjusting the volume, speed, or both of the load, or using a closed-lipped environmental bucket must be implemented;
- iii. The Applicant must limit the number and location of stream-crossing events. Establish temporary crossing sites as necessary in the least sensitive areas and amend these crossing sites with clean gravel or other temporary methods as appropriate;
- iv. Machinery may not be driven into the flowing channel, unless authorized by DEQ; and
- v. Excavated material must be placed so that it is isolated from the water edge or wetlands, and not placed where it could re-enter waters of the state uncontrolled.

MONITORING WITH A TURBIDIMETER EVERY 2 HOURS	
TURBIDITY LEVEL	Restrictions to Duration of Activity
0 to 4 NTU above background	No Restrictions
5 to 29 NTU above background	Work may continue maximum of 4 hours. If turbidity remains 5-29 NTU above background, stop work and modify BMPs. Work may resume when NTU is 0-4 above background.
30 to 49 NTU above background	Work may continue maximum of 2 hours. If turbidity remains 30-49 NTU above background, stop work and modify BMPs. Work may resume when NTU is 0-4 above background.
50 NTU or more above background	Stop work immediately and inform DEQ

**Endangered Species Act – Section 7 Programmatic
Consultation
Conference and Biological
Opinion and
Magnuson-Stevens Fishery Conservation
and
Management Act
Essential Fish Habitat
Consultation
For**

Revised Standard Local Operating Procedures for Endangered Species to Administer
Maintenance or Improvement of Stormwater, Transportation, and Utility Actions
Authorized or Carried Out by the U.S. Army Corps of Engineers in Oregon
(SLOPES for Stormwater, Transportation or Utilities)

NMFS Consultation No. NWR-2013-10411

Action Agency: U.S. Army Corps of Engineers
 Portland District, Operations and Regulatory Branches

Affected Species and Determinations:

ESA-Listed Species	ESA Status	Is the action likely to adversely affect this species or its critical habitat?	Is the action likely to jeopardize this species?	Is the action likely to destroy or adversely modify critical habitat for this species?
Lower Columbia River Chinook salmon	T	Yes	No	No
Upper Willamette River Chinook salmon	T	Yes	No	No
Upper Columbia River spring-run Chinook salmon	E	Yes	No	No
Snake River spring/summer run Chinook salmon	T	Yes	No	No
Snake River fall-run Chinook salmon	T	Yes	No	No
Columbia River chum salmon	T	Yes	No	No
Lower Columbia River Coho salmon	T	Yes	No	No*
Oregon Coast Coho salmon	T	Yes	No	No
Southern Oregon/Northern California coasts Coho	T	Yes	No	No
Snake River sockeye salmon	E	Yes	No	No
Lower Columbia River steelhead	T	Yes	No	No
Upper Willamette River steelhead	T	Yes	No	No
Middle Columbia River steelhead	T	Yes	No	No
Upper Columbia River steelhead	T	Yes	No	No
Snake River Basin steelhead	T	Yes	No	No
Southern green sturgeon	T	Yes	No	No
Eulachon	T	Yes	No	No
Southern resident killer whale	T	No	No	N/A

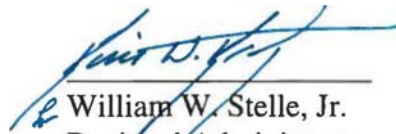
*Critical habitat has been proposed for LCR Coho salmon.

Fishery Management Plan that Describes	Would the action adversely affect	Are EFH conservation recommendations
Coastal Pelagic Species	Yes	Yes
Pacific Coast Groundfish	Yes	Yes
Pacific Coast Salmon	Yes	Yes

Consultation

Conducted By:

National Marine Fisheries Service
West Coast Region


William W. Stelle, Jr.
Regional Administrator

Issued by:

Date Issued:

March 14, 2014

Excerpt from SLOPES for Stormwater, Transportation, or Utilities General Construction March 14, 2014

Natural hazard response to complete an unplanned, immediate, or short-term repair of a stormwater facility, road, culvert, bridge, or utility line without federal assistance. These include in-water repairs that must be made before the next in-water work period to resolve critical conditions that, unless corrected, are likely to cause loss of human life, unacceptable loss of property, or natural resources. Natural hazards may include, but are not limited to, a flood that causes scour erosion and significantly weakens the foundation of a road or bridge; culvert failure due to blockage by fluvial debris, overtopping, or crushing; and ground saturation that causes a debris slide, earth flow, or rock fall to cover a road. This category of actions is only included to the extent that they require Corps permits or are undertaken by the Corps, but otherwise do not require federal authorization, funding, or federal agency involvement.. The response will include an assessment of its effects to listed species and critical habitats and a plan to bring the response into conformance with all other applicable PDC in this opinion, including compensatory mitigation based on the baseline conditions prior to the natural hazard.

Streambank and channel stabilization to ensure that roads, culverts, bridges and utility lines do not become hazardous due to the long-term effects of toe erosion, scour, subsurface entrainment, or mass failure. This action includes installation and maintenance of scour protection, such as at a footing, facing, or headwall, to prevent scouring or down-cutting of an existing culvert, road foundation, or bridge support. It does not include scour protection for bridge approach fills. Proposed streambank stabilization methods include alluvium placement, vegetated riprap with large wood (LW), log or roughened rock toe, woody plantings, herbaceous cover, deformable soil reinforcement, coir logs, bank reshaping and slope grading, floodplain flow spreaders, floodplain roughness, and engineered log jams (ELJs), alone or in combination. Any action that requires additional excavation or structural changes to a road, culvert, or bridge foundation is covered under road, culvert and bridge maintenance, rehabilitation, and replacement.

Road surface, culvert and bridge maintenance, rehabilitation and replacement. Maintenance, rehabilitation, and replacement to ensure that roads, culverts and bridges remain safe and reliable for their intended use without impairing fish passage, to extend their service life, and to withdraw temporary access roads from service in a way that promotes watershed restoration when their usefulness has ended. This includes actions necessary to complete geotechnical surveys, such as access road construction, drill pad preparation, mobilization and set up, drilling and sampling operations, demobilization, boring abandonment, and access road and drill pad reclamation. It also includes, excavation, grading, and filling necessary to maintain, rehabilitate, or replace existing roads, culverts, and bridges. This type of action does not include significant channel realignment, installation of fish passage (e.g., fish ladders, juvenile fish bypasses, culvert baffles, roughened chutes, step weirs), tidegate maintenance or replacements other than full removal, construction of new permanent roads within the riparian zone that are not a bridge approach, or construction of a new bridge where a culvert or other road stream crossing did not previously exist, or any project which will result in or contribute to other land use changes that trigger effects, including indirect effects not considered in this opinion.

Stormwater facilities and utility line stream crossings to install, maintain, rehabilitate, or replace stormwater facilities, or pipes or pipelines used to transport gas or liquids, including new or upgraded stormwater outfalls, and cables, or lines or wires used to transmit electricity or communication. Construction, maintenance or improvement of stormwater facilities include surveys, access road construction, excavation, grading, and filling necessary to maintain, rehabilitate, or replace existing stormwater treatment or flow control best management practices (BMPs). Utility line actions involve excavation, temporary side casting of excavated material, backfilling of the trench, and restoration of the work site to preconstruction contours and vegetation. This type of action does not include construction or enlargement of gas, sewer, or water lines to support a new or expanded service area for which effects, including indirect effects from interrelated or interdependent activities, have not been analyzed in this opinion. This opinion also does not include construction of any line that transits the bed of an estuary or saltwater area at depths less than -10.0 feet (mean lower low water).

1.3.1.2 Project Design Criteria - General Construction Measures

13. Project Design

- a. Use the best available scientific information regarding the likely impacts of climate change on resources in the project area to design the project so that it will be resilient to those impacts, including projections of local stream flow, water temperature, and extreme events.
- b. Assess whether the project area is contaminated by chemical substances that may cause harm if released by the project. The assessment will be commensurate with site history and may include the following:
 - i. Review available records, e.g., the history of existing structures and contamination events.
 - ii. If the project area was used for industrial processes, inspect to determine the environmental condition of the property.
 - iii. Interview people who are knowledgeable about the site, e.g., site owners, operators, and occupants, neighbors, or local government officials.
 - iv. If contamination is found or suspected, consult with a suitably qualified and experienced contamination professional and NMFS before carrying out ground disturbing activities.
- c. Obtain all applicable regulatory permits and authorizations before starting construction.
- d. Minimize the extent and duration of earthwork, e.g., compacting, dredging, drilling, excavation, and filling.

14. In-Water Work Timing

- a. Unless the in-water work is part of a natural hazard response, complete all work within the wetted channel during dates listed in the most recent version of Oregon In-water Work Guidelines (ODFW 2008), except that that in-water work in the Willamette River below Willamette Falls is not approved between December 1 and January 31.
- b. Hydraulic and topographic measurements and placement of LW or gravel may be completed anytime, provided the affected area is not occupied by adult fish congregating for spawning, or redds containing eggs or pre-emergent alevins.

15. Pile Installation. Pile may be concrete, or steel round pile 24 inches in diameter or smaller, steel H-pile designated as HP24 or smaller, or wood that has not been treated with preservatives or pesticides. Any proposal to use treated wood pilings is not covered by this consultation and will require individual consultation.

- a. NMFS will review and approve pile installation plans.
- b. When practical, use a vibratory hammer for in-water pile installation. In the lower Columbia River only a vibratory hammer may be used in October.
- c. Jetting may be used to install pile in areas with coarse, uncontaminated sediments that meet criteria for unconfined in-water disposal (USACE Northwest Division 2009).
- d. When using an impact hammer to drive or proof a steel pile, one of the following sound attenuation methods will be used:
 - i. Completely isolate the pile from flowing water by dewatering the area around the pile.
 - ii. If water velocity is 1.6 feet per second or less, surround the pile being driven by a confined or unconfined bubble curtain that will distribute small air bubbles around 100% of the pile perimeter for the full depth of the water column. See, *e.g.*, NMFS and USFWS (2006), Wursig *et al.* (2000), and Longmuir and Lively (2001).
 - iii. If water velocity is greater than 1.6 feet per second, surround the pile being driven with a confined bubble curtain (*e.g.*, surrounded by a fabric or non-metallic sleeve) that will distribute air bubbles around 100% of the pile perimeter for the full depth of the water column.
 - iv. Provide NMFS information regarding the timing of in-water work, the number of impact hammer strikes per pile and the estimated time required to drive piles, hours per day pile driving will occur, depth of water, and type of substrate, hydroacoustic assumptions, and the pile type, diameter, and spacing of the piles.

16. Pile Removal. The following steps will be used to minimize creosote release, sediment disturbance and total suspended solids:

- a. Install a floating surface boom to capture floating surface debris.
- b. Keep all equipment (*e.g.*, bucket, steel cable, vibratory hammer) out of the water, grip piles above the waterline, and complete all work during low water and low current conditions.
- c. Dislodge the pile with a vibratory hammer, when possible; never intentionally break a pile by twisting or bending.
- d. Slowly lift the pile from the sediment and through the water column.
- e. Place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment. A containment basin for the removed piles and any adhering sediment may be constructed of durable plastic sheeting with sidewalls supported by hay bales or another support structure to contain all sediment and return flow which may otherwise be directed back to the waterway.
- f. Fill the hole left by each pile with clean, native sediments immediately after removal.
- g. Dispose of all removed piles, floating surface debris, any sediment spilled on work surfaces, and all containment supplies at a permitted upland disposal site.

17. Broken or Intractable Pile. If a pile breaks above the surface of uncontaminated sediment, or less than 2 feet below the surface, make every attempt short of excavation to remove it entirely. If the pile cannot be removed without excavation, drive the pile deeper if possible.

- a. If a pile in contaminated sediment is intractable or breaks above the surface, cut the pile or stump off at the sediment line.
- b. If a pile breaks within contaminated sediment, make no further effort to remove it and cover the hole with a cap of clean substrate appropriate for the site.
- c. If dredging is likely where broken piles are buried, use a global positioning system (GPS) device to note the location of all broken piles for future use in site debris characterization.

18. Fish Capture and Release

- a. If practicable, allow listed fish species to migrate out of the work area or remove fish before dewatering; otherwise remove fish from an exclusion area as it is slowly dewatered with methods such as hand or dip-nets, seining, or trapping with minnow traps (or gee-minnow traps).
- b. Fish capture will be supervised by a qualified fisheries biologist, with experience in work area isolation and competent to ensure the safe handling of all fish.
- c. Conduct fish capture activities during periods of the day with the coolest air and water temperatures possible, normally early in the morning to minimize stress and injury of species present.
- d. Monitor the nets frequently enough to ensure they stay secured to the banks and free of organic accumulation.
- e. Electrofishing will be used during the coolest time of day, only after other means of fish capture are determined to be not feasible or ineffective.
 - i. Do not electrofish when the water appears turbid, e.g., when objects are not visible at depth of 12 inches.
 - ii. Do not intentionally contact fish with the anode.
 - iii. Follow NMFS (2000) electrofishing guidelines, including use of only direct current (DC) or pulsed direct current within the following ranges:¹¹
 1. If conductivity is less than 100 μ s, use 900 to 1100 volts.
 2. If conductivity is between 100 and 300 μ s, use 500 to 800 volts.
 3. If conductivity greater than 300 μ s, use less than 400 volts.
 - iv. Begin electrofishing with a minimum pulse width and recommended voltage, then gradually increase to the point where fish are immobilized.
 - v. Immediately discontinue electrofishing if fish are killed or injured, i.e., dark bands visible on the body, spinal deformations, significant de-scaling, torpid or inability to maintain upright attitude after sufficient recovery time. Recheck machine settings, water temperature and conductivity, and adjust or postpone procedures as necessary to reduce injuries.

¹¹ National Marine Fisheries Service. 2000. Guidelines for electrofishing waters containing Salmonid listed under the Endangered Species Act. Portland, Oregon and Santa Rose, California
http://swr.nmfs.noaa.gov/sr/Electrofishing_Guidelines.pdf

- f. If buckets are used to transport fish:
 - i. Minimize the time fish are in a transport bucket.
 - ii. Keep buckets in shaded areas or, if no shade is available, covered by a canopy.
 - iii. Limit the number of fish within a bucket; fish will be of relatively comparable size to minimize predation.
 - iv. Use aerators or replace the water in the buckets at least every 15 minutes with cold clear water.
 - v. Release fish in an area upstream with adequate cover and flow refuge; downstream is acceptable provided the release site is below the influence of construction.
 - vi. Be careful to avoid mortality counting errors.
- g. Monitor and record fish presence, handling, and injury during all phases of fish capture and submit a fish salvage report (Appendix A, Part 1 with Part 3 completed) to the Corps and the SLOPES mailbox (slopes.nwr@noaa.gov) within 60 days.

19. Fish Passage

- a. Provide fish passage for any adult or juvenile ESA-listed fish likely to be present in the action area during construction, unless passage did not exist before construction or the stream is naturally impassable at the time of construction.
- b. After construction, provide fish passage for any adult or juvenile ESA-listed fish that meets NMFS's fish passage criteria (NMFS 2011a) for the life of the action.

20. Fish Screens

- a. Submit to NMFS for review and approval fish screen designs for surface water diverted by gravity or by pumping at a rate that exceeds 3 cubic feet per second (cfs).
- b. All other diversions will have a fish screen that meets the following specifications:
 - i. An automated cleaning device with a minimum effective surface area of 2.5 square feet per cubic foot per second, and a nominal maximum approach velocity of 0.4 feet per second, or no automated cleaning device, a minimum effective surface area of 1 square foot per cubic foot per second, and a nominal maximum approach rate of 0.2 foot per second; and
 - ii. A round or square screen mesh that is no larger than 2.38 millimeters (mm) (0.094") in the narrow dimension, or any other shape that is no larger than 1.75 mm (0.069") in the narrow dimension.
- c. Each fish screen will be installed, operated, and maintained according to NMFS's fish screen criteria.

21. Surface Water Withdrawal

- a. Surface water may be diverted to meet construction needs, including dust abatement, only if water from developed sources (e.g., municipal supplies, small ponds, reservoirs, or tank trucks) are unavailable or inadequate; and
- b. Diversions may not exceed 10% of the available flow and will have a juvenile fish exclusion device that is consistent with NMFS's criteria (NMFS 2011a).¹²

¹² National Marine Fisheries Service 2011. Anadromous Salmonid passage facility design. Northwest Region.
<http://www.nwr.noaa.gov/publications/hydropower/ferc/fish-passage-design.pdf>

22. Construction Discharge Water. Treat all discharge water using best management practices to remove debris, sediment, petroleum products, and any other pollutants likely to be present (e.g., green concrete, contaminated water, silt, welding slag, sandblasting abrasive, grout cured less than 24 hours, drilling fluids), to avoid or minimize pollutants discharged to any perennial or intermittent water body. Pump seepage water from the dewatered work area to a temporary storage and treatment site or into upland areas and allow water to filter through vegetation prior to reentering the stream channel. Treat water used to cure concrete until pH stabilizes to background levels.

23. Temporary Access Roads and Paths

- a. Whenever reasonable, use existing access roads and paths preferentially.
- b. Minimize the number and length of temporary access roads and paths through riparian areas and floodplains.
- c. Minimize removal of riparian vegetation.
- d. When it is necessary to remove vegetation, cut at ground level (no grubbing).
- e. Do not build temporary access roads or paths where grade, soil, or other features suggest slope instability.
- f. Any road on a slope steeper than 30% will be designed by a civil engineer with experience in steep road design.
- g. After construction is complete, obliterate all temporary access roads and paths, stabilize the soil, and revegetate the area.
- h. Temporary roads and paths in wet areas or areas prone to flooding will be obliterated by the end of the in-water work window. Decompact road surfaces and drainage areas, pull fill material onto the running surface, and reshape to match the original contours.

24. Temporary Stream Crossings

- a. No stream crossing may occur at active spawning sites, when holding adult listed fish are present, or when eggs or alevins are in the gravel.
- b. Do not place temporary crossings in areas that may increase the risk of channel re-routing or avulsion, or in potential spawning habitat, e.g., pools and pool tailouts.
- c. Minimize the number of temporary stream crossings; use existing stream crossings whenever reasonable.
- d. Install temporary bridges and culverts to allow for equipment and vehicle crossing over perennial streams during construction.
- e. Wherever possible, vehicles and machinery will cross streams at right angles to the main channel.
- f. Equipment and vehicles may cross the stream in the wet only where the streambed is bedrock, or where mats or off-site logs are placed in the stream and used as a crossing.
- g. Obliterate all temporary stream crossings as soon as they are no longer needed, and restore any damage to affected stream banks or channel.

25. Equipment, Vehicles and Power Tools

- a. Select, operate and maintain all heavy equipment, vehicles, and power tools to minimize adverse effects on the environment, *e.g.*, low pressure tires, minimal hard-turn paths for track vehicles, use of temporary mats or plates to protect wet soils.
- b. Before entering wetlands or working within 150 feet of a water body:
 - i. Power wash all heavy equipment, vehicles and power tools, allow them to fully dry, and inspect them for fluid leaks, and to make certain no plants, soil, or other organic material are adhering to the surface.
 - ii. Replace petroleum-based hydraulic fluids with biodegradable products¹³ in hydraulic equipment, vehicles, and power tools.
- c. Repeat cleaning as often as necessary during operation to keep all equipment, vehicles, and power tools free of external fluids and grease, and to prevent a leak or spill from entering the water.
- d. Avoid use of heavy equipment, vehicles or power tools below ordinary high water (OHW) unless project specialists determine such work is necessary, or would result in less risk of sedimentation or other ecological damage than work above that elevation.
- e. Before entering the water, inspect any watercraft, waders, boots, or other gear to be used in or near water and remove any plants, soil, or other organic material adhering to the surface.
- f. Ensure that any generator, crane or other stationary heavy equipment that is operated, maintained, or stored within 150 feet of any water body is also protected as necessary to prevent any leak or spill from entering the water.

26. Site Layout and Flagging

- a. Before any significant ground disturbance or entry of mechanized equipment or vehicles into the construction area, clearly mark with flagging or survey marking paint the following areas:
 - i. Sensitive areas, *e.g.*, wetlands, water bodies, OHW, spawning areas.
 - ii. Equipment entry and exit points.
 - iii. Road and stream crossing alignments.
 - iv. Staging, storage, and stockpile areas.
- b. Before the use of herbicides, clearly flag no-application buffer zones.

27. Staging, Storage, and Stockpile Areas

- a. Designate and use staging areas to store hazardous materials, or to store, fuel, or service heavy equipment, vehicles and other power equipment with tanks larger than 5 gallons, that are at least 150 feet from any natural water body or wetland, or on an established paved area, such that sediment and other contaminants from the staging area cannot be deposited in the floodplain or stream.
- b. Natural materials that are displaced by construction and reserved for restoration, *e.g.*, LW, gravel, and boulders, may be stockpiled within the 100-year floodplain.
- c. Dispose of any material not used in restoration and not native to the floodplain outside of the functional floodplain.

¹³ For additional information and suppliers of biodegradable hydraulic fluids, motor oil, lubricant, or grease, see, Environmentally Acceptable Lubricants by the U.S. EPA (2011a); *e.g.*, mineral oil, polyglycol, vegetable oil, synthetic ester; Mobil® biodegradable hydraulic oils, Total® hydraulic fluid, Terresolve Technologies Ltd.® bio-based biodegradable lubricants, Cougar Lubrication® 2XT Bio engine oil, Series 4300 Synthetic Bio-degradable Hydraulic Oil, 8060-2 Synthetic Bio-Degradable Grease No. 2, *etc.* The use of trade, firm, or corporation names in this opinion is for the information and convenience of the action agency and applicants and does not constitute an official endorsement or approval by the U.S. Department of Commerce or NMFS of any product or service to the exclusion of others that may be suitable.

d. After construction is complete, obliterate all staging, storage, or stockpile areas, stabilize the soil, and revegetate the area.¹⁴

28. Drilling and Boring

- a. If drilling or boring are used, isolate drilling operations in wetted stream channels using a steel casing or other appropriate isolation method to prevent drilling fluids from contacting water.
- b. If drilling through a bridge deck is necessary, use containment measures to prevent drilling debris from entering the channel.
- c. Sampling and directional drill recovery/recycling pits, and any associated waste or spoils will be completely isolated from surface waters, off-channel habitats and wetlands.
- d. All waste or spoils will be covered if precipitation is falling or imminent.
- e. All drilling fluids and waste will be recovered and recycled or disposed to prevent entry into flowing water.
- f. If a drill boring case breaks and drilling fluid or waste is visible in water or a wetland, make all possible efforts to contain the waste and contact NMFS within 48 hours.
- g. Waste containment
 - i. All drilling equipment, drill recovery and recycling pits, and any waste or spoil produced, will be contained and then completely recovered and recycled or disposed of as necessary to prevent entry into any waterway. Use a tank to recycle drilling fluids.
 - ii. When drilling is completed, remove as much of the remaining drilling fluid as possible from the casing (e.g., by pumping) to reduce turbidity when the casing is removed.

29. Pesticide and Preservative-Treated Wood¹⁵

- a. Treated wood may not be used in a structure that will be in or over water or permanently or seasonally flooded wetlands, except to maintain or repair an existing wood bridge. The following criteria in b, c, and d below apply to the use of treated wood for maintenance or repair of existing wood bridges.
- b. No part of the treated wood may be exposed to leaching by precipitation, overtopping waves, or submersion (e.g., no treated wood piles (per PDC#10, and stringers or decking of a timber bridge can be made from treated wood only if they will be covered by a non-treated wood wearing surface that covers the entire roadway width), and all elements of the structure using the treated wood are designed to avoid or minimize impacts or abrasion that could create treated wood debris or dust.
- c. Installation of treated wood
 - i. Treated wood shipped to the project area will be stored out of contact with standing water and wet soil, and protected from precipitation.
 - ii. Each load and piece of treated wood will be visually inspected and rejected for use in or above aquatic environments if visible residue, bleeding of preservative, preservative-saturated sawdust, contaminated soil, or other matter is present.

¹⁴ 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.

¹⁵ Treated woods may contain chromated copper arsenate (CCA), ammoniacal copper zinc arsenate (ACZA), alkaline copper quat (ACQ-B and ACQ-D), ammoniacal copper citrate (CC), copper azole (CBA-A), copper dimethyldithiocarbamate (CDDC), borate preservatives, and oil-type wood preservatives, such as creosote, pentachlorophenol, and copper naphthenate.

- iii. Prefabrication will be used whenever possible to minimize cutting, drilling and field preservative treatment.
- iv. When field fabrication is necessary, all cutting, drilling, and field preservative treatment of exposed treated wood will be done above OHW to minimize discharge of sawdust, drill shavings, excess preservative and other debris.
- v. Tarps, plastic tubs or similar devices will be used to contain the bulk of any fabrication debris, and any excess field preservative will be removed from the treated wood by wiping and proper disposal.
- d. Removal of treated wood
 - i. Evaluate all wood construction debris removed during a project, including pile, to ensure proper disposal of treated wood.
 - ii. Ensure that no treated wood debris falls into the water or, if debris does fall into the water, remove it immediately.
 - iii. After removal, place treated wood debris in an appropriate dry storage site until it can be removed from the project area.
 - iv. Do not leave any treated wood debris in the water or stacked on the streambank at or below OHW.

30. Erosion Control

- a. Use site planning and site erosion control measures commensurate with the scope of the project to prevent erosion and sediment discharge from the project site.
- b. Before significant earthwork begins, install appropriate, temporary erosion controls downslope to prevent sediment deposition in the riparian area, wetlands, or water body.
- c. During construction,
 - i. Complete earthwork in wetlands, riparian areas, and stream channels as quickly as possible.
 - ii. Cease project operations when high flows may inundate the project area, except for efforts to avoid or minimize resource damage.
 - iii. If eroded sediment appears likely to be deposited in the stream during construction, install additional sediment barriers as necessary.
 - iv. Temporary erosion control measures may include fiber wattles, silt fences, jute matting, wood fiber mulch and soil binder, or geotextiles and geosynthetic fabric.
 - v. Soil stabilization using wood fiber mulch and tackifier (hydro-applied) may be used to reduce erosion of bare soil, if the materials are free of noxious weeds and nontoxic to aquatic and terrestrial animals, soil microorganisms, and vegetation.
 - vi. Remove sediment from erosion controls if it reaches 1/3 of the exposed height of the control.
 - vii. Whenever surface water is present, maintain a supply of sediment control materials and an oil-absorbing floating boom at the project site.
 - viii. Stabilize all disturbed soils following any break in work unless construction will resume within four days.
- d. Remove temporary erosion controls after construction is complete and the site is fully stabilized.

31. Hazardous Material Safety

- a. At the project site:
 - i. Post written procedures for notifying environmental response agencies, including an inventory and description of all hazardous materials present, and the storage and handling procedures for their use.
 - ii. Maintain a spill containment kit, with supplies and instructions for cleanup and disposal, adequate for the types and quantity of hazardous materials present.
 - iii. Train workers in spill containment procedures, including the location and use of the spill containment kits.
 - iv. Temporarily contain any waste liquids generated under an impervious cover, such as a tarpaulin, in the staging area until the wastes can be properly transported to, and disposed of, at an approved receiving facility.

32. Barge Use. Any barge used as a work platform to support construction will be:

- a. Large enough to remain stable under foreseeable loads and adverse conditions.
- b. Inspected before arrival to ensure vessel and ballast are free of invasive species.
- c. Secured, stabilized and maintained as necessary to ensure no loss of balance, stability, anchorage, or other condition that can result in the release of contaminants or construction debris.

33. Dust Abatement

- a. Use dust abatement measures commensurate with soil type, equipment use, wind conditions, and the effects of other erosion control measures.
- b. Sequence and schedule work to reduce the exposure of bare soil to wind erosion.
- c. Maintain spill containment supplies on-site whenever dust abatement chemicals are applied.
- d. Do not use petroleum-based products.
- e. Do not apply dust-abatement chemicals, *e.g.*, magnesium chloride, calcium chloride salts, lignin sulfonate, within 25 feet of a water body, or in other areas where they may runoff into a wetland or water body.
- f. Do not apply lignin sulfonate at rates exceeding 0.5 gallons per square yard of road surface, assuming a 50:50 solution of lignin sulfonate to water.

34. Work Area Isolation

- a. Isolate any work area within the wetted channel 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.
- b. Engineering design plans for work area isolation will include all isolation elements and fish release areas.
- c. Dewater the shortest linear extent of work area practicable, unless wetted in-stream work is deemed to be minimally harmful to fish, and is beneficial to other aquatic species.¹⁶

¹⁶ For instructions on how to dewater areas occupied by lamprey, see *Best management practices to minimize adverse effects to Pacific lamprey (Entosphenus tridentatus)* (USFWS 2010).

- i. Use a coffer dam and a by-pass culvert or pipe, or a lined, non-erodible diversion ditch to divert flow around the dewatered area. Dissipate flow energy to prevent damage to riparian vegetation or stream channel and provide for safe downstream reentry of fish, preferably into pool habitat with cover.
 - ii. Where gravity feed is not possible, pump water from the work site to avoid rewatering. Maintain a fish screen on the pump intake to avoid juvenile fish entrainment.
 - iii. Pump seepage water to a temporary storage and treatment site, or into upland areas, to allow water to percolate through soil or to filter through vegetation before reentering the stream channel with a treatment system comprised of either a hay bale basin or other sediment control device.
 - iv. Monitor below the construction site to prevent stranding of aquatic organisms.
 - v. When construction is complete, re-water the construction site slowly to prevent loss of surface flow downstream, and to prevent a sudden increase in stream turbidity.
- d. Whenever a pump is used to dewater the isolation area and ESA-listed fish may be present, a fish screen will be used that meets the most current version of NMFS's fish screen criteria (NMFS 2011a). NMFS approval is required for pumping at a rate that exceeds 3 cfs.

35. Invasive and Non-Native Plant Control

- a. **Non-herbicide methods.** Limit vegetation removal and soil disturbance within the riparian zone by limiting the number of workers there to the minimum necessary to complete manual, mechanical, or hydro-mechanical plant control (e.g., hand pulling, bending¹⁷, clipping, stabbing, digging, brush-cutting, mulching, radiant heat, portable flame burner, super-heated steam, pressurized hot water, or hot foam (Arsenault *et al.* 2008; Donohoe *et al.* 2010))¹⁸. Do not allow cut, mowed, or pulled vegetation to enter waterways.
- b. **Herbicide Label.** Herbicide applicators will comply with all label instructions
- c. **Power equipment.** Refuel gas-powered equipment with tanks larger than 5 gallons in a vehicle staging area placed 150 feet or more from any natural water body, or in an isolated hazard zone such as a paved parking lot.
- d. **Maximum herbicide treatment area.** Do not exceed treating 1.0% of the acres of riparian habitat within a 6th-field HUC with herbicides per year.
- e. **Herbicide applicator qualifications.** Herbicides may only be applied by an appropriately licensed applicator using an herbicide specifically targeted for a particular plant species that will cause the least impact. The applicator will be responsible for preparing and carrying out the herbicide transportation and safety plan, as follows.
- f. **Herbicide transportation and safety plan.** The applicator will prepare and carry out an herbicide safety/spill response plan to reduce the likelihood of spills or misapplication, to take remedial actions in the event of spills, and to fully report the event.

¹⁷ Knotweed treatment pre-treatment; See Nickelson (2013).

¹⁸ See <http://ahmct.ucdavis.edu/limtask/equipmentdetails.html>

g. **Herbicides.** The only herbicides proposed for use under this opinion are (some common trade names are shown in parentheses):¹⁹

- i. aquatic imazapyr (e.g., Habitat)
- ii. aquatic glyphosate (e.g., AquaMaster, AquaPro, Rodeo)
- iii. aquatic triclopyr-TEA (e.g., Renovate 3)
- iv. chlorsulfuron (e.g., Telar, Glean, Corsair)
- v. clopyralid (e.g., Transline)
- vi. imazapic (e.g., Plateau)
- vii. imazapyr (e.g., Arsenal, Chopper)
- viii. metsulfuron-methyl (e.g., Escort)
- ix. picloram (e.g., Tordon)
- x. sethoxydim (e.g., Poast, Vantage)
- xi. sulfometuron-methyl (e.g., Oust, Oust XP)

h. **Herbicide adjuvants.** When recommended by the label, an approved aquatic surfactant or drift retardant can be used to improve herbicidal activity or application characteristics. Adjuvants that contain alky amine ethoxylates, *i.e.*, polyethoxylated tallow amine (POEA), alkylphenol ethoxylates (including alkyl phenol ethoxylate phosphate esters), or herbicides that contain these compounds are **not** covered by this opinion. The following product names are covered by this opinion:

- | | |
|-----------------------|------------------|
| i. Agri-Dex | ii. AquaSurf |
| iii. Bond | iv. Bronc Max |
| v. Bronc Plus Dry-EDT | vi. Class Act NG |
| vii. Competitor | viii. Cut Rate |
| ix. Cygnet Plus | x. Destiny HC |
| xi. Exciter | xii. Fraction |
| xiii. InterLock | xiv. Kinetic |
| xv. Level 7 | xvi. Liberate |
| xvii. Magnify | xviii. One-AP XL |
| xix. Pro AMS Plus | xx. Spray-Rite |
| xxi. Superb HC | xxii. Tactic |
| xxiii. Tronic | |

i. **Herbicide carriers.** Herbicide carriers (solvents) are limited to water or specifically labeled vegetable oil. Use of diesel oil as an herbicide carrier is not covered by this opinion.

j. **Dyes.** Use a non-hazardous indicator dye (e.g., Hi-Light or Dynamark™) with herbicides within 100 feet of water. The presence of dye makes it easier to see where the herbicide has been applied and where or whether it has dripped, spilled, or leaked. Dye also makes it easier to detect missed spots, avoid spraying a plant or area more than once, and minimize over-spraying (SERA 1997).

k. **Herbicide mixing.** Mix herbicides and adjuvants, carriers, and/or dyes more than 150 feet from any perennial or intermittent water body to minimize the risk of an accidental discharge.

¹⁹ The use of trade, firm, or corporation names in this opinion is for the information and convenience of the action agency and applicants and does not constitute an official endorsement or approval by the U.S. Department of Commerce or NMFS of any product or service to the exclusion of others that may be suitable.

i. **Tank Mixtures.** The potential interactive relationships that exist among most active ingredient combinations have not been defined and are uncertain.

Therefore, combinations of herbicides in a tank mix are not covered by this opinion.

m. **Spill Cleanup Kit.** Provide a spill cleanup kit whenever herbicides are used, transported, or stored. At a minimum, cleanup kits will include material safety data sheets, the herbicide label, emergency phone numbers, and absorbent material such as cat litter to contain spills.

n. **Herbicide application rates.** Apply herbicides at the lowest effective label rates.

o. **Herbicide application methods.** Apply liquid or granular forms of herbicides as follows:

i. Broadcast spraying – hand held nozzles attached to back pack tanks or vehicles, or by using vehicle mounted booms.

ii. Spot spraying – hand held nozzles attached to back pack tanks or vehicles, hand-pumped spray, or squirt bottles to spray herbicide directly onto small patches or individual plants.

iii. Hand/selective – wicking and wiping, basal bark, fill (“hack and squirt”), stem injection, cut-stump.

iv. Triclopyr – will not be applied by broadcast spraying.

v. Keep the spray nozzle within four feet of the ground when applying herbicide. If spot or patch spraying tall vegetation more than 15 feet away from the high water mark (HWM), keep the spray nozzle within 6 feet of the ground.

vi. Apply spray in swaths parallel towards the project area, away from the creek and desirable vegetation, *i.e.*, the person applying the spray will generally have their back to the creek or other sensitive resource.

vii. Avoid unnecessary run off during cut surface, basal bark, and hack-squirt/injection applications.

p. **Washing spray tanks.** Wash spray tanks 300 feet or more away from any surface water.

q. **Minimization of herbicide drift and leaching.** Minimize herbicide drift and leaching as follows:

i. Do not spray when wind speeds exceed 10 miles per hour, or are less than 2 miles per hour.

ii. Be aware of wind directions and potential for herbicides to affect aquatic habitat area downwind.

iii. Keep boom or spray as low as possible to reduce wind effects.

iv. Increase spray droplet size whenever possible by decreasing spray pressure, using high flow rate nozzles, using water diluents instead of oil, and adding thickening agents.

v. Do not apply herbicides during temperature inversions, or when air temperature exceeds 80 degrees Fahrenheit.

vi. Wind and other weather data will be monitored and reported for all broadcast applications.

r. **Rain.** Do not apply herbicides when the soil is saturated or when a precipitation event likely to produce direct runoff to salmon bearing waters from the treated area is forecasted by the NOAA National Weather Service or other similar forecasting service within 48 hours following application. Soil-activated herbicides may follow label instructions. Do not conduct hack-squirt/injection applications during periods of heavy rainfall.

s. **Herbicide buffer distances.** Observe the following no-application buffer-widths, measured in feet, as map distance perpendicular to the bankfull elevation for streams, the upland boundary for wetlands, or the upper bank for roadside ditches. Widths are based on herbicide formula, stream type, and application method, during herbicide applications (Table 3). Before herbicide application begins, flag or mark the upland boundary of each applicable herbicide buffer to ensure that all buffers are in place and functional during treatment.

Table 3. Herbicide buffer distances by herbicide formula, stream type, and application method.

Herbicide	No Application Buffer Width (feet)					
	Streams and Roadside Ditches with flowing or standing water present and Wetlands			Dry Streams, Roadside Ditches, and Wetlands		
	Broadcast Spraying	Spot Spraying	Hand Selective	Broadcast Spraying	Spot Spraying	Hand Selective
Labeled for Aquatic Use						
Aquatic Glyphosate	100	waterline	waterline	50	None	none
Aquatic Imazapyr	100	15	waterline	50	None	none
Aquatic Triclopyr-TEA	Not Allowed	15	waterline	Not Allowed	None	none
Low Risk to Aquatic Organisms						
Imazapic	100	15	bankfull elevation	50	None	none
Clopyralid	100	15	bankfull elevation	50	None	none
Metsulfuron-methyl	100	15	bankfull elevation	50	None	none
Moderate Risk to Aquatic Organisms						
Imazapyr	100	50	bankfull elevation	50	15	bankfull elevation
Sulfometuron-methyl	100	50	5	50	15	bankfull elevation
Chlorsulfuron	100	50	bankfull elevation	50	15	bankfull elevation
High Risk to Aquatic Organisms						
Picloram	100	50	50	100	50	50
Sethoxydim	100	50	50	100	50	50

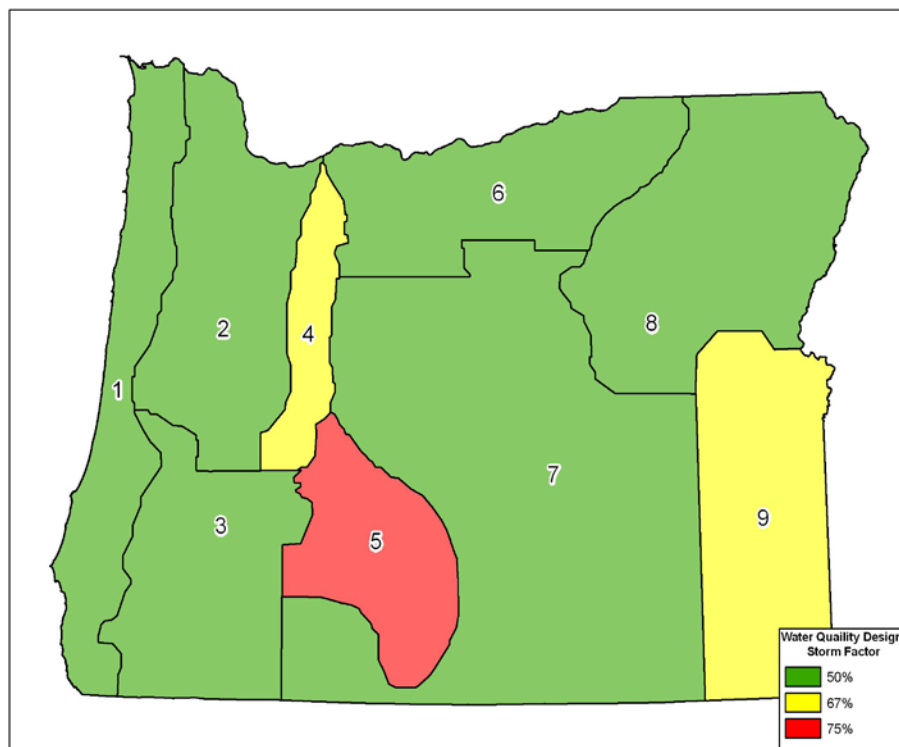
36. Actions Requiring Stormwater Management²⁰

- a. Provide stormwater management for any project that will:
 - i. Increase the contributing impervious area within the project area
 - ii. Construct new pavement that increases capacity or widens the road prism.
 - iii. Reconstructs pavement down to subgrade.
 - iv. Rehabilitate or restore a bridge to repair structural or functional deficiencies that are too complicated to be corrected through normal maintenance, except for seismic retrofits that make a bridge more resistant to earthquake damage (e.g., external post-tensioning, supplementary dampening) but do not affect the bridge deck or drainage.
 - v. Replace a stream crossing
 - vi. Change stormwater conveyance
- b. Stormwater management is not required for the following pavement actions: minor repairs, patching, chip seal, grind/inlay, overlay or resurfacing (*i.e.*, nonstructural pavement preservation, a single lift or inlay).
- c. Stormwater management plans will consist of:
 - i. Low impact development.
 - ii. Water quality (pollution reduction) treatment for post-construction stormwater runoff from all contributing impervious area.
 - iii. Water quantity treatment (retention or detention facilities), unless the outfall discharges directly into a major water body (e.g., mainstem Columbia River, Willamette River (downstream of Eugene), large lakes, reservoir, ocean, or estuary). Retention or detention facilities must limit discharge to match pre-developed discharge rates (*i.e.*, the discharge rate of the site based on its natural groundcover and grade before any development occurred) using a continuous simulation for flows between 50% of the 2-year event and the 10-year flow event (annual series).
 - d. Stormwater management plans will:
 - i. Explain how runoff from all contributing impervious area that is within or contiguous with the project area will be managed using site sketches, drawings, specifications, calculations, or other information commensurate with the scope of the action.
 - ii. Identify the pollutants of concern.
 - iii. Identify all contributing and non-contributing impervious areas that are within and contiguous with the project area.
 - iv. Describe the BMPs that will be used to treat the identified pollutants of concern, and the proposed maintenance activities and schedule for the treatment facilities.

²⁰ The most efficient way for an applicant or the Corps to prepare and submit a stormwater management plan for NMFS' review is to attach a completed *Checklist for Submission of a Stormwater Management Plan* (the *Checklist*, ODEQ updated 2012, or the most recent version) with the electronic notification when it is sent to the SLOPES mailbox. However, stormwater conveyance to a DEQ permitted Municipal Separate Storm Sewer System (MS4) or consistency with any other program acknowledged by DEQ as adequate for stormwater management will not meet the requirements of this opinion unless NMFS determines that the facility accepting the stormwater will provide a level of treatment that is equivalent to that called for in this opinion. The *Checklist* and guidelines for its use are available from NMFS or the ODEQ in Portland Oregon. The latest version of the *Checklist* is also available online in a portable document format (pdf) through the ODEQ Water Quality Section 401 certification webpage (ODEQ 2014) at <http://www.deq.state.or.us/wq/sec401cert/process.htm#add> (see "Post Construction Stormwater Management Plan").

- v. Provide a justification for the capacity of the facilities provided based on the expected runoff volume, including, e.g., the design storm, BMP geometry, analyses of residence time, as appropriate.
- vi. Include the name, email address, and telephone number of the person responsible for designing the stormwater management facilities that NMFS may contact if additional information is necessary to complete the effects analysis.
- vii. The proposed action will include a maintenance, repair, and component replacement plan that details what needs to be done, when, and by whom for each facility.
- e. All stormwater quality treatment practices and facilities will be designed to accept and fully treat the volume of water equal to 50% of the cumulative rainfall from the 2-year, 24-hour storm for that site, except as follows: climate zone 4 – 67%; climate zone 5 – 75%; and climate zone 9 – 67% (Figure 1). (ESA-listed species considered in this opinion are unlikely to occur in Zones 5 or 9.) A continuous rainfall/runoff model may be used instead of runoff depths to calculate water quality treatment depth.

Figure 1. Water Quality Design Storm Factor – Oregon Climate Regions (Oregon Department of Transportation 2008)



f. Use low impact development practices to infiltrate or evaporate runoff to the maximum extent feasible. For runoff that cannot be infiltrated or evaporated and therefore will discharge into surface or subsurface waters, apply one or more of the following specific primary treatment practices, supplemented with appropriate soil amendments:

- i. Bioretention cell
- ii. Bioslope, also known as an “ecology embankment”
- iii. Bioswale
- iv. Constructed wetlands
- v. Infiltration pond
- vi. Media filter devices with demonstrated effectiveness. Proprietary devices should be on a list of “Approved Proprietary Stormwater Treatment Technologies” *i.e.*, City of Portland (2008) Stormwater Management Manual. Bureau of Environmental Services.
- vii. Porous pavement, with no soil amendments and appropriate maintenance
- viii. All stormwater flow control treatment practices and facilities will be designed to maintain the frequency and duration of instream flows generated by storms within the following end-points:

1. Lower discharge endpoint, by U.S. Geological Survey (USGS) flood frequency zone:

- a. Western Region = 42% of 2-year event
- b. Eastern Region
 - i. Southeast, Northeast, North Central = 48% of 2-year event
 - ii. Eastern Cascade = 56% of 2-year event

2. Upper discharge endpoint

- a. Entrenchment ratio <2.2 = 10-year event, 24-hour storm
- b. Entrenchment ratio >2.2 = bank overtopping event

g. When conveyance is necessary to discharge treated stormwater directly into surface water or a wetland, the following requirements apply:

- i. Maintain natural drainage patterns.
- ii. To the maximum extent feasible, ensure that water quality treatment for contributing impervious area runoff is completed before commingling with offsite runoff for conveyance.
- iii. Prevent erosion of the flow path from the project to the receiving water and, if necessary, provide a discharge facility made entirely of manufactured elements (*e.g.*, pipes, ditches, discharge facility protection) that extends at least to OHW.

h. **NMFS review and approval.** NMFS will review proposed stormwater treatment and new or upgraded stormwater outfalls plans.

37. Site Restoration

- a. Restore any significant disturbance of riparian vegetation, soils, stream banks or stream channel.
- b. Remove all project related waste; *e.g.*, pick up trash, sweep roadways in the project area to avoid runoff-containing sediment, *etc.*
- c. Obliterate all temporary access roads, crossings, and staging areas.
- d. Loosen compacted areas of soil when necessary for revegetation or infiltration.
- e. Although no single criterion is sufficient to measure restoration success, the intent is that the following features should be present in the upland parts of the project area, within reasonable limits of natural and management variation:
 - i. Human and livestock disturbance, if any, are confined to small areas necessary for access or other special management situations.
 - ii. Areas with signs of significant past erosion are completely stabilized and healed, bare soil spaces are small and well-dispersed.
 - iii. Soil movement, such as active rills and soil deposition around plants or in small basins, is absent or slight and local.
 - iv. Native woody and herbaceous vegetation, and germination microsites, are present and well distributed across the site; invasive plants are absent.
 - v. Plants have normal, vigorous growth form, and a high probability of remaining vigorous, healthy and dominant over undesired competing vegetation.
 - vi. Plant litter is well distributed and effective in protecting the soil with little or no litter accumulated against vegetation as a result of active sheet erosion ("litter dams").
 - vii. A continuous corridor of shrubs and trees appropriate to the site are present to provide shade and other habitat functions for the entire streambank.

38. Revegetation

- a. Plant and seed disturbed areas before or at the beginning of the first growing season after construction.
- b. Use a diverse assemblage of vegetation species native to the action area or region, including trees, shrubs, and herbaceous species. Vegetation, such as willow, sedge and rush mats, may be gathered from abandoned floodplains, stream channels, *etc.* When feasible, use vegetation salvaged from local areas scheduled for clearing due to development.
- c. Use species native to the project area or region that will achieve shade and erosion control objectives, including forb, grass, shrub, or tree species that are appropriate for the site.
- d. Short-term stabilization measures may include use of non-native sterile seed mix if native seeds are not available, weed-free certified straw, jute matting, and similar methods.
- e. Do not apply surface fertilizer within 50 feet of any wetland or water body.
- f. Install fencing as necessary to prevent access to revegetated sites by livestock or unauthorized persons.
- g. Do not use invasive or non-native species for site restoration.
- h. Conduct post-construction monitoring and treatment to remove or control invasive plants until native plant species are well-established.

39. Actions That Require Compensatory Mitigation

- a. The Corps will rely on 33 CFR 332.3 when considering appropriate mitigation. The first option for an applicant is to purchase credits from an appropriate mitigation bank. The second option is to purchase credits from an approved in-lieu-fee sponsor. The third option is Permittee-responsible mitigation. The fourth option is a combination of some or all of the above options that collectively satisfies the mitigation requirements.
- b. NMFS will review and approve compensatory mitigation plans.
- c. The following actions require compensatory mitigation:
 - i. Any stormwater management facility that requires a new or enlarged structure within the riparian zone; or that has insufficient capacity to infiltrate and retain the volume of stormwater called for by this opinion.
 - ii. Any riprap revetment that extends rock above the streambank toe extends the use of riprap laterally into an area that was not previously revetted, or revetment that does not include adequate vegetation and LW.
 - iii. Any bridge rehabilitation or replacement that does not span the functional floodplain, or causes a net increase in fill within the functional floodplain.
- d. The electronic notification (Appendix A, Part 1 with Part 4 completed) for an action that requires compensatory mitigation will explain how the Corps or applicant will complete the mitigation, including site sketches, drawings, specifications, calculations, or other information commensurate with the scope of the action.
- e. Include the name, address, and telephone number of a person responsible for designing this part of the action that NMFS may contact if additional information is necessary to complete the effects analysis.
- f. Describe practices that will be used to ensure:
 - i. No net loss of habitat function
 - ii. Completion before, or concurrent with, construction whenever possible
 - iii. Achieve a mitigation ratio that is greater than one-to-one and larger (e.g., 1.5 to 1.0 when necessary to compensate for time lags between the loss of conservation value in the project area and replacement of conservation value in the mitigation area, uncertainty of conservation value replacement in the mitigation area, or when the affected area has demonstrably higher conservation value than the mitigation area.²¹
 - iv. When practicable and environmentally sound, mitigation should be near the project impact site, or within the same local watershed and area occupied by the affected population(s) and age classes. Mitigation should be completed prior to or concurrent with the adverse impacts, or have an increased ratio as noted above.

²¹ For additional information on compensatory mitigation, see Compensatory Mitigation for Losses of Aquatic Resources (33CFR332) at www.poa.usace.army.mil/Portals/34/docs/regulatory/33cfr332.pdf. More information is available from the U.S. Army Corps of Engineers, Portland District, Portland, Oregon. See: <http://www.nwp.usace.army.mil/Missions/Regulatory/Mitigation.aspx>

- v. To minimize delays and objections during the review process, applicants are encouraged to seek the advice of NMFS during the planning and design of mitigation plans. For complex mitigation projects, such consultation may improve the likelihood of mitigation success and reduce permit-processing time.
- g. For stormwater management:
 - i. The primary habitat functions of concern are related to the physical and biological features essential to the long-term conservation of listed species, *i.e.*, water quality, water quantity, channel substrate, floodplain connectivity, forage, natural cover (such as submerged and overhanging LW, aquatic vegetation, large rocks and boulders, side channels and undercut banks), space, and free passage.
 - ii. Acceptable mitigation for riparian habitat displaced by a stormwater treatment facility is restoration of shallow-water or off-channel habitat
 - iii. Acceptable mitigation for inadequate stormwater treatment includes providing adequate stormwater treatment where it did not exist before, and retrofitting an existing but substandard stormwater facility to provide capacity necessary to infiltrate and retain the proper volume of stormwater. Such mitigation can be measured in terms of deficit stormwater treatment capacity.
- h. For riprap:
 - i. The primary habitat functions of concern are related to floodplain connectivity, forage, natural cover, and free passage.
 - ii. Acceptable mitigation for those losses include removal of existing riprap; retrofit existing riprap with vegetated riprap and LW, or one or more other streambank stabilization methods described in this opinion, and restoration of shallow water or off-channel habitats.
- i. For a bridge replacement:
 - i. The primary habitat functions of concern are floodplain connectivity, forage, natural cover, and free passage.
 - ii. Acceptable mitigation is removing fill from elsewhere in the floodplain – native channel material, soil and vegetation may not be counted as fill.
- j. Mitigation actions will meet general construction criteria and other appropriate minimization measures (dependent on the type of proposed mitigation).

1.3.1.3 Project Design Criteria - Types of Actions

40. Natural Hazard Response

a. A manager of a state, regional, county, or municipal stormwater facility, public transportation feature, or utility must initiate a natural hazard response by notifying the Corps.²² The Corps will encourage the applicant to:

- i. Act as necessary to resolve the initial natural hazard.
- ii. Without endangering human life or contributing to further loss of property or natural resources, apply all proposed design criteria from this opinion which are applicable to the response to the maximum extent possible.

b. The Corps will also contact NMFS as part of the natural hazard response.

- i. As soon as possible after the onset of the natural hazard, the Corps will require the applicant to contact the Corps and NMFS to describe the nature and location of the natural hazard, review design criteria from this opinion that are applicable to the situation, and determine whether additional steps may be taken to further minimize the effects of the initial response action on listed species or their critical habitat.

- ii. For the Oregon Coast contact Ken Phippen (541-957-3385), for the Willamette Basin contact Marc Liverman (503-231-2336), and Lower Columbia River up to and including Oregon tributaries contact Jeff Fisher (360-534-9342), and for eastern Oregon contact Dale Bambrick (509-962-8911x221).

41. Streambank and Channel Stabilization

a. The following streambank stabilization methods may be used individually or in combination:

- i. Alluvium placement
- ii. Large wood placement
- iii. Vegetated riprap with large wood
- iv. Roughened toe
- v. Woody plantings
- vi. Herbaceous cover, in areas where the native vegetation does not include trees or shrubs.
- vii. Bank reshaping and slope grading
- viii. Coir logs
- ix. Deformable soil reinforcement
- x. Engineered log jams (ELJ)
- xi. Floodplain flow spreaders
- xii. Floodplain roughness

²² Natural hazard response actions do not include federal assistance following a gubernatorial, county or local declaration of emergency or disaster with a request for federal assistance; a federal declaration of emergency or disaster; or any response to an emergency or disaster that takes place on federal property or to a federal asset because those actions are subject to emergency consultation provisions of 50 CFR 402.05

b. For more information on the above methods see Federal Emergency Management Agency (2009)²³ or Cramer *et al.* (2003).²⁴ Other than those methods relying solely upon woody and herbaceous plantings, streambank stabilization projects should be designed by a qualified engineer that is appropriately registered in the state where the work is performed.

c. Stream barbs and full-spanning weirs are not allowed for stream bank stabilization under this opinion.

d. Alluvium Placement can be used as a method for providing bank stabilization using imported gravel/cobble/boulder-sized material of the same composition and size as that in the channel bed and banks, to halt or attenuate streambank erosion, and stabilize riffles. This method is predominantly for use in small to moderately sized channels and is not appropriate for application in mainstem systems. These structures are designed to provide roughness, redirect flow, and provide stability to adjacent streambed and banks or downstream reaches, while providing valuable fish and wildlife habitat.

i. **NMFS fish passage review and approval.** NMFS will review alluvium placement projects that would occupy more than 25% of the channel bed or more than 25% of the bankfull cross sectional area.

ii. This design method is only approved in those areas where the natural sediment supply has been eliminated, significantly reduced through anthropogenic disruptions, or used to initiate or simulate sediment accumulations in conjunction with other structures, such as LW placements and ELJs.

iii. Material used to construct the toe should be placed in a manner that mimics attached longitudinal bars or point bars.

iv. Size distribution of toe material will be diverse and predominately comprised of D_{84} to D_{max} size class material.

v. Spawning gravels will constitute at least one-third of the total alluvial material used in the design.

vi. Spawning gravels are to be placed at or below an elevation consistent with the water surface elevation of a bankfull event.

vii. Spawning size gravel can be used to fill the voids within toe and bank material and placed directly onto stream banks in a manner that mimics natural debris flows and erosion.

viii. All material will be clean alluvium with similar angularity as the natural bed material. When possible use material of the same lithology as found in the watershed. Reference *Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings* (USDA-Forest Service 2008) to determine gravel sizes appropriate for the stream.

ix. Material can be mined from the floodplain at elevations above bankfull, but not in a manner that will cause stranding during future flood events.

x. Crushed rock is not permitted.

xi. After placement in areas accessible to higher stream flow, allow the stream to naturally sort and distribute the material.

²³ http://www.fema.gov/pdf/about/regions/regionx/Engineering_With_Nature_Web.pdf

²⁴ <http://wdfw.wa.gov/publications/00046/wdfw00046.pdf>

xii. Do not place material directly on bars and riffles that are known spawning areas, which may cause fish to spawn on the unsorted and unstable gravel, thus potentially resulting in redd destruction.

xiii. Imported material will be free of invasive species and non-native seeds. If necessary, wash prior to placement.

e. **Large Wood Placements** are defined as structures composed of LW that do not use mechanical methods as the means of providing structure stability (*i.e.*, large rock, rebar, rope, cable, *etc.*). The use of native soil, alluvium with similar angularity as the natural bed material, large wood, or buttressing with adjacent trees as methods for providing structure stability are authorized. This method is predominantly for use in small to moderately sized channels and is not appropriate for application in mainstem systems. These structures are designed to provide roughness, redirect flow, and provide stability to adjacent streambed and banks or downstream reaches, while providing valuable fish and wildlife habitat.

i. **NMFS fish passage review and approval.** NMFS will review LW placement projects that would occupy greater than 25% of the bankfull cross section area.

ii. Structure shall simulate disturbance events to the greatest degree possible and include, but not be limited to, log jams, debris flows, wind-throw, and tree breakage.

iii. Structures may partially or completely span stream channels or be positioned along stream banks.

iv. Where structures partially or completely span the stream channel LW should be comprised of whole conifer and hardwood trees, logs, and rootwads. LW size (diameter and length) should account for bankfull width and stream discharge rates.

v. Structures will incorporate a diverse size (diameter and length) distribution of rootwad or non-rootwad, trimmed or untrimmed, whole trees, logs, snags, slash, *etc.*

vi. For individual logs that are completely exposed, or embedded less than half their length, logs with rootwads should be a minimum of 1.5 times bankfull channel width, while logs without rootwads should be a minimum of 2.0 times bankfull width.

vi. Consider orienting key pieces such that the hydraulic forces upon the LW increase stability.

f. Vegetated riprap with large wood (LW)

i. NMFS will review and approve bank stabilization projects that use vegetated riprap with LW.

ii. When this method is necessary, limit installation to the areas identified as most highly erodible, with highest shear stress, or at greatest risk of mass-failure, and provide compensatory mitigation. The greatest risk of mass-failure will usually be at the toe of the slope and will not extend above OHW elevation except in incised streams.

iii. Do not use invasive or non-native species for site restoration.

iv. Remove or control invasive plants until native plant species are well-established.

v. Do not apply surface fertilizer within 50-feet of any stream channel.

- vi. Install fencing as necessary to prevent access to revegetated sites by livestock or unauthorized persons.
- vii. Vegetated riprap with LW will be installed as follows:
 - 1. When present, use natural hard points, such as large, stable trees or rock outcrops, to begin or end the toe of the revetment.
 - 2. Develop rock size gradations for elevation zones on the bank, especially if the rock will extend above OHW – the largest rock should be placed at the toe of the slope, while small rock can be used higher in the bank where the shear stress is generally lower. Most upper bank areas will not require the use of any rock but can depend on the vegetation for erosion protection.
 - 3. For bank areas above OHW where rock is still deemed necessary, mix rock with soil to provide a better growing medium for plants.
 - 4. Minimum amount of wood incorporated into the treated area, for mitigation of riprap, is equal to the number of whole trees whose cumulative summation of rootwad diameters is equal to 80% of linear-feet of treated streambank or 20% of the treated area (square feet) of streambank, whichever is greater.
 - 5. Where whole trees are not used (*i.e.*, snags, logs, and partial trees) designers are required to estimate the dimensions of parent material based on rootwad diameter, and calculating a cumulative equivalency of whole trees.
 - 6. LW should be distributed throughout the structure (not just concentrated at the toe) to engage flows up to the bankfull flow. LW placed above the toe may be in the form of rootwad or non-rootwad, trimmed or untrimmed, whole trees, logs, snags, slash, *etc.* Maximize the exposure of wood to water by placing and orienting wood to project into the water column up to the bankfull elevation.
 - 7. Develop an irregular toe and bank line to increase roughness and habitat value.
 - 8. Use LW and irregular rock to create large interstitial spaces and small alcoves to create planting spaces and habitat to mitigate for flood-refuge impacts – do not use geotextile fabrics as filter behind the riprap whenever possible, if a filter is necessary to prevent sapping, use a graduated gravel filter.
 - 9. Structure toe will incorporate LW with intact rootwads. Minimum spacing between rootwads placed at the toe will be no greater than an average rootwad diameter.
 - 10. Minimum rootwad diameter for LW placed at the toe of the structure shall be 1.0 times the bankfull depth, unless LW availability constrains the project to a smaller rootwad size. Where rootwad size is constrained due to availability, the largest diameter rootwads available should be used.
 - 11. LW placed at the toe will be sturdy material, intact, hard, and undecayed and should be sized or embedded sufficiently to withstand the design flood.
 - 12. Space between root wads may be filled with large boulders, trimmed or untrimmed, whole trees, logs, snags, slash, *etc.*

When used, diameter of boulders placed between toe logs with rootwads should be 1.5 to 2.0 times log diameter at breast height (dbh) of adjacent toe logs. A reasonable maximum rock size is 5-6 feet in diameter.

13. Plant woody vegetation in the joints between the rocks to enhance streambank vegetation.

14. Where possible, use terracing, or other bank shaping, to increase habitat diversity.

15. When possible, create or enhance a vegetated riparian buffer.

viii. Monitor vegetated riprap each year following installation by visual inspection during low flows to examine transitions between undisturbed and treated banks to ensure that native soils above and behind the riprap are not collapsing, sinking, or showing other evidence of piping loss or movement of rock materials; and the overall integrity of the riprap treatment, including:

1. Loss of rock materials
2. Survival rate of vegetation
3. Anchoring success of LW placed in the treatment.
4. Any channel changes since construction.

g. Roughened toe

i. Where designs use any of the approved streambank stabilization methods outlined in this section, in lieu of lining the bank with riprap above the toe, the design of any rock-filled toe will adhere to project criteria outlined in (f) Vegetated riprap with large wood (7-15, from above).

ii. Minimum amount of wood incorporated into the treated area, for mitigation of riprap, is equal to the number of whole trees whose cumulative summation of rootwad diameters is equal to 80% of linear-feet of treated streambank.

h. **Engineered log jams (ELJ).** ELJs are structures composed of LW with at least three key members and incorporating the use of any mechanical anchoring system (*i.e.*, rebar, rope, angular or large rock, *etc.*). Native soil, simulated streambed and bank materials, wood, or buttressing with adjacent trees, are not mechanical anchoring systems. ELJs are designed to redirect flow, provide roughness, and provide stability to adjacent streambed and banks or downstream reaches, while providing valuable fish and wildlife habitat.

i. **NMFS fish passage review and approval.** NMFS will review proposed ELJ projects.

ii. ELJs will be patterned, to the greatest degree possible, after stable natural log jams.

iii. Stabilizing or key pieces of LW will be intact and solid (little decay). If possible, acquire LW with untrimmed rootwads to provide functional refugia habitat for fish.

i. If LW mechanical anchoring is required, a variety of methods may be used. These include large angular rock, buttressing the wood between adjacent trees, the use of manila, sisal or other biodegradable ropes for lashing connections. If hydraulic conditions warrant use of structural connections, rebar pinning or bolted connections, may be used. Use of cable is not covered by this opinion.

j. When a hole in the channel bed caused by local scour will be filled with rock to prevent damage to a culvert, road, or bridge foundation, the amount of rock will be limited to the minimum necessary to protect the integrity of the structure.

k. When a footing, facing, head wall, or other protection will be constructed with rock to prevent scouring or down-cutting of, or fill slope erosion or failure at, an existing culvert or bridge, the amount of rock used will be limited to the minimum necessary to protect the integrity of the structure. Whenever feasible, include soil and woody vegetation as a covering and throughout the structure.

42. Road Maintenance, Rehabilitation and Replacement

a. All maintenance and rehabilitation actions shall observe applicable criteria detailed in the most recent version of NMFS fish passage criteria

i. Projects affecting fish passage shall adhere to industry design standards found in the most recent version of any of the following:

1. *Water Crossings Design Guidelines* (Barnard *et al.* 2013)²⁵
2. *Part XII, Fish Passage Design and Implementation, Salmonid Stream Habitat Restoration Manual* (California Department of Fish and Game 2009)²⁶
3. *Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream* (USDA-Forest Service 2008)²⁷
4. Or other design references approved by NMFS.

ii. Routine road surface, culvert and bridge maintenance activity will be completed in accordance with the *ODOT Routine Road Maintenance: Water Quality and Habitat Guide Best Management Practices* (ODOT 2009) or the most recent version approved by NMFS, unless maintenance activities and practices in that manual conflict with PDC in this opinion.

1. Any conflict between ODOT (2009) and this opinion (e.g., stormwater management for maintenance yards, erosion repair related to use of riprap, dust abatement, and use of pesticides) will be resolved in favor of PDC in this opinion.

b. Grade stabilization

i. Grade control materials may include both rock and LW. Material shall not in any part consist of gabion baskets, sheet piles, concrete, articulated concrete blocks, or cable anchors.

ii. Grade control shall be provided using morphologically-appropriate constructed riffles for riffle-pool morphologies, rough constructed riffles/ramps for plane bed morphologies, wood/debris jams, rock bands, and boulder weirs for step-pool morphologies, and roughened channels for cascade morphologies.

iii. LW placements and ELJs may be used to control grade individually or together with other grade control methods by simulating natural log jams and debris accumulation that traps sediment and creates forced, riffle-pool, step-pool, or cascade-pool morphologies.

²⁵ <http://wdfw.wa.gov/publications/01501/>

²⁶ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=12512>

²⁷ http://stream.fs.fed.us/fishxing/aop_pdfs.html

- iv. Stream banks and bed shall be designed to be immobile at the design event to reduce undermining and flanking.
- v. The crest of channel spanning structures will be slightly sloped on either side, with the low point in the center, to direct flows to the middle of channel and away from streambanks. Install these structures low in relation to channel dimensions so that they are completely overtopped during channel-forming flow events (approximately a 1.0- to 1.5-year flow event).
- vi. Construct boulder weir structures in a 'V' or 'U' shape, oriented with the apex upstream.
- vii. Key all structures into the streambed at a depth which minimizes structure undermining due to scour, at least 2.5 times their exposure height, or the Lower Vertical Adjustment Potential (LVAP) line with an offset of 2 times D_{90} , whichever is deeper.
 - 1. LVAP, and 2 times D_{90} offset, as calculated in *Stream Simulation: An ecological approach to providing passage for aquatic organisms at road crossings* (USDA-Forest Service 2008).
- viii. Structures should be keyed into both banks—if feasible greater than 8 feet.
- ix. If several drop structures will be used in series, space them at the appropriate distances to promote fish passage of target species and life histories. Incorporate NMFS (2011a) fish passage criteria (jump height, pool depth, etc.) in the design of drop structures.
- x. Recommended spacing for boulder weirs should be no closer than the net drop divided by the channel slope (for example, a one-foot high step structure designed with a project slope of two-percent gradient will have a minimum spacing of 50-feet [$1/0.02$]). Maximum project slope for boulder weir designs is 5%.
- xi. A series of short steep rough ramps/chutes, cascades, or roughened channel type structures, broken up by energy dissipating pools, are required where project slope is greater than 5%.
- c. Rock Structures
 - i. Rock structures will be constructed out of a mix of well-graded boulder, cobble, and gravel, including the appropriate level of fines, to allow for compaction and sealing to ensure minimal loss of surface flow through the newly placed material.
 - ii. Rock sizing depends on the size of the stream, maximum depth of flow, plan form, entrenchment, and ice and debris loading.
 - iii. The project designer or an inspector experienced in these structures should be present during installation.
 - iv. To ensure that the structure is adequately sealed, no sub-surface flow will be present before equipment leaves the site.
 - v. Rock shall be durable and of suitable quality to assure long-term stability in the climate in which it is to be used.
 - i. Where feasible, channel spanning structures should be coupled with LW to improve habitat complexity of riparian areas.
- d. Structure Stabilization

- i. When a footing, facing, head wall, or other protection will be constructed with rock to prevent scouring or down-cutting of, or fill slope erosion or failure at, an existing culvert or bridge, the amount of rock used is limited to the minimum necessary to protect the integrity of the structure. Include soil, vegetation, and wood throughout the structure to the level possible.
- e. Road-stream crossing replacement or retrofit
 - i. Projects shall adhere to industry design standards found in the most recent version any of the following:
 - 1. *Water Crossings Design Guidelines* (Barnard *et al.* 2013)²⁸
 - 2. *Part XII, Fish Passage Design and Implementation, Salmonid Stream Habitat Restoration Manual* (California Department of Fish and Game 2009)²⁹
 - 3. *Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream* (USDA-Forest Service 2008)³⁰
 - 4. Or other design references approved by NMFS.
 - i. General road-stream crossing criteria
 - 1. Span
 - a. Span is determined by the crossing width at the proposed streambed grade.
 - b. Single span structures will maintain a clear, unobstructed opening above the general scour elevation that is at least as wide as 1.5 times the active channel width.³¹
 - c. Multi-span structures will maintain clear, unobstructed openings above the general scour elevation (except for piers or interior bents) that are at least as wide as 2.2 times the active channel width.
 - d. Entrenched streams: If a stream is entrenched (entrenchment ratio of less than 1.4), the crossing width will accommodate the flood prone width. Flood prone width is the channel width measured at twice the maximum bankfull depth (Rosgen 1996).
 - e. Minimum structure span is 6 feet.
 - 2. Bed Material
 - a. Install clean alluvium with similar angularity as the natural bed material, no crushed rock.
 - b. Bed material shall be designed based on the native particle size distribution of the adjacent channel or reference reach, as quantified by a pebble count.
 - c. Rock band designs as detailed in *Water Crossings Design Guidelines* (Barnard *et al.* 2013) are authorized.
 - d. Bed material in systems where stream gradient exceeds 3% may be conservatively sized to resist movement.

²⁸ <http://wdfw.wa.gov/publications/01501/>

²⁹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=12512>

³⁰ http://stream.fs.fed.us/fishxing/aop_pdfs.html

³¹ Active channel width means the stream width measured perpendicular to stream flow between the OHW lines, or at the channel bankfull elevation if the OHW lines are indeterminate. This width includes the cumulative active channel width of all individual side- and off-channel components of channels with braided and meandering forms, and measure outside the area influence of any existing stream crossing, e.g., five to seven channel widths upstream and downstream.

3. Scour Prism

a. Designs shall maintain the general scour prism, as a clear, unobstructed opening (*i.e.*, free of any fill, embankment, scour countermeasure, or structural material to include abutments, footings, and culvert inverts). No scour or stream stability countermeasure may be applied above the general scour elevation.³²

a. The lateral delineation of the scour prism is defined by the criteria span.

b. The vertical delineation of the scour prism is defined by the Lower Vertical Adjustment Potential (LVAP) with an additional offset of 2 times D_{90} , as calculated in *Stream Simulation: An ecological approach to providing passage for aquatic organisms at road crossings* (USDA-Forest Service 2008).

b. When bridge abutments or culvert footings are set back beyond the applicable criteria span they are outside the scour prism.

4. Embedment

a. All abutments, footings, and inverts shall be placed below the thalweg a depth of 3 feet, or the LVAP line with an offset of 2 times D_{90} , whichever is deeper.

i. AP, and 2 times D_{90} offset, as calculated in *Stream Simulation: An ecological approach to providing passage for aquatic organisms at road crossings* (USDA-Forest Service 2008).

b. In addition to embedment depth, embedment of closed bottom culverts shall be between 30% and 50% of the culvert rise.

5. Bridges

a. Primary bridge structural elements will be concrete, metal, fiberglass, or untreated timber. The use of treated wood for bridge construction or replacement is not part of this proposed action. The use of treated wood for maintenance and repair of existing wooden bridges is part of the proposed action if in conformance with project design criterion 29.

b. All concrete will be poured in the dry, or within confined waters not connected to surface waters, and will be allowed to cure a minimum of 7 days before contact with surface water as recommended by Washington State Department of Transportation (2010).

c. Riprap may only be placed below bankfull height of the stream when necessary for protection of abutments and pilings. The amount and placement of riprap will not constrict the bankfull flow.

d. Temporary work bridges will also meet the latest version of NMFS (2011a) criteria.

³² For guidance on how to complete bridge scour and stream stability analysis, see Lagasse *et al.* (2012) (HEC-20), Lagasse *et al.* (2001) (HEC-23), Richardson and Davis (2001) (HEC-18), ODOT (2011), and AASHTO (2013).

- iii. The electronic notification for each permanent stream crossing replacement will contain the following:
 - 1. Site sketches, drawings, aerial photographs, or other supporting specifications, calculations, or information that is commensurate with the scope of the action, that show the active channel, the 100-year floodplain, the functional floodplain, any artificial fill within the project area, the existing crossing to be replaced, and the proposed crossing.
 - 2. A completed scour and stream stability analysis for any crossing that includes scour or stream stability countermeasures within the crossing opening that shows the general scour elevation and the local scour elevation for any pier or interior bent.
 - 3. The name, address, and telephone number of a person responsible for designing this part of the action that NMFS may contact if additional information is necessary to complete the effects analysis.
- f. **NMFS fish passage review and approval.** The Corps will not issue a permit to install, replace, or improve a road-stream crossing, step structure, fish ladder, or projects containing grade control, stream stability, or headcut countermeasures, until the action has been reviewed and approved by NMFS for consistency with NMFS's fish passage criteria (NMFS 2011a).

43. Utility Line Stream Crossings

- a. Design utility line stream crossings in the following priority:
 - i. Aerial lines, including lines hung from existing bridges.
 - ii. Directional drilling, boring and jacking that spans the channel migration zone and any associated wetland.
 - iii. Trenching – this method is restricted to intermittent streams and may only be used when the stream is naturally dry, all trenches will be backfilled below the OHW line with native material and capped with clean gravel suitable for fish use in the project area.
- b. Align each crossing as perpendicular to the watercourse as possible. Ensure that the drilled, bored or jacked crossings are below the total scour prism.
- c. Any large wood displaced by trenching or plowing will be returned as nearly as possible to its original position, or otherwise arranged to restore habitat functions.
- d. Any action involving a stormwater outfall will meet the stormwater management criteria.³³
- e. NMFS will review new or upgraded stormwater outfalls.

³³ The most efficient way for an applicant or the Corps to prepare and submit a stormwater management plan for NMFS' review is to attach a completed *Checklist for Submission of a Stormwater Management Plan* (the *Checklist*, ODEQ updated 2012, or the most recent version) with the electronic notification when it is sent to the SLOPES mailbox. However, stormwater conveyance to a DEQ permitted Municipal Separate Storm Sewer System (MS4) or consistency with any other program acknowledged by DEQ as adequate for stormwater management will not meet the requirements of this opinion unless NMFS determines that the facility accepting the stormwater will provide a level of treatment that is equivalent to that called for in this opinion. The *Checklist* and guidelines for its use are available from NMFS or the ODEQ in Portland Oregon. The latest version of the *Checklist* is also available online in a portable document format (pdf) through the ODEQ Water Quality Section 401 certification webpage (ODEQ 2014) at <http://www.deq.state.or.us/wq/sec401cert/process.htm#add> (see "Post Construction Stormwater Management Plan").

SLOPES STORMWATER TRANSPORTATION AND UTILITIES

1. ACTION COMPLETION REPORT

Within 60 days, or 30 days if a Natural Hazard Response, of completing all work below ordinary high water (OHW) as part of an action completed under the SLOPES Stormwater Transportation and Utilities programmatic opinion, the permittee must submit a completed action completion form with the following information to the U.S. Army Corps of Engineers, Regulatory Branch at: cenwp.notify@usace.army.mil

Actual Start and End Dates for the Completion of In-water Work:	Start:	End:
Actual Linear-feet of Riparian and/or Channel Modification within 150 feet of OHW		
Actual Acreage of Herbicide Treatment		
Turbidity Monitoring/Sampling Completed	<input type="checkbox"/> Yes (include details below)	<input type="checkbox"/> No

Please include the following:

1. Attach as-built drawings for any action involving a riprap revetment, stormwater management facility, or a bridge rehabilitation or replacement.
2. Attach photos of habitat conditions before, during, and after action completion.
3. Describe compliance with fish screen criteria, as defined below, for any pump used.
4. Summarize results of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort.
5. Describe number, type and diameter of any pilings removed or broken during removal.
6. Describe any riparian area cleared within 150 feet of OHW.
7. Describe turbidity monitoring (visual or by turbidimeter) including dates, times and location of monitoring and any exceedances and steps taken to reduce turbidity observed.
8. Describe site restoration.

If the project was a Natural Hazard Response, ALSO include the following:

1. Name of the natural hazard event.
2. Type of natural hazard.
3. Name of the public transportation district manager that declared the response necessary.
4. NMFS staff contacted, with date and time of contact.
5. Description of the amount and type of riprap or other material used to repair a culvert, road, or bridge.
6. Assess the effects of the initial response to listed species and critical habitats.
7. Summary of the design criteria followed and not followed.
8. Remedial actions necessary to bring the initial response into compliance with design criteria in this opinion.

SLOPES STORMWATER TRANSPORTATION AND UTILITIES

2. FISH SALVAGE REPORT

If Applicable: Within 60 days of completing a capture and release as part of an action completed under the SLOPES Stormwater Transportation and Utilities programmatic opinion, the permittee must submit a fish salvage report form with the following information to the U.S. Army Corps of Engineers, Regulatory Branch at: cenwp.notify@usace.army.mil

Date(s) of Fish Salvage

Operation(s):

Supervisory Fish Biologist:

Address

Telephone Number

Describe methods that were used to isolate the work area and remove fish

Fish Salvage Data

Water Temperature:

Air Temperature:

Time of Day:

ESA-Listed Species	Number Handled		Number Injured		Number Killed	
	Juvenile	Adult	Juvenile	Adult	Juvenile	Adult
Lower Columbia River Chinook						
Upper Willamette River Chinook						
Upper Columbia River spring-run Chinook						
Snake River spring/summer run Chinook						
Snake River fall-run Chinook						
Chinook, unspecified						
Columbia River chum						
Lower Columbia River Coho						
Oregon Coast Coho						
Southern Oregon/Northern California Coasts Coho						
Snake River sockeye						
Lower Columbia River steelhead						
Upper Willamette River steelhead						
Middle Columbia River steelhead						
Upper Columbia River steelhead						
Snake River Basin steelhead						
Steelhead, unspecified						
Southern green sturgeon						
Eulachon						

SLOPES STORMWATER TRANSPORTATION AND UTILITIES

3. SITE RESTORATION/ COMPENSATORY MITIGATION

By December 31 of any year in which the Corps approves that the site restoration or compensatory mitigation is complete, submit a completed Site Restoration/ Compensatory Mitigation Reporting Form, or its equivalent, with the following information to the Corps at cenwp.notify@usace.army.mil.

Describe location of mitigation or restoration work.

Summarize the results of mitigation or restoration work completed.

Inadvertent Discovery Plan

August 22, 2018

1. Introduction

The U.S. Army Corps of Engineers (Corps) completes the requirements of Section 106 of the National Historic Preservation Act (NHPA), as applicable, for projects authorized by a Department of the Army permit. However, cultural resources or historic properties may unexpectedly be encountered during project construction based on the project location or type of work. These unforeseen finds are called an inadvertent discovery. This plan describes requirements should an inadvertent discovery occur.

In accordance with Section 106 of the NHPA, Federal agencies, such as the Corps, are required to take into account the effects of any permitted action to historic properties. The Corps completes these requirements in cooperation with States, local governments, Native American Tribes, and private organizations and individuals. There are numerous federal and state laws and regulations that apply to historic preservation that include, but are not limited to:

National Historic Preservation Act – [54 USC 306108] [36 CFR 60]

Native American Graves Protection and Repatriation Act – [25 USC 3001] [43 CFR 10]

Procedures for the Protection of Historic Properties – [33 CFR 325 – Appendix C]

Consultation and Coordination with Indian Tribal Governments – [Executive Order 13175]

Rights and Duties Relating to Cemeteries, Human Bodies and Anatomical Gifts – [ORS 97.740- 97.760]

Oregon Historical and Heritage Agencies, Programs and Tax Provisions; Museums; Local Symphonies and Bands; Archaeological Objects and Sites – [ORS 358.905 – 358.955]

Permits and Conditions for Excavation or Removal of Archaeological or Historical Material; Rules; Criminal Penalty – [ORS 390.235]

2. Background

For thousands of years, Native American Tribes have lived on the lands that now comprise the state of Oregon. Although these lands are under various ownerships, Native Americans still retain a strong connection to their ancestral lands. Tribal archeological and burial sites are not simply artifacts of the Tribe's cultural past, but are considered sacred and represent a continuing connection with their ancestors. Native American cultural resources, ancestral remains, funerary objects, sacred objects, and objects of cultural patrimony are protected under federal and state laws. Examples of Tribal cultural resources include, but are not limited to: lithic flakes, stone tools, Native American human remains, remnants of structures (e.g. house pits), fish weirs, and/or shell middens.

In addition to potential Tribal-related sites, non-Tribal cultural and historical resources are also protected under federal and state laws. Examples of material that may be found at a historic-period site include, but are not limited to: glass bottles, cans, structural

foundations, machinery or parts, nails and many other items. If material such as this is uncovered during the course of a project, the procedures outlined below are applicable.

3. Inadvertent Discovery – The permittee shall implement the following procedures:

a. Projects that do not require monitoring by a professional archeologist (see permit special conditions):

1) In the event evidence of human burials, human skeletal remains, cultural items, suspected cultural items, or historic properties, as defined by the NHPA, are discovered and/or may be affected during the course of the authorized work, the permittee shall **Immediately Cease All Ground Disturbing Activities** that may cause further disturbance to those remains or resources. The area of the find shall be secured and protected from further disturbance, including an appropriate buffer around the discovery (i.e. 100 feet) using flagging or other visible marker. Sensitive resources, such as human skeletal remains, may not include visual markers in order to avoid attracting attention. The find may be temporarily protected through stabilization or non-destructive covering. Reasonable steps shall be taken to ensure confidentiality of the discovery and restrict access. The permittee or permittee's representative shall immediately notify the Corps and other appropriate agencies as identified in part 3(a)(2) of this plan, below.

2) Notification Procedures:

- Notification to the Corps, Portland District, Regulatory Branch Archeologist shall be made by email to brian.s.heil@usace.army.mil or phone at 503-808-4382 as soon as possible following discovery, but in no case later than 24 hours. The email or call shall clearly specify the purpose is to report a cultural resource discovery, provide the permittee's name, and Corps permit number.
- The permittee shall also notify the Corps representative (by email or telephone) as identified in the permit letter.
- If the inadvertent discovery is identified as human skeletal remains on non-federal or non-tribal public and private lands, the permittee shall report the discovery to the Oregon State Police at (503) 731-4717 and the county medical examiner/coroner in the most expeditious manner possible. The remains shall not be touched, moved, or further disturbed. The county medical examiner/coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the county medical examiner/coroner determines the remains are non-forensic, then they will report that finding to the Oregon State Historic Preservation Office (SHPO) who will then take jurisdiction over the remains.
- In all inadvertent discovery situations, the permittee is also responsible for contacting the SHPO at (503) 986-0690.

3) Failure to stop work immediately and continue such stoppage could result in a violation of federal and state laws. Violators may be subject to civil and criminal penalties. Work shall remain suspended until notified by the Corps that work may proceed.

4) The permittee shall not resume construction in the area surrounding the discovery until the Corps Regulatory Branch re-authorizes project construction, pursuant to 36 CFR Part 800.13.

b. Projects that require monitoring by a professional archeologist (see permit special conditions):

1) The Corps-required archeological monitor has the authority to temporarily stop all ground disturbing activities in the event evidence of human burials, human skeletal remains, cultural items, suspected cultural items, or historic properties, as defined by the NHPA, are discovered and/or may be affected during the course of the authorized work. Upon positive identification of human burials, human skeletal remains, cultural items, suspected cultural items, or historic properties, as defined by the NHPA, the archeological monitor shall notify the permittee of the inadvertent discovery and the permittee shall **Immediately Cease All Ground Disturbing Activities**. The archeological monitor will take actions necessary to secure the discovery location. The permittee or permittee's representative shall immediately notify the Corps and other appropriate agencies as necessary as described in the Notification Procedures above. Work shall remain suspended until notified by the Corps that work may proceed.

2) Before work can proceed, first, the nature of the discovery must be evaluated. If it is determined the discovery contains human remains, then section 4 below shall be initiated. If the discovery contains less than 10 artifacts, then paragraph 3) below shall be followed. If the discovery contains more than 10 artifacts and does not contain human skeletal remains, then the Corps, in consultation with the SHPO and tribes as appropriate, will determine whether the site may be eligible for listing in the National Register of Historic Places (NRHP). If deemed insignificant the Corps will allow work to continue. If deemed significant, the Corps, in consultation with the SHPO, will evaluate whether the continuation of work would constitute an adverse effect. If the Corps determines the effect will not be adverse, or the area can be avoided, then work will be allowed to continue. If the inadvertent discovery location cannot be avoided, and continuing work would have an adverse effect on the site, the Corps, in consultation with the permittee, SHPO, and tribes as appropriate, will need to draft and finalize a Memorandum of Agreement for the treatment of the historic site before work can proceed.

3) If an isolated artifact (defined as fewer than 10 artifacts by the SHPO) is identified, the archeological monitor shall determine: a) whether there is potential for other artifacts to be present in the vicinity of the initial discovery by acquiring a

state-issued archaeological testing permit (pursuant to state law) to conduct additional survey, soil screening, subsurface testing, or other method deemed appropriate, and b) whether the identified artifacts alone are significant. These two considerations will be used to determine if sufficient evidence is present to define a historic site (i.e. potentially eligible for listing in the NRHP). If upon closer examination the materials discovered are not consistent with human burials, human remains, cultural items, suspected cultural items, or historic properties, as defined by the NHPA, the monitoring archeologist shall notify the Corps (via by phone or email message), and can then allow work to proceed but with caution and at a slower rate until the monitor is confident no sites are represented. The isolated finds shall be reported in the archeological monitor's post-construction monitoring report.

4. Human Remains

a. Plan of Action: If human burials and/or human skeletal remains are discovered, the archeological monitor shall ensure all unauthorized personnel have vacated the site location in a safe manner, make reasonable efforts to secure the location, and stabilize the remains if necessary (e.g. prevent remains from falling out of a trench wall). Every reasonable effort will be made by the monitor to ensure the remains are not physically handled or examined by unauthorized personnel until the proper notifications have been made. Reference is made to the Tribal Position Paper on Human Remains found on SHPO's website at:

http://www.oregon.gov/OPRD/HCD/ARCH/docs/Tribal_position_paper_on_Human_Remains.pdf.

b. Treatment Plan: The permittee shall develop a Treatment Plan (TP) in consultation with the Corps, SHPO, and tribe(s), as needed, to ensure the proper handling, protection, or temporary storage of human remains and/or cultural items until the proper tribe or other entity, as appropriate, can be identified and those resources can be repatriated. The TP will define the items found; develop a strategy for handling/moving human remains and/or cultural items, if applicable; develop a strategy for determining whether additional human remains and/or cultural items are endangered; determine if additional testing is necessary to identify site boundaries; and determine the disposition of the human remains and/or cultural items. The TP will be agreed upon by all parties involved before any future ground disturbance activities resume.



US Army Corps
of Engineers ®
Portland District

Compliance Certification

1. **Permit Number:** NWP-

2. **Permittee Name:**

3. **County Location:**

Upon completing the activity authorized by the permit, please complete the sections below, sign and date this certification, and return it to the U.S. Army Corps of Engineers, Portland District, Regulatory Branch. The certification can be submitted by email at cenwp.notify@usace.army.mil or by regular mail at the following address:

U.S. Army Corps of Engineers
CENWP-OD-GL
P.O. Box 2946
Portland, OR 97208-2946

4. **Corps-required Compensatory Mitigation (see permit special conditions):**

a. Mitigation Bank / In-lieu Fee Credit Transaction Documents:

☐ Not Applicable ☐ Submitted ☐ Enclosed

b. Permittee-responsible mitigation (e.g., construction and plantings) has been constructed (not including future monitoring). As-built report:

☐ Not Applicable ☐ Submitted ☐ Enclosed

5. **Endangered Species Act – Standard Local Operating Procedures (SLOPES)**
(see permit special conditions):

a. SLOPES Action Completion Report:

☐ Not Applicable ☐ Submitted ☐ Enclosed

b. SLOPES Fish Salvage Report:

☐ Not Applicable ☐ Submitted ☐ Enclosed

c. SLOPES Site Restoration / Compensatory Mitigation Report:

☐ Not Applicable ☐ Submitted ☐ Enclosed

I hereby certify the work authorized by the above-referenced permit has been completed in accordance with all of the permit terms and conditions.

Signature of Permittee

Date

NWP-

Enclosure

Department of State Lands
775 Summer Street, Suite 100
Salem, OR 97301-1279
☎ 503-986-5200

Permit No.:	64567-GP
Permit Type:	Removal/Fill
Waters:	Molalla River
County:	Clackamas
Expiration Date:	December 11, 2025

CLACKAMAS COUNTY

IS AUTHORIZED IN ACCORDANCE WITH ORS 196.800 TO 196.990 TO PERFORM THE OPERATIONS DESCRIBED IN THE REFERENCED APPLICATION, SUBJECT TO THE SPECIAL CONDITIONS LISTED ON ATTACHMENT A AND TO THE FOLLOWING GENERAL CONDITIONS:

1. This permit does not authorize trespass on the lands of others. The permit holder must obtain all necessary access permits or rights-of-way before entering lands owned by another.
2. This permit does not authorize any work that is not in compliance with local zoning or other local, state, or federal regulation pertaining to the operations authorized by this permit. The permit holder is responsible for obtaining the necessary approvals and permits before proceeding under this permit.
3. All work done under this permit must comply with Oregon Administrative Rules, Chapter 340; Standards of Quality for Public Waters of Oregon. Specific water quality provisions for this project are set forth on Attachment A.
4. Violations of the terms and conditions of this permit are subject to administrative and/or legal action, which may result in revocation of the permit or damages. The permit holder is responsible for the activities of all contractors or other operators involved in work done at the site or under this permit.
5. Employees of the Department of State Lands (DSL) and all duly authorized representatives of the Director must be permitted access to the project area at all reasonable times for the purpose of inspecting work performed under this permit.
6. Any permit holder who objects to the conditions of this permit may request a hearing from the Director, in writing, within twenty-one (21) calendar days of the date this permit was issued.
7. In issuing this permit, DSL makes no representation regarding the quality or adequacy of the permitted project design, materials, construction, or maintenance, except to approve the project's design and materials, as set forth in the permit application, as satisfying the resource protection, scenic, safety, recreation, and public access requirements of ORS Chapters 196, 390, and related administrative rules.
8. Permittee must defend and hold harmless the State of Oregon, and its officers, agents and employees from any claim, suit, or action for property damage or personal injury or death arising out of the design, material, construction, or maintenance of the permitted improvements.
9. Authorization from the U.S. Army Corps of Engineers may also be required.

NOTICE: If removal is from state-owned submerged and submersible land, the permittee must comply with leasing and royalty provisions of ORS 274.530. If the project involves creation of new lands by filling on state-owned submerged or submersible lands, you must comply with ORS 274.905 to 274.940 if you want a transfer of title; public rights to such filled lands are not extinguished by issuance of this permit. This permit does not relieve the permittee of an obligation to secure appropriate leases from DSL, to conduct activities on state-owned submerged or submersible lands. Failure to comply with these requirements may result in civil or criminal liability. For more information about these requirements, please contact Department of State Lands, 503-986-5200.

Michael DeBlasi, Aquatic Resource Coordinator
Aquatic Resource Management
Oregon Department of State Lands


Authorized Signature

September 25, 2024
Date

ATTACHMENT A

Permit Holder: Clackamas County

Project Name: Knights Bridge Rehabilitation

Special Conditions for Removal/Fill Permit No. 64567-GP

READ AND BECOME FAMILIAR WITH CONDITIONS OF YOUR PERMIT.

The project site may be inspected by the Department of State Lands (DSL) as part of our monitoring program. A copy of this permit must be available at the work site whenever authorized operations are being conducted.

1. **Responsible Party:** By signature on the application, Stan Monte is acting as the representative of Clackamas County. By proceeding under this permit, Clackamas County agrees to comply with and fulfill all terms and conditions of this permit, unless the permit is officially transferred to another party as approved by DSL. In the event information in the application conflicts with these permit conditions, the permit conditions prevail.
2. **Authorization to Conduct Removal and/or Fill:** This permit authorizes 130 linear feet of waterway impacts with associated removal and fill of material in T03S R01E Section 32, Tax Lots 1900 and ROW, and T05S R02E Section 2, Tax Lot(s) 600, in Clackamas County, as referenced in the application, map and drawings (See Attachment B for project location), dated October 26 2023. This permit also authorizes removal and fill activities necessary to complete the required compensatory mitigation.
3. **Work Period in Jurisdictional Areas:** Fill or removal activities below the ordinary high water elevation of Molalla River must be conducted between July 15 and August 31, unless otherwise coordinated with Oregon Department of Fish and Wildlife and approved in writing by DSL. If fish eggs are observed within the project area, work must cease, and DSL contacted immediately.
4. **Changes to the Project or Inconsistent Requirements from Other Permits:** It is the permittee's responsibility to ensure that all state, federal and local permits are consistent and compatible with the final approved project plans and the project as executed. Any changes made in project design, implementation or operating conditions to comply with conditions imposed by other permits resulting in removal-fill activity must be approved by DSL prior to implementation.
5. **DSL May Halt or Modify:** DSL retains the authority to temporarily halt or modify the project or require rectification in case of unforeseen adverse effects to aquatic resources or permit non-compliance.
6. **DSL May Modify Conditions Upon Permit Renewal:** DSL retains the authority to modify conditions upon renewal, as appropriate, pursuant to the applicable rules in effect at the time of the request for renewal or to protect waters of this state.

Pre-Construction

7. **Stormwater Management Approval Required Before Beginning Work:** Prior to the start of construction, the permittee must obtain a National Pollution Discharge Elimination System (NPDES) permit from the Oregon Department of Environmental Quality (DEQ), if one is required by DEQ.
8. **Pre-construction Resource Area Fencing or Flagging:** Prior to any site grading, the boundaries of the avoided wetlands, waterways, and riparian areas adjacent to the project site must be surrounded by noticeable construction fencing or flagging. The marked areas must be maintained during construction of the project and be removed immediately upon project completion.

General Construction Conditions

9. **Water Quality Certification:** The Department of Environmental Quality (DEQ) may evaluate this project for a Clean Water Act Section 401 Water Quality Certification (WQC). If the evaluation results in issuance of a Section 401 WQC, that turbidity condition will govern any allowable turbidity exceedance and monitoring requirements.
10. **Erosion Control Methods:** The following erosion control measures (and others as appropriate) must be installed prior to construction and maintained during and after construction as appropriate, to prevent erosion and minimize movement of soil into waters of this state.
 - a. All exposed soils must be stabilized during and after construction to prevent erosion and sedimentation.
 - b. Filter bags, sediment fences, sediment traps or catch basins, leave strips or berms, or other measures must be used to prevent movement of soil into waterways and wetlands.
 - c. To prevent erosion, use of compost berms, impervious materials or other equally effective methods, must be used to protect soil stockpiled during rain events or when the stockpile site is not moved or reshaped for more than 48 hours.
 - d. Unless part of the authorized permanent fill, all construction access points through, and staging areas in, riparian and wetland areas must use removable pads or mats to prevent soil compaction. However, in some wetland areas under dry summer conditions, this requirement may be waived upon approval by DSL. At project completion, disturbed areas with soil exposed by construction activities must be stabilized by mulching and native vegetative plantings/seeding. Sterile grass may be used instead of native vegetation for temporary sediment control. If soils are to remain exposed more than seven days after completion of the work, they must be covered with erosion control pads, mats or similar erosion control devices until vegetative stabilization is installed.
 - e. Where vegetation is used for erosion control on slopes steeper than 2:1, a tackified seed mulch must be used so the seed does not wash away before germination and rooting.
 - f. Dredged or other excavated material must be placed on upland areas having stable slopes and must be prevented from eroding back into waterways and wetlands.
 - g. Erosion control measures must be inspected and maintained as necessary to ensure their continued effectiveness until soils become stabilized.
 - h. All erosion control structures must be removed when the project is complete, and soils are stabilized and vegetated.

- 11. Fuels, Hazardous, Toxic, and Waste Material Handling:** Petroleum products, chemicals, fresh cement, sandblasted material and chipped paint, material treated with leachable preservatives or other deleterious waste materials must not be allowed to enter waters of this state. Machinery and equipment staging, cleaning, maintenance, refueling, and fuel storage must be at least 150 feet from OHW and wetlands to prevent contaminants from entering waters of the state. Refueling is to be confined to a designated area to prevent spillage into waters of this state. Project-related spills into waters of this state or onto land with a potential to enter waters of this state must be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311.
- 12. Archaeological Resources:** If any archaeological resources, artifacts or human remains are encountered during construction, all construction activity must immediately cease. The State Historic Preservation Office must be contacted at 503-986-0674. You may be contacted by a Tribal representative if it is determined by an affected Tribe that the project could affect Tribal cultural or archeological resources.
- 13. Construction Corridor:** There must be no removal of vegetation or heavy equipment operating or traversing outside the designated construction corridor or footprint (Figure(s) 3a and 3b).
- 14. Hazards to Recreation, Navigation or Fishing:** The activity must be timed so as not to unreasonably interfere with or create a hazard to recreational or commercial navigation or fishing.
- 15. Operation of Equipment in the Water:** Heavy equipment may be positioned below ordinary high water or highest measured tide if the area is isolated from the waterway and aquatic organism salvage is completed, as shown in (Figure(s) 5a) of the application.

All machinery operated below ordinary high water (OHW) elevation must use vegetable-based hydraulic fluids, be steam cleaned and inspected for leaks prior to each use, and be diapered to prevent leakage of fuels, oils, or other fluids below OHW elevation. Any equipment found to be leaking fluids must be immediately removed from and kept out of OHW until repaired.
- 16. Work Area Isolation:** The work area must be isolated from the water during construction in accordance with the work area isolation plan in the application. All structures and materials used to isolate the work area must be removed immediately following construction and water flow returned to pre-construction conditions.
- 17. Fish Salvage Required:** Fish must be salvaged from the isolation area. Permits from NOAA Fisheries and Oregon Department of Fish and Wildlife, Fish Research are required to salvage fish. Fish salvage permit information may be obtained by contacting ODFW Fish Research at 503-947-6254 or Fish.Research@state.or.us.
- 18. Fish Passage Required:** The project must meet Oregon Department of Fish and Wildlife requirements for fish passage, as required in ORS 509.585. Contact the local ODFW District Fish Biologist (Ben Walczak; ben.walczak@odfw.oregon.gov) to ensure your project meets the state's fish passage requirements.
- 19. Raising or Redirecting Water:** The project must not cause water to rise or be redirected and result in damage to structures or property on the project site as well as adjacent, nearby, upstream, and downstream of the project site.

20. Temporary Ground Disturbances: All temporarily disturbed areas must be returned to original ground contours at project completion.

Pilings

21. Piling Placement and/or Removal Location: Piling must removed from locations depicted in the application, (Figure(s) 8).

22. Method of Piling Removal: Removal of pile must be conducted by means of excavation or vibratory removal.

- a. Piling must not intentionally be broken by twisting or bending;
- b. Upon removal, piling must be handled to effectively contain all adhering sediment. All return flows must meet state water quality standards; and
- c. Piling and containment materials must be disposed in an approved upland disposal site.

23. Broken Piles: If piling breaks above or below the bed surface within an area of uncontaminated sediment, piling must be cut at least two feet below the bed surface or otherwise pushed into that depth, then covered with a cap of clean substrate.

If piling breaks above the bed surface within an area of known contaminated sediment, piling must be cut at the bed surface or otherwise pushed to that depth. If piling breaks in contaminated sediment below the bed surface, no further attempt at removal may be made and the hole must be covered with a cap of clean substrate.

24. Backfilling after Piling Removal Required: Where the waterway bed is exposed by seasonal fluctuations, the area vacated from structure removal must be backfilled with native material upon removal completion.

25. Waste Pilings Disposal: Old piling and other waste material must be disposed of in a disposal facility approved for this purpose. There must be no temporary storage of piling or other waste material below top of bank or in any wetland, Federal Emergency Management Administration designated floodway, or an area historically subject to landslides.

Riprap Placement

26. Riprap Placement Methods: Riprap/rock must be placed under the following conditions:

- a. Only clean, erosion resistant rock from an upland source must be used as riprap. No broken concrete or asphalt must be used.
- b. Riprap rock must be placed in a manner that does not increase the upland surface area.
- c. Riprap must be placed in a way as to minimize impacts to the active stream channel.
- d. Gravel or filter fabric should be placed behind the riprap rock, including the toe trench rock, as a filter blanket.
- e. All riprap rock must be placed, not dumped, from above the bank line.

- 27. Riprap Must Be Covered:** Riprap above ordinary high water elevation must be covered and the voids filled with soil, gravel, and / or mulch sufficient to allow the performance standards to be achieved and wildlife to move across it naturally.
- 28. Planting in Riprap Required:** Riprap must be planted as shown in the application, (Figure(s) 8a). Seeding of the riprap placement area must occur immediately following establishment of final contours. Planting of native woody vegetation must be completed during the time of year that provides the optimal chances of survival immediately following construction.

Compensatory Mitigation

The following conditions apply to the actions proposed in the application received October 26, 2023.

- 29. Acreage and Type:** Mitigation must be conducted according to the minimum metrics and methods described in the table below.

LF/Sq. Ft.	Waterway	Method
132/1,997	Molalla River	Removal of abandoned steel piles, abandoned footing and concrete debris, partially buried CMP pipes, and buried asphalt, gravels, and concrete.

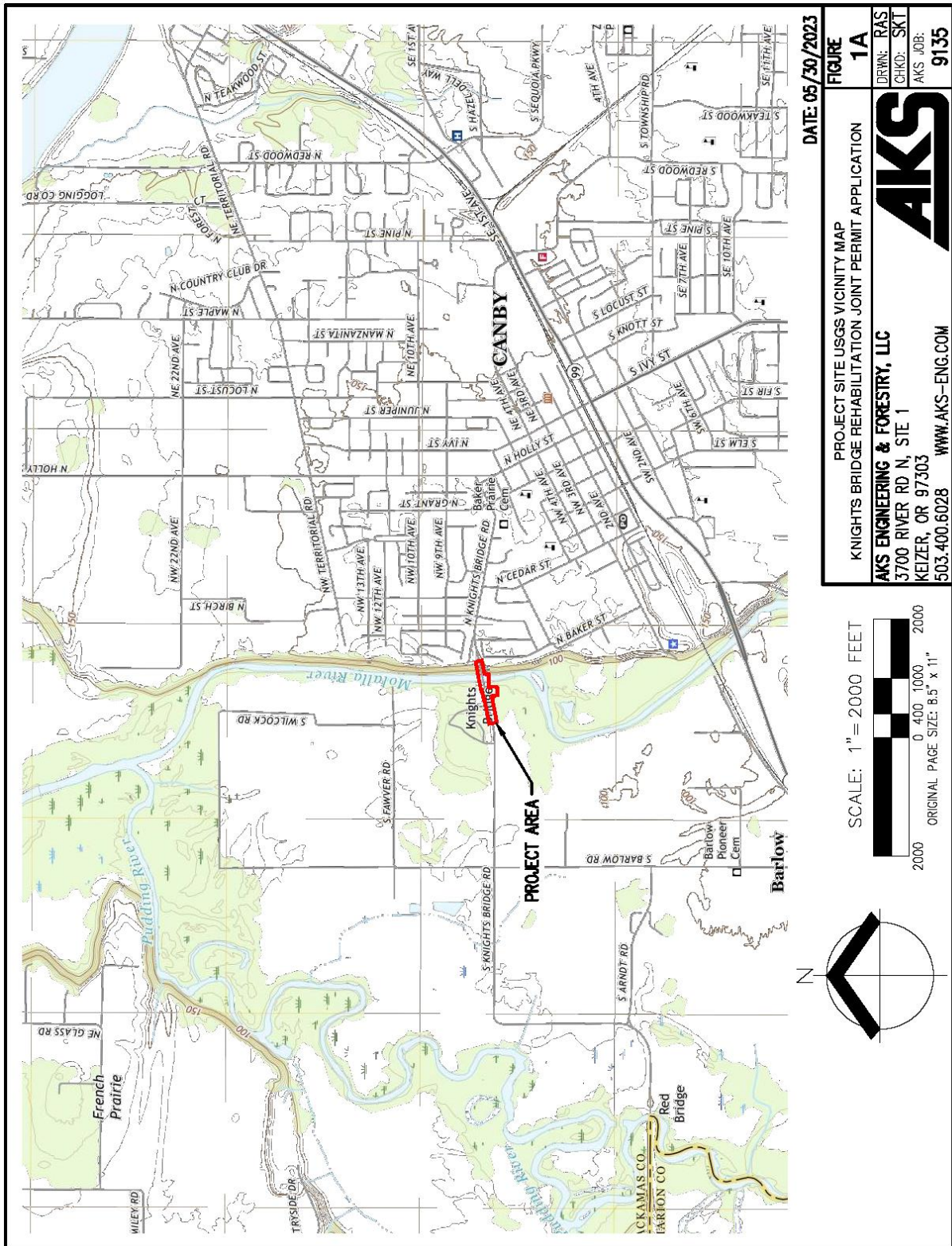
- 30. Mitigation Site Location:** The mitigation must be conducted on-site. The center-point of the mitigation site is 45.16089 degrees Latitude, -122.535403 degrees Longitude. The current legal description is Township 03S. Range 01E, Section 32, Tax Lot 1900/ROW as shown on Figure(s) 4a.

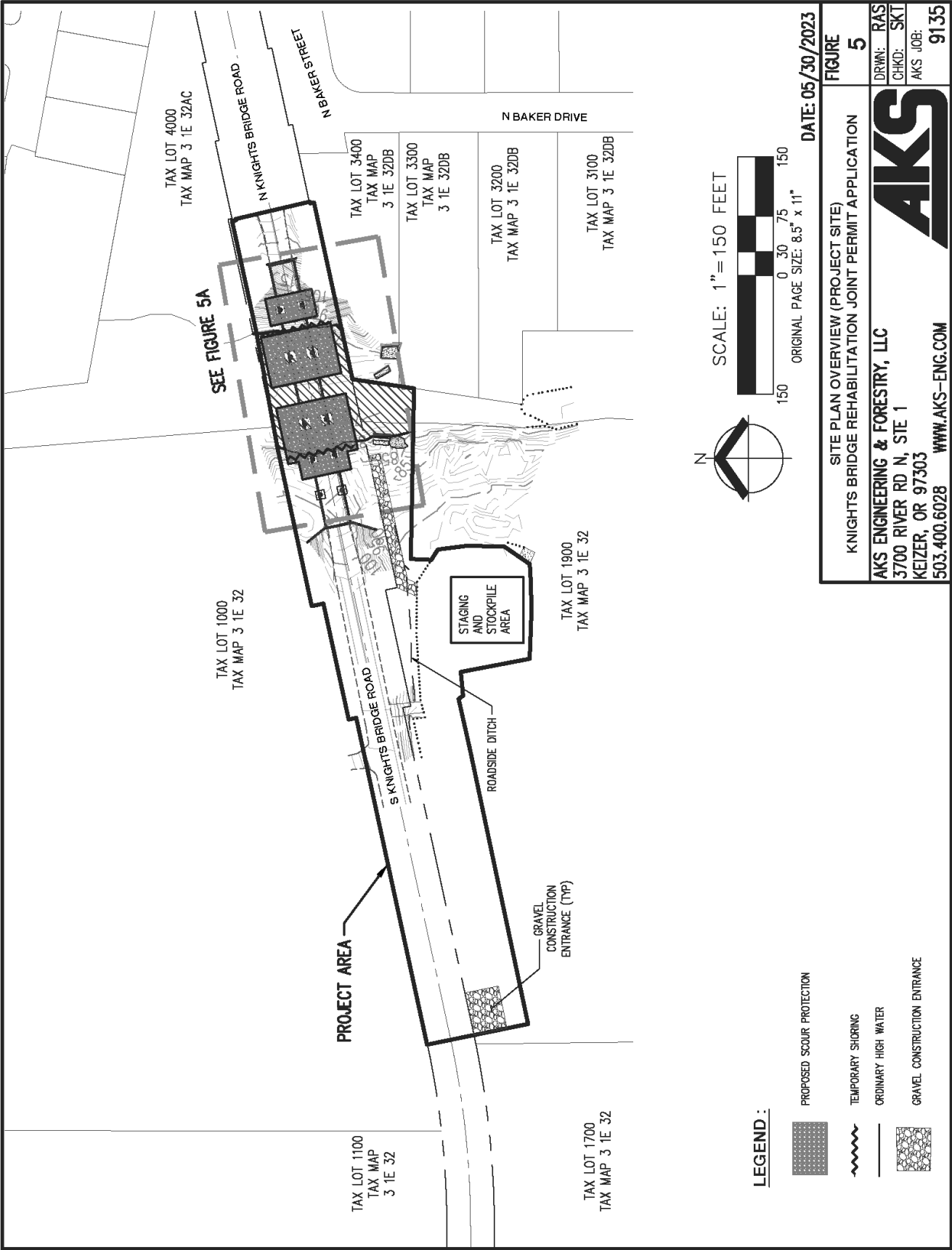
Monitoring and Reporting Requirements

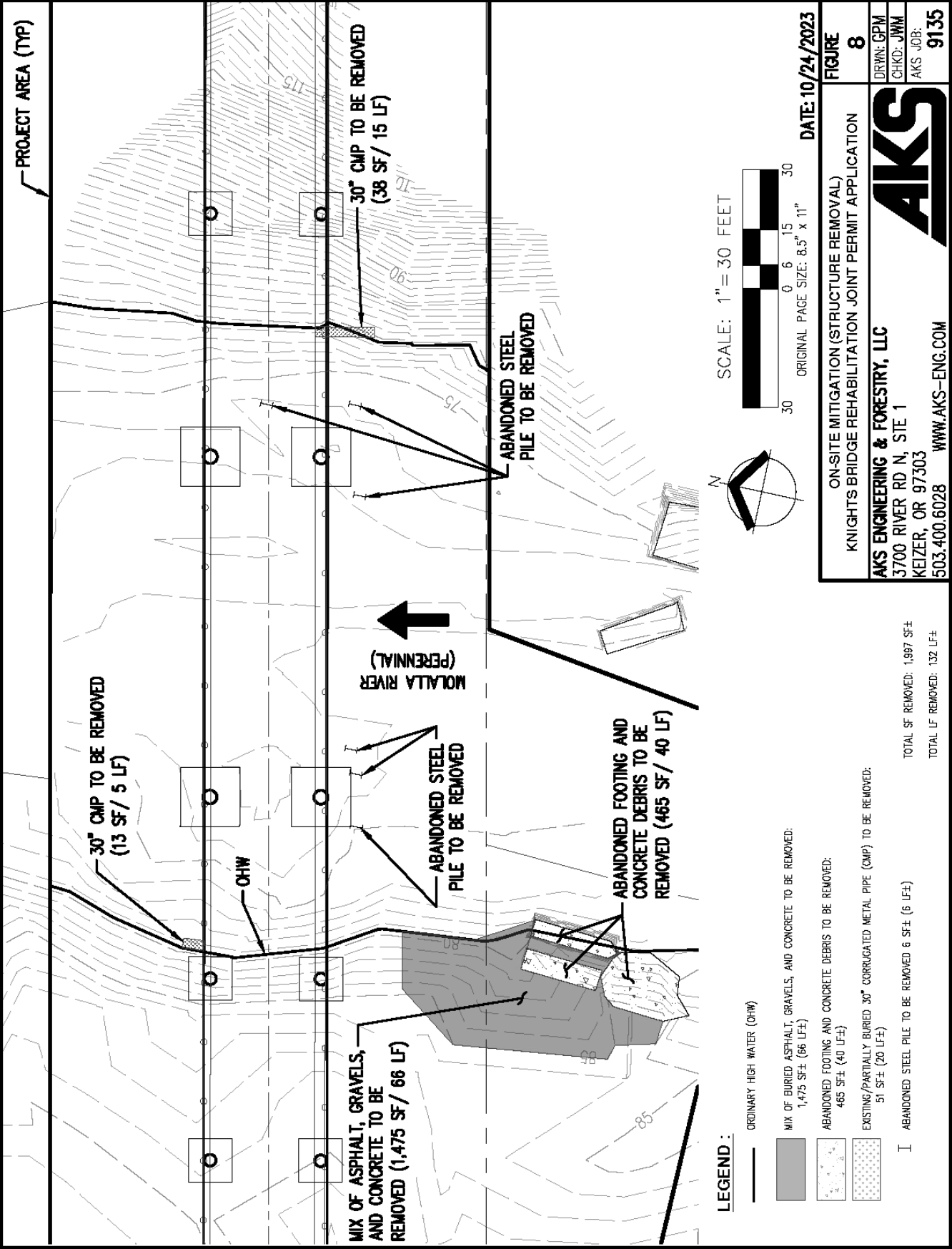
- 31. Post-Construction Report Required:** A post-construction report demonstrating as-built conditions and discussing any variation from the approved plan must be provided to DSL within 90 days of revegetation, which shall occur during the fall, winter, or spring immediately following the completion of grading within the required planting areas. The post-construction report must include:
- A scaled drawing, accurate to 1-foot elevation, clearly showing the following:
 - Finished contours of the site.
 - Current tax lot and right-of-way boundaries.
 - Photo point locations.
 - Permanently and temporarily impacted wetland and waterway boundaries identified separately, with square foot listed.
 - Photos from fixed photo points. This should clearly show the site conditions.
 - A narrative that describes any deviation from the approved plan.

Monitoring and Reporting Schedule

Report	Requirements	Schedule
Post-Construction	Post-construction report	90 days after completion of revegetation

Maps and Drawings for Removal/Fill Permit No. 64567-GP







Oregon

Tina Kotek, Governor

Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

www.oregon.gov/dsl

State Land Board

BEFORE THE DIRECTOR OF THE DEPARTMENT OF STATE LANDS OF THE STATE OF OREGON

In the Matter of Removal-Fill Permit)
Application 64567-GP) Proposed Permit Decision and Order;
) Notice of Right to a Hearing
By Clackamas County)

Tina Kotek
Governor

LaVonne Griffin-Valade
Secretary of State

Short and Plain Statement of the Permitting Decision: The permit application is approved because the Department of State Lands (DSL or the Department) has determined that, when carried out in compliance with all terms and conditions outlined in the permit, the proposed removal-fill activity is consistent with the protection, conservation, and best use of the water resources of this state and will not unreasonably interfere with the paramount policy of this state to preserve the use of its waters for navigation, fishing, and recreation. See ORS 196.825.

Tobias Read
State Treasurer

I. Applicable Law:

- a. ORS Chapter 196 governs removal fill permits in Oregon. The Department administers Oregon's Removal-Fill Law, Oregon Revised Statutes (ORS) 196.795 to ORS 196.990, which protects the state's wetlands and waterways. See ORS 196.805. Unless an exception applies, a person may not remove material from waters of this state or fill waters of this state without a permit from DSL. ORS 196.810. Waters of this state include the all-natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, the Pacific Ocean that is in the boundaries of this state, and other water bodies. ORS 196.800; Oregon Administrative Rule (OAR) 141-085-0515; OAR 141-093-0100.
- b. Specifically, the statutes that govern removal-fill permits in Oregon, including the permit application at issue in this case, generally include the following:

ORS 196.795 (Administration of State Removal or Fill Permits; General Permits);
ORS 196.800 (Definitions);
ORS 196.805 (Policy);
ORS 196.810 (Removal from Bed or Banks of Waters; Permits; Exceptions);
ORS 196.812 (Removal of Large Woody Debris);
ORS 196.815 (Permit Applications; Fees);
ORS 196.816 (Removal of Materials for Purpose of Maintaining Drainage and Protecting Agricultural Land);
ORS 196.817 (Removal or Fill General Permits);
ORS 196.818 (Wetland Delineation Reports; Fees);
ORS 196.820 (Smith Lake, Bybee Lake Prohibition);
ORS 196.825 (Permit Criteria; Consultation with Other Agencies);
ORS 196.830 (Estuarine Resource Replacement; Other Permit Conditions);
ORS 196.835 (Issuance of Permits; Procedure);
ORS 196.845 (Investigations and Surveys of Location); and
ORS 196.850 (Waiver of Permit Requirement; Notice; Review).

The full text of these statutes may be viewed online at:
https://www.oregonlegislature.gov/bills_laws/ors/ors196.html.

The full text of these statutes may also be inspected in person during normal business hours at:
Oregon Department of State Lands
775 Summer St NE STE 100
Salem, OR 97301.

- c. OAR Chapter 141, Divisions 85 and 93 implement the above statutory scheme and govern removal-fill permits in Oregon. The rules that govern removal-fill permits in Oregon, including the permit application at issue in this case, generally include the following:

Div. 85 Removal-Fill Authorizations:

OAR 141-085-0500 (General);
OAR 141-085-0506 (Policy);
OAR 141-085-0510 (Definitions);
OAR 141-085-0515 (Removal-Fill Jurisdiction by Type of Water);
OAR 141-085-0520 (Removal-Fill Jurisdiction by Volume of Material);
OAR 141-085-0525 (Measuring and Calculating Volume of Removal and Fill);
OAR 141-085-0530 (Exemptions for Certain Activities and Structures);
OAR 141-085-0534 (Exemptions for Certain Voluntary Habitat Restoration Activities);
OAR 141-085-0535 (Exemptions Specific to Agricultural Activities);
OAR 141-085-0540 (Types of Authorizations);
OAR 141-085-0545 (Fees; Amounts and Disposition);
OAR 141-085-0550 (Application Requirements for Individual Permits);
OAR 141-085-0555 (Individual Removal-Fill Permit Application Review Process);
OAR 141-085-0560 (Public Review Process for Individual Removal - Fill Permit Applications);
OAR 141-085-0565 (Department Determinations and Considerations in Evaluating Individual Permit Applications);
OAR 141-085-0575 (Permit Appeals);
OAR 141-085-0580 (Discovery in Contested Cases);
OAR 141-085-0585 (Permit Conditions, Permit Expiration Dates and Permit Transfer);
OAR 141-085-0590 (Renewal and Extension of Individual Removal-Fill Permits);
OAR 141-085-0595 (Permit Requirements and Interagency Coordination for Department of Environmental Quality Approved Remedial Action, Corrections Facilities, Solid Waste Land Fills and Energy Facilities);
OAR 141-085-0665 (Expedited Process for Industrial or Traded Sector Sites);
OAR 141-085-0676 (Emergency Authorizations);
OAR 141-085-0680 (Compensatory Mitigation (CM); Applicability and Principal Objectives);
OAR 141-085-0685 (Functions and Values Assessment);
OAR 141-085-0690 (Eligibility Requirements for CM);
OAR 141-085-0692 (Mitigation Accounting);
OAR 141-085-0694 (Special Requirement for CM);
OAR 141-085-0695 (Administrative Protection of CM Sites);
OAR 141-085-0700 (Financial Security for CM Sites);
OAR 141-085-0705 (Requirements for CM Plans);
OAR 141-085-0710 (Monitoring Requirements for CWM);
OAR 141-085-0715 (Mitigation for Temporary Impacts);
OAR 141-085-0720 (Mitigation Banking Purpose, Applicability and Policies);

OAR 141-085-0725 (Process for Establishing Mitigation Banks);
OAR 141-085-0730 (Establishment of Mitigation Credits);
OAR 141-085-0735 (Release, Use and Sale of Mitigation Credits);
OAR 141-085-0740 (Authorization for Mitigation Banks);
OAR 141-085-0745 (In-Lieu Fee Mitigation);
OAR 141-085-0750 (Payments to and Expenditures from the Oregon Removal-Fill Mitigation Fund);
OAR 141-085-0755 (Advance Mitigation); and
OAR 141-085-0768 (Advance Aquatic Resource Plans).

Div. 93: General Permits:

OAR 141-093-0100 (General);
OAR 141-093-0103 (Agency Process and Standards for Establishing General Permits);
OAR 141-093-0104 (Project Applicability);
OAR 141-093-0105 (Application Requirements and Completeness Review);
OAR 141-093-0107 (Completeness and Eligibility Review);
OAR 141-093-0110 (Public Review Process);
OAR 141-093-0115 (Department Determinations and Considerations in Evaluating Applications);
OAR 141-093-0120 (Expiration and Annual Billing);
OAR 141-093-0130 (Appeal Process);
OAR 141-093-0135 (General Conditions);
OAR 141-093-0140 (Transportation-Related Structures - Purpose);
OAR 141-093-0141 (Transportation-Related Structures - Eligibility Requirements);
OAR 141-093-0145 (Transportation-Related Structures - GP-Specific Application Requirements for Authorizing Projects);
OAR 141-093-0150 (Transportation-Related Structures - Authorized Activities); and
OAR 141-093-0151 (Transportation-Related Structures - GP-Specific Conditions);
OAR 141-093-0155 (Minor Removal-Fill Impacts - Purpose);
OAR 141-093-0160 (Minor Removal-Fill Impact – Eligibility Requirements);
OAR 141-093-0165 (Minor Removal-Fill Impacts - Compensatory Wetland Mitigation);
OAR 141-093-0170 (Minor Removal-Fill Impacts - Authorized Activities); and
OAR 141-093-0175 (Minor Removal-Fill Impacts - GP-Specific Conditions);
OAR 141-093-0220 (Maintenance Drainage - Purpose);
OAR 141-093-0225 (Maintenance Drainage - Eligibility Requirements);
OAR 141-093-0230 (Maintenance Drainage - Specific Application Requirements);
OAR 141-093-0235 (Maintenance Drainage - Authorized Activities);
OAR 141-093-0240 (Maintenance Drainage - Specific Conditions); and
OAR 141-093-0245 (Maintenance Drainage - Fees);
OAR 141-093-0285 (Certain Ocean Renewable Energy Facilities - GP-Purpose);
OAR 141-093-0290 (Certain Ocean Renewable Energy Facilities - GP-Definitions);
OAR 141-093-0295 (Certain Ocean Renewable Energy Facilities - GP-Eligibility Requirements);
OAR 141-093-0300 (Certain Ocean Renewable Energy Facilities - GP-Specific Application Requirements);
OAR 141-093-0305 (Certain Ocean Renewable Energy Facilities - GP-Authorized Activities);
and
OAR 141-093-0310 (Certain Ocean Renewable Energy Facilities - GP-Specific Conditions).

The full text of these rules may be viewed online at:

<https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=15700>.

The full text of these rules may also be inspected in person during normal business hours at:
Oregon Department of State Lands
775 Summer St NE STE 100
Salem, OR 97301.

II. Findings of Fact and Findings of Ultimate Fact:

1. The Department received a complete, written application from applicant on October 26, 2023 for the proposed removal-fill activity consisting of rehabilitation of the Knights Bridge, which will involve 130 LF/0.41 acres of impacts in the Molalla River (1,452 CY of permanent removal and fill, and 670 CY of temporary removal and fill).
2. The Department circulated the complete application for 15-day public comment period November 17, 2023 to December 2, 2023 to parties including, affected local, state and federal agencies, affected tribal governments, adjacent landowners, and other parties requesting notification.
3. Public comments were received from DSL proprietary coordinator and forwarded to applicant on December 4, 2023.
4. There were no comments that required a response to the Department.
5. Based on all the information in the agency file in this matter, including the complete application, comments received, applicant response to comments, and the agency's own investigations, the Department concludes as to the determinations in ORS 196.825(1) and (4), OAR 141-085-0565(3), and OAR 141-093-0115:
 - a. The project described in the permit application and as conditioned in the proposed permit, is consistent with the protection, conservation, and best use of the water resources of this state as specified in ORS 196.600 to 196.905;
 - b. The project described in the permit application and as conditioned in the proposed permit would not interfere with the paramount policy of this state to preserve the use of its waters for navigation, fishing, and public recreation.
6. Based on all the information in the agency file in this matter, including the complete application, comments received, applicant response to comments, and the agency's own investigations, the Department concludes, as to the considerations in ORS 196.825(3), OAR 141-085-0565(4), OAR 141-093-0115.
 - a. The applicant is a public body and the Department has relied upon the public body's findings as to local public need and local public benefit.
 - b. There is an identified economic cost to the public if the proposed fill or removal is not accomplished. According to the application, "The existing Knights Bridge spans the Molalla River and is a vital connection point between Canby and the surrounding areas to the west. Both industry and commuters depend on it for route activities important to the region. The bridge was built in 1964 and is showing signs of age, and a variety of structural and maintenance issues are documented in the latest Oregon Department of Transportation (ODOT) Bridge Inspection Report".

- c. The application describes 4 alternatives to the project for which the fill or removal is proposed. There are no practicable alternatives with lesser impact to waters of this state.
- d. The application describes 0 alternative sites for the proposed removal or fill because the project purpose is to maintain the existing bridge. There are no practicable alternative sites with lesser impact to waters of this state.
- e. The proposed project conforms to sound policies of conservation because adverse effects to the aquatic resources have been reduced to the extent practicable and the proposed permit contains operating conditions for best management practices to further minimize adverse effects. No interference with public health and safety was identified in the application evaluation and public review processes.
- f. There is not a conflict with existing public uses of the affected waters or adjacent land uses identified in the application evaluation and public review processes.
- g. The proposed fill or removal is compatible with the governing comprehensive plan and land use regulations as described in the Land Use Compatibility Statement
- h. The proposed fill and removal is not for streambank protection.
- i. The application describes compensatory mitigation in the form of removing derelict infrastructure/debris from the Molalla River at the project site. The mitigation is sufficient to offset anticipated spatial and function attribute losses resulting from the proposed fill or removal.

III. Conclusions of Law:

Based on the factors laid out in ORS Chapter 196 and OAR Chapter 141, Division 85, including ORS 196.825, OAR 141-085-0565, and OAR 141-093-0115, DSL should approve the permit application as conditioned in the proposed permit.

IV. Proposed Order:

The Department proposes approving the permit application with conditions and based on the factors laid out in ORS Chapter 196 and OAR Chapter 141, Division 85, including ORS 196.825, OAR 141-085-0565 and OAR 141-093-0130.

As described below, you have the right to request a hearing within 21 days. Prior to the expiration of the 21-day period, this proposed permit decision is not the final agency order on the matter, and the permittee should be aware that the decision could be changed prior to the expiration of the 21-day appeal period—either because the permittee requests a contested case hearing, or as otherwise allowed under the removal fill law. A permittee who begins work under a permit prior to issuance of a final order does so with acceptance of this risk.

V. Hearing:

You are entitled to request a hearing based on this Proposed Order as provided by the Oregon Administrative Procedures Act (ORS chapter 183) and the administrative rules implementing the Administrative Procedures Act, OAR Chapter 137, Division 3. See ORS 196.825(7); OAR 141-001-0005; OAR 141-001-0010; OAR 141-085-0575; OAR 141-093-0130.

If you want a hearing, you must file a written request for a hearing with the Department no later than 21 calendar days from the date of the permit decision. See ORS 196.825(7); OAR 141-085-0575; OAR 141-093-0130. If you are a corporation, partnership, limited liability company, unincorporated association, trust, or government body, you must either have an attorney licensed to practice law in Oregon submit a request for a contested case hearing on your behalf or ratify your hearing request within 28 days. See OAR 137-003-0550.

The Department has determined that due to the complexity of removal-fill permitting, a general denial of the matters or a general objection to all permit conditions in the request for a contested case proceeding does not provide sufficient information for a fair and efficient contested case and a more specific request is warranted. OAR 141-085-0575. All requests for a contested case proceeding under this section shall include a specific list of issues for the contested case proceeding. OAR 141-085-0575. The requester may amend their request to include additional issues or clarify existing issues within 15 days of the date that the case is referred to the Office of Administrative Hearings. OAR 141-085-0575.

You may mail a request for a hearing to:
Department of State Lands
Aquatic Resource Management Program
775 Summer Street NE STE 100
Salem, OR 97301.

If you request a hearing, you will be notified of the time and the place of the hearing. See OAR 137-003-0525. You may be represented by legal counsel at the hearing. ORS 183.417; OAR 137-003-0550. Corporations, partnerships, limited liability companies, unincorporated associations, trusts and government bodies must be represented by an attorney except as provided in OAR 137-003-0555 or as otherwise authorized by law. OAR 137-003-0550. Legal aid organizations may be able to represent you if you have limited financial resources. You will be given information on the procedures, right of representation, and other rights of parties relating to the substance and conduct of the hearing before commencement of the hearing. See ORS 183.413.

VI. Jurisdiction and Authority to Hold a Hearing:

The Department has jurisdiction over the issuance of removal-fill permits pursuant to ORS Chapter 196, and specifically, ORS 196.810. A permit decision constitutes an order in a contested case. See ORS 183.310(2)(a); ORS 196.825(7). If timely requested, a hearing is held as laid out in ORS 183.411 to ORS 183.471, OAR Chapter 137, Division 3, ORS Chapter 196, and OAR Chapter 141, Division 85. ORS 196.825(7).

VII. Final Order and Defaults:

If a request for a hearing is not received by the Department within this 21-day period, your right to a hearing shall be waived and this Proposed Order shall become the Final Order by default. See ORS 196.825(7); OAR 141-085-0575; OAR 141-093-0130.

If you request a hearing and then either withdraw your hearing request, notify the Department or administrative law judge that you will not appear, or fail to appear at a scheduled hearing, the Department may issue a final order by default. See ORS 183.417.

If the Department issues a final order by default, it designates its file on this matter, including any materials submitted by you that relate to this matter, as the record for purposes of supporting its decision.

If you proceed to a contested case hearing, a Final Order will not be issued until after the hearing concludes. See ORS 183.464; OAR 141-085-0575; OAR 141-093-0130.

VIII. Federal Servicemembers Civil Relief Act:

Active duty servicemembers have a right to stay contested case proceedings under the federal Servicemembers Civil Relief Act. See *generally* 50 USC 3901 *et seq.* For more information, contact the Oregon State Bar (800-452-8260), the Oregon Military Department (503-584-3571), or the nearest United States Armed Forces Legal Assistance Office (<http://legalassistance.law.af.mil>). The Oregon Military Department does not have a toll-free telephone number.

Department of State Lands
775 Summer Street, Suite 100
Salem, OR 97301-1279
☎ 503-986-5200

Permit No.:	64567-GP
Permit Type:	Removal/Fill
Waters:	Molalla River
County:	Clackamas
Expiration Date:	December 11, 2024

CLACKAMAS COUNTY

IS AUTHORIZED IN ACCORDANCE WITH ORS 196.800 TO 196.990 TO PERFORM THE OPERATIONS DESCRIBED IN THE REFERENCED APPLICATION, SUBJECT TO THE SPECIAL CONDITIONS LISTED ON ATTACHMENT A AND TO THE FOLLOWING GENERAL CONDITIONS:

1. This permit does not authorize trespass on the lands of others. The permit holder must obtain all necessary access permits or rights-of-way before entering lands owned by another.
2. This permit does not authorize any work that is not in compliance with local zoning or other local, state, or federal regulation pertaining to the operations authorized by this permit. The permit holder is responsible for obtaining the necessary approvals and permits before proceeding under this permit.
3. All work done under this permit must comply with Oregon Administrative Rules, Chapter 340; Standards of Quality for Public Waters of Oregon. Specific water quality provisions for this project are set forth on Attachment A.
4. Violations of the terms and conditions of this permit are subject to administrative and/or legal action, which may result in revocation of the permit or damages. The permit holder is responsible for the activities of all contractors or other operators involved in work done at the site or under this permit.
5. Employees of the Department of State Lands (DSL) and all duly authorized representatives of the Director must be permitted access to the project area at all reasonable times for the purpose of inspecting work performed under this permit.
6. Any permit holder who objects to the conditions of this permit may request a hearing from the Director, in writing, within twenty-one (21) calendar days of the date this permit was issued.
7. In issuing this permit, DSL makes no representation regarding the quality or adequacy of the permitted project design, materials, construction, or maintenance, except to approve the project's design and materials, as set forth in the permit application, as satisfying the resource protection, scenic, safety, recreation, and public access requirements of ORS Chapters 196, 390, and related administrative rules.
8. Permittee must defend and hold harmless the State of Oregon, and its officers, agents and employees from any claim, suit, or action for property damage or personal injury or death arising out of the design, material, construction, or maintenance of the permitted improvements.
9. Authorization from the U.S. Army Corps of Engineers may also be required.

NOTICE: If removal is from state-owned submerged and submersible land, the permittee must comply with leasing and royalty provisions of ORS 274.530. If the project involves creation of new lands by filling on state-owned submerged or submersible lands, you must comply with ORS 274.905 to 274.940 if you want a transfer of title; public rights to such filled lands are not extinguished by issuance of this permit. This permit does not relieve the permittee of an obligation to secure appropriate leases from DSL, to conduct activities on state-owned submerged or submersible lands. Failure to comply with these requirements may result in civil or criminal liability. For more information about these requirements, please contact Department of State Lands, 503-986-5200.

Katie Blauvelt, Aquatic Resource Coordinator
Aquatic Resource Management
Oregon Department of State Lands

Katie Blauvelt
Authorized Signature

December 11, 2023
Date

ATTACHMENT A

Permit Holder: Clackamas County

Project Name: Knights Bridge Rehabilitation

Special Conditions for Removal/Fill Permit No. 64567-GP

READ AND BECOME FAMILIAR WITH CONDITIONS OF YOUR PERMIT.

The project site may be inspected by the Department of State Lands (DSL) as part of our monitoring program. A copy of this permit must be available at the work site whenever authorized operations are being conducted.

1. **Responsible Party:** By signature on the application, Stan Monte is acting as the representative of Clackamas County. By proceeding under this permit, Clackamas County agrees to comply with and fulfill all terms and conditions of this permit, unless the permit is officially transferred to another party as approved by DSL. In the event information in the application conflicts with these permit conditions, the permit conditions prevail.
2. **Authorization to Conduct Removal and/or Fill:** This permit authorizes 0 acres of wetland and 130 linear feet of waterway impact(s) with associated removal and fill of material in T03S R01E Section 32, Tax Lot(s) 1900 and ROW, and T05S R02E Section 2, Tax Lot(s) 600, in Clackamas County, as referenced in the application, map and drawings (See Attachment B for project location(s)), dated October 26 2023. This permit also authorizes removal and fill activities necessary to complete the required compensatory mitigation.
3. **Work Period in Jurisdictional Areas:** Fill or removal activities below the ordinary high water elevation of Molalla River must be conducted between July 15 and August 31, unless otherwise coordinated with Oregon Department of Fish and Wildlife and approved in writing by DSL. If fish eggs are observed within the project area, work must cease, and DSL contacted immediately.
4. **Changes to the Project or Inconsistent Requirements from Other Permits:** It is the permittee's responsibility to ensure that all state, federal and local permits are consistent and compatible with the final approved project plans and the project as executed. Any changes made in project design, implementation or operating conditions to comply with conditions imposed by other permits resulting in removal-fill activity must be approved by DSL prior to implementation.
5. **DSL May Halt or Modify:** DSL retains the authority to temporarily halt or modify the project or require rectification in case of unforeseen adverse effects to aquatic resources or permit non-compliance.
6. **DSL May Modify Conditions Upon Permit Renewal:** DSL retains the authority to modify conditions upon renewal, as appropriate, pursuant to the applicable rules in effect at the time of the request for renewal or to protect waters of this state.

Pre-Construction

7. **Stormwater Management Approval Required Before Beginning Work:** Prior to the start of construction, the permittee must obtain a National Pollution Discharge Elimination System (NPDES) permit from the Oregon Department of Environmental Quality (DEQ), if one is required by DEQ.
8. **Pre-construction Resource Area Fencing or Flagging:** Prior to any site grading, the boundaries of the avoided wetlands, waterways, and riparian areas adjacent to the project site must be surrounded by noticeable construction fencing or flagging. The marked areas must be maintained during construction of the project and be removed immediately upon project completion.

General Construction Conditions

9. **Water Quality Certification:** The Department of Environmental Quality (DEQ) may evaluate this project for a Clean Water Act Section 401 Water Quality Certification (WQC). If the evaluation results in issuance of a Section 401 WQC, that turbidity condition will govern any allowable turbidity exceedance and monitoring requirements.
10. **Erosion Control Methods:** The following erosion control measures (and others as appropriate) must be installed prior to construction and maintained during and after construction as appropriate, to prevent erosion and minimize movement of soil into waters of this state.
 - a. All exposed soils must be stabilized during and after construction to prevent erosion and sedimentation.
 - b. Filter bags, sediment fences, sediment traps or catch basins, leave strips or berms, or other measures must be used to prevent movement of soil into waterways and wetlands.
 - c. To prevent erosion, use of compost berms, impervious materials or other equally effective methods, must be used to protect soil stockpiled during rain events or when the stockpile site is not moved or reshaped for more than 48 hours.
 - d. Unless part of the authorized permanent fill, all construction access points through, and staging areas in, riparian and wetland areas must use removable pads or mats to prevent soil compaction. However, in some wetland areas under dry summer conditions, this requirement may be waived upon approval by DSL. At project completion, disturbed areas with soil exposed by construction activities must be stabilized by mulching and native vegetative plantings/seeding. Sterile grass may be used instead of native vegetation for temporary sediment control. If soils are to remain exposed more than seven days after completion of the work, they must be covered with erosion control pads, mats or similar erosion control devices until vegetative stabilization is installed.
 - e. Where vegetation is used for erosion control on slopes steeper than 2:1, a tackified seed mulch must be used so the seed does not wash away before germination and rooting.
 - f. Dredged or other excavated material must be placed on upland areas having stable slopes and must be prevented from eroding back into waterways and wetlands.
 - g. Erosion control measures must be inspected and maintained as necessary to ensure their continued effectiveness until soils become stabilized.
 - h. All erosion control structures must be removed when the project is complete, and soils are stabilized and vegetated.

- 11. Fuels, Hazardous, Toxic, and Waste Material Handling:** Petroleum products, chemicals, fresh cement, sandblasted material and chipped paint, material treated with leachable preservatives or other deleterious waste materials must not be allowed to enter waters of this state. Machinery and equipment staging, cleaning, maintenance, refueling, and fuel storage must be at least 150 feet from OHW or HMT and wetlands to prevent contaminants from entering waters of the state. Refueling is to be confined to a designated area to prevent spillage into waters of this state. Barges must have containment system to effectively prevent petroleum products or other deleterious material from entering waters of this state. Project-related spills into waters of this state or onto land with a potential to enter waters of this state must be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311.
- 12. Archaeological Resources:** If any archaeological resources, artifacts or human remains are encountered during construction, all construction activity must immediately cease. The State Historic Preservation Office must be contacted at 503-986-0674. You may be contacted by a Tribal representative if it is determined by an affected Tribe that the project could affect Tribal cultural or archeological resources.
- 13. Construction Corridor:** There must be no removal of vegetation or heavy equipment operating or traversing outside the designated construction corridor or footprint (Figure(s) 3a and 3b).
- 14. Hazards to Recreation, Navigation or Fishing:** The activity must be timed so as not to unreasonably interfere with or create a hazard to recreational or commercial navigation or fishing.
- 15. Operation of Equipment in the Water:**

Heavy equipment may be positioned below ordinary high water or highest measured tide if the area is isolated from the waterway and aquatic organism salvage is completed, as shown in (Figure(s) 5a) of the application.

All machinery operated below ordinary high water (OHW) or highest measured tide (HMT) elevation must use vegetable-based hydraulic fluids, be steam cleaned and inspected for leaks prior to each use, and be diapered to prevent leakage of fuels, oils, or other fluids below OHW or HMT elevation. Any equipment found to be leaking fluids must be immediately removed from and kept out of OHW or HMT until repaired.
- 16. Work Area Isolation:** The work area must be isolated from the water during construction in accordance with the work area isolation plan in the application. All structures and materials used to isolate the work area must be removed immediately following construction and water flow returned to pre-construction conditions.
- 17. Fish Salvage Required:** Fish must be salvaged from the isolation area. Permits from NOAA Fisheries and Oregon Department of Fish and Wildlife, Fish Research are required to salvage fish. Fish salvage permit information may be obtained by contacting ODFW Fish Research at 503-947-6254 or Fish.Research@state.or.us.
- 18. Fish Passage Required:** The project must meet Oregon Department of Fish and Wildlife requirements for fish passage, as required in ORS 509.585. Contact the local ODFW District Fish Biologist (Ben Walczak; ben.walczak@odfw.oregon.gov) to ensure your project meets the state's fish passage requirements.

- 19. Raising or Redirecting Water:** The project must not cause water to rise or be redirected and result in damage to structures or property on the project site as well as adjacent, nearby, upstream, and downstream of the project site.
- 20. Temporary Ground Disturbances:** All temporarily disturbed areas must be returned to original ground contours at project completion.

Pilings/Dock Structures

- 21. Piling Placement and/or Removal Location:** Piling must be placed and/or removed from locations depicted in the application, (Figure(s) 8).
- 22. Method of Piling Removal:** Removal of pile must be conducted by means of excavation or vibratory removal.
- a. Piling must not intentionally be broken by twisting or bending;
 - b. Upon removal, piling must be handled to effectively contain all adhering sediment. All return flows must meet state water quality standards; and
 - c. Piling and containment materials must be disposed in an approved upland disposal site.

23. Broken Piles:

If piling breaks above or below the bed surface within an area of uncontaminated sediment, piling must be cut at least two feet below the bed surface or otherwise pushed into that depth, then covered with a cap of clean substrate.

If piling breaks above the bed surface within an area of known contaminated sediment, piling must be cut at the bed surface or otherwise pushed to that depth. If piling breaks in contaminated sediment below the bed surface, no further attempt at removal may be made and the hole must be covered with a cap of clean substrate.

- 24. Backfilling after Piling Removal Required:** Where the waterway bed is exposed by seasonal or tidal fluctuations, the area vacated from structure removal must be backfilled with native material upon removal completion.
- 25. Waste Pilings Disposal:** Old piling and other waste material must be disposed of in a disposal facility approved for this purpose. There must be no temporary storage of piling or other waste material below top of bank or in any wetland, Federal Emergency Management Administration designated floodway, or an area historically subject to landslides.

Riprap Placement

- 26. Riprap Placement Methods:** Riprap/rock must be placed under the following conditions:
- a. Only clean, erosion resistant rock from an upland source must be used as riprap. No broken concrete or asphalt must be used.
 - b. Riprap rock must be placed in a manner that does not increase the upland surface area.
 - c. Riprap must be placed in a way as to minimize impacts to the active stream channel.
 - d. Gravel or filter fabric should be placed behind the riprap rock, including the toe trench rock, as a filter blanket.

e. All riprap rock must be placed, not dumped, from above the bank line.

27. Riprap Must Be Covered: Riprap above ordinary high water elevation must be covered and the voids filled with soil, gravel, and / or mulch sufficient to allow the performance standards to be achieved and wildlife to move across it naturally.

28. Planting in Riprap Required: Riprap must be planted as shown in the application, (Figure(s) 8a). Seeding of the riprap placement area must occur immediately following establishment of final contours. Planting of native woody vegetation must be completed during the time of year that provides the optimal chances of survival immediately following construction.

Compensatory Mitigation

The following conditions apply to the actions proposed in the application received October 26, 2023.

29. Acreage and Type: Mitigation must be conducted according to the minimum metrics and methods described in the table below.

LF/Sq. Ft.	Waterway	Method
132/1,997	Molalla River	Removal of abandoned steel piles, abandoned footing and concrete debris, partially buried CMP pipes, and buried asphalt, gravels, and concrete.

30. Mitigation Site Location: The mitigation must be conducted on-site. The center-point of the mitigation site is 45.160893 degrees Latitude, -122.535403 degrees Longitude. The current legal description is Township 03S. Range 01E, Section 32, Tax Lot 1900/ROW as shown on Figure(s) 4a.

31. GIS Data: A georeferenced shapefile (.shp) must be submitted to DSL prior to mitigation site release that documents the spatial extent of the mitigation site(s), including buffers. The shapefile must conform to the Oregon Lambert (Intl. Feet) projection.

Monitoring and Reporting Requirements

32. Post-Construction Report Required: A post-construction report demonstrating as-built conditions and discussing any variation from the approved plan must be provided to DSL within 90 days of revegetation, which shall occur during the fall, winter, or spring immediately following the completion of grading within the required planting areas. The post-construction report must include:

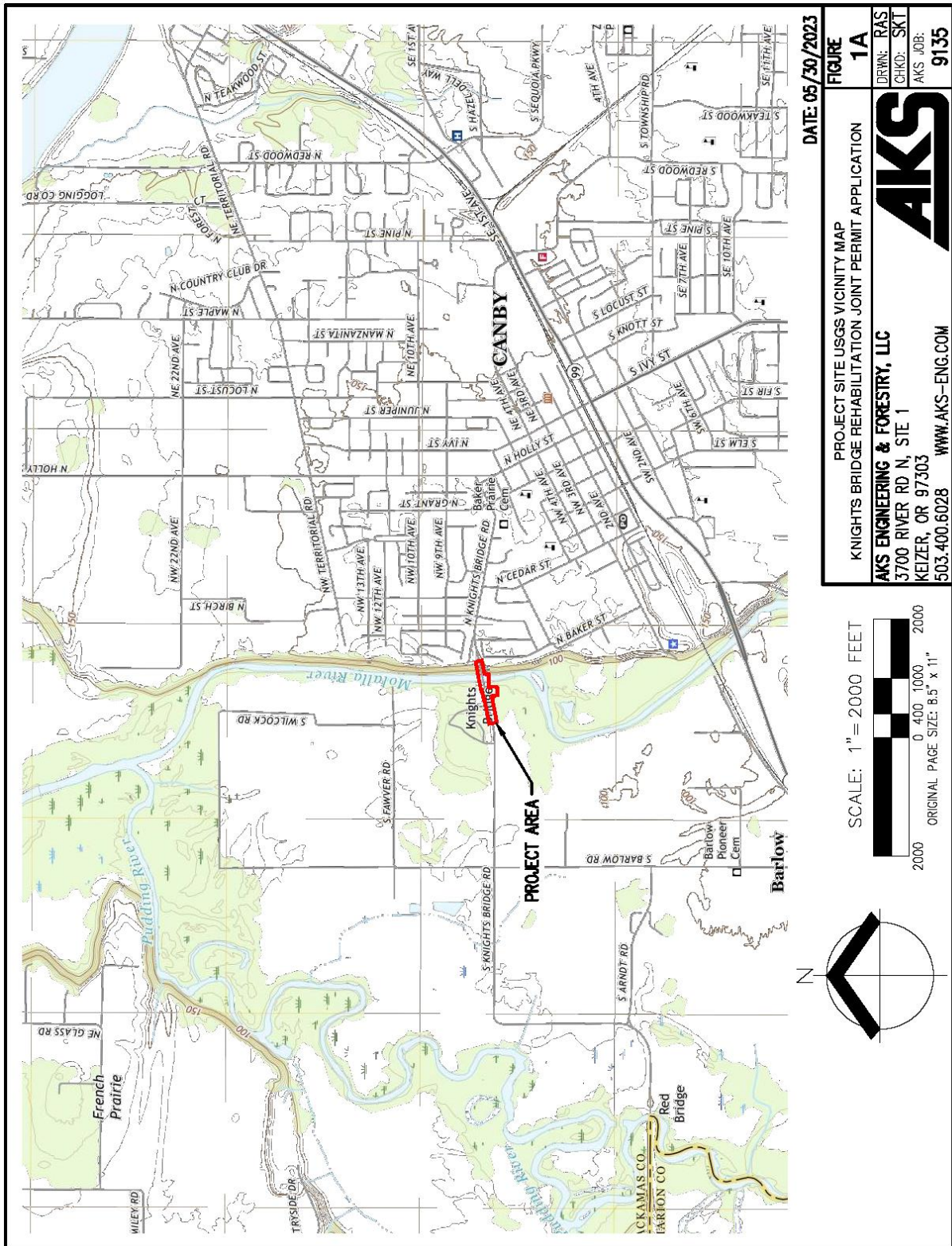
- a. A scaled drawing, accurate to 1-foot elevation, clearly showing the following:
 - i. Finished contours of the site.
 - ii. Current tax lot and right-of-way boundaries.
 - iii. Photo point locations.
 - iv. Permanently and temporarily impacted wetland and waterway boundaries identified separately, with square foot listed.

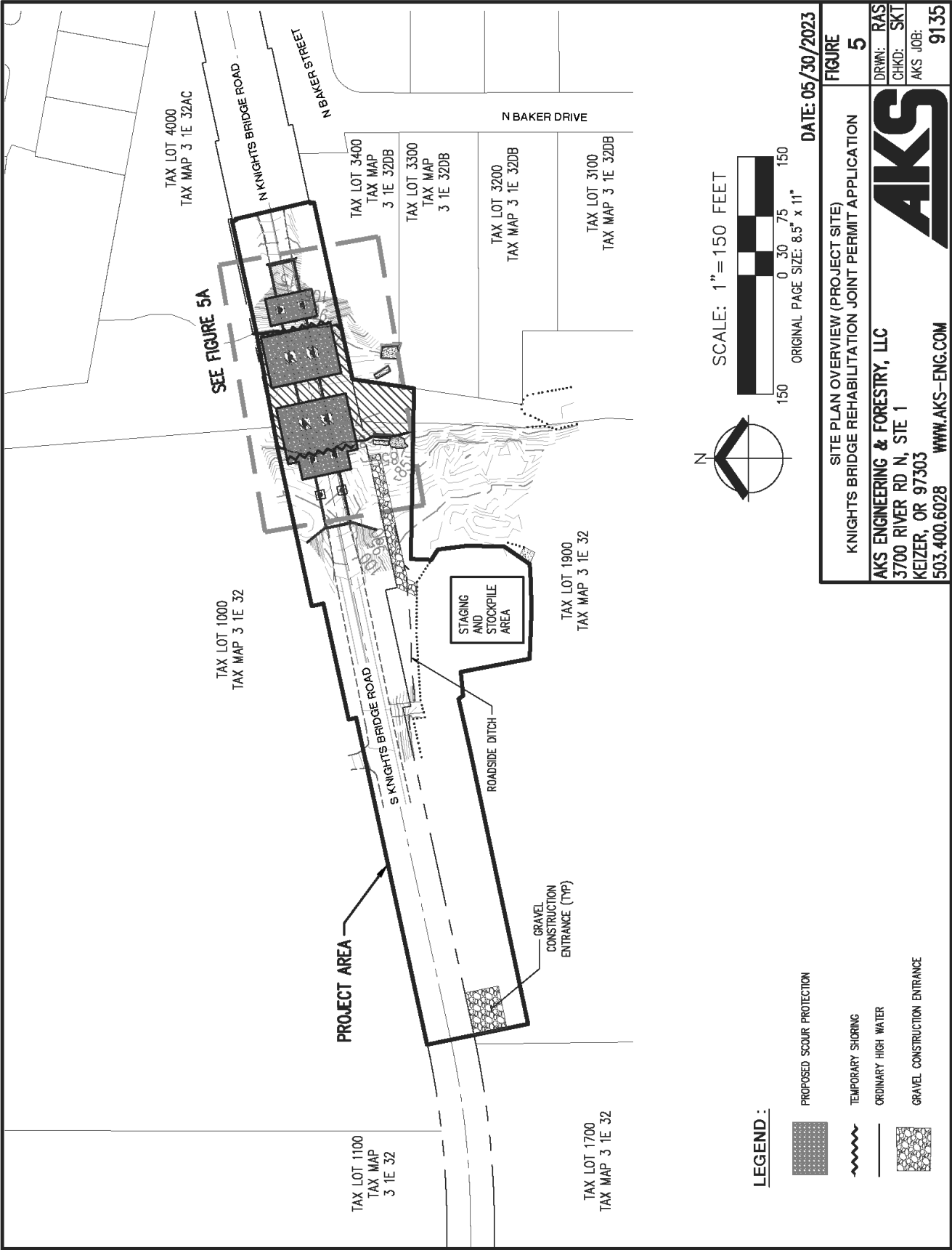
- b. Photos from fixed photo points. This should clearly show the site conditions, and any signage, and fencing required.
- c. A narrative that describes any deviation from the approved plan.

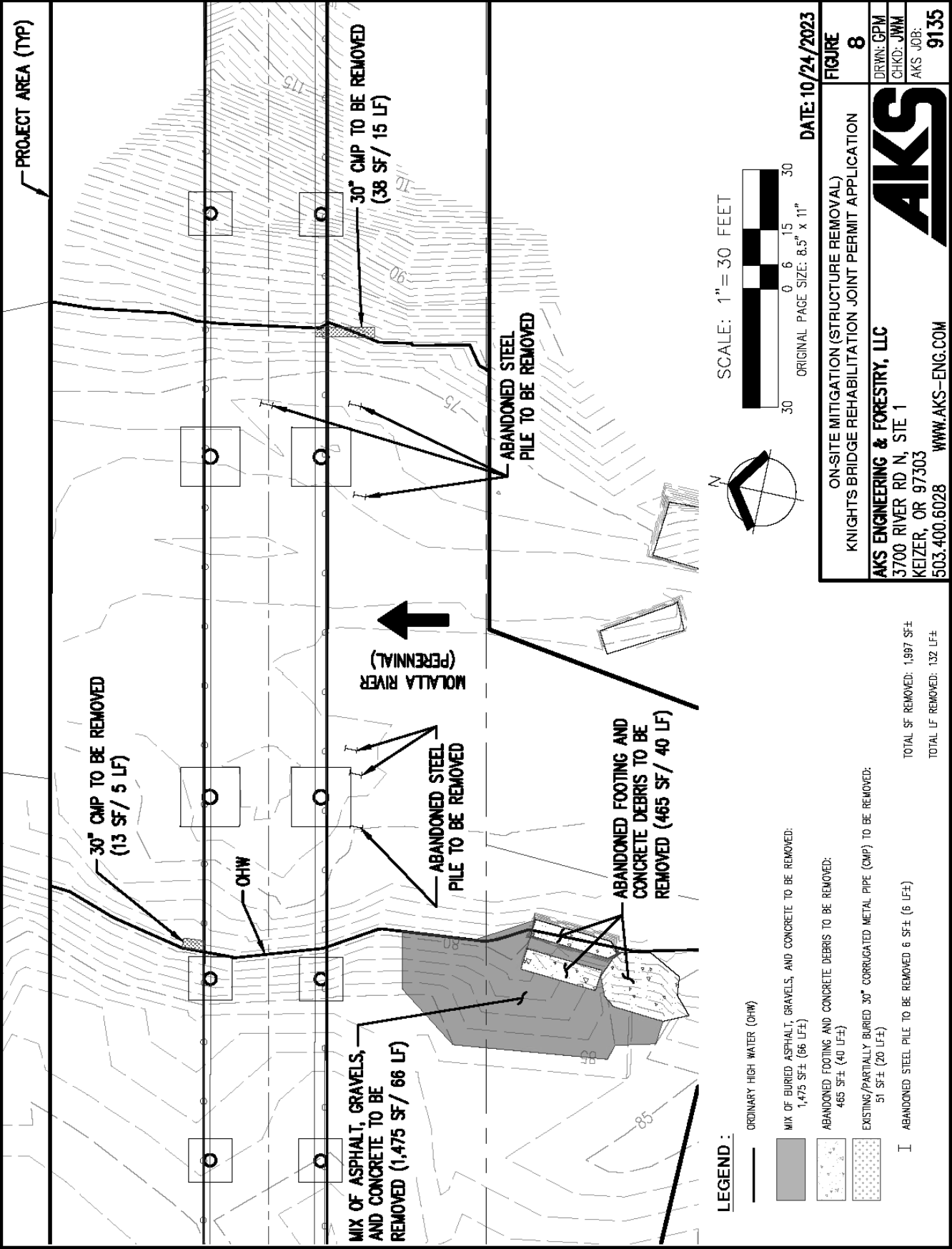
Monitoring and Reporting Schedule

Report	Requirements	Schedule
Post-Construction	Post-construction report	90 days after completion of revegetation

Maps and Drawings for Removal/Fill Permit No. 64567-GP









Oregon

Tina Kotek, Governor

Department of Environmental Quality
Northwest Region
700 NE Multnomah Street, Suite 600
Portland, OR 97232
(503) 229-5263
FAX (503) 229-6945
TTY 711

February 16, 2024

Stan Monte
Clackamas County
150 Beaver Creek Road
Oregon City, OR 97045

RE: 401 Water Quality Certification Approval for 2023-363, Knights Bridge Rehabilitation Project

The US Army Corps of Engineers (USACE) has determined that your project will be authorized under Nationwide Permit (NWP) category #14. As described in the application package received and reviewed by the Oregon Department of Environmental Quality (DEQ), the project qualifies for the expedited 401 Water Quality Certification (WQC), subject to the conditions outlined below. If you cannot meet all conditions of this 401 WQC, you may apply for a standard individual certification. A standard individual certification will require additional information, a public notice, and a higher review fee.

Certification Decision: Based on information provided by the USACE and the Applicant, DEQ has determined that implementation eligible activities under the proposed NWP will be consistent with water quality requirements including applicable provisions of Sections 301, 302, 303, 306, and 307 of the federal Clean Water Act, state water quality standards set forth in Oregon Administrative Rules Chapter 340 Division 41, and other appropriate requirements of state law, provided the following conditions are incorporated into the federal permit and strictly adhered to by the Applicant.

Duration of Certificate: This 401 WQC for impacts to waters, including dredge and fill activities, is valid for the duration of the USACE Section 404 permit. A new 401 WQC must be requested with any modification of the USACE 404 permit.

In addition to all USACE national and regional permit conditions, the following 401 WQC conditions apply to all NWP categories that qualify for the Nationwide 401 WQC.

401 GENERAL CERTIFICATION CONDITIONS

- 1) **Responsible parties:** This 401 WQC applies to the Applicant. The Applicant is responsible for the work of its contractors and sub-contractors, as well as any other entity that performs work related to this WQC.
Rule: 40 CFR 121, OAR 340-048-0015
Justification: DEQ must be aware of responsible parties to ensure compliance.
- 2) **Work Authorized:** Work authorized by this 401 WQC is limited to the work described in the Permit Application and additional application materials (hereafter "the permit application materials"), unless otherwise authorized by DEQ. If the project is operated in a manner not

consistent with the project description contained in the permit application materials, the Applicant is not in compliance with this 401 WQC and may be subject to enforcement.

Rule: OAR 340-048-0015

Justification: To ensure the project will comply with water quality standards, DEQ must understand all work involved in the construction and operation of the project.

- 3) **401 WQC on Site:** A copy of this 401 WQC must be kept on the job site and readily available for reference by the Applicant and its contractors and subcontractors, as well as by DEQ, USACE, National Marine Fisheries Service (NMFS), Oregon Department of Fish and Wildlife (ODFW), and other state and local government inspectors.

Rule: OAR 340-012

Justification: All parties must be aware of and comply with the 401 WQC, including on-site contractors.

- 4) **Project Changes:** DEQ may modify or revoke this 401 WQC, in accordance with OAR 340-048-0050, if the project changes or project activities are having an adverse impact on state water quality or beneficial uses, or if the Applicant is otherwise in violation of the conditions of this certification.

Rule: OAR 340-048-0050

Justification: To ensure the project will comply with water quality standards, DEQ must understand all work involved in the construction and operation of the project.

- 5) **Land Use Compatibility Statement:** In accordance with OAR 340-048-0020(2) (i), each Applicant must submit findings prepared by the local land use jurisdiction that demonstrates the activity's compliance with the local comprehensive plan. Such findings can be submitted using Section 11 of the Joint Permit Application, signed by the appropriate local official and indicating:

- a. "This project is consistent with the comprehensive plan and land use regulations;" or,
- b. "This project will be consistent with the comprehensive plan and land use regulations when the following local approvals are obtained," accompanied by the obtained local approvals.
- c. Rarely, such as for federal projects on federal land, "this project is not regulated by the comprehensive plan" will be acceptable.

In lieu of submitting the appropriate section of the USACE & Department of State Lands (DSL) Joint Permit Application, the Applicant may use DEQ's Land Use Compatibility Statement form found at: <http://www.oregon.gov/deq/FilterDocs/lucs.pdf>

Rule: OAR 340-048-0020(2) (i), OAR 340-018

Justification: DEQ must ensure compliance with water quality land use laws at the local level.

- 6) **Access:** The Applicant and its contractors must allow DEQ access to the project site with or without prior notice, including staging areas, and mitigation sites to monitor compliance with these 401 WQC conditions, including:

- a. Access to any records, logs, and reports that must be kept under the conditions of this 401 WQC;
- b. To inspect best management practices (BMPs), monitoring or equipment or methods; and
- c. To collect samples or monitor any discharge of pollutants.

Rule: OAR 340-012

Justification: DEQ must inspect facilities for compliance with all state rules and laws.

- 7) Failure of any person or entity to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce its terms.

Rule: OAR 340-012

Justification: If the project is not being constructed or operated as proposed, it may not be consistent with water quality requirements.

FOR PROJECTS THAT PROPOSE CONSTRUCTION, THE FOLLOWING GENERAL CONDITIONS APPLY

- 8) **Erosion and Sediment Control:** During construction, erosion control measures must be implemented to prevent or control movement of soil into waters of the state. The Applicant is required to develop and implement an effective erosion and sediment control plan. A project that disturbs more than one acre may be required to obtain a National Pollutant Discharge Elimination System (NPDES) 1200-C construction stormwater general permit. Contact the DEQ Stormwater Program for more information at: <https://www.oregon.gov/deq/wq/wqpermits/Pages/Stormwater-Construction.aspx>

In addition, the Applicant must:

- a. Maintain an adequate supply of materials necessary to control erosion at the project construction site.
- b. Prohibit erosion of stockpiles. Deploy compost berms, impervious materials, or other effective methods during rain events or when stockpiles are not moved or reshaped for more than 48 hours.
- c. Inspect erosion control measures daily and maintain erosion control measures as often necessary to ensure the continued effectiveness of measures. Erosion control measures must remain in place until all exposed soil is stabilized;
 - i. If monitoring or inspection shows that the erosion and sediment controls are ineffective, Applicant must mobilize immediately to make repairs, install replacements, or install additional controls as necessary.
 - ii. If sediment has reached 1/3 of the exposed height of a sediment or erosion control, Applicant must remove the sediment to its original contour.
- d. Use removable pads or mats to prevent soil compaction at all construction access points through, and staging areas in, riparian or wetland areas to prevent soil compaction, unless otherwise authorized by DEQ.
- e. Flag or fence off wetlands not specifically authorized to be impacted to protect from disturbance and/or erosion.
- f. Place dredged or other excavated material on upland areas with stable slopes to prevent materials from eroding back into waterways or wetlands.

- g. Place clean aggregate at all construction entrances, and utilize other BMPs, including, but not limited to as truck or wheel washes, when earth moving equipment is leaving the site and traveling on paved surfaces. The tracking of sediment off site by vehicles is prohibited.

Rule: OAR 340-041-0007(8), ORS 468B.050, CWA Section 402, OAR 340-045

Justification: DEQ must ensure that pollution does not enter waterways.

- 9) **Deleterious Waste Materials:** The Applicant is prohibited from placing biologically harmful materials and construction debris where they could enter waters of the state, including wetlands (wetlands are waters of the state). This includes, but is not limited to: petroleum products; chemicals; cement cured less than 24 hours; welding slag and grindings; concrete saw cutting by-products; sandblasted materials; chipped paint; tires; wire; steel posts; asphalt; and waste concrete.

The following specific requirements apply:

- a. Cure concrete, cement, or grout for at least 24 hours before any contact with flowing waters;
- b. Use only clean fill, free of waste and polluted substances;
- c. Employ all practicable controls to prevent discharges of spills of harmful materials to surface or groundwater;
- d. Maintain at the project construction site, and deploy as necessary, an adequate supply of materials needed to contain deleterious materials during a weather event;
- e. Remove all foreign materials, refuse, and waste from the project area

Rule: OAR 340-041-0007(8), ORS 468B.050, CWA Section 402

Justification: DEQ must ensure that pollution does not enter waterways.

- 10) **Spill Prevention:** The Applicant must fuel, operate, maintain and store vehicles, and must store construction materials, in areas that will not disturb habitat directly or result in potential discharges.

Rule: ORS 468B.025(1)(a)

Justification: DEQ must ensure that pollution does not enter waterways.

- 11) **Spill & Incident Reporting:**

- a. In the event that deleterious materials are discharged into state waters, or onto land with a potential to enter state waters, the discharge must be promptly reported to the Oregon Emergency Response Service (OERS, 1-800-452-0311) within 24 hours. Containment and cleanup must begin immediately and be completed as soon as possible.
- b. If the project operations cause a water quality problem that results in distressed or dying fish, the operator must immediately: cease operations; take appropriate corrective measures to prevent further environmental damage; collect fish specimens and water samples; and notify DEQ, ODFW, NMFS, and US Fish and Wildlife Service (USFW).

Rule: ORS 466.645(1); OAR 340-142-0030(1)(b)(B), OAR 340-041

Justification: DEQ must ensure that pollution does not enter waterways and must be protective of beneficial uses, including fish.

12) Vegetation Protection and Site Restoration:

- a. The Applicant must protect riparian, wetland, and shoreline vegetation in the authorized project area from disturbance through one or more of the following:
 - i. Minimization of project and impact footprint;
 - ii. Designation of staging areas and access points in open, upland areas;
 - iii. Fencing and other barriers demarking construction areas; and
 - iv. Use of alternative equipment (e.g., spider hoe or crane).
- b. If authorized work results in vegetative disturbance and the disturbance has not been accounted for in planned mitigation actions, the Applicant must successfully reestablish vegetation to a degree of function equivalent or better than before the disturbance.
- c. Pesticides (including herbicides) and fertilizers must be applied per manufacturer's instructions by a professionally licensed applicator. If chemical treatment is necessary, the Applicant is responsible for ensuring that pesticide application laws, including with the NPDES System 2300-A general permit, are met. Please review the information on the following website for more information:
<https://www.oregon.gov/deq/wq/wqpermits/Pages/Pesticide.aspx>
 - i. For pesticide application within stormwater treatment facilities or within 150 feet of waters of the state, the Applicant must adopt an Integrated Pest Management (IPM) plan that describes pest prevention, monitoring and control techniques with a focus on prevention of inputs to waters of the state, or coverage under an NPDES permit, if required.
 - ii. Pesticide application should be applied during the dry season and avoid direct water application;
 - iii. Unless otherwise approved in writing by DEQ, applying surface fertilizer within stormwater treatment facilities or within 50 feet of any stream channel is prohibited.

Rule: OAR 340-041, OAR 340-012, OAR 340-041-0033

Justification: Riparian, wetland, and shoreline vegetation help ensure excess sediment does not enter a waterway, and helps offset potential temperature impacts. DEQ must ensure that pollution does not enter waterways.

- 13) Buffers:** The Applicant shall avoid and protect from harm, all wetlands and provide a 50 foot buffer to waters of the state, unless proposed, necessary, and approved as part of the project. If a local jurisdiction has a more stringent buffer requirement, that requirement will take the place of this certification requirement.

Rule: OAR 340-041, OAR 340-012

Justification: Riparian, wetland, and shoreline buffers help ensure excess sediment does not enter a waterway, and helps offset potential temperature impacts. DEQ must ensure that pollution does not enter waterways.

- 14) Previously Contaminated Soil and Groundwater:** If any contaminated soil or groundwater is encountered, it must be handled and disposed of in accordance with the soil and groundwater management plan for the site, as well as local, state and federal regulations. The Applicant must notify the Environmental Cleanup Section of DEQ at 1-800-452-4011.

Rule: OAR 340-041, OAR 340-012, OAR 340-122, OAR 340-040

Justification: DEQ must ensure that pollution does not enter waterways. As sediments are disturbed, pollutants could become redistributed.

FOR PROJECTS THAT PROPOSE IN-STREAM WORK IN JURISDICTIONAL WATERS

- 15) **Fish protection/ Oregon Department of Fish and Wildlife timing:** The Applicant must perform in-water work only within the ODFW preferred time window as specified in the *Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources*, or as authorized otherwise under a USACE permit and/or DSL removal/fill permit. Exceptions to the timing window must be recommended by ODFW, NMFS and/or the USFW as appropriate, and approved by DSL when applicable.
Rule: OAR 340-041-0011
Justification: DEQ must be protective of all water quality standards, including beneficial uses such as fish.
- 16) **Aquatic life movements:** Any activity that may disrupt the movement of aquatic life living in the water body, including those species that normally migrate through the area, is prohibited. The Applicant must provide unobstructed fish passage at all times during any authorized activity, unless otherwise approved in the approved application.
Rule: OAR 340-041-0016; OAR 340-041-0028
Justification: DEQ must be protective of all water quality standards, including beneficial uses such as fish.
- 17) **Isolation of in-water work areas:** The Applicant must isolate in-water work areas from the active flowing stream, unless otherwise authorized as part of the approved application, or authorized by DEQ.
Rule: OAR 340-041, OAR 340-012, OAR 340-045
Justification: DEQ must ensure that pollution does not enter waterways.
- 18) **Cessation of Work:** The Applicant must cease project operations under high-flow conditions that will result in inundation of the project area. Only efforts to avoid or minimize turbidity or other resource damage as a result of inundation of the exposed project area are allowed during high-flow conditions.
Rule: OAR 340-041, OAR 340-012
Justification: DEQ must ensure that pollution does not enter waterways.
- 19) **Turbidity:** The Applicant must implement BMPs to minimize turbidity during in-water work. Any activity that causes turbidity to exceed 10% above natural stream turbidities is prohibited except as specifically provided below:
 - a. **Monitoring:** Turbidity monitoring must be conducted and recorded as described below. Monitoring must occur at two-hour intervals each day when in-water work is being conducted. A properly calibrated turbidimeter is required **unless another monitoring method is proposed and authorized by DEQ.**
 - i. **Representative Background Point:** The Applicant must take and record a turbidity measurement every two hours during in-water work at an undisturbed area. A background location shall be established at a representative location approximately 100 feet up-current of the in water activity unless otherwise authorized by DEQ. The background turbidity, location, date, tidal stage (if applicable) and time must be recorded immediately prior to monitoring down-current at the compliance point described below.
 - ii. **Compliance Point:** The Applicant must monitor every two hours. A compliance location shall be established at a representative location approximately 100 feet down-current from the disturbance at approximately mid-depth of the waterbody

and within any visible plume. The turbidity, location, date, tidal stage (if applicable) and time must be recorded for each measurement.

- b. **Compliance:** The Applicant must compare turbidity monitoring results from the compliance points to the representative background levels taken during each two – hour monitoring interval. Pursuant to OAR 340-041-0036, short term exceedances are allowed as followed:

MONITORING WITH A TURBIDIMETER EVERY 2 HOURS	
<i>TURBIDITY LEVEL</i>	<i>Restrictions to Duration of Activity</i>
0 to 4 NTU above background	No Restrictions
5 to 29 NTU above background	Work may continue maximum of 4 hours. If turbidity remains 5-29 NTU above background, stop work and modify BMPs. Work may resume when NTU is 0-4 above background.
30 to 49 NTU above background	Work may continue maximum of 2 hours. If turbidity remains 30-49 NTU above background, stop work and modify BMPs. Work may resume when NTU is 0-4 above background.
50 NTU or more above background	Stop work immediately and inform DEQ

c. **Reporting:**

- i. Record all turbidity monitoring required by subsections (a) and (b) above in daily logs which must include: calibration documentation; background NTUs; compliance point NTUs; comparison of the points in NTUs; and location; date; time; and tidal stage (if applicable) for each reading.
- ii. A narrative must be prepared discussing all exceedances with subsequent monitoring, actions taken, and the effectiveness of the actions. Applicant must make available copies of daily logs for turbidity monitoring to regulatory agencies including DEQ, USACE, NMFS, USFWS, and ODFW upon request.
- iii. Keep records on file for the duration of the permit cycle.

d. **BMPs to Minimize In-stream Turbidity:** The Applicant must implement the following BMPs, unless accepted in writing by DEQ:

- i. Sequence/Phasing of work – The Applicant must schedule work activities so as to minimize in-water disturbance and duration of in-water disturbances.
- ii. Bucket control - All in-stream digging passes by excavation machinery and placement of fill in-stream using a bucket must be completed so as to minimize turbidity. All practicable techniques such as employing an experienced equipment operator, not dumping partial or full buckets of material back into the wetted stream, adjusting the volume, speed, or both of the load, or using a closed-lipped environmental bucket must be implemented;

- iii. The Applicant must limit the number and location of stream-crossing events. Establish temporary crossing sites as necessary at the least sensitive areas and amend these crossing sites with clean gravel or other temporary methods as appropriate;
- iv. Machinery may not be driven into the flowing channel, unless authorized in writing by DEQ; and
- v. Excavated material must be placed so that it is isolated from the water edge or wetlands, and not placed where it could re-enter waters of the state uncontrolled.
- vi. Containment measures such as silt curtains, geotextile fabric, and silt fences must be in place and properly maintained in order to minimize in-stream sediment suspension and resulting turbidity.

Rule: OAR 340-041-0036, OAR 340-041

Justification: DEQ must ensure that pollution does not enter waterways.

SPECIFIC CONDITIONS FOR POST-CONSTRUCTION STORMWATER MANAGEMENT

- 20) **Post Construction Stormwater Management:** For projects which propose new impervious surfaces or the redevelopment of existing surfaces, the Applicant must submit a post-construction stormwater management plan to DEQ. The plan must be reviewed and approved prior to construction to ensure compliance with water quality standards. The Applicant must implement BMPs as proposed in the stormwater management plan, including construction, operation, and maintenance. If proposed stormwater facilities change due to site conditions, the Applicant must notify DEQ in writing.

In lieu of a complete stormwater management plan, the Applicant may submit documentation of acceptance of the stormwater into a DEQ permitted NPDES Phase I Municipal Separate Storm Sewer System (MS4).

Rule: ORS 468B.050, OAR 340-045, OAR 340-041

Justification: DEQ must ensure that pollution does not enter waterways.

- 21) **Stormwater Management & System Maintenance:** The Applicant is required to implement effective operation and maintenance practices for the lifetime of the proposed facility. Long-term operation and maintenance of stormwater treatment facilities will be the responsibility of the applicant or the entity listed in the approved post-construction stormwater management plan.

Maintenance of stormwater treatment facilities subject to an MS4 permit is regulated by the permit.

Rule: OAR 340-041, OAR 340-012, OAR 340-045

Justification: DEQ must ensure that pollution does not enter waterways.

- 22) **Corrective Action May Be Required:** DEQ retains the authority to require corrective action in the event the stormwater management facilities are not built or performing as described in the plan.

Rule: OAR 340-041, OAR 340-012

Justification: DEQ must ensure that pollution does not enter waterways.

CATEGORY SPECIFIC CONDITIONS

In addition to all national and regional conditions of the USACE permit and the 401 Water Quality Certification general conditions above, the following conditions apply to the noted specific categories of authorized activities.

NWP 7 – Outfall Structures and Associated Intake Structures:

7.1) The following actions are denied certification:

- a. Discharge outfalls that are not subject to an NPDES permit; and
- b. Outfalls that discharge stormwater without pollutant removal demonstrated to meet water-quality standards prior to discharge to waters of the state.

Rule: OAR 340-041, OAR 340-012, OAR 340-048, OAR 340-045

Justification: DEQ must ensure that pollution does not enter waterways. Untreated stormwater is considered pollution.

7.2) If an Applicant cannot obtain an NPDES permit or submit an approvable stormwater management plan per DEQ's Guidelines found at: <http://www.oregon.gov/deg/FilterDocs/401wqcertPostCon.pdf> the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

Rule: OAR 340-041, OAR 340-012, OAR 340-048, OAR 340-045

Justification: DEQ must ensure that pollution does not enter waterways. Untreated stormwater is considered pollution.

NWP 13 – Bank Stabilization:

13.1) Projects that do not include bioengineering are denied certification, unless a registered professional engineer provides a written statement that non-bioengineered solutions are the only means of protection.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways. Hard armoring can increase erosion upstream and downstream of the structure.

13.2) Projects that propose permanent fill in adjacent wetlands are denied certification.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways. Water adjacent wetlands provide water quality benefits.

13.3) To apply for certification for a project without bioengineering, the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

Rule: OAR 340-041-0059

Justification: DEQ must ensure that pollution does not enter waterways. Hard armoring can increase erosion upstream and downstream of the structure.

NWP 14 – Linear Transportation:

- 14.1) For projects that include bank stabilization, bioengineering must be a component of the project, unless a registered professional engineer provides a written statement that non-bioengineered solutions are the only means of protection.
Rule: OAR 340-041, OAR 340-012, OAR 340-048
Justification: DEQ must ensure that pollution does not enter waterways. Hard armoring can increase erosion upstream and downstream of the structure.
- 14.2) To apply for certification for a project without bioengineering, the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.
Rule: OAR 340-041-0059
Justification: DEQ must ensure that pollution does not enter waterways. Hard armoring can increase erosion upstream and downstream of the structure.

NWP 16 - Return Water from Contained Upland Disposal Areas: Water-quality criteria and guidance values for toxics, per OAR 340-041-0033, are available in Tables 30, 31, and 40 at: <https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=68746>.

- 16.1) Discharge of return water from contaminated dredged material that exceeds a chronic or acute toxicity water quality standard is prohibited.
Rule: OAR 340-041-0053(b)(A), OAR 340-041
Justification: DEQ must ensure that pollution does not enter waterways.
- 16.2) Water removed with contaminated dredged material that could or does exceed chronic water-quality criteria must be contained and disposed of at an appropriately sized and sealed upland facility by evaporation or infiltration.
Rule: OAR 340-041-0053(b)(A), OAR 340-041
Justification: DEQ must ensure that pollution does not enter waterways.
- 16.3) If a Modified Elutriate Test (MET) is performed for the known contaminants of concern (CoCs) and CoC concentrations are below DEQ chronic water-quality criteria, return water discharge is not limited.
- a. The MET must be performed before dredging.
 - a. DEQ must approve the list of CoCs and analytical method prior to the Applicant performing the MET.
 - b. DEQ must review the results and provide approval of discharge from return water, in writing, prior to dredging.
- Rule:** OAR 340-041, OAR 340-012, OAR 340-048
Justification: DEQ must ensure that pollution does not enter waterways.

NWP 20 – Response Operations for Oil and Hazardous Waste:

- 20.1) Coordination with DEQ's Emergency Response program is required. See: <http://www.oregon.gov/deq/Hazards-and-Cleanup/env-cleanup/Pages/Emergency-Response.aspx>.
Rule: OAR 340-142-0130(3), OAR 340-041
Justification: DEQ must ensure that pollution does not enter waterways.

NWP 22 – Removal of Vessels:

- 22.1) Coordination with DEQ's Emergency Response program is required. See:

<http://www.oregon.gov/deq/Hazards-and-Cleanup/env-cleanup/Pages/Emergency-Response.aspx>.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways. Vessels may contain various fuels, lubricants, and other possible sources of pollution.

NWP 31 – Maintenance of Existing Flood Control Facilities:

- 31.1) Projects in streams with temperature TMDLs which result in a net reduction of riparian shade are prohibited.

Rule: OAR 340-041-0028, OAR 340-041

Justification: DEQ must ensure that pollution does not enter waterways.

NWP 38 – Cleanup of Hazardous and Toxic Waste:

- 38.1) For removal of contaminated material from waters, dredging method is limited to diver assisted hydraulic suction, hydraulic suction, closed-lipped environmental bucket, or excavation in the dry, unless otherwise authorized by DEQ.

a. For in-water isolation measures, the Applicant is referred to Appendix D of DEQ's Oregon Erosion and Sediment Control Manual, April 2005 (or most current version), at: [DEQ Erosion and Sediment Control Manual](#)

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways.

- 38.2) Discharge to waters of the state resulting from dewatering during dredging or release of return water from an upland facility is prohibited except as provided below.

- a. All water removed with sediment must be contained and disposed of at an appropriately sized and sealed upland facility by evaporation or infiltration; or,
- b. A Modified Elutriate Test (MET) may be performed for the known Contaminants of Concern (CoCs) and if CoC concentrations are below DEQ chronic water-quality criteria; return water discharge is not limited.
 - i. The MET must be performed before dredging.
 - ii. DEQ must approve the list of CoCs and analytical method prior to the Applicant performing the MET.
 - iii. DEQ must review the results and provide approval of discharge from dewatering and return water in writing prior to dredging.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways.

- 38.3) Dredged material must be disposed of in compliance with DEQ Rules governing Hazardous Waste (see: <http://www.oregon.gov/deq/Hazards-and-Cleanup/hw/Pages/default.aspx>) or Solid Waste (see: <http://www.oregon.gov/deq/mm/swpermits/Pages/Solid-Waste-Disposal-Sites-and-Landfill.aspx>).

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways.

- 38.4) The new in-water surface must be managed to prevent exposure or mobilization of contaminants.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways.

NWP 41 - Reshaping Existing Drainage Ditches:

- 41.1) To the extent practicable, the Applicant must work from only one bank in order to minimize disturbance to existing vegetation, preferably the bank with the least existing vegetation;

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways.

- 41.2) Following authorized work, the Applicant must establish in-stream and riparian vegetation on reshaped channels and side-channels using native plant species wherever practicable. Plantings must be targeted to address water-quality improvement (e.g., provide shade to water to reduce temperature or provide bank stability through root systems to limit sediment inputs). Planting options may include clustering or vegetating only one side of a channel, preferably the side which provides maximum shade.

Rule: OAR 340-041-0004(5)(a)

Justification: Riparian, wetland, and shoreline buffers help ensure excess sediment does not enter a waterway and helps offset potential temperature impacts. DEQ must ensure that pollution does not enter waterways.

NWP 42 – Recreational Facilities:

- 42.1) For facilities that include turf maintenance actions, the permittee must develop and implement an Integrated Pest Management Plan (IPM) that describes pest prevention, monitoring and control techniques with a focus on prevention of chemical and nutrient inputs to waters of the state, including maintenance of adequate buffers for pesticide application near salmonid streams, or coverage under an NPDES permit, if required (information is available at:

<http://www.oregon.gov/deq/wq/wqpermits/Pages/Pesticide.aspx>).

Rule: OAR 340-041-0033, OAR 340-041

Justification: DEQ must ensure that pollution does not enter waterways, including excess pesticides and fertilizers.

NWP 43 – Stormwater Management Facilities:

- 43.1) Projects that propose the following elements are denied expedited certification:

- a. In-stream stormwater facilities;
- b. Discharge outfalls not subject to an MS4 NPDES permit; and,
- c. Proposals that do not demonstrate pollutant removal to meet water quality standards prior to discharge to waters of the state.

Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways; stormwater is considered a pollutant.

- 43.2) To apply for certification for a project with in-stream stormwater facilities, without an NPDES permit, or without submittal of an approvable stormwater management plan per DEQ's Guidelines (at: <http://www.oregon.gov/deq/FilterDocs/401wqcertPostCon.pdf>), the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.

Rule: OAR 340-041-0059

Justification: DEQ must ensure that pollution does not enter waterways; stormwater is considered a pollutant.

NWP 44 – Mining Activities:

- 44.1) Projects that do not obtain an NPDES 700-PM or Individual permit are denied expedited certification.
Rule: OAR 340-045-0033, OAR 340-041
Justification: DEQ must ensure that pollution does not enter waterways. Excess turbidity can be considered pollution.
- 44.2) To apply for certification for a project without an NPDES permit, the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.
Rule: OAR 340-041-0059
Justification: DEQ must ensure that pollution does not enter waterways.
- 44.3) The State of Oregon requires an In-Water Blasting Permit be obtained per OAR, 635-425-0000. Permittee is advised to contact the nearest ODFW office for further information at: <https://www.dfw.state.or.us/lands/inwater/>
Rule: OAR 340-041-0011
Justification: DEQ must be protective of all water quality standards, including beneficial uses such as fish.

NWP 51 – Land-Based Renewable Energy Generation Facilities:

- 51.1) For associated utility lines with directionally-bored stream or wetland crossings proposed, condition D.1 must be applied.
Rule: OAR 340-041, OAR 340-012, OAR 340-048
Justification: DEQ must ensure that pollution does not enter waterways

NWP 53 – Removal of Low-Head Dams:

- 53.1) Projects that do *not* go through a PSET review if sediments are being dispersed are denied certification.
Rule: OAR 340-041, OAR 340-012, OAR 340-048
Justification: DEQ must ensure that pollution does not enter waterways. Sediments can be a carrier of contaminants.
- 53.2) To apply for certification for a project without a PSET, the Applicant must submit complete project information and water quality impacts analysis directly to DEQ in order to undergo individual 401 WQC evaluation and fulfill public participation requirements.
Rule: OAR 340-041-0059
Justification: DEQ must ensure that pollution does not enter waterways. Sediments can be a carrier of contaminants.

NWP 54 – Living Shorelines:

- 54.1) Projects that do not include bioengineering are denied certification, unless a registered professional engineer provides a written statement that non-bioengineered solutions are the only means of protection.
Rule: OAR 340-041, OAR 340-012, OAR 340-048
Justification: DEQ must ensure that pollution does not enter waterways. Hard armoring can increase erosion in the system.

NWP 58 – Utility Lines:

- 58.1) For proposals that include directionally-bored stream or wetland crossings:

- a. All drilling equipment, drill recovery and recycling pits, and any waste or spoil produced, must be completely isolated, recovered, then recycled or disposed of to prevent entry into waters of the state. Recycling using a tank instead of drill recovery/recycling pits is preferable;
- b. In the event that drilling fluids enter a water of the state, the equipment operator must stop work, immediately initiate containment measures and report the spill to the Oregon Emergency Response System (OERS) at 1-800-452-0311.
- c. An adequate supply of materials needed to control erosion and to contain drilling fluids must be maintained at the project construction site and deployed as necessary.
- d. The Applicant must have a contingency plan in place prior to construction for the inadvertent return of drilling lubricant.

Rule: OAR 340-142-0030, OAR 340-142-0040(1)

Justification: Drilling equipment and fluids that enter a waterbody would likely cause contamination of that waterbody.

58.2) For proposals that include utility lines through wetlands, include anti-seep collars or equivalent technology to prevent draining the wetlands.


Rule: OAR 340-041, OAR 340-012, OAR 340-048

Justification: DEQ must ensure that pollution does not enter waterways

If the Applicant is dissatisfied with the conditions contained in this certification, a hearing may be requested. Such request must be made in writing to DEQ's Office of Compliance and Enforcement at 700 NE Multnomah St, Suite 600, Portland Oregon 97232, within 20 days of the mailing of this certification.

The DEQ hereby certifies that this project complies with the Clean Water Act and state rules, with the above conditions. If you have any questions, please contact Delia Negru, at 503-593-2493, by email at delia.negru@deq.oregon.gov, or at the address on this letterhead.

Sincerely,


Theresa Burcsu (Feb 16, 2024 14:30 PST)

Theresa Burcsu,
Water Quality Manager
Northwest Region

ec: Kayla Woods, USACE
Marcus Chatfield, DSL
Julie Wirth-McGee, AKS Engineering & Forestry, LLC

[illegible]

401 Water Quality Certification Turbidity Monitoring Report

* *Include a figure with the turbidity sampling forms showing the sampling locations.*

Turbidity: The Applicant must implement appropriate Best Management Practices (BMPs) to minimize turbidity during in-water work. Any activity that causes turbidity to exceed 10% above natural stream turbidity is prohibited except as specifically provided below:

Monitoring: Turbidity monitoring must be conducted and recorded as described below. Monitoring must occur at two hour intervals each day during daylight hours when in-water work is being conducted, including while dewatering or work area isolation measures are in place. A properly calibrated turbidimeter is required unless another monitoring method is proposed and authorized by DEQ.

Representative Background Point: The Applicant must take and record a turbidity measurement every two hours during in-water work at an undisturbed area. A background location shall be established at a representative location approximately 100 feet upcurrent of the in water activity unless otherwise authorized by DEQ. The background turbidity, location, date, tidal stage (if applicable) and time must be recorded immediately prior to monitoring downcurrent at the compliance point described below.

Compliance Point: The must monitor every two hours. A compliance location shall be established at a representative location approximately 100 feet downcurrent from the disturbance at approximately mid-depth of the waterbody and within any visible plume. The turbidity, location, date, tidal stage (if applicable) and time must be recorded for each measurement.

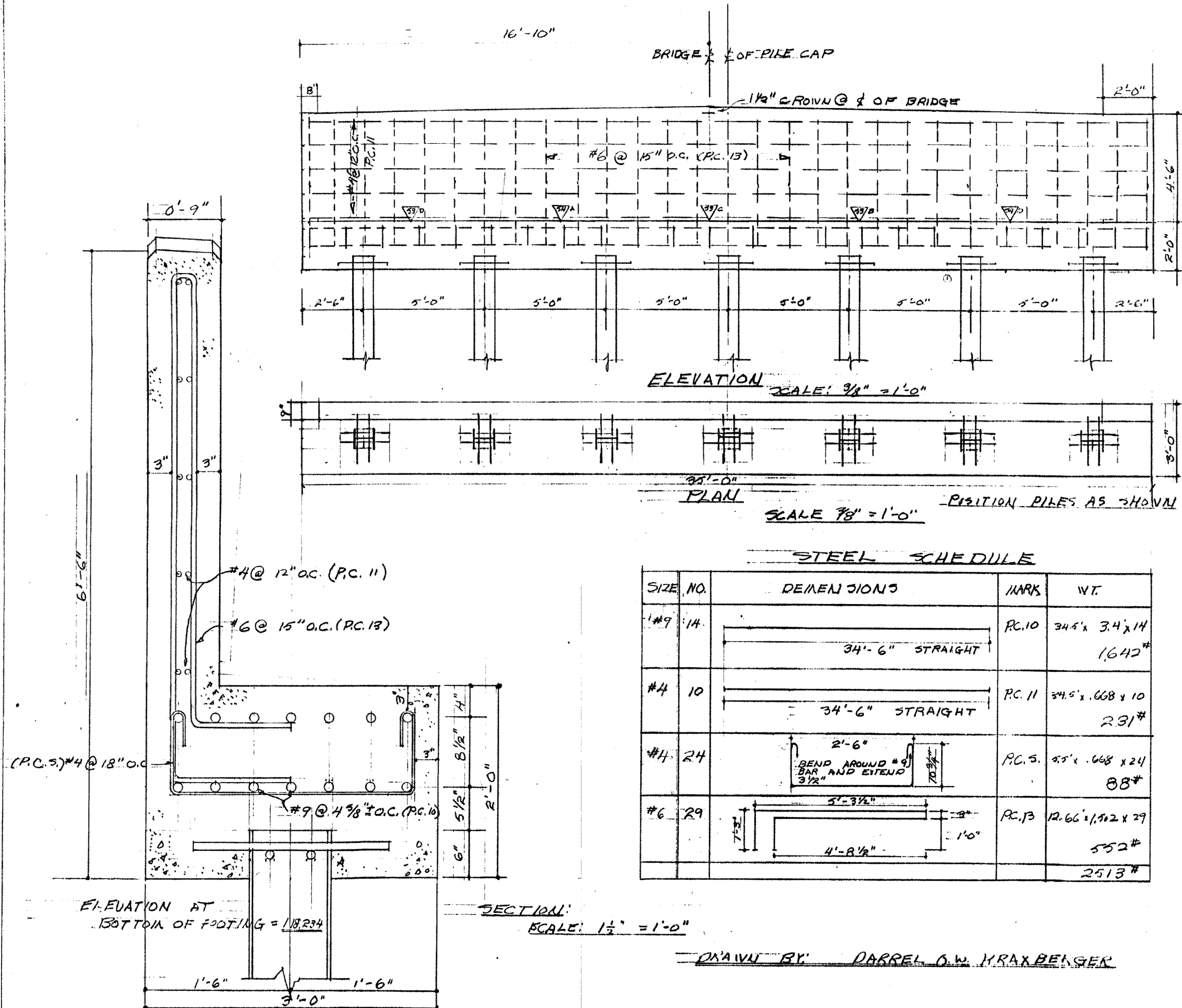
Compliance: The Applicant must compare turbidity monitoring results from the compliance points to the representative background levels taken during each two – hour monitoring interval. Pursuant to OAR 340-041-0036, short term exceedances of the turbidity water quality standard are allowed as shown in the monitoring table shown here.

MONITORING WITH A TURBIDIMETER EVERY 2 HOURS	
TURBIDITY LEVEL	Restrictions to Duration of Activity
0 to 4 NTU above background	No Restrictions
5 to 29 NTU above background	Work may continue maximum of 4 hours. If turbidity remains 5-29 NTU above background, stop work and modify BMPs. Work may resume when NTU is 0-4 above background.
30 to 49 NTU above background	Work may continue maximum of 2 hours. If turbidity remains 30-49 NTU above background, stop work and modify BMPs. Work may resume when NTU is 0-4 above background.
50 NTU or more above background	Stop work immediately and inform DEQ

Reporting: The Applicant must record all turbidity monitoring required by subsections (a) and (b) above in daily logs, kept on file for the duration of the permit cycle. The daily logs must include calibration documentation; background NTUs; compliance point NTUs; comparison of the points in NTUs; location; date; time; and tidal stage (if applicable) for each reading. Additionally, a narrative must be prepared discussing all exceedances with subsequent monitoring, actions taken, and the effectiveness of the actions. Applicant must make available copies of daily logs for turbidity monitoring to DEQ, USACE, NMFS, USFWS, and ODFW upon request.

- BMPs to Minimize In-stream Turbidity:** The Applicant must implement the following BMPs, unless otherwise accepted by DEQ:
- i. Sequence/Phasing of Work – The Applicant must schedule work activities so as to minimize in-water disturbance and duration of in-water disturbances;
 - ii. Bucket control - All in-stream digging passes by excavation machinery and placement of fill in-stream using a bucket must be completed so as to minimize turbidity. All practicable techniques such as employing an experienced equipment operator, not dumping partial or full buckets of material back into the wetted stream, adjusting the volume, speed, or both of the load, or using a closed-lipped environmental bucket must be implemented;
 - iii. The Applicant must limit the number and location of stream-crossing events. Establish temporary crossing sites as necessary in the least sensitive areas and amend these crossing sites with clean gravel or other temporary methods as appropriate;
 - iv. Machinery may not be driven into the flowing channel, unless authorized by DEQ; and
 - v. Excavated material must be placed so that it is isolated from the water edge or wetlands, and not placed where it could re-enter waters of the state uncontrolled.

KNIGHTS BRIDGE — CANBY SIDE PILE CAP



DRAWN BY: DARREL O.W. KRAXBERGER

Dwg. 79035

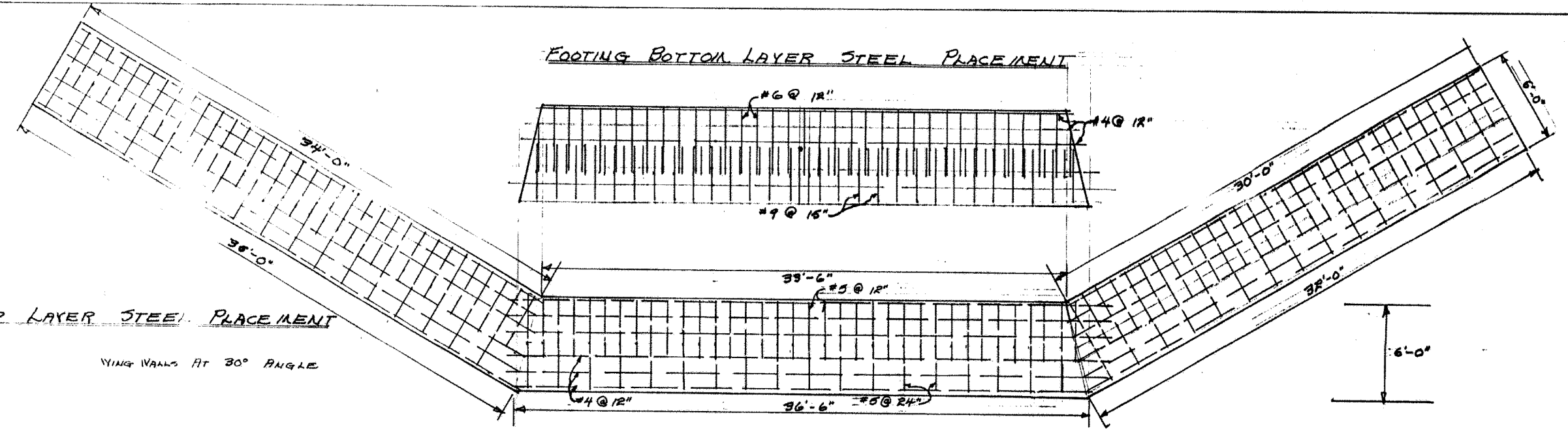
BR# 6520

11-20-61

FOOTING TOP LAYER STEEL PLACEMENT

WING WALLS AT 30° ANGLE

FOOTING BOTTOM LAYER STEEL PLACEMENT



KNIGHTS BRIDGE BARLOW ABUTMENT

- DRAWN BY: DARREL O.W. KRAXBERGER

SCALE: 1/4" = 1'-0"

WING WALL FACE STEEL CURTAIN

NORTH WING WALL

SOUTH WING WALL

WING WALL BACK STEEL CURTAIN

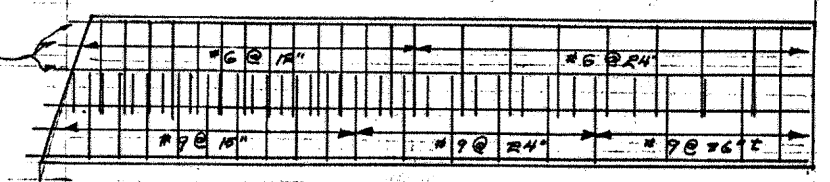
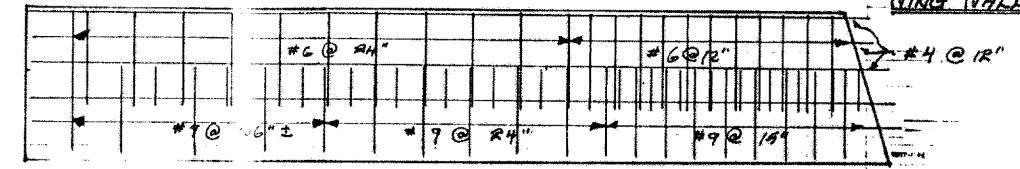
NORTH WING WALL

SOUTH WING WALL

STEEL "H" PILES

STEEL "H" PILES

WING WALL FOOTING BOTTOM STEEL



#6520

Dwg. 79036

SEH

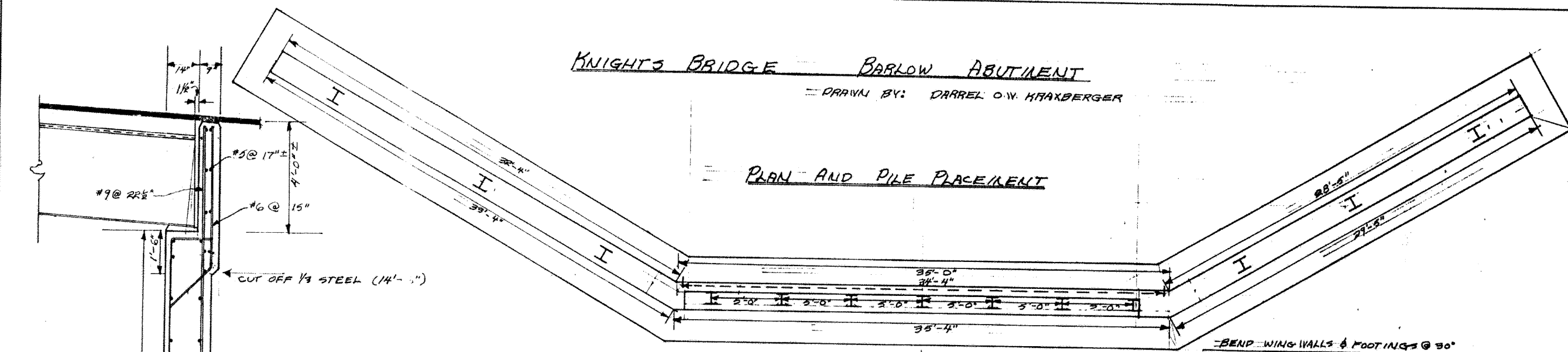
KNIGHTS BRIDGE

6422

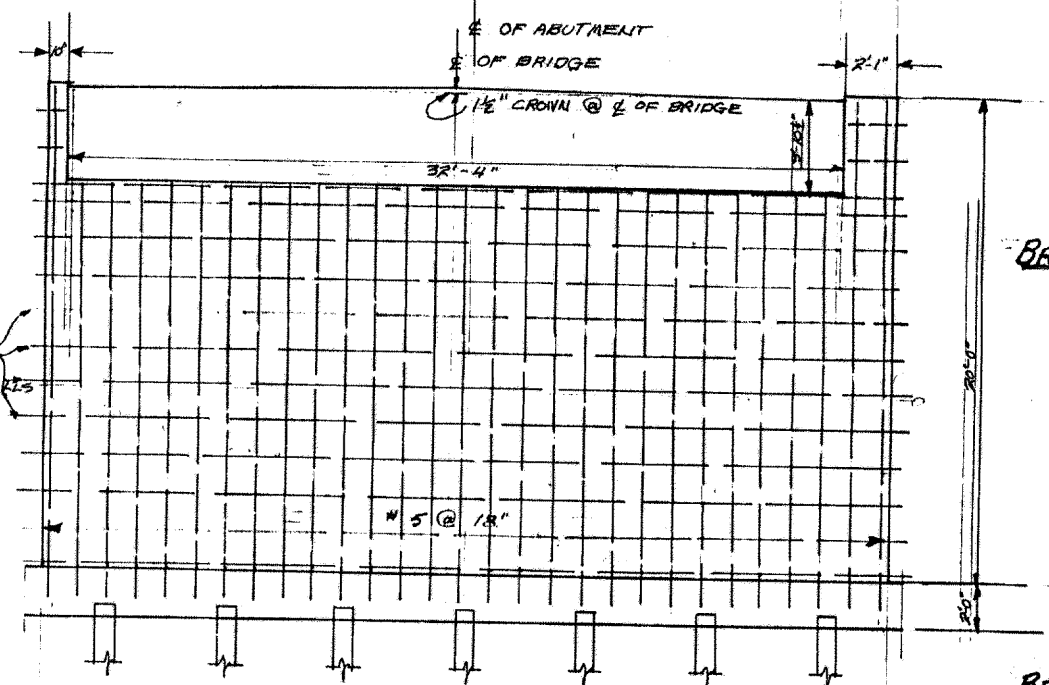
KNIGHTS BRIDGE BARLOW ABUTMENT

DRAWN BY: DARREL O.W. KRAEBERGER

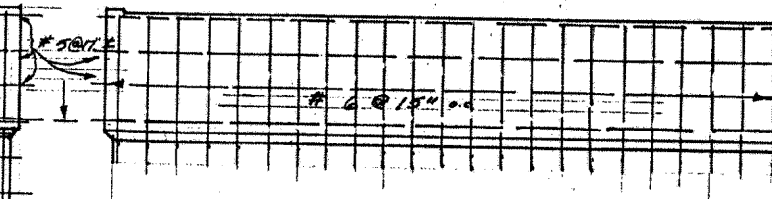
PLAN AND PILE PLACEMENT



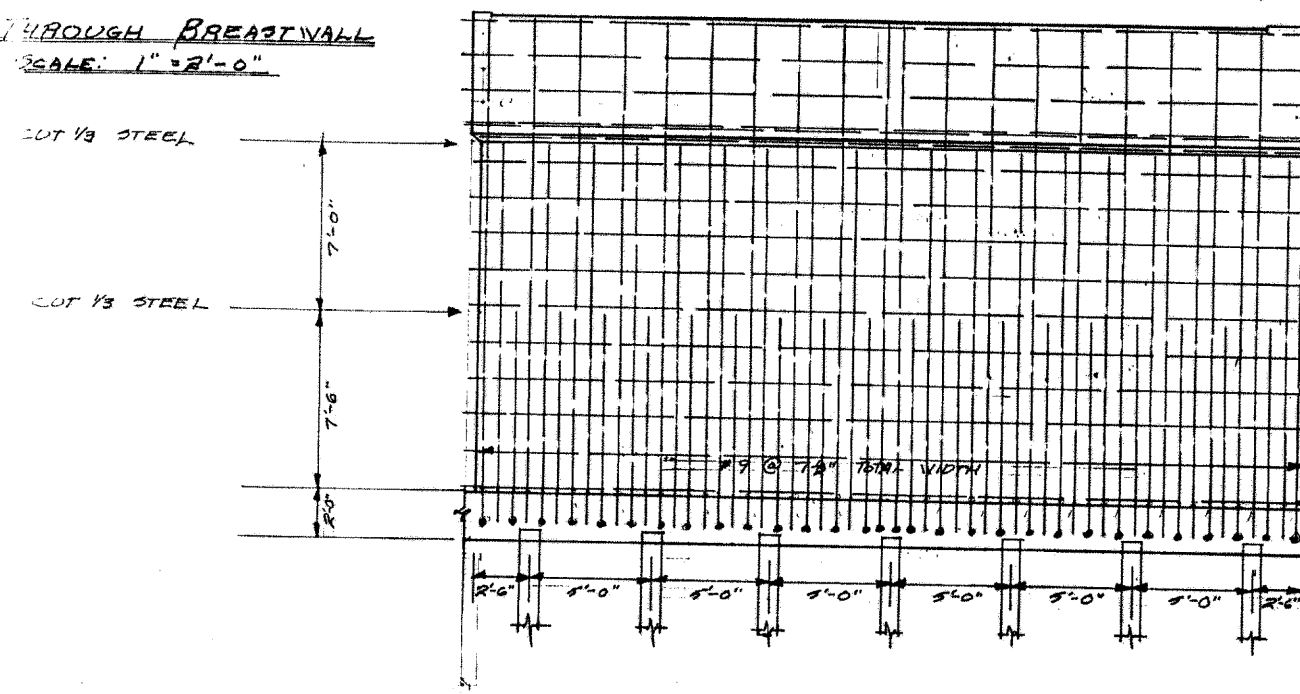
BREST WALL FACE STEEL CURTAIN



BACKWALL BACK STEEL CURTAIN

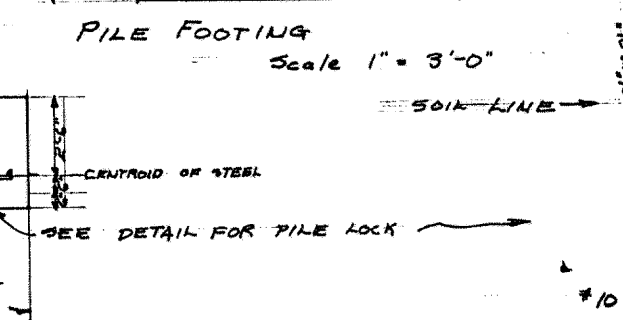
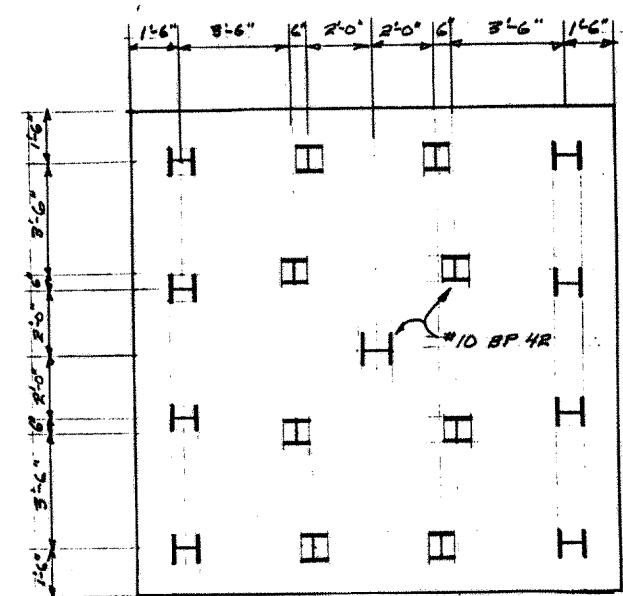
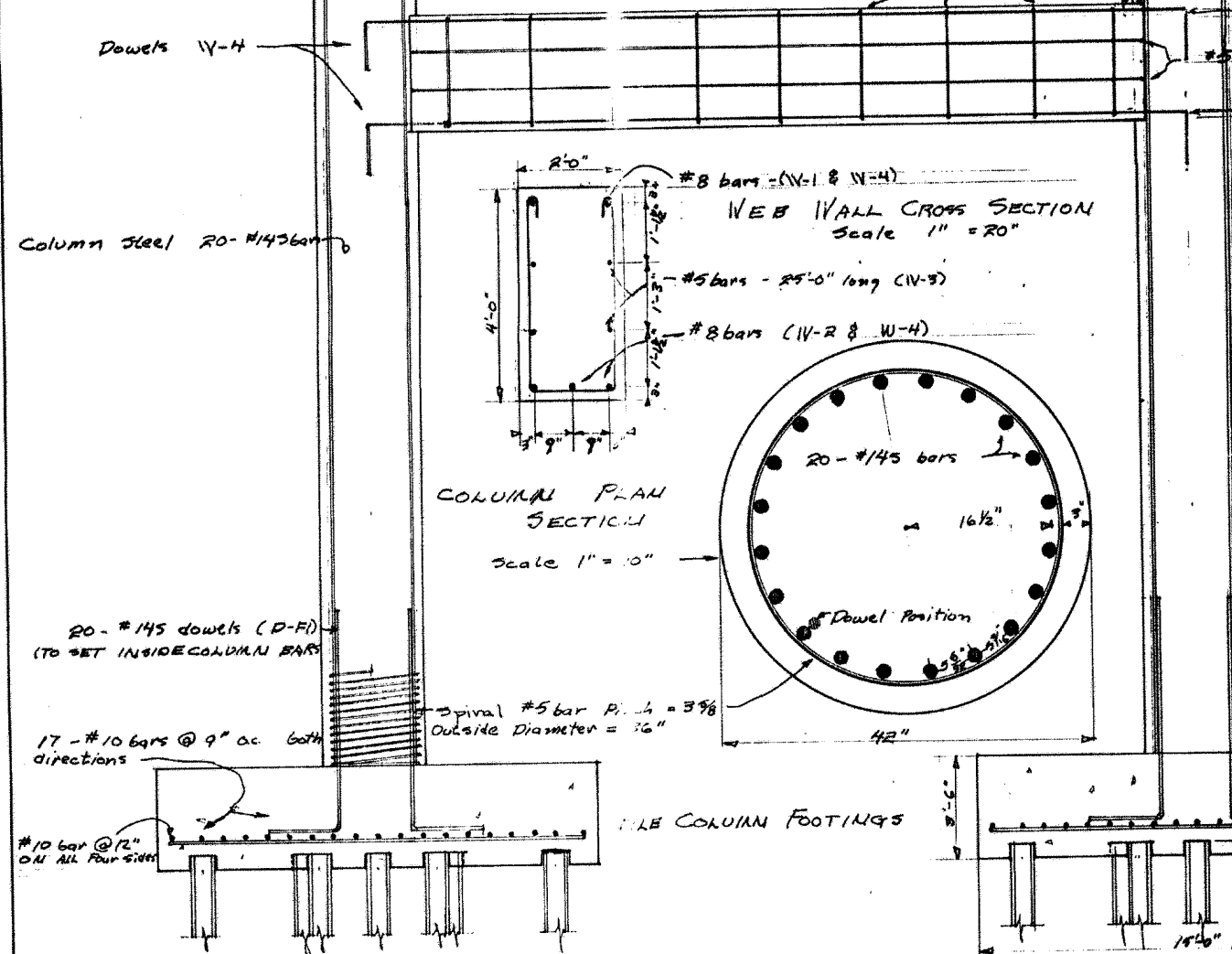
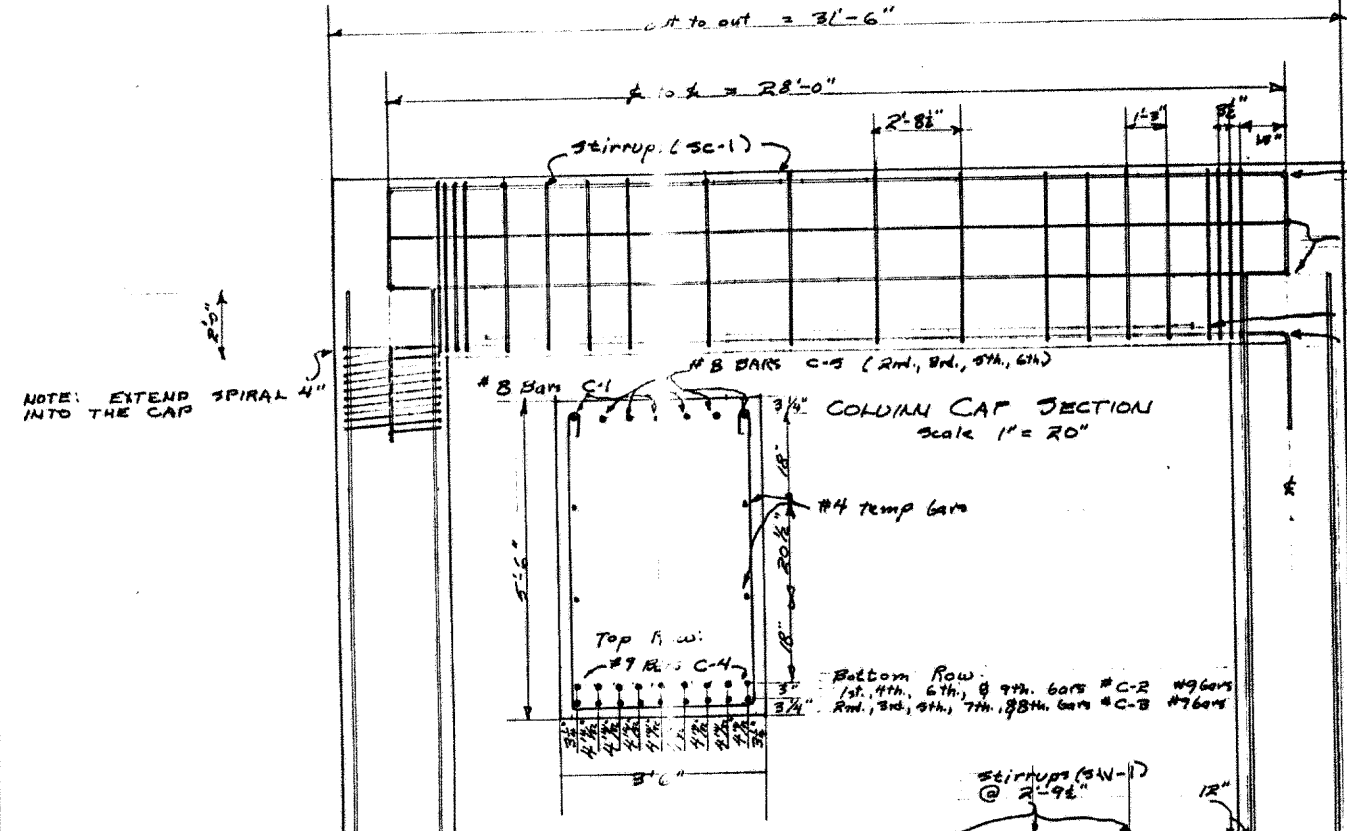


BREASTVALL BACK STEEL CURTAIN

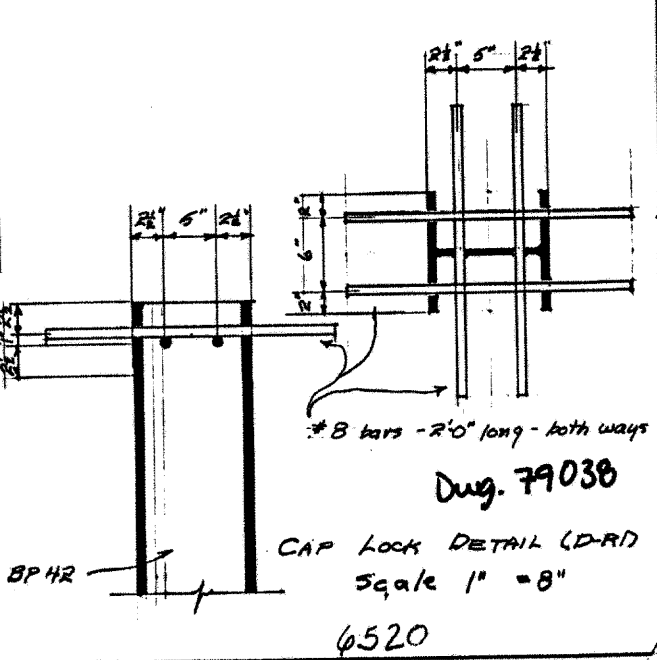


SCALE: 1" = 4'-0"

Dwg. 79037

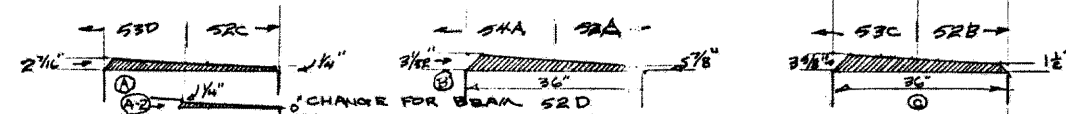


BAR TYPE SCHEDULE	
Bar C-1 #8	Use - 3
Bar C-2 #9	Use - 4
Bar C-3 #9	Use - 5
Bar C-4 #9	Use - 9
Bar C-5 #8	Use - 4
Bar W-1 #8	Use - 2
Bar W-2 #8	Use - 3
Bar W-3 #5	Use - 4
Bar W-4 #8	Use - 8
Bar W-5 #8	Use - 8
Bar W-6 #8	Use - 8
Bar W-7 #8	Use - 8
Bar W-8 #8	Use - 8
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Bar W-10 #8	Use - 8
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Bar W-12 #8	Use - 8
Bar W-13 #8	Use - 8
Bar W-14 #8	Use - 8
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Bar W-26 #8	Use - 8
Bar W-27 #8	Use - 8
Bar W-28 #8	Use - 8
Bar W-29 #8	Use - 8
Bar W-30 #8	Use - 8
Bar W-31 #8	Use - 8
Bar W-32 #8	Use - 8
Bar W-33 #8	Use - 8
Bar W-34 #8	Use - 8
Bar W-35 #8	Use - 8
Bar W-36 #8	Use - 8
Bar W-37 #8	Use - 8
Bar W-38 #8	Use - 8
Bar W-39 #8	Use - 8
Bar W-40 #8	Use - 8
Bar W-41 #8	Use - 8
Bar W-42 #8	Use - 8
Bar W-43 #8	Use - 8
Bar W-44 #8	Use - 8
Bar W-45 #8	Use - 8
Bar W-46 #8	Use - 8
Bar W-47 #8	Use - 8
Bar W-48 #8	Use - 8
Bar W-49 #8	Use - 8
Bar W-50 #8	Use - 8
Bar W-51 #8	Use - 8
Bar W-52 #8	Use - 8
Bar W-53 #8	Use - 8
Bar W-54 #8	Use - 8
Bar W-55 #8	Use - 8
Bar W-56 #8	Use - 8
Bar W-57 #8	Use - 8
Bar W-58 #8	Use - 8
Bar W-59 #8	Use - 8
Bar W-60 #8	Use - 8
Bar W-61 #8	Use - 8
Bar W-62 #8	Use - 8
Bar W-63 #8	Use - 8
Bar W-64 #8	Use - 8
Bar W-65 #8	Use - 8
Bar W-66 #8	Use - 8
Bar W-67 #8	Use - 8
Bar W-68 #8	Use - 8
Bar W-69 #8	Use - 8
Bar W-70 #8	Use - 8
Bar W-71 #8	Use - 8
Bar W-72 #8	Use - 8
Bar W-73 #8	Use - 8
Bar W-74 #8	Use - 8
Bar W-75 #8	Use - 8
Bar W-76 #8	Use - 8
Bar W-77 #8	Use - 8
Bar W-78 #8	Use - 8
Bar W-79 #8	Use - 8
Bar W-80 #8	Use - 8
Bar W-81 #8	Use - 8
Bar W-82 #8	Use - 8
Bar W-83 #8	Use - 8
Bar W-84 #8	Use - 8
Bar W-85 #8	Use - 8
Bar W-86 #8	Use - 8
Bar W-87 #8	Use - 8
Bar W-88 #8	Use - 8
Bar W-89 #8	Use - 8
Bar W-90 #8	Use - 8
Bar W-91 #8	Use - 8
Bar W-92 #8	Use - 8
Bar W-93 #8	Use - 8
Bar W-94 #8	Use - 8
Bar W-95 #8	Use - 8
Bar W-96 #8	Use - 8
Bar W-97 #8	Use - 8
Bar W-98 #8	Use - 8
Bar W-99 #8	Use - 8
Bar W-100 #8	Use - 8

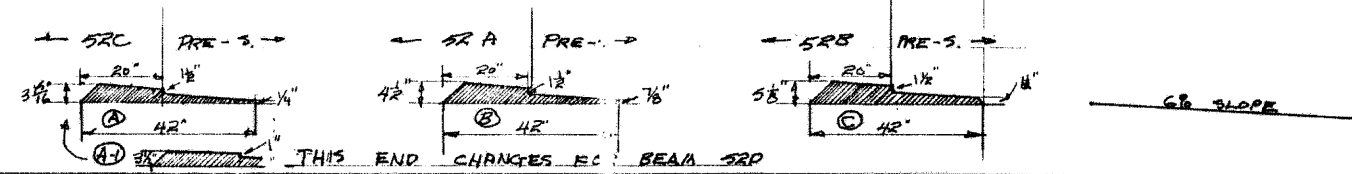


BENT #1 - CANBY SIDE

DRAWN BY: DARREL O.W. KRAKBERGER

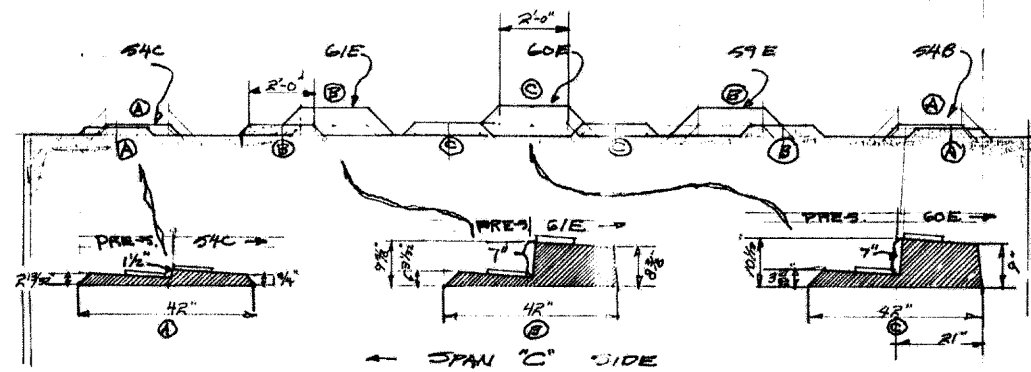


BENT #2 - MAIN CANBY SIDE PEIR



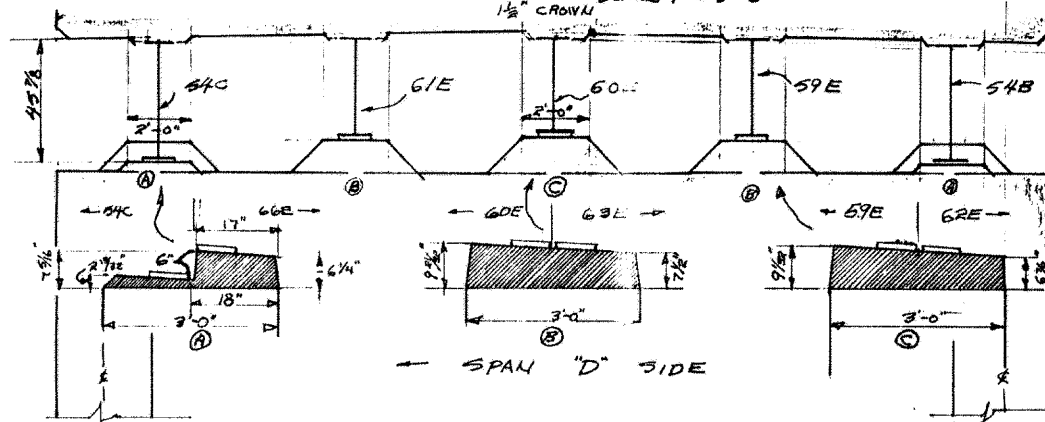
BENT # 3 - MAIN BARLOW SIDE PERS

SCALE 1" = 3'-0"



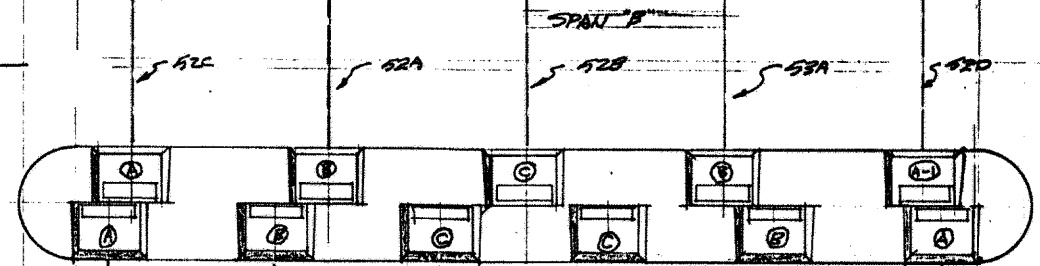
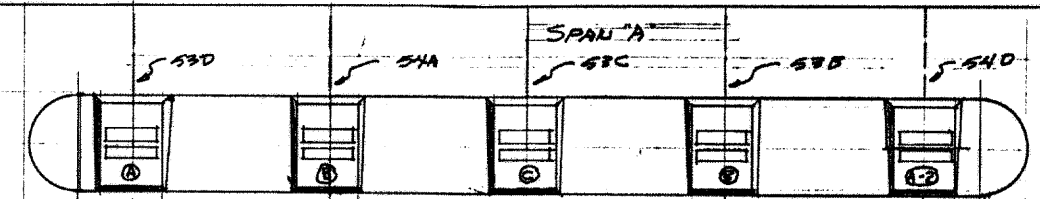
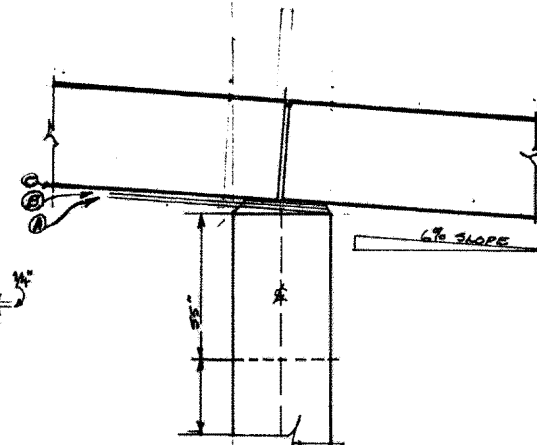
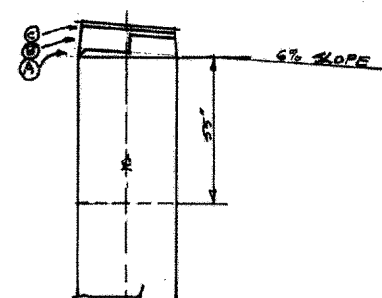
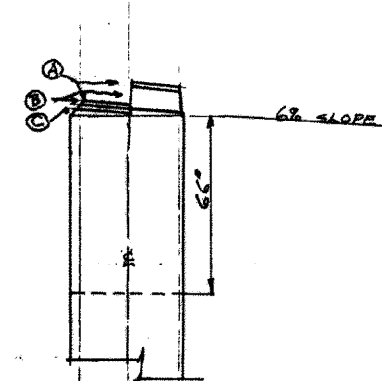
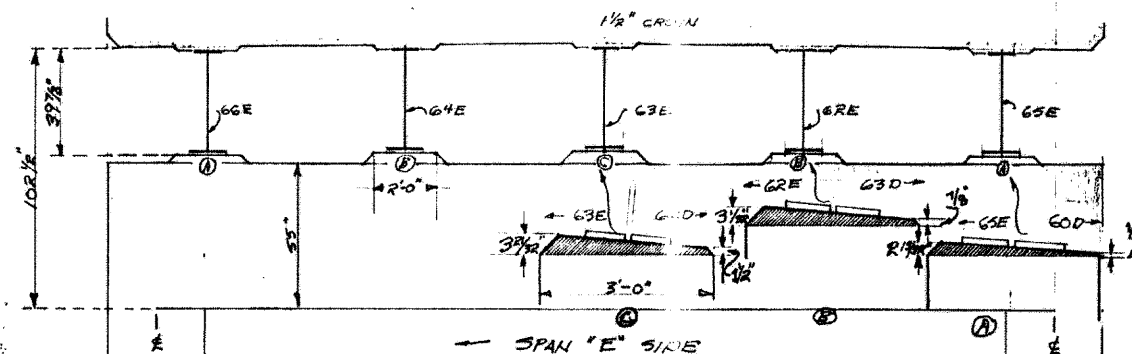
BENT #4 - BARLOW SIDE

SCALE 1" = 3'-0"



BENT #5 - BARLOIV SIDE

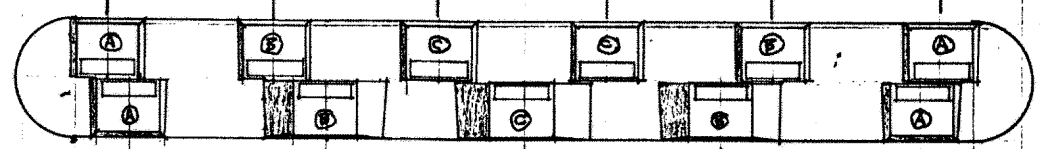
SCALE 1" = 3'-0"



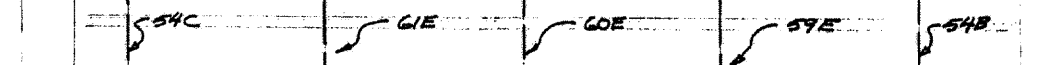
SPAN "C"

PRESTRESSED CONCRETE BEAMS

← INDIANA RIVER FLOW



SPAN 'D'



SPAN "E"



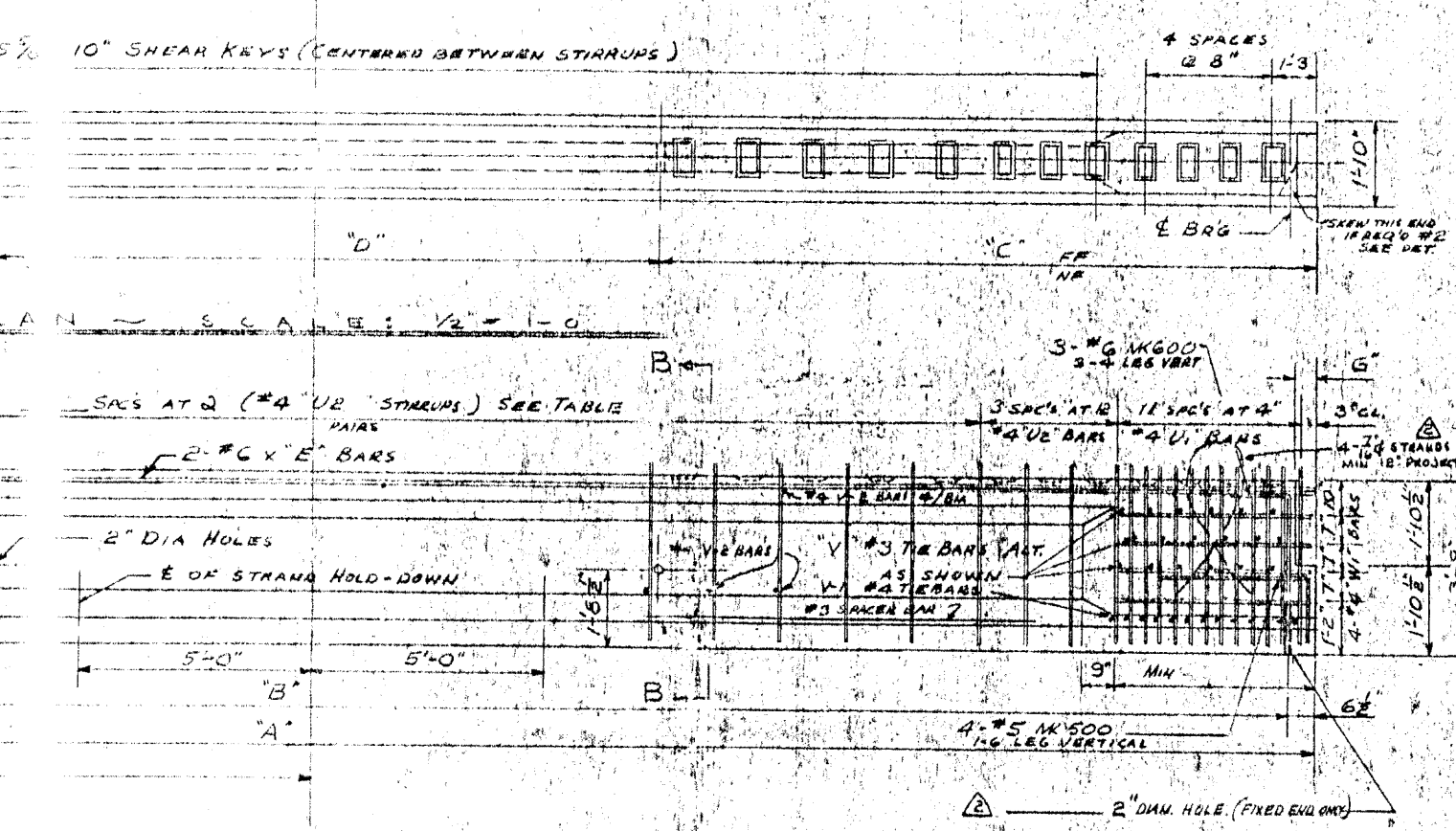
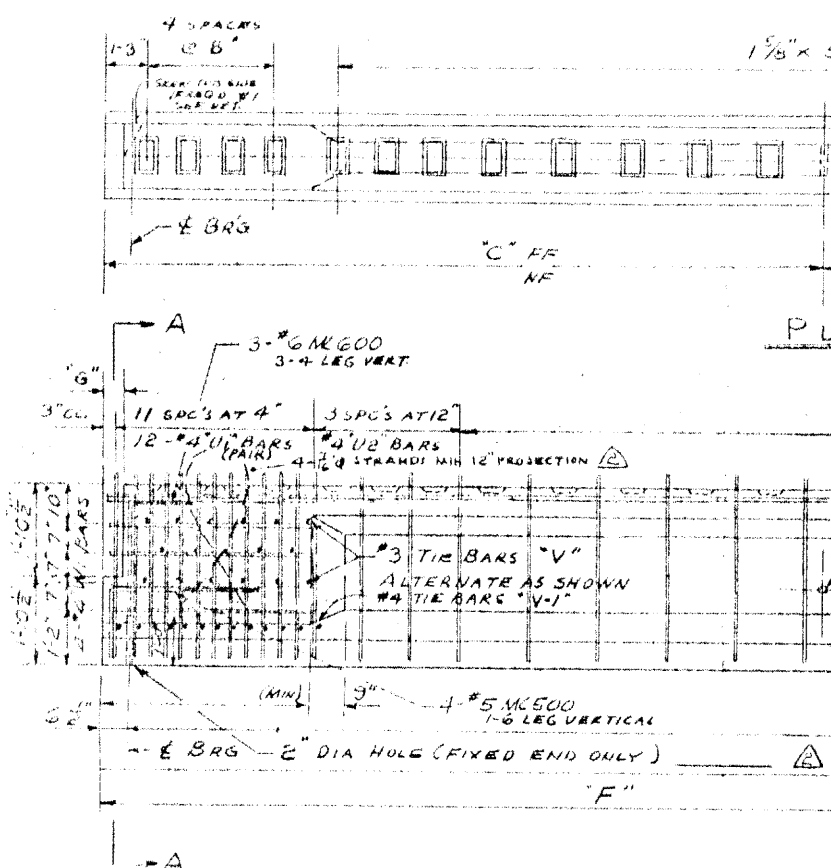
SPAN "F"



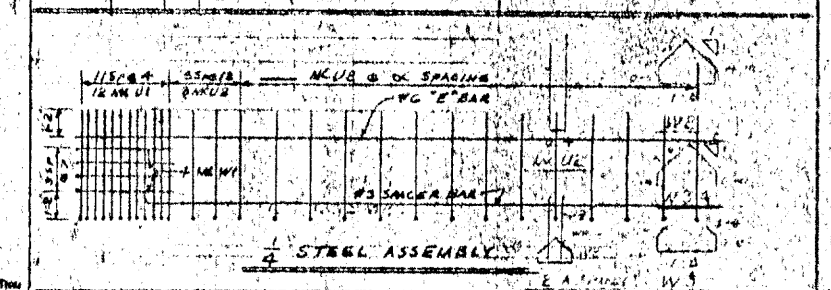
BARLOW

Dwg. 79039

#6520

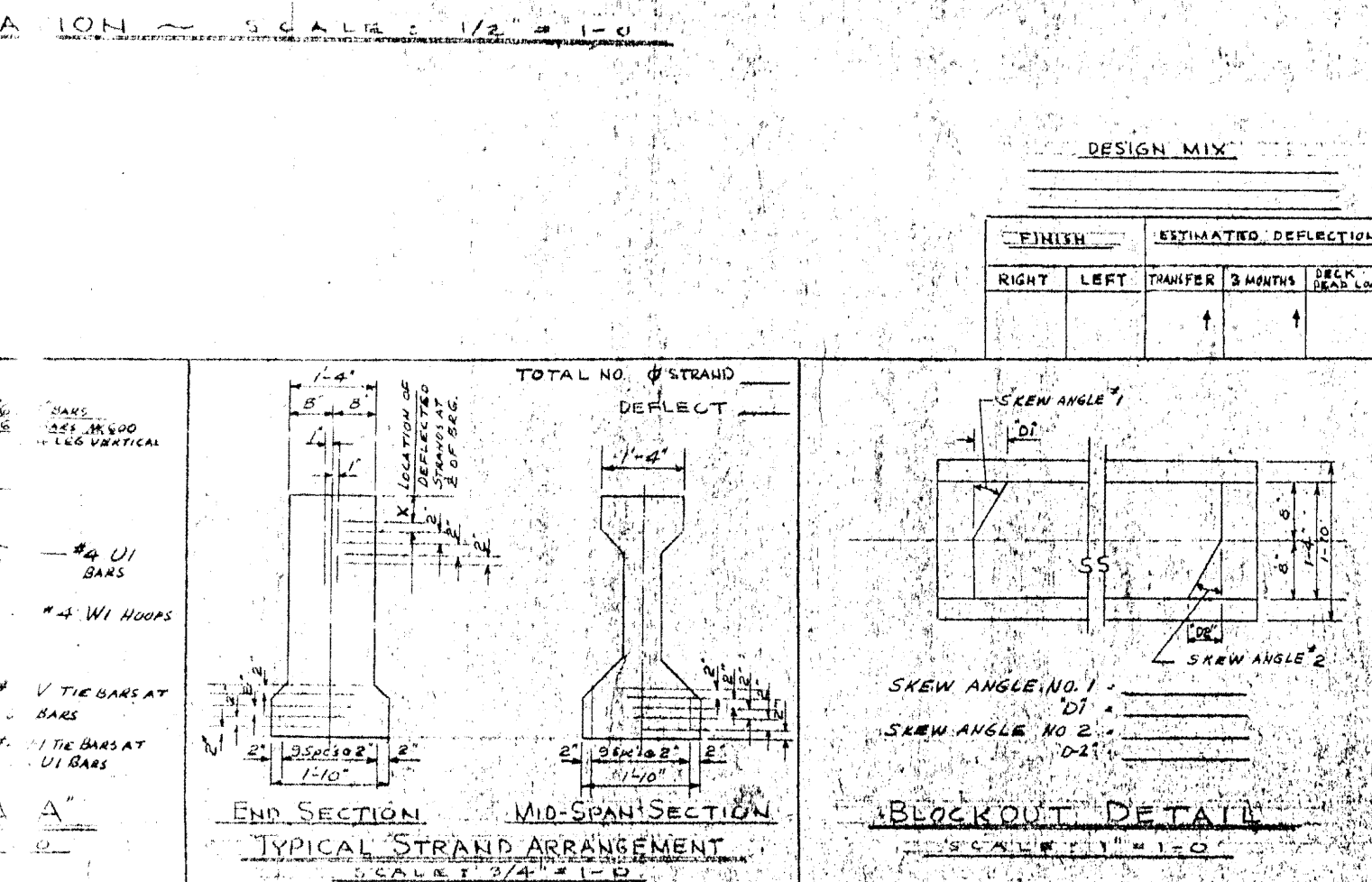
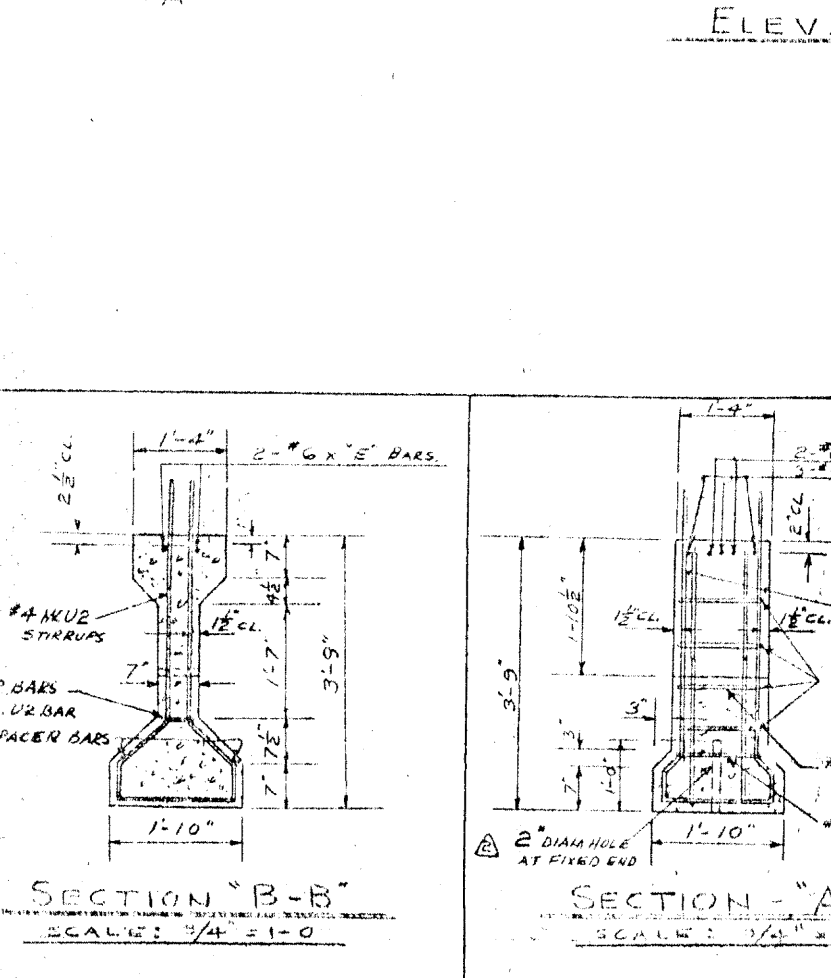


MATERIAL LIST - REINFORCING STEEL									
TOTAL NO	NO	SIZE	LENGTH	MARK	DESCRIPTION	BENDING DIAGRAMS ALL DIMENSIONS IN FEET			
48	4	5-11	VI	VERT. BR.					
16	4	5-11	VI	HORIZ. BR.					
36	3	1-10	V	TRANSV. TIE BR.					
24	4	1-10	V-1	DO					
	4	1-10	V-2	TRANSV. TIE BR.					
	4	5-11	U-2	STIRRUPS					



MATERIAL LIST - MISCELLANEOUS ITEMS									
TOTAL NO	NO	DESCRIPTION	DIAGRAM	LOCATION					
4	3	STR. SPACER BARS							
2	6	STR. TIE BARS							
8	5	500 L. BARS							
6	6	600 TIE BARS							

MATERIAL LIST - MISCELLANEOUS ITEMS									
TOTAL NO	NO	DESCRIPTION	DIAGRAM	LOCATION					
4	3	STR. SPACER BARS							
2	6	STR. TIE BARS							
8	5	500 L. BARS							
6	6	600 TIE BARS							



BEAM DIMENSIONS									
A	B	C	D	E	X	F	G	H	I

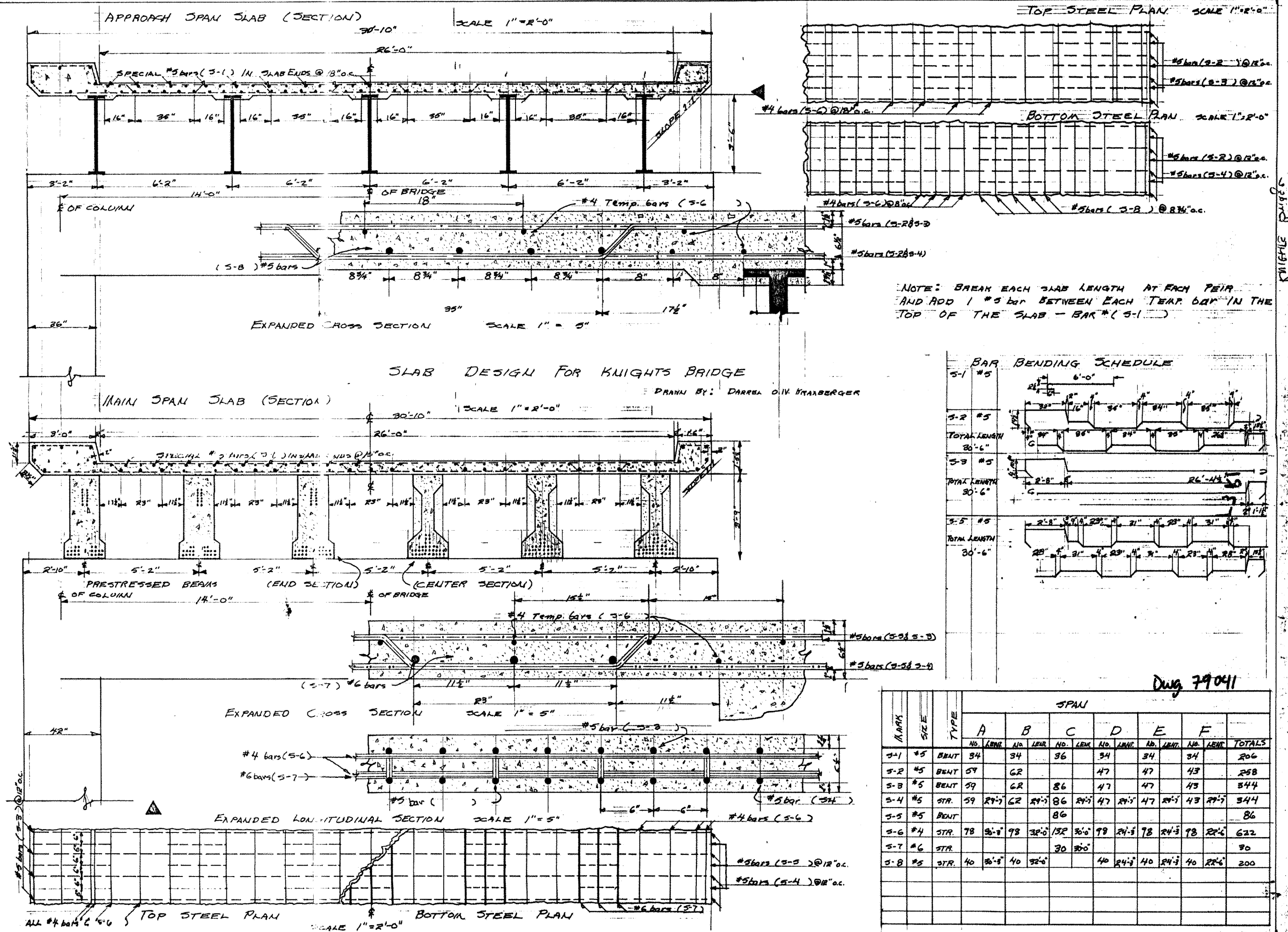
GENERAL NOTES:

- TENSIONING PROCEDURE (INITIAL)
 - TENSION LOWER STRANDS
 - POSITION HOLD-UP FRAMES
 - INITIAL TENSION UPPER STRANDS
 - POSITION HOLD-DOWNS
 - DEPRESS UPPER STRANDS SIMULTANEOUSLY TO POSITION INDICATED
- STRAND CUTTING SEQUENCE (CUT SIMULTANEOUSLY EACH END OF BEAM)
 - CUT TOP DEFLECTED STRANDS EXCEPT FOR TWO LOWER STRANDS
 - CUT TOP LAYER OF STRAIGHT STRANDS
 - CUT REMAINDER DEFLECTED STRANDS
 - CUT REMAINDER STRAIGHT STRANDS (TOP TO BOTTOM) (CUT TO OUTSIDE) BUT LAYER (OUTSIDE TO CENTER)
- REFER TO DWG NO. P FOR BEAM LAYOUT FOR STRAND & TIE BARS
- REFER TO DWG NO. P FOR FORM LAYOUT
- FABRICATE BEAMS ON BEID

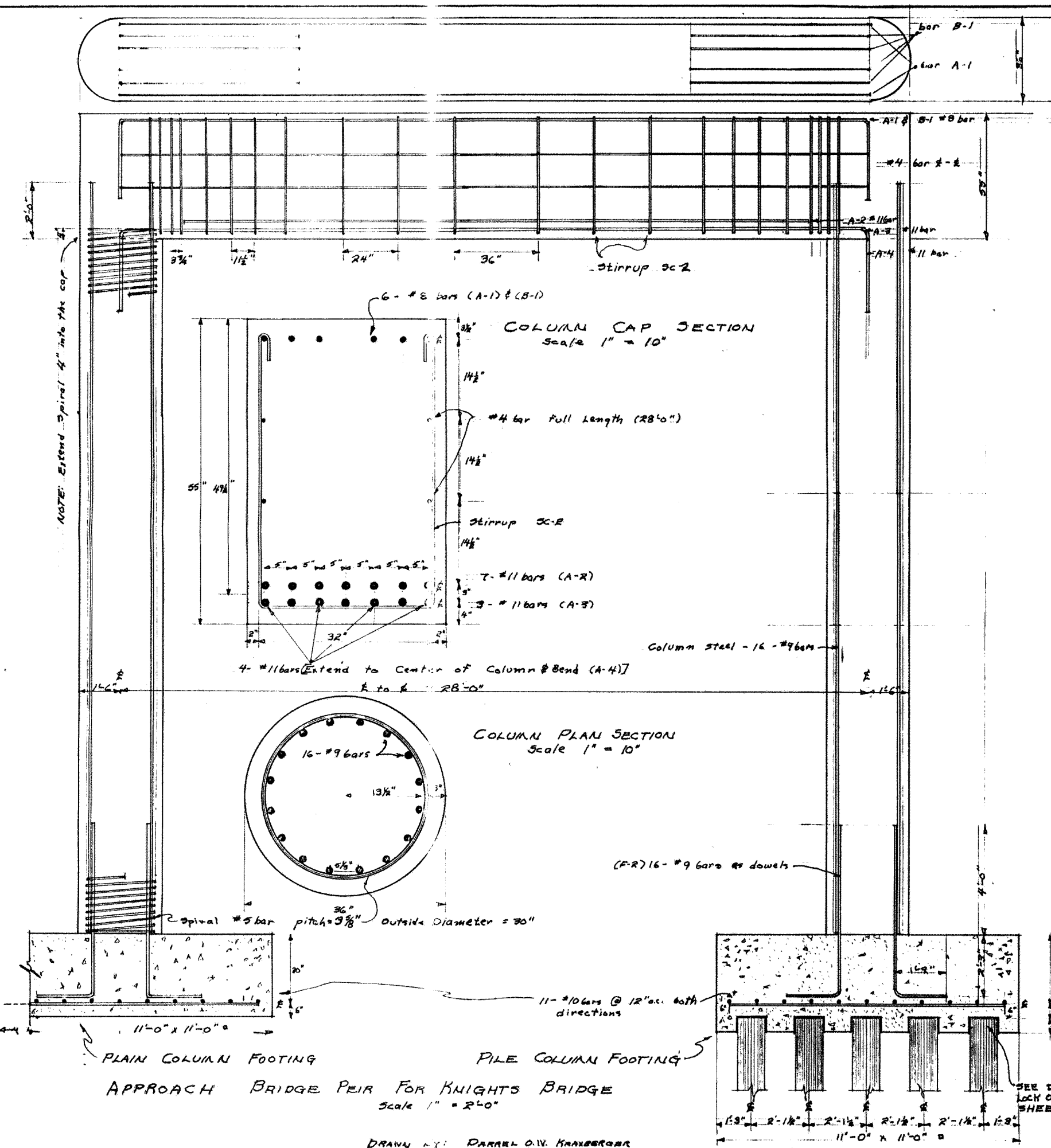
SECTION "B-B" SCALE: 3/4" = 1'-0"

SECTION "A-A" SCALE: 3/4" = 1'-0"

CONTRACTOR: GREGG STATE HIGHWAY DIST

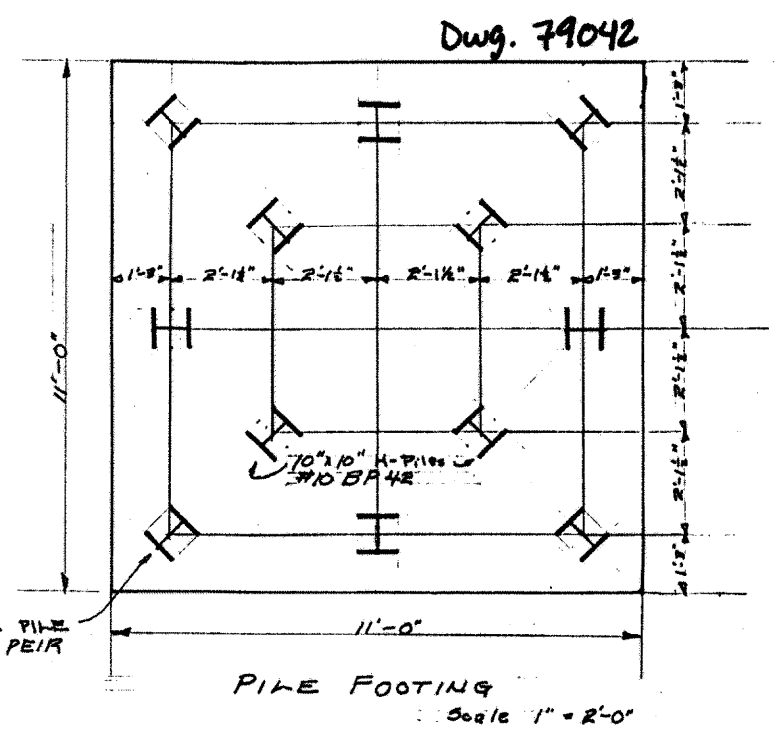


#6520

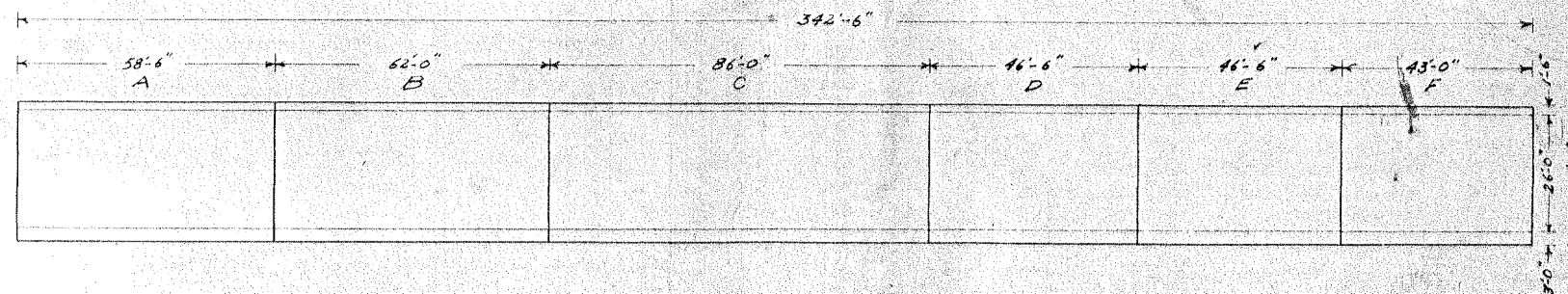
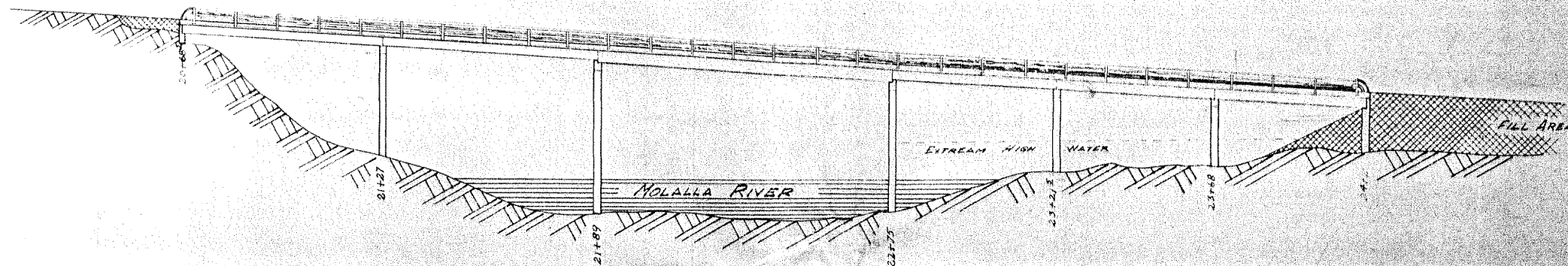


BAR TYPE SCHEDULE

Bar A-1 #8	Use - 2	28'-0"
Bar B-1 #8	Use - 8	6'-0"
Bar A-2 #11	Use - 7	22'-8"
Bar A-3 #11	Use - 3	28'-0"
Bar A-4 #11	Use - 4	28'-0"
Stirrup SC-2 #5 bar	Use - RR	Bend to fit a #8 bar
Dowel F-2 #9 bar	Use - 3R for each pair 16/footing	6'-0"

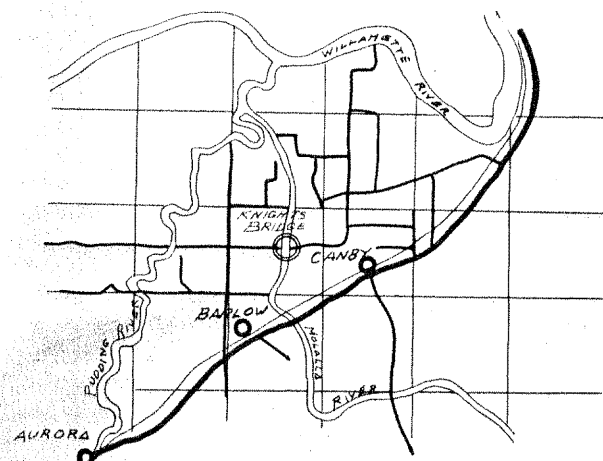


DRAWN BY: DARREL D.V. KRAIBERGER

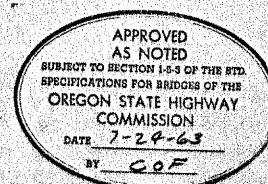


PROFILE & PLAN SCALE 1"=20'-0"

VICINITY MAP
KNIGHTS BRIDGE
SEC. 32 T.3S, R.1E



6520

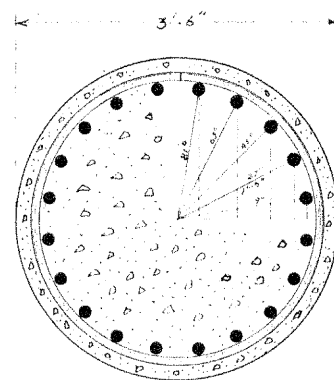


Design is Adequate

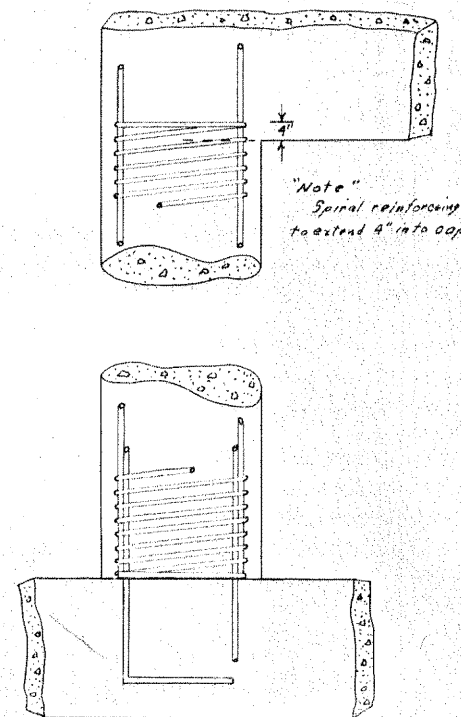
John H. Kelley Jr.

Dwg. 79043

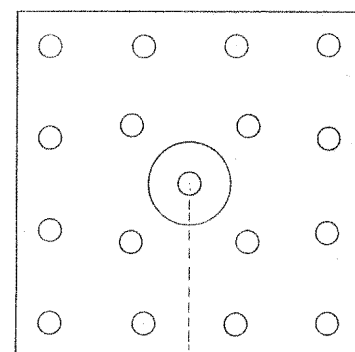
CLACKAMAS COUNTY ENGINEERING DEPT.	
KNIGHTS BRIDGE	
Designed by J.C.M.	Approved by
Checked by	Date
Drawn by J.C.	Sheet 1 of 1



COLUMN STEEL DETAIL
Scale 1"=1'-0"

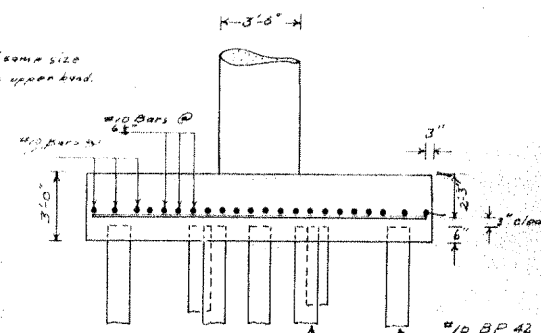


SPIRAL DETAIL
Scale 1/2"=1'-0"

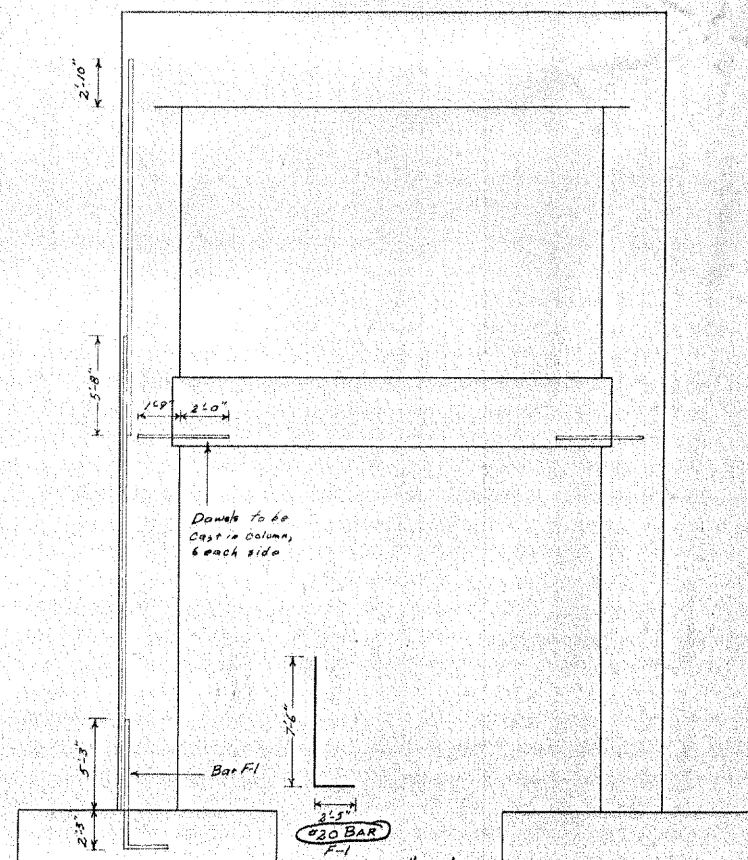


FOOTING DETAIL
Scale 1/4"=1'-0"

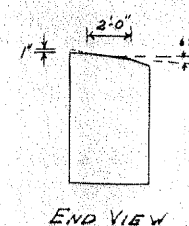
Note:
Lower bars same size
and spaced as upper bars



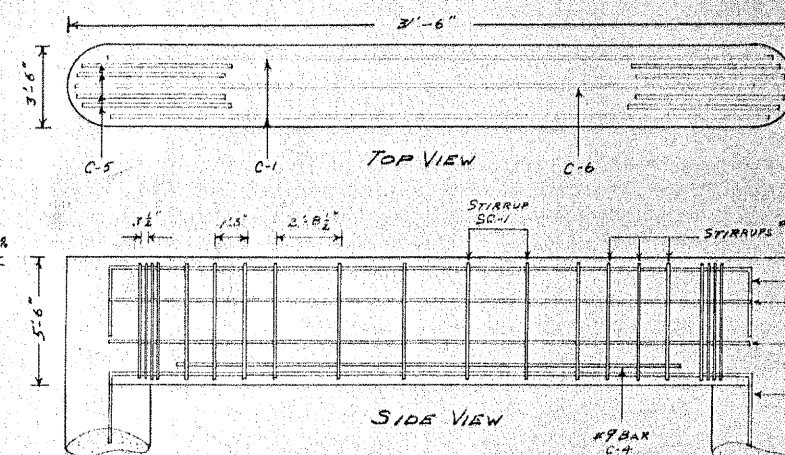
FOOTING DETAIL
Scale 1/4"=1'-0"



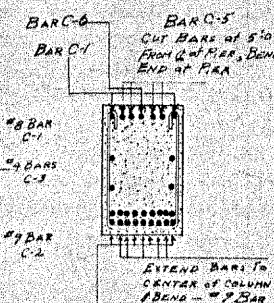
20 #14 bars



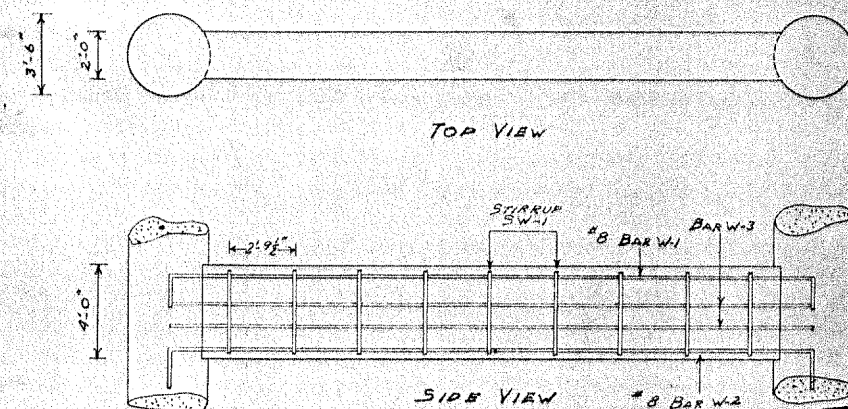
END VIEW



CAP DETAIL
Scale 1/4"=1'-0"



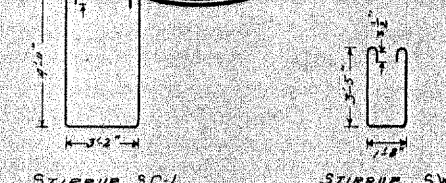
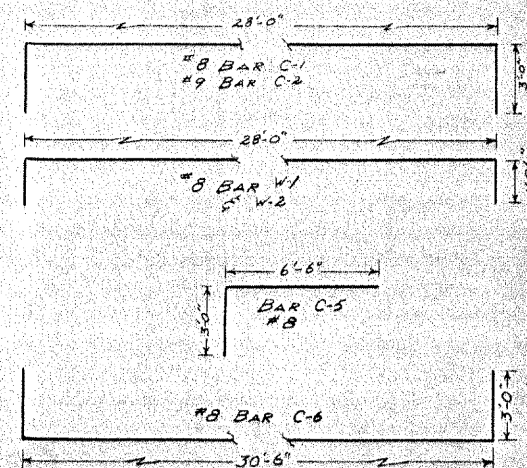
EXTEND BARS TO
CENTER OF COLUMN
1 BEND - #9 BARS



WEB WALL DETAIL
Scale 1/4"=1'-0"

APPROVED
AS NOTED
SUBJECT TO SECTION 1-5.3 OF THE STD.
SPECIFICATIONS FOR BRIDGES OF THE
OREGON STATE HIGHWAY
COMMISSION
DATE 6-4-63
BY CCF

John H. Kelley Jr.



STIRRUP SC-1 STIRRUP SW-1

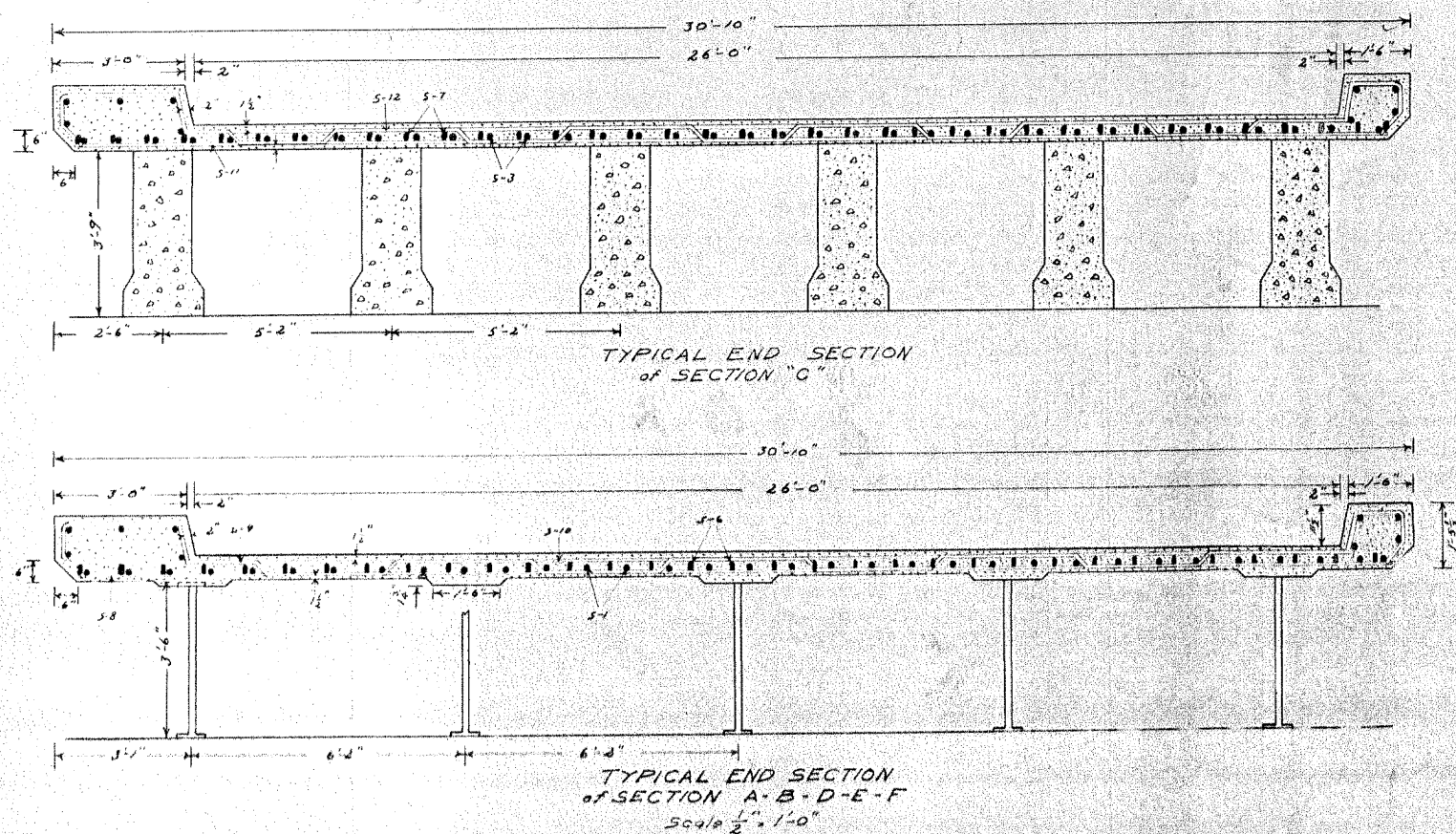
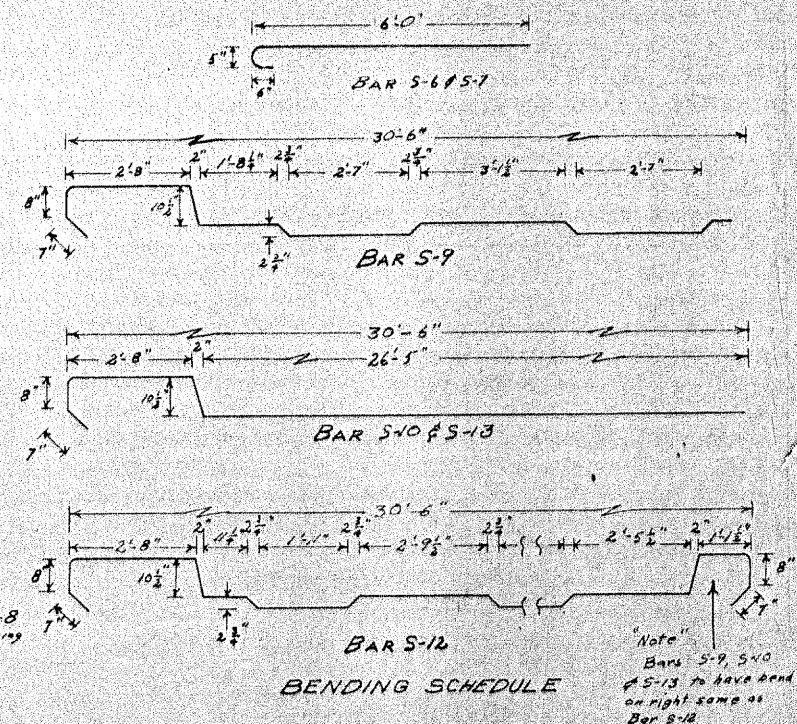
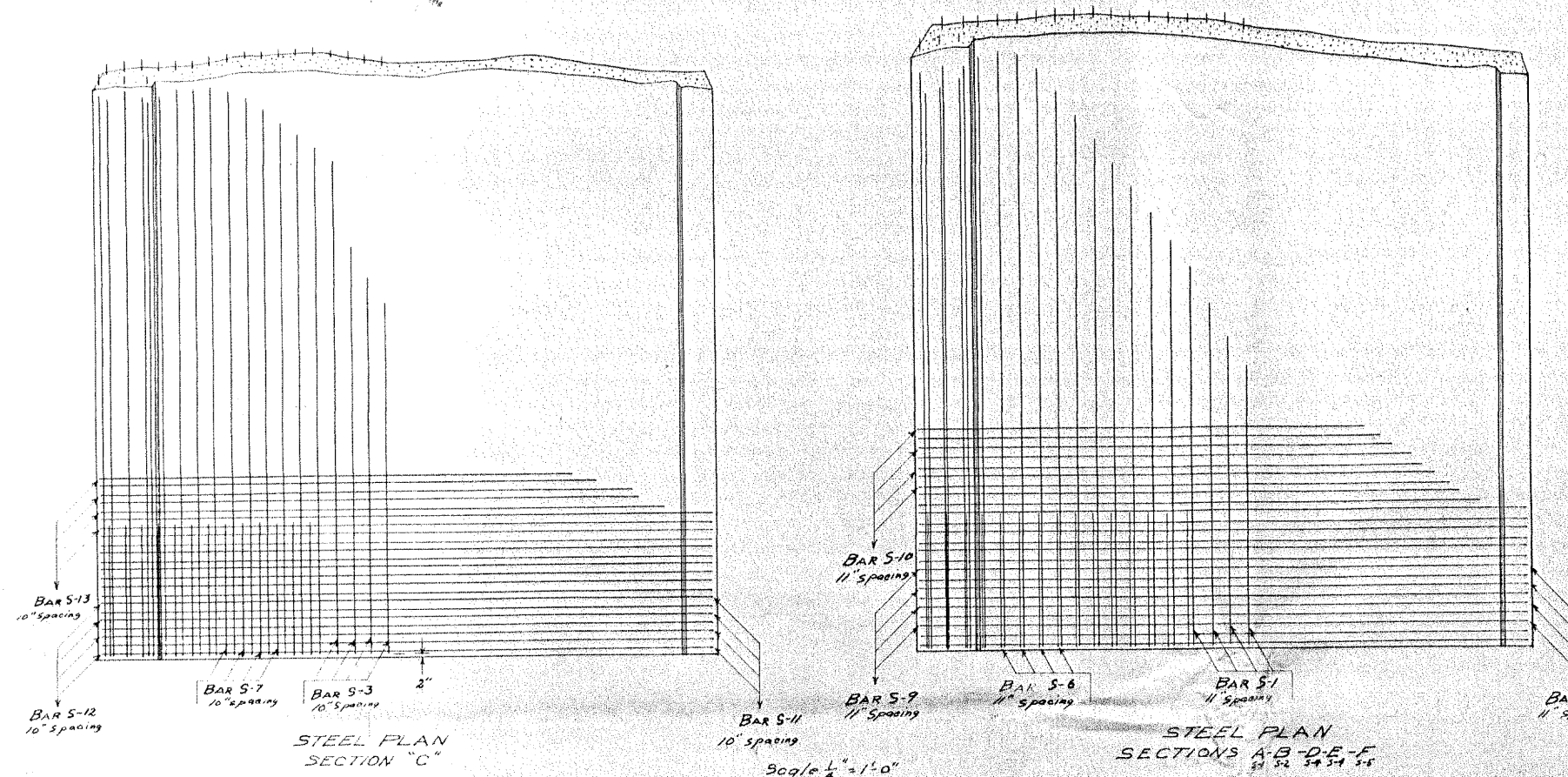
Dwg. 79044

CLACKAMAS COUNTY
ENGINEERING DEPT.

KNIGHTS BRIDGE

Designed by J.C.M.
Checked by
Drawn by KE

Approved by
Date
Sheet 2 of 2



SLAB REINFORCING STEEL SCHEDULE

SIZE	MARK	TYPE	QUAN	LENGTH	WEIGHT	A		B		C		D		E		F	
						QUAN	WEIGHT	QUAN	WEIGHT	QUAN	WEIGHT	QUAN	WEIGHT	QUAN	WEIGHT	QUAN	WEIGHT
#6	S-1	STR	126	20'-6"	30.17	126	3880										
#6	S-2	A	126	21'-8"	32.54			126	4100								
#5	S-3		138	27'-8"	30.94					138	4270						
#6	S-4	Y	168	24'-0"	36.05							84	3048	84	3028		
#6	S-5	STR	84	22'-3"	33.42											84	2801
#6	S-6	BENT	330	6'-8"	10.01	66	661	66	661			66	661	66	661	66	661
#5	S-7	BENT	74	6'-8"	6.75					74	514						
#6	S-8	STR	205	29'-8"	44.56	47	2094	50	2228			37	1699	37	1699	34	1515
#6	S-9	BENT	205	35'-0"	62.57	47	2471	50	2628			38	1988	38	1998	35	1840
#6	S-10	BENT	205	34'-2"	61.32	47	2412	50	2566			37	1899	37	1899	34	1745
#5	S-11	STR	69	29'-8"	30.94					69	2135						
#5	S-12	BENT	69	35'-12"	36.77					69	2537						
#5	S-13	BENT	69	34'-2"	35.64					69	2458						
TOTAL WEIGHT							4678		12183		11915		8225		8235		8568

APPROVED
AS NOTED
SUBJECT TO SECTION 1-3.1 OF THE STD.
SPECIFICATIONS FOR BRIDGES OF THE
OREGON STATE HIGHWAY
COMMISSION
DATE 7-24-63
BY CDF

John A. Kelley Jr.

Design is Adequate

Dwg. 79045

CLACKAMAS COUNTY
ENGINEERING DEPT.

KNIGHTS BRIDGE

Designed by J. C. M.

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Checked by

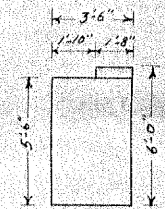
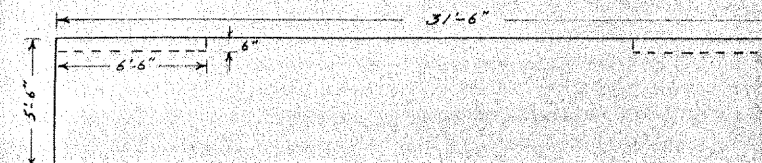
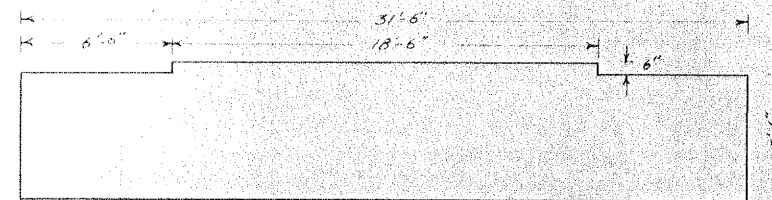
Date

Drawn by KE

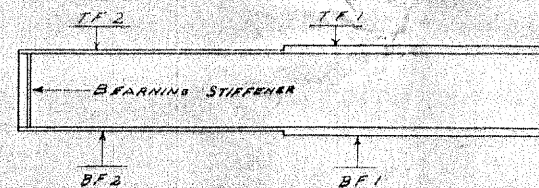
Sheet 3 of 1

A	B	C	D	E	F
58'-6"	62'-0"	86'-0"	46'-6"	46'-6"	43'-0"
53D	52C		54C	66E	59D
54A	52A	CONCRETE BEAMS	61E	64E	61D
53C	52B		60E	63E	62D
53B	53A		59E	62E	63D
54D	52D		54B	65E	60D

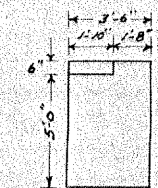
DECK BEAM PLAN
Scale $\frac{1}{16}'' = 1'-0''$



BENT No. 3
Scale $\frac{1}{4}'' = 1'-0''$

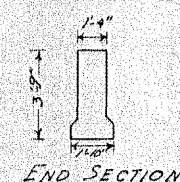


SIMPLE SPAN



BENT No. 4
Scale $\frac{1}{4}'' = 1'-0''$

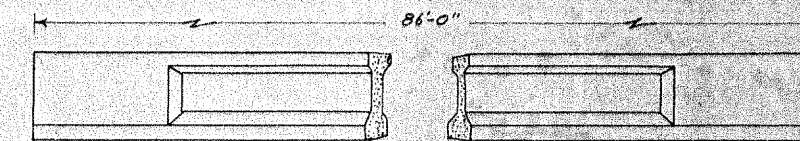
STEEL STRINGER SCHEDULE							
SPAN	BEAM NO.	LENGTH	WEB DEPTH	FLANGE DIMENSIONS			
A	53D	58'-6"	42"	12 x 1/2	12 x 1/2	16 x 1/2	16 x 1
	54A	58'-6"	42"	12 x 1/2	12 x 1/2	16 x 1/2	16 x 1
	53C	58'-6"	42"	12 x 1/2	12 x 1/2	16 x 1/2	16 x 1
	53B	58'-6"	42"	12 x 1/2	12 x 1/2	16 x 1/2	16 x 1
	54D	58'-6"	42"	12 x 1/2	12 x 1/2	16 x 1/2	16 x 1
B	52C	62'-0"	42"	12 x 1/2	12 x 1/2	16 x 1/2	16 x 1
	52A	62'-0"	42"	12 x 1/2	12 x 1/2	16 x 1/2	16 x 1
	52B	62'-0"	42"	12 x 1/2	12 x 1/2	16 x 1/2	16 x 1
	53A	62'-0"	42"	12 x 1/2	12 x 1/2	16 x 1/2	16 x 1
	52D	62'-0"	42"	12 x 1/2	12 x 1/2	16 x 1/2	16 x 1
D	54C	46'-6"	42"	12 x 1/2	10 x 1/2	12 x 1/2	12 x 1
	61E	46'-6"	36"	10 x 1/2		14 x 1	
	60E	46'-6"	36"	10 x 1/2		14 x 1	
	59E	46'-6"	36"	10 x 1/2		14 x 1	
	54B	46'-6"	42"	12 x 1/2	10 x 1/2	12 x 1/2	12 x 1
E	66E	46'-6"	36"	10 x 1/2		14 x 1	
	64E	46'-6"	36"	10 x 1/2		14 x 1	
	63E	46'-6"	36"	10 x 1/2		14 x 1	
	62E	46'-6"	36"	10 x 1/2		14 x 1	
	65E	46'-6"	36"	10 x 1/2		14 x 1	
F	51D	43'-0"	36"	8 x 1/2		12 x 1	
	61D	43'-0"	36"	8 x 1/2		12 x 1	
	62D	43'-0"	36"	8 x 1/2		12 x 1	
	63D	43'-0"	36"	8 x 1/2		12 x 1	
	60D	43'-0"	36"	8 x 1/2		12 x 1	



END SECTION

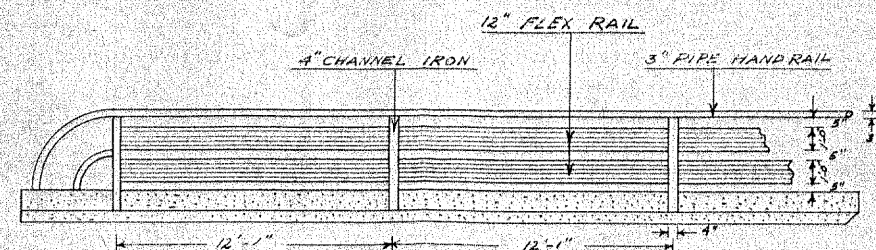


MID SPAN SECTION

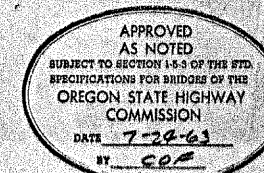


PRE CAST CONCRETE

STANDARD AASHO BEAM TYPE III



HAND RAIL DETAIL
Scale $\frac{1}{4}'' = 1'-0''$



See details from
Ress. Hand. 286
Co.

John H. Leach Jr.

Dwg. 79046

CLACKAMAS COUNTY
ENGINEERING DEPT.
KNIGHTS BRIDGE

Designed by J.C.M.

Approved by

Checked by

Date

Drawn by K

Sheet 4 of 4

