CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

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

June 29, 2023, BCC Agenda Date/Item: _____

Board of County Commissioners
Clackamas County

Approval of a Contract with Bent LLC for the Woodcock Creek (Grimm Road) Bridge Replacement Project. Contract value is $1,350,519.00 until project completion. Funding through an Oregon Watershed Enhancement Board Restoration Grant and County Road Funds. No County General Funds are involved.

Previous Board Action/Review	06/27/23: Request for consent 12/29/21: Approval to accept the Oregon Watershed Enhancement Board Restoration grant award 04/22/2021: BCC approval to partner with Molalla River Watch in Applying for an Oregon Watershed Enhancement Board Grant		
Performance Clackamas	The project will build a strong infrastructure.		
Counsel Review	Yes	**Procurement Review**	Yes
Contact Person	Devin Patterson, PM	**Contact Phone**	503-742-4666

EXECUTIVE SUMMARY Inspections of the existing Grimm Road Bridge over Woodcock Creek have indicated significant scour and undermining of the existing four-sided box bridge. The existing bridge is also a barrier to the passage of endangered species throughout much of the year. Department of Transportation and Development staff have selected the construction of a modular bridge as the most appropriate and cost-effective alternative for replacement. The final design has been approved and permitted by all required regulatory agencies. Clackamas County Road Funds will be responsible for $1,001,848.00 of the construction contract and an Oregon Watershed Enhancement Board Restoration grant will contribute $348,671.00.

PROCUREMENT PROCESS: This project was advertised in accordance with ORS and LCRB Rules on April 19, 2023, through Invitation to Bid #2023-34. Proposals were publicly opened on May 10, 2023. The County received three (3) bid proposals in response and Bent LLC was the apparent low bidder. After a review of the bid proposals, contracting with Bent LLC was determined to be in the best interest of the county based on an evaluation of the bid proposals.

For Filing Use Only

RECOMMENDATION: Staff respectfully recommends that the Board of County Commissioners approve and sign this contract with Bent LLC for the Woodcock Creek (Grimm Road) Bridge Replacement Project.

Respectfully submitted,

Dan Johnson

Dan Johnson
Director of Transportation & Development

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
Contract #8066

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 **BENT LLC**, hereinafter called the "Contractor" (collectively the "Parties"), shall become effective on the date this Contract has been signed by all the Parties and all County approvals have been obtained, whichever is later.

Project Name: # BID#2023-34 Woodcock Creek (Grimm Road) Bridge Replacement Project

1. Contract Price, Contract Documents and Work.
The Contractor, in consideration of the sum of **One Million Three Hundred Fifty Thousand Five Hundred Nineteen Dollars ($1,350,519.00)** (the "Contract Price"), to be paid to the Contractor by Owner in the manner and at the time hereinafter provided, and subject to the terms and conditions provided for in the Instructions to Bidders and other Contract Documents (as defined in the project specifications) referenced within the Instructions to Bidders), all of which are incorporated herein by reference, hereby agrees to perform all Work described and reasonably inferred from the Contract Documents. The Contract Price is the amount contemplated by the Base Bid adjusted for Alternates, as indicated in the accepted Bid.

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

- Notice of Contract Opportunity
- Supplemental Instructions to Bidders
- Bid Form
- Prevailing Wage Rates
- Plans, Specifications and Drawings
- Instructions to Bidders
- Bid Bond
- Performance Bond and Payment Bond
- Payroll and Certified Statement Form
- Addenda 1-4

The Plans, Specifications and Drawings expressly incorporated by reference into this Contract includes, but is not limited to, the Special Provisions for Highway Construction Department of Transportation and Development Clackamas County, Oregon Woodcock Creek (Grimm Road) Bridge Replacement (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 County to exercise any rights and remedies available under this Contract including, but not limited to, termination for default.

2. Representatives.
Contractor has named Jon Silbernagel 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 Devin Patterson 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: Jon Silbernagel shall be the Contractor's project executive, and will provide oversight and guidance throughout the project term.

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

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

Project Engineer: Ben Harliman 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.
COMMENCEMENT DATE: Upon Issuance of Notice to Proceed ("NTP")
SUBSTANTIAL COMPLETION DATE: October 31, 2024 (See Section 00180.50(h)
FINAL COMPLETION DATE: December 31, 2025

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 County 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.

Contractor must, throughout the duration of this Contract and any extensions, comply with all tax laws of this state and all applicable tax laws of any political subdivision of this state. Any violation of this section shall constitute a material breach of this Contract. Further, any violation of Contractor's warranty in this Contract

that Contractor has complied with the tax laws of this state and the applicable tax laws of any political subdivision of this state also shall constitute a material breach of this Contract. Any violation shall entitle County 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, at law, or in equity, including but not limited to: (A) Termination of this Contract, in whole or in part; (B) Exercise of the right of setoff, and withholding of amounts otherwise due and owing to Contractor, in an amount equal to County's setoff right, without penalty; and (C) Initiation of an action or proceeding for damages, specific performance, declaratory or injunctive relief. County shall be entitled to recover any and all damages suffered as the result of Contractor's breach of this Contract, including but not limited to direct, indirect, incidental and consequential damages, costs of cure, and costs incurred in securing replacement performance. These remedies are cumulative to the extent the remedies are not inconsistent, and County may pursue any remedy or remedies singly, collectively, successively, or in any order whatsoever.

The Contractor represents and warrants that, for a period of no fewer than six calendar years preceding the effective date of this Contract, has faithfully complied with: (A) All tax laws of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318; (B) Any tax provisions imposed by a political subdivision of this state that applied to Contractor, to Contractor's property, operations, receipts, or income, or to Contractor's performance of or compensation for any work performed by Contractor; (C) Any tax provisions imposed by a political subdivision of this state that applied to Contractor, or to goods, services, or property, whether tangible or intangible, provided by Contractor; and (D) Any rules, regulations, charter provisions, or ordinances that implemented or enforced any of the foregoing tax laws or provisions.

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 General or Special Conditions 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.

11.1 Liquidated Damages shall be as follows if the actual Substantial Completion exceeds the required date of Substantial Completion:
11.1.1. $ 800 per Calendar day past the Substantial Completion date as set forth in section 00180.85 (b)

11.2 Liquidated damages shall also include the following:
11.2.1. $500 per 15 minutes, or for a portion of 15 minutes, per lane, as set forth in 00180.85 (c).

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 County 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.

14. 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.

Signature page to follow.

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

Contractor DATA:
BENT LLC
36750 Richardson Gap Road
Scio, Oregon 97374

Contractor CCB # 210851 Expiration Date: 6/9/2024
Oregon Business Registry # 1209981-90 Entity Type: DLLC 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.

BENT LLC

Authorized Signature 6/13/2023 Date

Dale Sorensen / Member
Name / Title Printed

Clackamas County

Chair Date

Recording Secretary

APPROVED AS TO FORM

06/21/2023
County Counsel Date

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

Table of Contents

CLACKAMAS COUNTY
NOTICE OF PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

INVITATION TO BID #2023-34
Woodcock Creek (Grimm Road) Bridge Replacement Project
April 19, 2023

Clackamas County ("County") through its Board of County Commissioners is accepting sealed bids for the **Woodcock Creek (Grimm Road) Bridge Replacement Project** until **May 10 2023, 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/bso/view/login/login.xhtml, Document No.S-C01010-00006579.
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/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 .

Engineers Estimate: $921,670.00

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 Bridge & 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, April 5, 2023, which can be downloaded at the following web address: http://www.oregon.gov/boli/WHD/PWR/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: # 2023-34 Woodcock Creek (Grimm Road) Bridge Replacement 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 Bridge & Structures (REIN).**

2. **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/84175968970

   Meeting ID: 841 7596 8970
   One tap mobile
   +16699006833,,84175968970# US (San Jose) 17193594580,,84175968970# 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

+1 507 473 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)
+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
Meeting ID: 841 7596 8970
Find your local number: https://clackamascounty.zoom.us/u/kvYUnq9B5

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

3. **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: **Total Contract Amount:**

Project Name: # 2023-34 Woodcock Creek (Grimm Road) Bridge Replacement 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)*	
Signs	Bridge demo
Earthwork/Grading	Reintorcing Install
Structure work	Concrete work
Stream work	Temporary Erosion Control
Flagging	Striping

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 **correct legal name** 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		
			MBE	WBE	ESB
Name Brix Paving Northwest Inc. **Address** PO Box 2388 **City/St/Zip** Tualatin, Or 97062 **Phone#** 503-570-9355 **OCCB#** 193102	Paving	$24,450.00	☐	☐	☐
Name Longhorn Geomatics **Address** 10940 SW Barnes Rd **City/St/Zip** Portland Oregon 97225 **Phone#** 503-985-9762 **OCCB#** Survey License	Survey	$15,000.00	☐	☐	☐
Name Anderson's Erosion Control Inc. **Address** PO Box 205 **City/St/Zip** Junction City, OR 97448 **Phone#** 541-998-2062 **OCCB#** 86436	Planting/seeding	$14,830.00	☐	☑	☐
Name Columbia River Contractors Inc. **Address** PO Box 1070 **City/St/Zip** Clackamas, OR 97015 **Phone#** 503-722-1777 **OCCB#** 123490	Guardrail	$41,597.00	☐	☐	☐

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

Prime Contractor:
Project: # 2023-34 Woodcock Creek (Grimm Road) Bridge Replacement 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 Sollicitation 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>>)	
Andersons Erosion Control	Planting/seeding	5/3/23			☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	$26,955.00	Used	
Coria Landscape	Planting/seeding	5/3/23			☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	$28,940.00	Price	
Fox Erosion Control	Planting/seeding	5/3/23			☒ Yes ☐ No	☒ Yes ☐ No	☐ Yes ☒ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			

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

Prime Contractor:
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			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>>)	
Gage It	Guardrail	5/3/23			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No			
Coral Sales	Guardrail	5/3/23			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No			
All Rail	Guardrail	5/3/23			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			

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

Prime Contractor:
Project: # 2023-34 Woodcock Creek (Grimm Road) Bridge Replacement Project

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			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>>)	
Canyon Contracting	Paving	5/3/2023			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No			
Alamo Paving Co.	Paving	5/3/23			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No			
Hattner Paving, LLC	Paving	5/3/23			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No			
All City Paving, LLC	Paving	5/3/23			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			

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

Prime Contractor:
Project: # 2023-34 Woodcock Creek (Grimm Road) Bridge Replacement Project

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NAME OF M/W/ESB SUBCONTRACTOR	Divisions of Work (Painting, electrical, landscaping, etc.)	Date Sollicitation 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>>)	
1 Aliance Geomatics	Survey	5/3/23			☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☐ No			
O'Bunco Eng.	Survey	5/3/23			☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☐ No			
Kurahashi & Associates	Survey	5/3/23			☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID BOND

Project Name: # 2023-34 Woodcock Creek (Grimm Road) Bridge Replacement Project

We, Bent, LLC, as "Principal,"
(Name of Principal)

and Markel Insurance Company, an Illinois Corporation,
(Name of Surety)

authorized to transact Surety business in Oregon, as "Surety," hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns to pay unto Clackamas County ("Obligee") the sum of ($ 10%)

Ten Percent of Total Amount Bid dollars.

WHEREAS, the condition of the obligation of this bond is that Principal has submitted its proposal or bid to an agency of the Obligee in response to Obligee's procurement document (No.) for the project identified above which proposal or bid is made a part of this bond by reference, and Principal is required to furnish bid security in an amount equal to ten (10%) percent of the total amount of the bid pursuant to the procurement document.

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, we have caused this instrument to be executed and sealed by our duly authorized legal representatives this 1st day of May, 2023.

Principal: Bent, LLC

By: _____
Signature

Member
Official Capacity

Attest: _____
Corporation Secretary

Surety: Markel Insurance Company

Tracy Stewart
By: Attorney-In-Fact

Digitally signed by Tracy Stewart
DN: cn=Tracy Stewart, o, ou, email=tracy@agsadowki.com, c=US
Date: 2023.05.01 10:10:39 -07'00'

MARKEL INSURANCE COMPANY CORPORATE SEAL ILLINOIS

Tracy Stewart
Name

1605 Liberty Street SE
Address

Salem, OR 97302
City State Zip

(503) 362-2711
Phone

tracy@agsadowki.com
Fax Email

POA# 3710030

JOINT LIMITED POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That SureTec Insurance Company, a Corporation duly organized and existing under the laws of the State of Texas and having its principal office in the County of Harris, Texas and Markel Insurance Company (the "Company"), a corporation duly organized and existing under the laws of the state of Illinois, and having its principal administrative office in Glen Allen, Virginia, does by these presents make, constitute and appoint:

Ty Moffett, Derek A. Sadowski, A.G. Sadowski, Tracy Stewart

Their true and lawful agent(s) and attorney(s)-in-fact, each in their separate capacity if more than one is named above, to make, execute, seal and deliver for and on their own behalf, individually as a surety or jointly, as co-sureties, and as their act and deed any and all bonds and other undertaking in suretyship provided, however, that the penal sum of any one such instrument executed hereunder shall not exceed the sum of:

Fifty Million and 00/100 Dollars ($50,000,000.00)

This Power of Attorney is granted and is signed and sealed under and by the authority of the following Resolutions adopted by the Board of Directors of SureTec Insurance Company and Markel Insurance Company:

"RESOLVED, That the President, any Senior Vice President, Vice President, Assistant Vice President, Secretary, Assistant Secretary, Treasurer or Assistant Treasurer and each of them hereby is authorized to execute powers of attorney, and such authority can be executed by use of facsimile signature, which may be attested or acknowledged by any officer or attorney, of the company, qualifying the attorney or attorneys named in the given power of attorney, to execute in behalf of, and acknowledge as the act and deed of the SureTec Insurance Company and Markel Insurance Company, as the case may be, all bond undertakings and contracts of suretyship, and to affix the corporate seal thereto."

IN WITNESS WHEREOF, Markel Insurance Company and SureTec Insurance Company have caused their official seal to be hereunto affixed and these presents to be signed by their duly authorized officers on the 5th day of October , 2021 .

SureTec Insurance Company

By: _____
Michael C. Keimig, President

SURETEC INSURANCE COMPANY HOUSTON TEXAS

MARKEL INSURANCE COMPANY CORPORATE SEAL ILLINOIS

Markel Insurance Company

By: _____
Lindey Jennings, Vice President

State of Texas
County of Harris:

On this 5th day of October , 2021 A. D., before me, a Notary Public of the State of Texas, in and for the County of Harris, duly commissioned and qualified, came THE ABOVE OFFICERS OF THE COMPANIES, to me personally known to be the individuals and officers described in, who executed the preceding instrument, and they acknowledged the execution of same, and being by me duly sworn, disposed and said that they are the officers of the said companies aforesaid, and that the seals affixed to the proceeding instrument are the Corporate Seals of said Companies, and the said Corporate Seals and their signatures as officers were duly affixed and subscribed to the said instrument by the authority and direction of the said companies, and that Resolutions adopted by the Board of Directors of said Companies referred to in the preceding instrument is now in force.

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

NOTARY PUBLIC STATE OF TEXAS
XENIA CHAVEZ
Notary Public, State of Texas
Notary ID# 12911765-9
My Commission Expires
SEPTEMBER 10, 2024

By: _____
Xenia Chavez, Notary Public
My commission expires 9/10/2024

We, the undersigned Officers of SureTec Insurance Company and Markel Insurance Company do herby certify that the original POWER OF ATTORNEY of which the foregoing is a full, true and correct copy is still in full force and effect and has not been revoked.

IN WITNESS WHEREOF, we have hereunto set our hands, and affixed the Seals of said Companies, on the 1st day of May , 2023 .

SureTec Insurance Company

By: _____
M. Brent Beaty, Assistant Secretary

Markel Insurance Company

By: _____
Andrew Marquis, Assistant Secretary

Any Instrument Issued in excess of the penalty stated above is totally void and without any validity. 3710030
For verification of the authority of this Power you may call (713)812-0800 on any business day between 8:30 AM and 5:00 PM CST.

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID FORM

PROJECT: # 2023-34 Woodcock Creek (Grimm Road) Bridge Replacement Project
BID CLOSING: May 10, 2023, 2:00 PM, Pacific Time
BID OPENING: May 10, 2023, 2:05 PM, Pacific Time

FROM: BENT LLC
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 _____; or

__X__d. A limited liability corporation organized under the laws of the State of Oregon;

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:

one million, three hundred fifty thousand, five hundred nineteen dollars Dollars ($1,350,519.00)

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

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

- ADDENDA numbered 1 through 5, 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 **Woodcock Creek (Grimm Road) Bridge Replacement.**

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:

Markel Insurance Company.

(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 210851. 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 State Accident Insurance Fund.

Policy No. 862794, and that Contractor shall submit Certificates of Insurance as required.

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

Project Executive:	Jon Silbernagel,	Cell Phone:	971-777-4601,
Project Manager:	Dale Sorensen,	Cell Phone:	541-231-5449,
Job Superintendent:	Wes Urban,	Cell Phone:	503-949-7608,
Project Engineer:	Ben Harliman,	Cell Phone:	503-354-4203.

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: BENT LLC

ADDRESS: 36750 Richardson Gap Rd
Scio, OR 97374

TELEPHONE NO: 541-231-5449

EMAIL: dale@bentconst.com

SIGNATURE 1) _____
Sole Individual

or 2) _____
Partner

or 3) Dale Sor Member
Authorized Officer or Employee of Corporation

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

Addenda #4 Items

Woodcock Creek (Grimm Road) Bridge Replacement
BID SCHEDULE

5/4/2023

ITEM #	SECTION	ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL
PART 00200 - TEMPORARY FEATURES AND APPURTENANCES						
1	00180	WORK PLACE HARASSMENT PREVENTION PLAN	LS	1	$500.00	$500.00
2	00196	EXTRA WORK	FA	1	$50,000.00	$50,000.00
3	00210	MOBILIZATION	LS	1	$135,000.00	$135,000.00
4	00221	TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC, COMPLETE	LS	1	$8,500.00	$8,500.00
5	00222	PORTABLE CHANGEABLE MESSAGE SIGNS	EACH	2	$6,500.00	$13,000.00
6	00231	CONSTRUCT AND REMOVE TEMPORARY ACCESS ROAD	LS	1	$5,500.00	$5,500.00
7	00245	TEMPORARY WATER MANAGEMENT FACILITY	LS	1	$55,000.00	$55,000.00
8	00280	EROSION CONTROL	LS	1	$4,000.00	$4,000.00
9	00280	MATTING, TYPE D	SQYD	300	$9.00	$2,700.00
10	00280	SEDIMENT BARRIER, TYPE 8	FOOT	1,300	$7.25	$9,425.00
11	00280	CONCRETE WASHOUT FACILITY	EACH	1	$500.00	$500.00
12	00280	CONSTRUCTION ENTRANCE, TYPE 1	EACH	1	$1,250.00	$1,250.00
13	00280	CHECK DAM, TYPE 3	EACH	4	$60.00	$240.00
14	00280	POLLUTION CONTROL PLAN	LS	1	$500.00	$500.00
15	00290	WORK CONTAINMENT PLAN	LS	1	$500.00	$500.00
16	00290	TURBIDITY MONITORING	LS	1	$2,500.00	$2,500.00
PART 00300 - ROADWORK						
17	00305	CONSTRUCTION SURVEY WORK	LS	1	$15,000.00	$15,000.00
18	00310	REMOVAL OF SURFACINGS	SQYD	325	$35.00	$11,375.00
19	00310	REMOVAL OF GUARDRAIL	FOOT	310	$10.00	$3,100.00
20	00320	CLEARING AND GRUBBING	LS	1	$18,500.00	$18,500.00
21	00330	GENERAL EXCAVATION	CY	350	$80.00	$28,000.00
22	00331	18 INCH SUBGRADE STABILIZATION	SQYD	60	$60.00	$3,600.00
23	00350	SUBGRADE GEOTEXTILE	SQYD	350	$3.00	$1,050.00
PART 00400 - DRAINAGE AND SEWERS						
24	00490	CONNECT NEW STRUCTURE TO EXISTING STORM LINE	EACH	1	$3,500.00	$3,500.00
PART 00500 - BRIDGES						
25	00501	BRIDGE REMOVAL WORK	LS	1	$125,350.00	$125,350.00
26	00510	STRUCTURE EXCAVATION	CY	100	$75.00	$7,500.00
27	00510	SHORING, CRIBBING, AND COFFERDAMS	LS	1	$1.00	$1.00
28	00565	PRE-FABRICATED BRIDGE	LS	1	$660,450.00	$660,450.00
PART 00600 - BASES						
29	00640	AGGREGATE BASE	TON	160	$135.00	$21,600.00
PART 00700 - WEARING SURFACES						
30	00744	LEVEL 2, 1/2 INCH DENSE ACP MIXTURE	TON	130	$175.00	$22,750.00
PART 00800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
31	00810	GUARDRAIL, TYPE 2A	FOOT	170	$40.00	$6,800.00
32	00810	GUARDRAIL, TYPE 4	FOOT	88	$1.00	$88.00
33		Deleted Bid Item				
34		Deleted Bid Item				
35	00810	GUARDRAIL TRANSITION	EACH	4	$3,000.00	$12,000.00
36	00810	MIDWEST GUARDRAIL TERMINALS, NON-FLARED	EACH	4	$4,100.00	$16,400.00
37	00860	LONGITUDINAL PAVEMENT MARKINGS, PAINT	FOOT	140	$9.00	$1,260.00
PART 01000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
38	01012	WATER QUALITY BIOFILTRATION SWALE	LS	1	$15,000.00	$15,000.00
39	01030	SEEDING MOBILIZATION	EACH	2	$1,000.00	$2,000.00
40	01030	PERMANENT SEEDING, WATER QUALITY MIX	ACRE	0.03	$37,000.00	$1,110.00
41	01030	PERMANENT SEEDING, EROSION CONTROL MIX	ACRE	0.06	$18,000.00	$1,080.00
42	01040	IMPORTED TOP SOIL, 12-INCH SECTION	CY	40.00	$91.00	$3,640.00
43	01091	BOULDERS	EACH	42	$225.00	$9,450.00
44	01091	STREAMBED SEDIMENT	TON	60.00	$300.00	$18,000.00
45	01091	STREAMBED COBBLES, 6 INCH TO 10 INCH	TON	60	$390.00	$23,400.00
46	01091	CHANNEL MARGIN JAMS, COMPLETE	EACH	4	$7,350.00	$29,400.00

PROPOSED COST BID SCHEDULE $1,350,519.00
(Numericaly)

PROPOSED COST BID SCHEDULE One million threehundred fitty thousand, five hundred ninteen dollars and Zero Cents
Written in Words

COMPANY NAME BENT LLC

AUTHORIZED SIGNATURE [signature]

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM
PROJECT: #2023-34

BID OPENING: May 10, 2023, 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.	None		
2.			
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: BENT LLC

Bidder Signature: [signature] Phone # 541-231-5449

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PERFORMANCE BOND

Bond No.: 4448403
Solicitation: #2023-34
Project Name: Woodcock Creek (Grimm Road) Bridge Replacement Project

Markel Insurance Company (Surety #1)	Bond Amount No. 1:	$ 1,350,519.00
_____ (Surety #2)*	Bond Amount No. 2:*	$ _____
* *If using multiple sureties*	Total Penal Sum of Bond:	$ 1,350,519.00

We, Bent, LLC 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) --One Million Three Hundred Fifty Thousand Five Hundred Nineteen and 00/100- (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 16th day of June, 20 23.

PRINCIPAL: Bent, LLC

By: _____
Signature

Member
Official Capacity

Attest: _____
Corporation Secretary

SURETY: Markel Insurance Company
[Add signatures for each if using multiple bonds]

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

Ty Moffett
Name

_____
Signature

1605 Liberty St. SE
Address

Salem | OR | 97302
City | State | Zip

503-362-2711 | ty@agsadowski.com
Phone | Fax

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PAYMENT BOND

Bond No.: 4448403
Solicitation: #2023-34
Project Name: Woodcock Creek (Grimm Road) Bridge Replacement Project

Markel Insurance Company (Surety #1)	Bond Amount No. 1:	$ 1,350,519.00
_____ (Surety #2)*	Bond Amount No. 2:*	$ _____
* *If using multiple sureties*	Total Penal Sum of Bond:	$ 1,350,519.00

We, Bent, LLC, 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) --One Million Three Hundred Fifty Thousand Five Hundred Nineteen and 00/100-- (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 16th day of June, 20 23.

PRINCIPAL: Bent, LLC

By: _____
Signature

Member
Official Capacity

Attest: _____
Corporation Secretary

CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION
CORPORATE SEAL
1973
MISSOURI
SWISS RE

SURETY: Markel Insurance Company
[Add signatures for each if using multiple bonds]

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

Ty Moffett
Name

_____
Signature

1605 Liberty St. SE
Address

Salem | OR | 97302
City | State | Zip

503-362-2711 | ty@agsadowski.com
Phone | Fax

SWISS RE CORPORATE SOLUTIONS

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION ("SRCSAIC")
SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION ("SRCSPIC")
WESTPORT INSURANCE CORPORATION ("WIC")

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT SRCSAIC, a corporation duly organized and existing under laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, and SRCSPIC, a corporation organized and existing under the laws of the State of Missouri and having its principal office in the City of Kansas City, Missouri, and WIC, organized under the laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, each does hereby make, constitute and appoint:

DEREK A. SADOWSKI, TY MOFFETT, AND TRACY STEWART

JOINTLY OR SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

ONE HUNDRED TWENTY-FIVE MILLION ($125,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both SRCSAIC and SRCSPIC at meetings duly called and held on the 18th of November 2021 and WIC by written consent of its Executive Committee dated July 18, 2011.

"RESOLVED, that any two of the President, any Managing Director, any Senior Vice President, any Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is, authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Corporation bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Corporation; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Corporation may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Corporation when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION CORPORATE SEAL 1973 MISSOURI

SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION CORPORATE SEAL MISSOURI

By_____
Erik Janssens, Senior Vice President of SRCSAIC & Senior Vice President of SRCSPIC & Senior Vice President of WIC

By_____
Gerald Jagrowski, Vice President of SRCSAIC & Vice President of SRCSPIC & Vice President of WIC

WESTPORT INSURANCE CORPORATION CORPORATE SEAL MISSOURI

IN WITNESS WHEREOF, SRCSAIC, SRCSPIC, and WIC have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers

this 10 day of NOVEMBER, 20 22

Swiss Re Corporate Solutions America Insurance Corporation
Swiss Re Corporate Solutions Premier Insurance Corporation
Westport Insurance Corporation

State of Illinois
County of Cook ss

On this 10 day of NOVEMBER, 20 22, before me, a Notary Public personally appeared Erik Janssens, Senior Vice President of SRCSAIC and Senior Vice President of SRCSPIC and Senior Vice President of WIC and Gerald Jagrowski, Vice President of SRCSAIC and Vice President of SPCSPIC and Vice President of WIC, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.

OFFICIAL SEAL
CHRISTINA MANISCO
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires March 28, 2026

Christina Manisco, Notary

I, Jeffrey Goldberg, the duly elected Senior Vice President and Assistant Secretary of SRCSAIC and SRCSPIC and WIC, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said SRCSAIC and SRCSPIC and WIC, which is still in full force and effect.
IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this 16th day of June, 20 23.

Jeffrey Goldberg, Senior Vice President & Assistant Secretary of SRCSAIC and SRCSPIC and WIC

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

PROJECT: #2023-34 Woodcock Creek (Grimm Road) Bridge Replacement Project

Project Background:
The existing 4-sided box culvert bridge (53-feet long with 13.6-foot-long span, and 5-foot rise), was constructed in 1970, and has a concrete floor that is undermined up to approximately 7 feet on the downstream end. The constricting nature of the existing structure continues to make this structure prone to overtopping and scour. Regulatory agency permits were obtained to replace the existing bridge with a larger sized, fish-friendly modular bridge. The new bridge will be a prefabricated modular bridge with 44-foot long, precast, prestressed planks (beams) supported on abutment foundations.

In addition to the modular bridge, the project improvements include mobilization, temporary traffic control, construction survey, existing box culvert bridge removal, drainage work, permanent traffic markings, water quality biofiltration swale installation, base work, shoulder construction, grading, permanent seeding, guardrail installation, large-wood channel margin jams, and asphalt and concrete wearing surfaces.

Engineers Estimate: $921,670.00

Key Dates:
All Basic Bid Work may begin as soon as the Notice to Proceed ("NTP") is issued
Substantial Completion: October 31, 2023
Final Completion: December 31, 2024

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 WOODCOCK CREEK (GRIMM ROAD) BRIDGE REPLACEMENT, dated APRIL 2023 (77 pages)

CLACKAMAS COUNTY WOODCOCK CREEK AT GRIMM ROAD CULVERT REPLACEMENT Drawing Set, Sheets No. 1, 1A-1B, 2A, 2A-2.-2A-9, 2B- 2D, 2D-2, 3A, 3A-2, 3B- 3E, 4A- 4C, 5A-5D, 6D, 6D-2-6D-5, SS-1(35 pages)

Oregon Standard Drawings (Drawing Set) Sheets: BR233, RD367,RD400, RD405, RD410, RD415, RD610, RD615, RD1005, RD1032, RD1040, RD1070, TM500, TM840 (14 pages)

Oregon DLS Authorization (14 pages)

Oregon DEQ 401 Water Quality Certification (16 pages)

Army Corps Authorization (112 pages)

SPECIAL PROVISIONS
FOR HIGHWAY CONSTRUCTION

DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT
CLACKAMAS COUNTY, OREGON

Woodcock Creek (Grimm Road) Bridge Replacement

AGGREGATE BASES, ASPHALT CONCRETE PAVING AND OILING, BRIDGES AND STRUCTURES, MISCELLANEOUS HIGHWAY APPURTNENANCES, AND EARTHWORK AND DRAINAGE,

April 2023

TABLE OF CONTENTS FOR SPECIAL PROVISIONS

Specifications for Proposed
Woodcock Creek (Grimm Rd) Bridge Replacement

PROFESSIONAL OF RECORD CERTIFICATION(s):

 Exp: 6/30/23 Date Signed: 3/09/2023	I certify that the Special Provision Sections listed below were prepared by me or under my supervision. Sections: All Sections.

SPECIAL PROVISIONS

WORK TO BE DONE

The Work to be done on the Woodcock Creek (Grimm Road) Bridge Replacement in Clackamas County under this Contract consists of the following;

1. Remove an existing 4-sided box culvert and replace with a modular bridge skewed to the Woodcock Creek channel. The opening to Woodcock Creek is 18-feet and the precast, prestressed deck planks are 44 feet in length.
2. Repair/reconstruct 115 feet of roadway including aggregate base and asphalt concrete wearing surfaces.
3. Install streambed material, boulders, and Channel Margin Jams.
4. Install guardrail, guardrail transitions, and Midwest Guardrail Terminals, non-flared.
5. Install water quality biofiltration swale.
6. Perform additional and incidental Work, as called for in the Special Provisions and on the Plans.

APPLICABLE SPECIFICATIONS

The Specification that is applicable to the Work on this Project is the 2021 edition of the "Oregon Standard Specifications for Construction".

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

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 at;
  (http://www.clackamas.us/code/documents/appendixc.pdf).

00110.10 Abbreviations

Add the following:

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 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, 2021 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.

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.

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.

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.

Copies of the 2021 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

00120.15 Examination of Work Site and Solicitation Documents; Consideration of Conditions to be Encountered – Delete the third paragraph.

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

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

The Agency or its consultant has conducted subsurface or geologic investigations of the Project Site, and the results of these investigations are included in the Bid Documents and 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.

00120.68 Mistakes in 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.

00120.95 Opportunity for Cooperative Arrangement – Delete this 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", 2021 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.

00130.50(a) By the Bidder – Delete and replace with the

following: See Instructions to Bidders.

00130.50(b) By the Agency – Delete and replace with the following:

Within 10 Working Days after the Agency has received and verified the properly executed documents specified in the Instructions to Bidders, and received legal sufficiency approval from the Agency's attorney, the Agency will request Clackamas County Board of Commissioners or County Administrator's Approval of the Contract. Approval will occur within 21 Calendar Days after the Agency has received and verified the properly executed documents. The Agency will then send a fully executed Public Improvement Contract (Contract Form) to the successful Bidder, who then officially becomes the Contractor.

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

Security deposited by unsuccessful bidders will be returned as soon as practicable after the bid opening.

00130.80 Project Site Restriction- Replace the paragraph that begins "Until the Agency sends...", with the following paragraph:

Until the Agency sends the Contractor written Notice to Proceed with the Work, and the Contractor has filed the public works bonds required in 00170.20, the Contractor shall not go onto the Project Site on which the Work is to be done, nor move Materials, Equipment or workers onto the Project Site.

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

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(b) Agency Responsibilities - Replace this subsection, except for the subsection number and title, with the following:

The Engineer will perform the Agency responsibilities described in the ODOT Construction Surveying Manual for Contractors, Chapter 1.5 (see Section 00305).

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

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

- Perform earthwork slope staking including intersections and match lines and set stakes defining limits for clearing which approximate right-of-way and easements.
- Perform abutment wall and bridge replacement staking.
- Inform the Engineer of staking requirements at least 5 Calendar Days before the staking needs to begin;
- Coordinate construction to provide sufficient area for the Engineer to perform surveying work efficiently and safely;
- Accurately measure detailed dimensions, elevations, and Slopes from the Engineer's stakes and marks;
- Perform the Work in such a manner as to preserve stakes and marks;
- Set any reference lines for automatic control from the control stakes provided by the Engineer.

- 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.

(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 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.

(f) Utility Information: Add the following subsection:

here are no anticipated conflicts with the Utilities listed below. However energized power lines overhang portions of the Work with a minimum vertical clearance of approximately 15 feet. Contractor shall maintain at least 10 feet of safety clearance. Exceptions require written approval from Portland General Electric and may require an On-Site safety watcher, at no cost to the Contractor. Provide the Engineer a copy of the written approval of exception before beginning work.

Notify, in writing, Portland General Electric at least 30 Calendar Days (4 weeks) before beginning Work on the Project.

	Utility	**Contact Person's Name and Phone Number**
1.	Portland General Electric	Ryan Williams Ryan.Williams@pgn.com 503-669-5259
4.	Comcast	Brent Christiansen Brent_Christiansen@comcast.com 503-813-0483

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:

00160.05 Qualified Products List (QPL) - Replace this subsection, except for the subsection number and title, with the following:

The QPL is a listing of manufactured products available on the market (shelf items) that ODOT has evaluated and found suitable for a specified use in highway construction. The QPL is available from ODOT's Construction Section website at:

http://www.oregon.gov/ODOT/Construction/Pages/Qualified-Products.aspx

The most current published PDF version of the QPL on ODOT's Construction Section website at the time of Advertisement is the version in effect for the Project. The Engineer may approve for use a conditionally qualified product, or a product qualified for inclusion in a later edition of the QPL, if the Engineer finds the product acceptable for use on the Project.

Use of listed products shall be restricted to the category of use for which they are listed. The Contractor shall install all products as recommended by the manufacturer. The Contractor shall replace qualified products not conforming to Specifications or not properly handled or installed at no additional cost to the Agency.

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

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:

00170.00 General - Replace the first sentence of the first paragraph in this section with the following:

The Contractor shall comply with all laws, ordinances, codes, regulations, executive orders, and administrative rules (collectively referred to as "Laws" in this Section) that relate to the Work or to those engaged in the Work.

00170.01(a) Federal Agencies - Add the following to the list of Federal Agencies:

National Oceanic and Atmospheric Administration

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.

00170.03 Furnishing Right-of-Way and Permits – Add the following:
Add the following bullet items:

- The Contactor must comply with all special requirements of the written agreements between the County and the Property Owners for work on Private property within the limits of the Temporary Construction Easements or as established by the right-of-entries signed by the property owners to connect driveways to the new roadway. Copies of these agreements are available at Clackamas County upon request.
- The Contractor may not store materials or equipment within project TCE's unless specifically approved by the Project Manager.

00170.61(a) Workers' Compensation - In the paragraph, replace "00170.70(d)" with "the Agreement".

00170.65(a) General - Add the following paragraph to the end of this subsection:

As required by ORS 279C.520, compliance by the Contractor with the prohibitions in ORS 652.220 is a material element of the Contract and failure to comply is a material breach that entitles the Agency to exercise any remedies available under the Contract, including but not limited to termination for default. The Contractor shall not prohibit any of the Contractor's employees from, or retaliate against an employee for, discussing the employee's rate of wage, salary, benefits or other compensation with another employee or another person.

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 with Pollution Coverage	$1,000,000.00	(aggregate limit not required)

Add the following:

The Contractor shall require that all subcontractors of any tier provide insurance coverage (including additional insured provisions) and limits identical to the insurance required of the Contractor under this contract, unless this requirement is expressly modified or waived by the Agency in writing.

00170.70(d) Additional Insured - Add the following paragraph at the beginning of the section and add the bullets to the end of this subsection:

The liability insurance coverages of 00170.70(a) shall include the Agency, the Agency's governing body, board, or Commission and its members, and their respective officers, agents, and employees as Additional Insureds, but only with respect to the Contractor's activities to be performed under the Contract.

- Clackamas County and its officers, agents, and employees
- Clackamas County Board of Commissioners

00170.70(h) Agency Acceptance – Delete the paragraph in this section and replace with the following:

- All insurance and insurance providers are subject to Agency acceptance. In addition, all of the following are subject to Agency acceptance and, if requested by Agency, the Contractor shall provide complete copies of the following to Agency's representatives responsible for verification of the insurance coverages required by the Contract: insurance policies, endorsements, self-insurance documents and related insurance documents.

00170.70(k) Builder's Risk Installation Floater – Delete the paragraph in this section and replace with the following:

- If specified by Special Provision, the Contractor shall obtain, at its expense, and keep in effect during the term of the Contract, Builder's Risk Installation Floater Insurance covering the Contractor's 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 Contractor´s Equipment, Materials, or fixtures to be installed, in-transit, or stored off-site during the performance of the Contract. This insurance shall include as loss payees the Agency, State of Oregon, the building or structure owner, the Contractor and Subcontractors as their interests may appear.

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

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

END OF SECTION

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.

00180.22 Payments to Subcontractors and Agents of the Contractor - Replace the paragraph that begins "To the extent practicable…" with the following paragraph:

To the extent practicable, the Contractor shall pay in the same units and on the same basis of measurement as listed in the Schedule of Items for subcontracted Work or other Work not done by the Contractor's own organization. The Agency will not be responsible for any overpayment or losses resulting from overpayment by the Contractor to subcontractors and to its other agents, work providers, service providers, and trucking services providers.

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.

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)
Limited Duration Road Closure	00220.40(f)
Regulated Work Areas	00290.34(a)
Noise Control	00290.32
Contract Completion Time	00180.50(h)
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:

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:

Before beginning On-Site Work and before meeting with the Engineer for the preconstruction conference, hold a group utilities scheduling meeting with representatives from the utility companies involved with this project. Incorporate the utilities time needs into the Contractor's schedule submitted prior to the preconstruction conference.

Submit the following during the preconstruction conference unless otherwise directed:

- The names, addresses, and telephone numbers of two or more persons employed by the Contractor who can be reached day or night to handle emergency matters.
- Subcontractor's list including contact list for each subcontractor with phone numbers and addresses and work to be performed.
- List of personnel authorized to sign change orders and receive progress payment warrants.
- Video recording of private properties affected by construction per 00150.70.

A representative of each subcontractor shall be required to attend the pre-construction 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.

00180.50(h) Contract Time - Complete all Work to be done under the Contract, except for seeding and planting establishment not later than October 31, 2023.

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 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) Liquidated Damages - Add the following paragraph:

The liquidated damages for failure to complete the Work on time required by 00180.50(h) will be $800 per Calendar Day *.

* Calendar Day amounts are applicable when the Contract time is expressed on the Calendar Day or fixed date basis.

Add the following subsection:

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

(1) Lane Closures - 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). Therefore, the Contractor shall pay to the Agency, not as a penalty, but as liquidated damages, $500 per 15 minutes, or for a portion of 15 minutes, per lane, for any lane closure beyond the limits listed in 00220.40(e). In addition to the liquidated damages, all added cost for traffic control measures, including flagging, required to maintain the lane closures beyond the allowed time limits, will be at no additional cost to the Agency. The required traffic control measures will be as determined by the Engineer.

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). Add the following subsection:

00180.88 Workplace Harassment Prevention Plan – Submit a workplace harassment prevention plan for review 10 days before the preconstruction conference:

- A Contractor-developed workplace harassment prevention plan to ensure all workers, regardless of their identity or status, are guaranteed a safe and respectful work environment. The plan applies, but is not limited to, a worker's race, ethnicity, color, national origin, gender identity, gender expression, sex, sexual orientation, religion, marital or familial status, age, mental or physical disability (as defined by the Americans with Disabilities Act and state law), former incarceration, immigrant status, or veteran status.
- A description of how the plan will be implemented and monitored during the project duration.
- A list of the in-person training that will be conducted for workers of all ranks working on the project.

- 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.

Post on the jobsite and make available that rights of workers on the site for:

a) participation in positive jobsite trainings and
b) copies of policies about hate, intimidation, or harassment including how to report and how to receive support. Materials will be provided in languages 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:

00190.20(a) Contractor to Provide Vehicle Weigh Scales: Delete and replace the last paragraph in this section with the following:

Unless otherwise provided in the Contract, Pay Items to be measured by weight shall include all Contractor costs for providing, maintaining, inspecting, and testing scales; for furnishing appropriate weigh tickets; for self-printing scales; for electronic weigh memo system(s); and for transporting Materials to the scales or to check weighing.

00190.20(f)(1) Scale with Automatic Printer: Delete and replace the first sentence in this section with the following:

If the scales have an automatic weigh memo printer or an approved electronic weigh memo system that does not require manual entry of gross weight information, the Agency may periodically have a representative at the scales to observe the weighing procedures.

00190.20(f)(1) Scale with Automatic Printer: Delete and replace the last bullet in this section with the following:

- Furnish a legible, serially numbered weigh memo for each load of Materials to the Agency's Materials receiver at the point of delivery, or as directed by the Engineer. The memo shall identify the Project, the Materials, the date, net weight (gross and tare as appropriate), and identification of the vehicle and weigh technician. If approved by the Engineer an electronic weigh memo system may be used. Requests to use an electronic weigh memo system shall be submitted

to the Engineer according to 00150.37, providing sufficient detail for the Engineer to perform an evaluation. If approved, the Contractor shall provide training, technical support, reports, and weigh memo information to the Engineer at no additional cost to the Agency. The electronic weigh memo system shall be:

- Capable of recording and securely retaining the same required "weigh memo" information identified above. For retention see 00170.07(c).
- Fully integrated with the provided weigh scale system.
- Designed in such a way that the data electronically read from scales cannot be altered by the Contractor, Subcontractor, Supplier, Engineer, or other system users.
- Designed to allow the Engineer remote access to all the weigh memo data in real-time and allow the Engineer to add comments to the individual weigh memo regarding waste, temperature, stations, yield or other information. The system shall identify the system user or individual that adds comments to the electronic weigh memo or otherwise access the system. The Contractor shall provide the Engineer a means to access the data if the Engineer cannot use an Agency provided hand held device for access.
- Capable of providing all the weigh memo information, including any added comments, in an electronic data file the Engineer can easily access without proprietary software.

00190.20(g) Agency-Provided Weigh Technician: Delete and replace subsection (g) with the following:

The Contractor must provide a weigh technician. The Agency will not provide one for the Contractor.

00190.30 Plant Scales: Add the following sentence after the bulleted list:

If approved by the Engineer an electronic weigh memo system may be used in place of a printer system. See 00190.20(f)(3).

END OF SECTION

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 - Replace the paragraph that begins “Any such adjustments…” with the following paragraph:

Any adjustments may be less than, but will not be more than the amount justified by the Engineer on the basis of the established procedures set out in Section 00197 for determining rates. This does not limit the application of Section 00199.

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 Progress Payments and Retained Amounts - Modify as follows:

00195.50(a) Progress Payments - Delete and replace the last sentence in the second paragraph as follows:

All estimated quantities are subject to correction in the final estimate. If the Contractor uses these estimates as a basis for making payments to Subcontractors and Suppliers, the Contractor assumes all risk and bears any losses that result.

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.

00195.50(c) Forms of Retainage – Delete first paragraph and replace with:

Forms of acceptable retainage are set forth below in Subsections (1) through (3). "Cash, Alternate A" or "Cash, Alternate B" (Retainage Surety Bond) are the Agency-preferred forms of retainage. Unless the Contractor notifies the County otherwise in writing, the County will automatically hold retainage per paragraph (2) "Cash, Alternate B (No Interest Earned). If the Agency incurs additional costs as a result of the Contractor's election to use "Bonds and Securities", the Agency may recover such costs from the Contractor by a reduction of the final payment.

Delete and replace paragraph (2) with the following:

> **(2) Cash, Alternate B (No Interest Earned)** – Retainage will be deducted from progress payments and held by the Agency until final payment is made in accordance with 00195.90, unless otherwise specified in the Contract.

00195.50(d) Release of Retainage – Delete this section and replace with the following:

(d) Release of Retainage - As the Work progresses, release of the amounts to be retained under (b) of this Subsection will only be considered for Pay Items that have been satisfactorily completed. For purposes of this Subsection, a Pay Item will be considered satisfactorily completed only if all of the Work for the Pay Item is complete and all contractual requirements pertaining to the Pay Item and Work have been satisfied. Work not included in a Pay Item, or which constitutes part of an uncompleted Pay Item, will not be regarded as satisfactorily completed Work for the purposes of this Subsection.

When the Work is 50% completed and upon written application of the Contractor and written approval of the Surety, the Engineer or Project Manager may reduce or eliminate retainage on remaining progress payments if the Work is progressing satisfactorily.

A determination of satisfactory completion of Pay Items or Work or release of retainage shall not be construed as acceptance or approval of the Work and shall not relieve the Contractor of responsibility for defective Materials or workmanship or for latent defects and warranty obligations.

END OF SECTION

SECTION 00196 – PAYMENT FOR EXTRA WORK

Comply with Section 00196 of the Standard Specifications.

Add the following subsection:

00196.90 Extra Work Allowance - The bid schedule of prices contains the bid item "Extra Work as Authorized". This bid item serves as a contingency 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.

The contractor must receive written approval from the Engineer or County Project Manager prior to start of any work to be paid as Extra Work. Any work completed prior to receipt of written approval may not be eligible for compensation.

END OF SECTION

SECTION 00197 – PAYMENT FOR FORCE ACCOUNT WORK

Comply with Section 00197 of the Standard Specifications modified as follows:

00197.20(a) General - Replace the paragraph that begins "Except as modified by these…" with the following paragraph:

Except as modified by these provisions, Equipment use approved by the Engineer will be paid at the rental rates given in the most current edition of the EquipmentWatch Cost Recovery (Blue Book) published by EquipmentWatch, a division of Penton Business Media, Inc., and available from EquipmentWatch (phone 1-800-669-3282) (http://equipmentwatch.com).

00197.20(c-3) Rate Adjustment Factor - Replace this subsection, except for the subsection number and title, with the following:

The rate adjustment factor used above will be determined by applying only the Model Year Adjustment to the Blue Book Rates. The Regional and User Defined Ownership/Operating Adjustments shall not apply.

00197.20(c-5) Limitations - Delete the paragraph that begins "The Blue Book..."

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.
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.

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

END OF SECTION

SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications.

END OF SECTION

SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC

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

00220.02(a) General Requirements - Add the following bullets to the end of the bullet list:

- When performing trench excavation or other excavation across or adjacent to a Traffic Lane on a roadway having a pre-construction posted speed greater than 35 mph, backfill the excavation, install surfacing, and open the roadway to traffic by the end of each work shift. Install a "BUMP" (W8-1-48) sign approximately 100 feet before the backfilled area and a "ROUGH ROAD" (W8-8-48) sign approximately 500 feet ahead of the "BUMP" sign. If this requirement is not met, maintain all necessary lane or shoulder closures and provide additional TCM, including flagging, at no additional cost to the Agency. Do not use temporary steel plating to reopen the roadway.
- When an abrupt edge is created by excavation, protect traffic according to the "Excavation Abrupt Edge" and the "Typical Abrupt Edge Delineation" configurations shown on the Standard Drawings. Modify the "Typical Abrupt Edge Delineation" configuration by replacing the tubular markers with temporary plastic drums on 40 foot maximum spacing along the abrupt edge.

00220.40 (b) Detour and Stage Construction – Add the following to the end of the section:

The Agency will allow a road closure to the Worksite for the bridge replacement construction. The project plans include a Detour Plan for the Worksite closure. The road closure shall be limited to no more than 4 months. Contractor shall supply, install and maintain the signage, traffic control devices and flagging needed to maintain a safe work zone and protect the traveling public. Contractor may submit an alternate Detour Plan for this closure or an alternate plan for Agency review and approval. 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.

The road closure will cause the Agency to sustain damages; increase risk to, inconvenience, and interfere with the traveling public and commerce; and increase costs to taxpayers. The Agency finds it is difficult to determine the exact dollar value of such damages. However, the County estimates these damages at $1,000 per day. If the Contractor exceeds the scheduled 4 months of closure the Contractor shall pay to the Agency, not as a penalty but as liquidated damages, $1,000 per day. The liquidated damages shall constitute payment in full only of damages incurred by the Agency due to the Contractor’s failure to complete the Work on time.

Add the following subsection:

00220.42 Bridge Site Road Closure - Close the road to traffic at the Bridge site during reconstruction of the Bridge. 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.

END OF SECTION

SECTION 00221 - WORK ZONE TRAFFIC CONTROL

Comply with Section 00225 of the Standard Specifications. modified as follows:

00221.03 Traffic Safety and Operations - Replace the bullet that begins “When paving operations create…” with the following bullet:

- When paving operations create an abrupt or sloped edge drop off greater than 1 inch, protect traffic by installing signing according to the "2 Lane, 2 Way Roadway Overlay Area" detail shown on the Standard Drawings. Protect longitudinal and transverse Pavement joints by placing and maintaining an asphalt concrete wedge according to 00221.07(c)(1).

00221.07(c)(1) Paving - Replace this subsection, except subsection number and title, with the following:

When the longitudinal joint is greater than 1 inch in height, install additional TCD according to 00221.03. Complete the placing of ACP and construction of paving joints according to 00735.48, 00735.49, 00743.45, 00744.44, 00744.45, 00745.47, and 00745.48, as applicable.

00221.90(b) Temporary Protection and Direction of Traffic - Delete the bullet that begins “Moving temporary barrier to and from Contractor’s stockpile areas”.

Replace the bullet that begins "When the Schedule of Items does not include …" with the following bullet:

- Preparing and signing the daily “Traffic Control Inspection Report”, when a TCS is not included in the Schedule of Items or when a TCS is not onsite for a work shift.

00221.98 Payment, Method ”B” – Add the following to this section:
“This method is relevant to items in Sections 00222, 00223, and 00224.”

END OF SECTION

SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS

Comply with Section 00222 of the Standard Specifications.

00222.01(a) Size and Shape - Add the following to the end of the first paragraph:

- 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.

00222.45(b) Portable Changeable Message Signs - Add the following bullets to the end of this subsection:

- At least seven Calendar Days before each road closure, place two PCMS displaying the following message as shown, or as directed (coordinate with the Engineer for final message language):

Panel 1	**Panel 2**
Grimm Road	CLOSURE
(Location)	(Time Frame)
CLOSURE	(Time Frame)

END OF SECTION

SECTION 00223 – WORK ZONE TRAFFIC CONTROL LABOR AND VEHICALS

Comply with Section 00223 of the Standard Specifications modified as follows:

00223.31(b) Traffic Control Inspection Without TCS - Add the following bullet(s) to the end of the bullet list:

- Shall report to the Project Site within 1 hour after being notified in the event of a work zone incident during non-work periods.

END OF SECTION

SECTION 00224 - TEMPORARY TRAFFIC CHANNELIZING DEVICES

Comply with Section 00224 of the Standard Specifications.

END OF SECTION

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.

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.

00231.44 Verification of Subgrade - In areas where permanent earthwork construction is required on ground that has been occupied by a temporary access road, rework or replace unstable Materials to avoid and correct, according to 00330.40(c), excessive stress or strain that could be detrimental to the subgrade.

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

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 or for restoring the areas to original ground contours.

Permanent seeding Work will be paid for according to 01030.90.

END OF 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 TWMF 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 and re-watering. This sequence and schedule must include when to contact the Engineer prior to dewatering and re-watering.
- 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.
- 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:

Pipe	00445.11
Plastic Sheeting	00280.14(a)
Riprap	00390.11
Sandbags	00280.15(a)
Water Intake Screening	00290.34(c)

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.
- When using a pump for bypassing water during temporary water management, physically monitor the pump in-person and maintain the pump at all times including non-work hours. Provide a back-up pump on-site and ready for use as necessary. Provide the Engineer with a daily report documenting monitoring activities.

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.

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: at Station 2+00 to 3+14:

Pipe.....115 Feet
Plastic Sheeting ..... 400 Square Yard
Sandbags.....125 Each

The quantities of bypass pump monitoring will be measured with the materials above and a daily monitoring report is received.

Turbidity monitoring will be measured according to 00290.80.

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".

The location of the facility will be inserted in the blank.

The accepted quantities of bypass pump monitoring 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.

END OF SECTION

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 paragraphs:

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) with an environmental management plan (EMP), when required for the Project, 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.

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

Subsection 00280.04 Erosion and Sediment Control Plan on Agency Controlled Lands - Replace the bullets with the following bullets:

- When using the Agency’s ESCP with only modifications required to keep the ESCP current during construction, submit a written notification indicating the Agency’s ESCP is used without modifications prior to construction.
    - Prior to beginning construction, edit the ESCP to provide a list of all contractors working on the site.
    - Prior to beginning construction, edit the ESCP cover sheet to list all personnel by name and position who are responsible for the installation and maintenance of stormwater control measures including their individual responsibilities and certifications. Keep list current for the duration of the project.
- When using a Contractor modified version of the Agency’s ESCP, include the following:
    - Proposed ESCP showing all ESC Work, and quantities of Work.
    - An EMP that addresses pollution prevention and control of potentially contaminated sites or Materials.
    - Implementation schedules for the ESCP
    - Plans for each phase of Contractor’s Work
    - Names and positions of all personnel engaged in construction activities.
    - Names and positions of all personnel responsible for the installation and maintenance of stormwater control measures.
    - Information required under 1200-CA permit.
- When using a Contractor developed ESCP, develop and stamp the ESCP by a professional with one of the following credentials. Include their name and credentials in the ESCP. The ESCP preparer shall be one of the following:

  - Oregon Registered Professional Engineer,
  - Oregon Registered Landscape Architect; or
  - Oregon Certified Engineering Geologist
- When using a Contractor developed ESCP where engineered facilities such as sedimentation basins or diversion structures for erosion and sediment control are required, prepare and stamp the ESCP by one of the following:
  - Oregon Registered Professional Engineer; or
  - Oregon Registered Landscape Architect.
  - When using a Contractor developed ESCP, provide plans for each phase of Contractor's work implementation schedule and information required under the 1200-CA permit and as directed in ODOT's Erosion Control Manual.

00280.15(f)(1) Filter Sock Material - Add the following sentence to the end of this subsection:

Furnish filter sock material with a diameter of 8 inches.

Subsection 00280.16(i) Concrete Washout – Replace this subsection, except subsection number and title, with the following:

Furnish impermeable, spill resistant, leak proof concrete washout basin of sufficient size and quantity to retain all concrete wash water and concrete waste developed during construction, meeting the following requirements:

(1) Field fabricated washout basin as shown and consisting of the following:

Straw Bales - Standard rectangular straw bales, with straw Material according to 01030.15, except no certification is required.

Plastic Sheeting - Minimum 10-mil thick polyethylene plastic sheeting.

Staples - 1/8-inch diameter steel wire staples. 2-inch "U" width with a length of 6 inches minimum

(2) Manufactured basins sufficiently durable to be removed intact, or cleaned of content without releasing concrete material or concrete washout water.

Subsection 00280.30 Erosion and Sediment Control Manager - Replace this subsection, except for the subsection number and title, with the following:

If the Agency's NPDES 1200-CA Permit is applicable to the Project, designate and provide an ESCM who possesses a valid ODOT ESCM certificate or who has successfully completed an erosion control training that is acceptable to the Engineer.

The ESCM duties include:

- Manage and ensure proper implementation of the ESCP.
- Accompany the Engineer during field review of the ESCP prior to construction activities.
- Monitor rainfall, snow melt and runoff on and in the vicinity of the Project Site.
- Monitor water quality in receiving streams in the vicinity of the Project Site.

- Monitor water in sediment traps receiving runoff from soils amended with cementitious material for acidity or alkalinity.
- Monitor locations identified in Section 00294 for compliance.
- Inspect ESC and monitor receiving waters on active construction site on initial date and every 14 Days for effective functioning.
- Inspect ESC on inactive sites every 14 Days for effective functioning.
- Inspect ESC for effective functioning and monitor receiving waters, on all active and inactive sites at least within 24 hours of rainfall events sufficient to result in runoff from the Project Site.
- Ensure that ESC are regularly cleaned and maintained.
- Mobilize crews to make immediate repairs to ESC or install additional ESC during working and non-working hours when ESC is not effectively functioning.
- Record actions taken to clean up discharged sediment.
- Report potential permit violations to the Agency immediately upon discovery.
- Repair conditions that caused permit violations and prepare submittals for corrective actions that document repairs for Agency review and submittal to regulatory agencies.
- Update the ESCP monthly and within 7 Days after changes or major ESC modifications are implemented in the field.
- Submit ESCP revisions in electronic format, to Engineer within 30 Days after making revisions.
- Prepare a contingency plan in preparation for emergencies and for the periods between October 1 and May 31.
- Accompany the Engineer on inspections and, if required, on inspections by representatives of regulating agencies. If any of the following occur, revise the ESCP to reflect the change(s) within 7 Days.
    - Changes to the construction plans that impact erosion and sediment control measures;
    - Changes to the stormwater control BMPs, their location, maintenance required, and any other revisions necessary to prevent erosion and control sediment runoff;
    - An increase in the area impacted by construction activities;
    - Other activities at the site that are no longer accurately reflected in the ESCP. This includes changes made in response to corrective actions triggered;
    - To reflect areas on the site map where operational control has been transferred (and the date of transfer) since initiating permit coverage;
    - If inspections by DEQ determine that ESCP revisions are necessary for compliance with the 1200-CA permit;
- Where DEQ determines it is necessary to install or implement additional controls at the site in order to meet the requirements of the 1200-CA permit. Include the following in the ESCP:
    - A copy of any correspondence describing such measures and requirements; and
    - A description of the controls to be used to meet such requirements.
- Change of Subcontractors that engage in construction activities on site, and the areas of the site where the Subcontractor(s) engage in construction activities;
- Change of any personnel (by name and position) that are responsible for the design, installation and maintenance of stormwater control measures;

- Change of the certified erosion and sediment control inspector, or of their contact information and any applicable certification and training experience;
- To reflect any revisions to applicable federal, state, tribal, or local requirements that affect the stormwater controls implemented at the site; and
- If a change in chemical treatment systems or chemically enhanced stormwater control is made, including use of a different treatment chemical, different dosage rate, or different area of application as applicable. Furnish temporary sediment trap as shown on drawings, stamped and signed by licensed engineer.

Submit revised ESCP to Engineer for signature by licensed professional (see 00280.04) and submission to DEQ when changes are made for the following reasons:

- Part of a corrective action requirement;
- An increase or decrease in project size;
- An increase or decrease in size or location of disturbed areas;
- Changes to BMPs, such as type, design or location;
- Change of the ESCM.

Subsection 00280.46(a) Construction Entrances - Add the following to the end of this subsection:

Construct the construction entrances as shown or directed.

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	50 LF

00280.62 Inspection and Monitoring - Replace this subsection, except for the subsection number and title, with the following:

Inspect the Project Site and all ESC devices for potential erosion or sediment movement on a weekly basis and when 1/2 inch or more of rainfall occurs within a 24-hour period, including weekends and holidays.

If a significant noncompliance or serious water quality issue occurs that could endanger health or the environment, verbally report it to the Engineer with 24 hours.

END OF SECTION

SECTION 00290 – ENVIRONMENTAL PROTECTION

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

Add the following subsection:

00290.30(a)(7) Water Quality:

- Do not discharge contaminated or sediment-laden water, including drilling fluids and waste, or water contained within a work area isolation, directly into any waters of the State or U.S. until it has been satisfactorily treated (using a best management practice such as a filter, settlement pond, bio-bag, dirt-bag, or pumping to a vegetated upland location).
- 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.
- Do not use explosives under water.
- Implement containment measures adequate to prevent pollutants or construction and demolition materials, such as waste spoils, fuel or petroleum products, concrete cure water, silt, welding slag and grindings, concrete saw cutting by-products and sandblasting abrasives, from entering waters of the State or U.S.
- Implement containment measures adequate to prevent flowing stream water from coming into contact with concrete or grout within the first 24 hours after placement.
- Do not end-dump riprap into the waters of the State or U.S. Place riprap from above the ordinary high water line.
- Cease Project operations under high flow conditions that may result in inundation of the Project area, except for efforts to avoid or minimize resource damage.
- The Engineer retains the authority to temporarily halt or modify the Work in case of excessive turbidity or damage to natural resources.
- If Work activities violate permit conditions or any requirement of this subsection, stop all in-water work activities and notify the Engineer.

Add the following subsection:

00290.30(a)(8) Meter Turbidity Monitoring - In addition to any turbidity monitoring required by 00280.62(c) to comply with NPDES 1200 series requirements, monitor turbidity using a turbidity meter every two hours during in-water work according to the following:

- Use a turbidity meter that has been maintained and calibrated according to the manufacturer's specifications.
- Measure stream turbidity before beginning each day's in-water work to establish pre-construction turbidity levels.
- Measure upcurrent and downcurrent turbidity at two-hour intervals during in-water work 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 in-water work area.
- Take downcurrent samples at a location approximately 100 feet from the in-water 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 implement best management practices (BMP), 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 in-water work and repair or implement additional BMP. Resume in-water work activities 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 implement BMP 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 in-water work and repair or implement additional BMP. Resume in-water work activities 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 in-water work, repair or implement additional BMP, and inform the Agency. Resume in-water work activities only after the downcurrent reading is less than 5 NTU above the upcurrent NTU, as determined by continued readings made at least every two hours, or the next day's initial turbidity reading.
- Document all turbidity monitoring observations on form 734-2755, “Turbidity Monitoring Report”, or another form approved by the Agency. Submit reports to the Engineer weekly during in-water work and keep copies of the reports at the Project Site.

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

Review Clackamas County Title 6.05 which describes noise control regulations. Comply with the applicable noise control requirements of the permit for Project Work.

Copies of the noise variance permit for this Project are available from the Engineer.Between 10 p.m. and 7 a.m. the following day, any activity which produces noise exceeding 50 dBA, is prohibited.

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 September 30.

The total volume of material filled or discharged into waters of the State and waters of the U.S. shall not exceed 209 cubic yards.

The total volume of material excavated from the waters of the State and waters of the U.S. shall not exceed 257 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.

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

- Allow entry within the regulated work area or between stations 52+75 and 53+75.
- 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 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) Special Aquatic Habitats - The following exploration or construction activities are not allowed in special aquatic habitats:

- Use of pesticides and herbicides, unless allowed according to Section 01030.
- Use of short pieces of plastic ribbon to determine flow patterns.
- Temporary roads or drilling pads built on steep slopes, where grade, soil type, or other features suggest a likelihood of excessive erosion or slope failure.
- Exploratory drilling in estuaries that cannot be conducted from a work barge, or an existing bridge, dock, or wharf.
- Installation of a fish screen on any permanent water diversion or intake that is not already screened.
- Drilling or sampling in an EPA-designated Superfund Site, a state-designated clean-up area, or the likely impact zone of a significant contaminant source, as identified by historical information, U. S. Army Corps of Engineers representative, or the Agency.

(5) 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.

(6) Surface Water Diversions - Surface water may be diverted to meet construction needs other than work area isolation, consistent with Oregon law, only if water from sources that are already developed, such as municipal supplies, small ponds, reservoirs, or tank trucks, is unavailable or inadequate, and meeting the following conditions:

- When alternative surface sources are available, divert from the stream with the greatest flow.
- Install, operate, and maintain a temporary fish screen.
- Do not exceed a pumping rate and volume of 10 percent of the available flow. For streams with less than 5 cubic feet per second, do not exceed drafting of 18,000 gallons per day. Do not use more than one pump for each site.

(7) Hydro-Acoustic - Unless otherwise shown or approved, steel piling may be installed below the ordinary high water as follows:

- Minimize the number and diameter of pilings, as feasible.

- Repairs, upgrades, and replacement of existing pilings consistent with these conditions are allowed. In addition, up to 5 single pilings or 1 dolphin consisting of 3 to 5 pilings may be added to an existing facility.
- Whenever feasible, use vibratory hammer for piling installation. Otherwise, use the smallest drop or impact hammer necessary to complete the job, and set the drop height to the minimum necessary to drive the piling.
- For all pile installed or removed, maintain a pile installation and removal log and submit the log when the related work is completed. Include types, sizes, locations, installation or removal methods, and dates in the log.
- When using an impact hammer to drive or proof steel piling within a body of water, or as directed, use one of the following sound attenuation devices to effectively dampen sound:

    - Completely isolate the pile from the waters of the State and waters of the U.S. by dewatering the area around the pile according to Section 00245.
    - If water velocity is 1.6 feet per second or less, surround the pile being driven with a bubble curtain that distributes small air bubbles around 100 percent of the piling perimeter for the full depth of the water column and is in accordance to the guidance in the Appendix of The ODOT-FHWA Federal Aid Highway Program Programmatic User's Guide titled *NMFS and USFWS Impact Pile Driving Sound Attenuation Specifications*. The FAHP User's Guide is available on the Agency's website at:

      https://www.oregon.gov/ODOT/GeoEnvironmental/Pages/Manuals.aspx

    - If water velocity is greater than 1.6 feet per second, surround the piling being driven by a confined bubble curtain (for example: a bubble ring surrounded by a fabric or metal sleeve) that will distribute air bubbles around 100 percent of the piling perimeter for the full depth of the water column and is in accordance to the guidance in the Appendix of The ODOT-FHWA FAHP User's Guide titled *NMFS and USFWS Impact Pile Driving Sound Attenuation Specifications*.

(8) Drilling, Boring, or Jacking - If drilling, boring, or jacking is used, the following conditions apply:

- Design, build, and maintain facilities to collect and treat all construction and drilling discharge water using the best available technology applicable to site conditions. Provide treatment to remove debris, nutrients, sediment, petroleum hydrocarbons, metals, and other pollutants likely to be present. An alternate to treatment is collection and proper disposal offsite.
- Isolate drilling operations from wetted stream to prevent drilling fluids from contacting waters of the State or waters of the U.S.
- Use casing to prevent loss of drilling fluid to the subsurface formation. Do not drill without a containment method to keep drilling fluids and slurry isolated.
- If it is necessary to drill through an over-water bridge deck, use containment measures to prevent drilling debris from entering the stream channel.

- If drilling fluid or waste is released to surface water, wetland or other sensitive environment, cease all drilling pending written approval from appropriate regulatory agencies through the Engineer to resume drilling.
- Recover all waste and spoils if precipitation is falling or imminent. Recover, recycle, or dispose of all drilling fluids and waste to prevent entry into flowing water.

    - Recycle drilling fluids using a tank instead of drill recovery/recycling pits, whenever feasible.
    - When drilling is completed, make attempts to remove the remaining drilling fluid from the sleeve (for example: by pumping) to reduce turbidity when the sleeve is removed.

(9) Treated Wood - Treated wood includes any wood treated with any pesticide or wood preservatives. Do not use lumber, pilings, or other wood products that are treated or preserved with pesticidal compounds below the ordinary high water (OHW) or as part of an in-water or over-water structure, except as described below:

- Store treated wood shipped to the Project out of contact with standing water and wet soil, and protected from precipitation.
- Visually inspect each load and piece of treated wood. Reject for use in or above aquatic environments if visible residues, bleeding of preservative, preservative-saturated sawdust, contaminated soil, or other matter is present.
- Use pre-fabrication to the extent feasible. When field fabrication is necessary, all cutting and drilling of treated wood, and field preservative treatment of wood exposed by cutting and drilling, shall occur above the OHW. Use tarps, plastic tubs, or similar devices to contain the bulk of any fabrication debris, and wipe off any excess field preservative.
- All treated wood structures, including pilings, shall have design features to avoid or minimize impacts and abrasion by livestock, pedestrians, vehicles, vessels, and floats.
- Treated wood may be used to construct a bridge, over-water structure or an in-water structure, with the exception of the work containment system, provided that all surfaces exposed to leaching by precipitation, overtopping waves, or submersion are coated with a water-proof seal or barrier are maintained. Apply and contain coatings and paint-on field treatment to prevent contamination. Surfaces that are not exposed to precipitation or wave attack, such as parts of a timber bridge completely covered by the bridge deck, are exempt from this requirement.
- During demolition of treated wood, ensure that no treated wood debris falls into the water. If treated wood debris does fall into the water, remove it immediately.
- Store removed treated wood debris in appropriate dry storage areas, at least 150 feet away from the regulated work area.

(10) 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.

(1) Bird Management - Bird management activities to comply with the Migratory Bird Treaty Act (16 U.S.C. 703 712) will be performed by Clackamas County and its permitted agents, as documented in the Clackamas County MBTA permit. Ensure that the Agency and its permitted agents have access to the project area, as needed to prevent migratory bird nesting. Nesting prevention may include daily bird harassment and the installation and maintenance of devices that exclude birds.

Do not disturb migratory bird nesting habitats (shrubs, trees, and structures), or clear vegetation from March 1 to September 1 of each calendar 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.

00290.36(b) Bats - Add the following bullets to the end of the bullet list:

- Schedule Bridge Work that may disturb resident bats, including demolition activities, between July 15th October 31st.
- Ensure that the Agency and its agents have access to the project area, as needed, to perform bat management activities to prevent bat conflicts.

Add the following subsection:

00290.36(c) Wildlife Avoidance/Harassment (High Noise) - For purposes of this project, "high noise" is defined as sound pressure levels greater than 10 dBA above the ambient as measured by the L_{AFmax} and L_{AFeq} at sensitive habitat as shown:

- Non-blasting high-noise producing construction activities are not allowed between April 1 and August 5. Blasting activities within one mile of sensitive habitat shall be conducted only between September 15 and March 31.
- Non-blasting high noise producing construction activities conducted from August 6 to September 15 shall implement a daily limited operating period of daytime work being conducted from two hours after sunrise to two hours before sunset. If night construction is needed, then activity shall be conducted one hour after sunset to one hour before sunrise.
- Blasting and high-noise producing activities are allowed only between September 1 and October 31.
- Blasting and high-noise producing activities shall be prohibited during the following critical nesting period:

- March 1 to July 7 for the North Coast Province.
- March 1 to June 30 for the Rogue/Siskiyou National Forest (NF) and Medford District of U.S. Bureau of Land Management (BLM) in the Southwest Province.
- March 1 to July 15 for the Umpqua NF in the Southwest Province.
- March 1 to July 15 for the Willamette Province.
- March 1 to September 30 for the Deschutes NF, Fremont, and Winema NF and unlisted areas.

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:

Add the following subsection:

00290.42 Work Containment Plan - A Work Containment Plan (WCP) is required on this Project for isolation work activityiess.

Develop and submit a WCP for approval at least 28 Calendar Days prior to mobilization for isolation activities. 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.

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.

END OF SECTION

SECTION 00305 - CONSTRUCTION SURVEY WORK

Section 00305, which is not a Standard Specification, is included for this Project by Special Provision.

00305.00 Scope - Provide construction survey work according to the current edition on the date of Advertisement, of the ODOT "Construction Surveying Manual for Contractors". This manual is available on the web at:

http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx

00305.05 3D Engineered Models - If the Contractor elects to use the 3D Engineered Models to control the work, provide unstamped 3D Construction Models according to 00150.35 which include the following:

- A detailed outline and list of the pay items and Work that will be controlled by the 3D Construction Models.
- A narrative outlining any differences between the Agency-prepared 3D Engineered Models and the 3D Construction Models.
- A copy of the 3D Construction Models that will be used by the Contractor's equipment for machine guidance or verification, that include and represent the Agency-prepared 3D Engineered Models with changes identified in the narrative. Provide files in LandXML format or as directed.

00305.80 Measurement - No measurement of quantities will be made for construction survey work.

00305.90 Payment - The accepted quantities of construction survey work will be paid for at the Contract lump sum amount for the item "Construction Survey Work".

Payment will be payment in full for furnishing all material, equipment, labor, and incidentals necessary to complete the work as specified.

No separate or additional payment will be made for any temporary protection and direction of traffic measures including flaggers and signing necessary for the performance of the construction survey work.

No separate or additional payment will be made for preparing surveying documents including but not limited to office time, preparing and checking survey notes, and all other related preparation work.

Costs incurred caused by survey errors will be at no additional cost to the Agency. Repair any damage to the Work caused by Contractor's survey errors at no additional cost to the Agency. The Engineer may make an equitable adjustment, which may decrease the Contract Amount, if the required survey work is not performed.

END OF SECTION

SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

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

00310.90 Payment – Add the following to the end of the subsection:

No separate or additional payment will be made for removal or disposal Work included in Section 00330 according to Section 00310.02.

END OF SECTION

SECTION 00320 - CLEARING AND GRUBBING

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

00320.40(b)(3) Trees To Be Saved - Replace this subsection with the following subsection:

00320.40(b)(3) Vegetation and Materials to be Saved - The Engineer will designate no work zones and identify and mark trees, existing landscaping, vegetation, or other natural materials to be removed, as shown.

Do not work within the no work zones or critical root zone of marked trees unless written approval is obtained from the Engineer. Be responsible for all damage to and removal of trees, landscaping, vegetation or other natural materials designated to be saved. Damage will be determined by a specialist selected by the Engineer.

END OF SECTION

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 on the excavation basis, except for Sone Embankment and Granular Wall Backfill.

00330.41(a)(9) Excavation Below Grade - Delete subsection 00330.41(a)(9)(c).

00330.91(d) General Excavation - Delete the bullet that begins "Includes Unsuitable Material…".

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).

- Earthwork required for driveways and road approaches. Earthwork for driveways and road approaches will be that which is outside the Neat Line limits shown on the typical sections.

END OF SECTION

SECTION 00331 - SUBGRADE STABILIZATION

Comply with Section 00331 of the Standard Specifications.

END OF SECTION

SECTION 00340 - WATERING

Comply with Section 00340 of the Standard Specifications.

END OF SECTION

SECTION 00350 - GEOSYNTHETIC INSTALLATION

Comply with Section 00350 of the Standard Specifications.

END OF SECTION

SECTION 00390 - RIPRAP PROTECTION

Comply with Section 00390 of the Standard Specifications.

END OF SECTION

SECTION 00440 - COMMERCIAL GRADE CONCRETE

Comply with Section 00440 of the Standard Specifications modified as follows:

Add the following subsection:

00440.02 Abbreviations and Definitions:

ASTV – Actual Strength Test Value – See 02001.02 for definition.

00440.12 Proportions of Commercial Grade Concrete - Replace the bullet that begins "Compressive strength…" with the following bullet:

- **Compressive Strength** - ASTV minimum of 3,000 psi at 28 days

00440.14(d) Hardened CGC - Add the following to the end of this subsection:

The ASTV at 28 Days is the average compressive strength of the three cylinders tested. Discard all specimens that show definite evidence, other than low strength, of improper sampling, molding, handling, curing, or testing. The average strength of the remaining cylinders shall then be considered the test result.

END OF SECTION

SECTION 00445 - SANITARY, STORM, CULVERT, SIPHON, AND IRRIGATION PIPE

Comply with Section 00445 of the Standard Specifications.

END OF SECTION

SECTION 00470 - MANHOLES, CATCH BASINS, AND INLETS

Comply with Section 00470 of the Standard Specifications modified as follows:

00470.41(c) Grates, Frames, Covers and Fittings - Replace this subsection, except for the subsection number and title, with the following:

Set metal frames for manholes on full non-shrink grout beds to prevent infiltration of surface water or groundwater between the frame and the concrete of the manhole section. If concrete is to be poured around the frames, coat the portion of the frame that will contact the concrete with hot asphalt before placing the concrete. Set frames, covers and grates true to the locations and grades established. Clean bearing surfaces and provide uniform contact. The use of a bolt adjustment system for frames from the QPL is allowed. Secure all fastenings. Construct all mortared, sanitary sewer manhole necks and all riser ring joints made with non-shrink grout using an approved commercial concrete bonding agent applied to all cured concrete surfaces being grouted.

00470.42 Precast Concrete Catch Basins and Inlets - Add the following sentence to the end of this subsection:

Grade adjustments using a bolt system from the QPL is allowed.

END OF SECTION

SECTION 00490 - WORK ON EXISTING SEWERS AND STRUCTURES

Comply with Section 00490 of the Standard Specifications.

END OF SECTION

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:

Remove the existing box culvert bridge over Woodcock Creek that is 53-feet-long, 13.6-foot span, and a 5-foot rise, approximately.

Add the following subsection:

00501.03 Submittals - Submit unstamped bridge removal plans according to 00150.35 14_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.

END OF SECTION

SECTION 00510 - STRUCTURE EXCAVATION AND BACKFILL

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

00510.80(b)(1) Lump Sum - Add the following to the end of this subsection:

The estimated quantity of structure excavation is:

Location	Structure Excavation (Cubic Yard)
New Woodcock Ck Bridge	100

00510.80(d)(1) Lump Sum - Add the following to the end of this subsection::

The estimated quantities of granular wall backfill and granular structure backfill are provided in Section 00565.85

COFFERDAM DESIGN CHECKLIST

Instructions - This cofferdam design checklist was developed to facilitate the design, review, and erection of cofferdams to be used for ODOT bridge 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 and signed by the cofferdam design engineer. Answer every question. Attach to the Checklist an explanation of any negative responses.

Submit the Checklist according to 00510.03.

		YES	NO	N/A
A.	**Contract Plans, Specifications, Permits, etc.**			
1.	Are the cofferdam Working Drawings prepared, stamped and signed by an engineer registered to practice in Oregon?	____	____	____
2.	Have three copies (five copies if railroad approval is required) of the complete design calculations accompanied the cofferdam drawings submittal?	____	____	____
3.	Are cofferdam Working Drawings in compliance with the requirements of the construction plans general notes?	____	____	____
4.	Are cofferdam Working Drawings in compliance with contract plan structural details?	____	____	____
5.	Are cofferdam Working Drawings 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 cofferdam shown on the cofferdam Working Drawings and is projection of these utilities addressed? ____ ____ ____

7. Are clearance requirements satisfied and shown on the cofferdam Working Drawings? ____ ____ ____

B. Loads

1. Are the magnitude and location of all loads, equipment and personnel that will be supported by the cofferdam shown noted on the cofferdam Working Drawings? ____ ____ ____

2. Are design loads and material properties used to determine design stresses shown for each different cofferdam member shown on the cofferdam Working Drawings? ____ ____ ____

3. Is the assumed water elevation for seal design shown on the Working Drawings? ____ ____ ____

4. Does the cofferdam design assume water pressure acts on the full height of the cofferdam (from the vent to the bottom of the excavation?) ____ ____ ____

5. Has percolation into the excavation been addressed? ____ ____ ____

C. Allowable Stresses

1. Have the design loads used for cofferdam design of all members been noted in the design calculations? ____ ____ ____

2. Are the allowable stress and the calculated stress listed in the summary for each different cofferdam member? ____ ____ ____

D. Timber Construction

1. Are timber grades consistent with material to be delivered to the construction site, noted on the cofferdam drawings, and in accompanying calculations for all timber cofferdam material? ____ ____ ____

2. If "rough" lumber is specified for the cofferdam, are the actual lumber dimensions used in the calculations shown? ____ ____ ____

E. Steel Construction

1. Are steel structural shapes and plates identified by ASTM number on the cofferdam Working Drawings and in the calculations? ____ ____ ____

2. Have steel beams been checked for bending, shear, web crippling and buckling of the compression flange? ____ ____ ____

F. Compression Members, Bracing Members and Connections

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.	Is bracing strength and stiffness sufficient for the intended purpose?	____	____	____
4.	Have all connections been designed and detailed?	____	____	____

_____ _____

Designer Engineer of Record Signature Date

SHORING DESIGN CHECKLIST

Instructions - This shoring design checklist was developed to facilitate the design, review, and erection of shoring to be used for ODOT 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 15.3.26.3 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?	____	____	____
		____	____	____
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

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

END OF SECTION

SECTION 00530 - STEEL REINFORCEMENT FOR CONCRETE

Comply with Section 00530 of the Standard Specifications modified as follows:

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	1/2" 270 ksi Pre-stress Strand
Bridge Deck	7,026			3,020
North Abutment	1,474			
South Abutment	1,474			

END OF SECTION

SECTION 00550 - PRECAST PRESTRESSED CONCRETE MEMBERS

Comply with Section 00550 of the Standard Specifications modified as follows:

00550.80 Measurement - Add the following paragraph to the end of this subsection:

Stirrup extension reinforcement will be measured according to 00530.80. Estimated quantities of reinforcement for the lump sum method will be listed in 00530.80(a).

00550.90 Payment - Add the following paragraph to the end of this subsection:

Stirrup extension reinforcement, as shown, will be paid for according to 00530.90.

END OF SECTION

SECTION 00565 – PRE-FABRICATED BRIDGE

Comply with Section 00596 of the Standard Specifications modified as follows:

Description

00565.00 Scope - This work consists of fabricating, furnishing, transporting and constructing a pre-cast modular bridge system as shown or specified. The pre-fabricated bridge will be a Pacific Bridge modular bridge or approved equal. The bridge system details are included in the bid package as well as contact information.

00565.02 Definitions:

Pre-Fabricated Bridge - A bridge system which consists of pre-cast modular bridge components to be assembled on site.

00565.04 Design Calculations:

The following retaining wall design parameters have been established for this Project:

Structure: North Abutment & South Abutment

- See Plan Sheet 5A for Design Criteria, Loadings, and General Performance Specifications
- See *Report of Geotechnical Services, Grimm Road Bridge Replacement at Woodcock Creek*, prepared by Pali Consulting, dated August 28, 2019, for soil conditions and design recommendations.

Materials

00565.10 Materials – **00565.10 Materials** – The contractor is required to purchase and furnish the modular bridge. Pre-cast modular bridge details are included in the bid package. The contractor is responsible for coordinating fabrication and delivery of the bridge components to the site.

Construction

00565.40 Bridge Installation – The Contractor will provide equipment capable of placing the abutment and wingwall segments and the bridge spans without impacting the Regulated Areas. The equipment will have the minimum impact on adjacent trees and landscaping as possible, coordinate with Engineer.

The Contractor will layout and install the pre-fabricated bridge per plan and per manufacturer's details and directions.

Any damage to the pre-fabricated bridge will be inspected by the supplier and repaired by the Contractor at the Contractor's expense. Repair methods to be approved by the Engineer.

Measurement

00565.80 Measurement - No measurement of quantities will be made for the pre-fabricated bridge.

The estimated quantities, for estimating purposes only, of granular wall / structure backfill for the abutments is 280 cu. yd. This quantity does not include the leveling course between blocks of abutments and headwalls.

The estimated quantities of retaining walls are:

Structure	Area
North Abutment	920 sq. ft.
South Abutment	970 sq. ft.

Payment

00565.90 Payment - The accepted pre-fabricated bridge will be paid for at the Contract lump sum amount for the item "Pre-Fabricated Bridge".

Payment will be payment in full for fabricating, transporting, furnishing and placing all materials including backfill, and for furnishing all equipment, labor, and incidentals necessary to complete the work as specified.

END OF SECTION

SECTION 00640 - AGGREGATE BASE AND SHOULDERS

Comply with Section 00640 of the Standard Specifications.

END OF SECTION

SECTION 00730 - EMULSIFIED ASPHALT TACK COAT

Comply with Section 00730 of the Standard Specifications modified as follows:

00730.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

No separate or additional payment will be made for Emulsified Asphalt tack coat. Approximately 1 Ton of Emulsified Asphalt in tack coat will be required on this Project.

END OF SECTION

SECTION 00738 - SAFETY EDGE

Comply with Section 00738 of the Standard Specifications.

END OF SECTION

SECTION 00744 - ASPHALT CONCRETE PAVEMENT

00744.11(a) Asphalt Cement - Add the following to the end of this subsection:

Provide PG 64-22 grade asphalt cement for this Project.

00744.16 Sampling and Testing - Replace this subsection, except for the subsection number and title, with the following:

For each 1,000 tons of placement, have a CAT I perform a minimum of one of each of the following test methods as modified in the MFTP:

- Asphalt Content - AASHTO T 308 with ODOT TM 323 determined Calibration Factor
- Gradation - AASHTO T 30
- Mix Moisture - AASHTO T 329
- Maximum Specific Gravity - AASHTO T 209
- Field Compacted Gyratory Specimens - ODOT TM 326

When less than 1,000 tons of mix is placed in a day, perform a minimum of one series of tests per day. Provide test results to the Engineer by the middle of the following work shift. The Engineer may waive the requirement for any of AASHTO T 308,

AASHTO T 30, AASHTO T 329, and ODOT TM 326 on a daily basis. The Engineer may waive the requirement for AASHTO T 209 when less than 500 Tons of ACP is placed in a single work shift.

Provide samples or split samples to the Engineer when requested.

Add the following subsection:

00744.51 Opening Sections to Traffic - Schedule work so that, during the same shift, the surfaces being paved are paved full width and length through the top Base Course before opening to traffic. Traffic will be allowed on the top Base Course up to 3 Calendar Days.

Before beginning wearing Course paving operations, make repairs to the existing surface as directed. Payment for the repairs will be made according to 00195.20.

END OF SECTION

SECTION 00749 - MISCELLANEOUS ASPHALT CONCRETE STRUCTURES

Comply with Section 00749 of the Standard Specifications.

END OF SECTION

SECTION 00810 - METAL GUARDRAIL

Comply with Section 00810 of the Standard Specifications modified as follows:

00810.41 Excavation and Backfill - Add the following paragraph to the end of this subsection:

Hand dig guardrail post holes or use other non-invasive methods when posts are located within 24 inches surrounding the outside dimension of all sides of underground utilities as shown or directed.

END OF SECTION

SECTION 00842 – FACILITY IDENTIFICATION MARKERS

Comply with Section 00842 of the Standard Specifications.

END OF SECTION

SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS

Comply with Section 00850 of the Standard Specifications.

END OF SECTION

SECTION 00865 - LONGITUDINAL PAVEMENT MARKINGS - DURABLE

Comply with Section 0865 of the Standard Specifications.

END OF SECTION

SECTION 01012 - STORMWATER CONTROL, WATER QUALITY BIOFILTRATION SWALE

Section 01012, which is not a Standard Specification, is included for this Project by Special Provision.

Description

01012.00 Scope - This Work consists of furnishing and installing a water quality biofiltration swale as shown.

Materials

01012.10 Materials - Furnish Material meeting the following requirements:

Excavation	00330
Concrete	00440
Drainage Geotextile, Type 1	02320
Manholes, Catch Basins, and Inlets	00470.11
Open-Graded Aggregate	02630.11
Water Quality Mixture	03020

01012.12 Water Quality Mixture - Furnish medium compost meeting the requirements of Section 03020. Furnish soil meeting the following gradation requirements:

Sieve Size	Percent Passing (by Weight)
No. 4	100
No 10	95 - 100
No. 40	40 - 60
No. 100	10 - 25
No. 200	5 - 10

Sample soil according to AASHTO R 90. Determine sieve analysis according to AASHTO T 27 and AASHTO T 11.

Blend the medium compost and soil so that the mixture:

- Is composed of between 20 percent and 25 percent medium compost material and between 75 percent and 80 percent soil material.
- Has a pH between 5.5 and 8.0.
- Does not have clumps greater than 3 inches in any direction.

Construction

01012.40 General - Construct water quality biofiltration swale facility as shown. Perform excavation, fine grading, and placement work only when the facility area is dry and only from the top of the swale area. Do not stockpile excavated material in the facility area. Perform work in sequence as follows:

(a) Scarify - Scarify the subsoil area a minimum 12 inches deep.

(b) Placement of Water Quality Mixture - Place the water quality mixture in maximum 12 inch Lifts. Compact each Lift with a water filled landscape roller.

(c) Pervious Pavers - Install pervious pavers for full length of swale and full width of channel bottom. Fasten adjoining paver panels together.

(d) Seeding - Seed according to 01030.13.

(e) Slope and Channel Liner Matting - After seeding install slope and channel liner matting as shown or directed.

(f) Check Dams -– Install permanent check dams spaced as shown or directed.

01012.41 Facility Field Markers - Install field markers as shown and according to Section 00842.

Maintenance

01012.70 Cleaning - If a stormwater control facility is used for erosion and sediment control, remove all accumulated sediment and debris before completing the facility.

01012.71 Removal - Remove temporary erosion and sediment control features according to 00280.70 only after water quality vegetation has met the establishment requirements of 01030.60.

Measurement

01012.80 Measurement - No measurement of quantities will be made for Work performed under this Section. The estimated quantities of Materials are:

Water Quality Biofiltration Swale ta 50+80.30 to Sta 52+36.75 Quantities:

Item	Quantity
Excavation	200 Cu. Yd.
Drainage Geotextile, Type 1	280 Sq. Yd.
Granular Drain Backfill 1 1/2” – 3/4” Washed Crushed	70 Cu. Yd.
Open-Graded Aggregate 3/4” – 1/4”	15 Cu. Yd.
Water Quality Mixture (Growing Medium/Blended Soil)	70 Cu. Yd.
Concrete Inlet, Type DB-SL	1 Each

Payment

01012.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract lump sum amount for the item "Water Quality Swale, _____".

The drainage facility identification number will be inserted in the blank.

Excavation will be paid according to 00330.90.

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.

END OF SECTION

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:

- **Stormwater Facility Grass Mix Seeding:**

Botanical Name (Common Name)	**PLS (lb/acre)**	**÷ (% Purity (minimum)**	**x % Germination) (minimum)**	**= Amount (%)**
Festuca arundinacea (Dwarf Tall Fescue)	____	____	____	40
Lolium perenne (Dwarf Perennial Rye)	____	____	____	30
Festuca rubra (Creeping Red Fescue)	____	____	____	25
Agrostis capillaris (Colonial Bent Grass)	____	____	____	5

120 lbs/acre

* Oregon Certified Seed

- **Erosion Control Mix Seeding:**

Name	**PLS (lb/acre)**	**÷ (% Purity (minimum)**	**x % Germination) (minimum)**	**= Amount (lb/acre)**
PT 855 ODOT Erosion Control Mix, by Pro Time Lawn Seed or approved equal				40lbs/acre

01030.13(g) Availability - Add the following sentence to the end of this subsection:

Submit the seed and seed mixes to be used on the project according to 00150.37.

01030.15 Mulch - Add the following paragraph(s) 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:

- 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.

01030.40 General - Add the following sentence after the sentence beginning "Notify the Agency…":

Notify the Agency of the acreage to be seeded at least 7 Days before seeding begins.

01030.43(c) Seed Application Rates - Determine the seeding application rate according to 01030.13(c). Apply seed mixes at the highest application rate calculated to provide not less than the specified application rate for each individual seed species in the mix.

01030.60 General - Add the following sentences after the last bullet:

The minimum living plant coverage for native plant seeding is 80 percent of ground surface.

01030.80 Measurement - Add the following to the end of this subsection:

Soil testing will be measured according to 01040.80

01030.90 Payment - Add the following to the end of this subsection:

Soil testing will be paid for according to 01040.90.

END OF SECTION

SECTION 01040 - PLANTING

Comply with Section 01040 of the Standard Specifications.

END OF SECTION

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, logs, boulders, gravels, and other types of waterway items as shown or directed.

Materials

01091.10 Material - Provide materials meeting the following requirements:

(a) Boulders - 700 pounds to 900 pounds, hard, durable, angular shaped rock. The thickness of a single rock shall be not less than one-third its length. Round rock, non-durable rock, shale, or rock with shale seams will not be accepted.

(b) Streambed Cobble - 10 inch to 6 inch, uncrushed, clean, hard, durable material that is well graded from the maximum size to the minimum size. Streambed Cobble mix shall consist of a rounded boulder and cobble mixture. The mix shall have enough fines to help seal the rocks and prevent subsurface flow within the creek channel. The Contractor shall provide a sample to the Engineer for review and approval prior to the haul and placement of the material.

(c) Streambed Sediment – 4 inch to 0 inch uncrushed, clean, hard, durable material that is well graded from the maximum size to the minimum size with mix of sand. The mix shall have enough fines to help seal the rocks and prevent subsurface flow within the creek channel. The Contractor shall provide a sample to the Engineer for review and approval prior to the haul and placement of the material.

(d) Channel Margin Jams – 14 inch to 18 inch diameter by 20 feet to 32 feet long conifer trees with rootwad salvaged from the clearing and grubbing operation. Or size as specified with engineer. Up two 2 fish logs may be salvaged from project and installed where directed by Engineer.

Construction

01091.40 General:

(a) Boulders - Place rocks in the streambed as indicated on plan or directed.

(b) Streambed Cobble - Place cobble in the streambed as shown or directed.

(c) Streambed Sediment - Place cobble in the streambed as shown or directed.

(d) Channel Margin Jams - Place logs with the rootwad end projecting into the water with the trunk placed at 45 degree horizontal angle to the bank. Bury the trunk end approximately one-third the total length into the embankment.

Measurement

01091.80 General - Quantities for waterway enhancement items will be determined as follows:

(a) Unit Basis - Unit basis items will be measured on a unit basis per each by actual count.

(b) Volume Basis - Volume basis items will be measured by the Tons in the hauling vehicle.

Payment

01091.90 General - The accepted quantities of waterway enhancement items will be paid for at the Contract unit price per unit of measurement for the following items:

Pay Item	Unit of Measurement
(a) Boulders	Each
(b) Streambed Cobble	Ton.
(c) Streambed Sediment	Ton
(d) Channel Margin Jams	Each

Item (a) includes all boulders that serve as barrier rocks.

Payment will be payment in full for furnishing and placing all materials and furnishing all equipment, labor, and incidentals necessary to complete the work as specified.

END OF SECTION

SECTION 02001 - CONCRETE

Comply with Section 02001 of the Standard Specifications modified as follows:

02001.02 Abbreviations and Definitions: Replace the sentence that begins "**Pozzolans** - Fly ash, silica fume…" with the following sentence:

Pozzolans - Fly ash, natural Pozzolans, silica fume, and high-reactivity Pozzolans.

Replace the sentence that begins "**Supplementary Cementitious Materials** - Fly ash, silica fume…" with the following sentence:

Supplementary Cementitious Materials - Pozzolans and ground granulated blast furnace slag.

SECTION 02030 – SUPPLEMENTARY CEMENTITIOUS MATERIALS

Comply with Section 02030, of the Standard Specifications modified as follows:

02030.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

This Section includes the requirements for fly ash, natural pozzolans, silica fume, ground granulated blast furnace slag and high reactivity pozzolans used in portland cement concrete.

02030.10 Fly Ash - Replace this subsection, except for the subsection number and title, with the following:

Furnish Class C and Class F fly ash from the QPL and conforming to AASHTO M 295 (ASTM C618).

Add the following subsection:

02030.15 Natural Pozzolans - Furnish Class N natural pozzolans from the QPL and conforming to AASHTO M 295 (ASTM C618).

02030.50 Metakaolin - Replace this subsection with the following:

02030.50 High Reactivity Pozzolans - Furnish high-reactivity pozzolans from the QPL and conforming to AASHTO M 321.

SECTION 02050 - CURING MATERIALS

Comply with Section 02050 of the Standard Specifications modified as follows:

02050.10 Liquid Compounds - Replace the paragraph that begins "Furnish liquid membrane-forming curing…" with the following paragraph:

Furnish liquid membrane-forming curing compounds from the QPL and meeting the requirements of ASTM C309. Before use, submit a one quart sample from each lot for testing. Samples will be tested according to ODOT TM 721. Samples are not required for curing compounds used on Commercial Grade Concrete.

SECTION 02415 - PLASTIC PIPE

Comply with Section 02415 of the Standard Specifications modified as follows:

02415.40 Polypropylene Pipe - Replace the sentence that begins "Dual wall polypropylene pipe …" with the following sentence:

Dual wall polypropylene pipe and fittings ..... ASTM F2764

SECTION 02510 - REINFORCEMENT

Comply with Section 02510 of the Standard Specifications modified as follows:

02510.11(c) Coated Reinforcement Ties and Supports - Replace this subsection, except for the subsection number and title, with the following:

Ties and supports for coated reinforcement, including ties for coated to uncoated reinforcement connections, shall be nonmetallic coated.

SECTION 02560 - FASTENERS

Comply with Section 02560 of the Standard Specifications modified as follows:

02560.30(b) High Strength Tie Rods, Anchor Bolts and Anchor Rods - Add the following paragraph to the end of this subsection:

End stamp all ASTM F1554, Grade 105 according to ASTM F1554 Supplementary Requirements S2 and S3. If the end of the bolt is to be embedded in concrete, the projecting end from the concrete shall be the marked end.

SECTION 02690 - PCC AGGREGATES

Comply with Section 02690 of the Standard Specifications modified as follows:

02690.20(e) Grading and Separation by Sizes for Prestressed Concrete - Replace this subsection with the following subsection:

02690.20(e) Grading and Separation by Sizes - Sampling shall be according to AASHTO R 90. Sieve analysis shall be according to AASHTO T 27 and AASHTO T 11. Provide aggregates meeting the gradation requirements of Table 02690-1 for structural concrete. Provide a CAgT to perform sampling and testing when required.

Table 02690-1
Gradation of Coarse Aggregates
Percent passing (by Weight)

		Sieve Size											
Size Number	Nominal Size Square Openings	(2½ in.)	(2 in.)	(1½ in.)	(1 in.)	(¾ in.)	(½ in.)	(⅜ in.)	(No. 4)	(No. 8)	(No. 16)	(No. 50)	(No. 200)
3	(2 to 1 in.)	100	90 to 100	35 to 70	0 to 15	—	0 to 5	—	—	—	—	—	**
357*	(2 in. to No. 4)	100	95 to 100	—	35 to 70	—	10 to 30	—	0 to 5	—	—	—	**
4	(1½ to ¾ in.)	—	100	90 to 100	20 to 55	0 to 15	—	0 to 5	—	—	—	—	**
467*	(1½ to No. 4)	—	100	95 to 100	—	35 to 70	—	10 to 30	0 to 5	—	—	—	**
5	(1 to ½ in.)	—	—	100	90 to 100	20 to 55	0 to 10	0 to 5	—	—	—	—	**
56	(1 to ⅜ in.)	—	—	100	90 to 100	40 to 85	10 to 40	0 to 15	0 to 5	—	—	—	**
57	(1 to No. 4)	—	—	100	95 to 100	—	25 to 60	—	0 to 10	0 to 5	—	—	**
6	(¾ to ⅜ in.)	—	—	—	100	90 to 100	20 to 55	0 to 15	0 to 5	—	—	—	**
67	(¾ to No. 4)	—	—	—	100	90 to 100	—	20 to 55	0 to 10	0 to 5	—	—	**
68	(¾ to No. 8)	—	—	—	100	90 to 100	—	30 to 65	5 to 25	0 to 10	0 to 5	—	**
7	(½ to No. 4)	—	—	—	—	100	90 to 100	40 to 70	0 to 15	0 to 5	—	—	**
78	(½ to No. 8)	—	—	—	—	100	90 to 100	40 to 75	5 to 25	0 to 10	0 to 5	—	**
8	(⅜ to No. 8)	—	—	—	—	—	100	85 to 100	10 to 30	0 to 10	0 to 5	—	**
89	(⅜ to No. 16)	—	—	—	—	—	100	90 to 100	20 to 55	5 to 30	0 to 10	0 to 5	**

* Use two or more seperated sizes which when combined meet these gradation limits.

** See 02690.20(a). Do Not evaluate material passing the No. 200 sieve according to 00165.40.

02690.20(f) Grading and Separation by Sizes for Other Concrete - Delete this subsection.

02690.30(g) Grading - In the paragraph that begins “Sampling shall be according to…”, replace the words “AASHTO T 2” with the words “AASHTO R 90”.

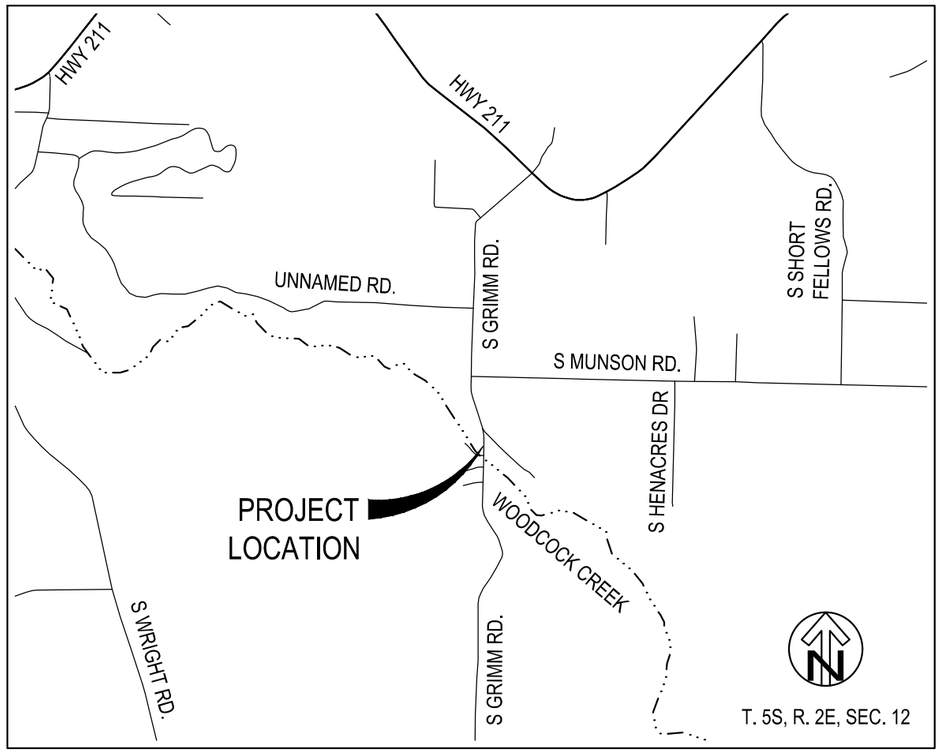
CLACKAMAS COUNTY
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

WOODCOCK CREEK AT GRIMM ROAD CULVERT REPLACEMENT

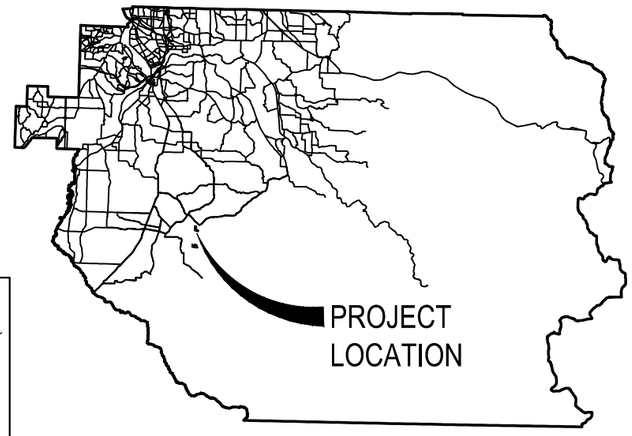
EARTHWORK, ABUTMENTS, MODULAR BRIDGE, PAVING, GUARDRAIL AND STRIPING

MOLALLA, OREGON
SUMMER 2022

INDEX OF SHEETS	
SHEET NUMBER	SHEET TITLE
1	TITLE SHEET
1A	LEGEND
1B	STD DWG'S & ABBREVIATIONS
2A	TYPICAL SECTIONS
2A-2	TYPICAL SECTIONS
2A-3	TYPICAL SECTIONS
2A-4	TYPICAL SECTIONS
2A-5	TYPICAL SWALE DETAIL
2A-6	CHANNEL MARGIN JAM
2A-7	CHANNEL MARGIN JAM
2A-8	CHANNEL MARGIN JAM SEQUENCE
2A-9	BOULDER PLACEMENT
2B	BYPASS PLAN
2C	EROSION CONTROL PLAN
2D	DETOUR PLAN
2D-2	DETOUR PLAN
3A	STREAM PLAN
3A-2	STREAMBED BACKFILL
3B	STREAM PROFILE
3C	STREAM PROFILE
3D	STREAM PROFILE
3E	PROPOSED EASEMENTS
4A	CONSTRUCTION NOTES & PLAN
4B	CONSTRUCTION PROFILE
4C	GRADING PLAN
5A	BRIDGE STRUCTURAL GENERAL NOTES
5B	BRIDGE PLAN & PROFILE
5C	BRIDGE SECTIONS
5D	ABUTMENT WALL PROFILES
6D	IMPACTS TO WATERS
6D-2	STREAM SECTIONS
6D-3	STREAM SECTIONS
6D-4	STREAM SECTIONS
6D-5	STREAM SECTIONS
SS-1	PERMANENT SIGNING AND STRIPING PLAN



VICINITY MAP
SCALE: NTS



DATUM:
HORIZONTAL DATUM: NAD83 (2011) EPOCH 2010.00 OCRS PORTLAND ZONE PER OAR 734 REFERENCED TO ODOT CORS STATIONS

VERTICAL DATUM: NAVD88.

BASIS OF BEARING:
NAD83 (2011) EPOCH 2010.00 OCRS PORTLAND ZONE PER OAR 734 REFERENCED TO ODOT CORS STATIONS

SITE INFORMATION:
SOIL CLASSIFICATION:
SALEM SILT LOAM, 0 TO 7 PERCENT SLOPES.
HYDROLOGIC SOIL GROUP B.

XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP.
HYDROLOGIC SOIL GROUP B.

LATITUDE: 45°08'49.72"N
LONGITUDE: 122°30'10.33"W

AFFECTED TAXLOTS:
02000, 02200
02201, 02500

ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987).

OREGON UTILITY NOTIFICATION CENTER
1-800-332-2344
CALL BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER
78628PE
OREGON
JAN. 09, 2007
MATTHEW C. LEWIS
RENEWS: 12/31/2024

TITLE SHEET
WOODCOCK CREEK AT GRIMM ROAD CULVERT REPLACEMENT
DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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DIRECTOR
DAN JOHNSON

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DRAFTED BY: RPM
CHECKED BY: CJ

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NO.	DATE:

Sheet No.
1

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SYMBOLS

EXISTING	PROPOSED	
MAIL		MAIL BOX
		TELEPHONE RISER
		SINGLE SUPPORT SIGN
		UTILITY POLE
		GUY WIRE
		DITCH INLET

LINETYPES

EXISTING	PROPOSED	
		CONCRETE SURFACE
		AC PAVEMENT SURFACE
		EDGE OF UNPAVED SURFACE
		EDGE OF PAVED SURFACE
		FENCE LINE
		GUARDRAIL
		CENTERLINE
		STORM PIPE
		DITCH LINE
T		UNDERGROUND TELEPHONE LINE
OHW		ORDINARY HIGH WATER LINE

VEGETATION

	EVERGREEN TREE		WETLAND AREA
	DECIDUOUS TREE		

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LEGEND

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CULVERT REPLACEMENT

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ODOT STANDARD DRAWING REFERENCES

BR233	THRIE-BEAM RAIL AND TRANSITION
RD368	CONCRETE INLETS TYPE M-E, M-O,B AND B-SL
RD400	GUARDRAIL AND METAL MEDIAN BARRIER
RD405	GUARDRAIL AND METAL MEDIAN BARRIER PARTS
RD410	GUARDRAIL PARTS (THRIE BEAM)
RD415	GUARDRAIL AND METAL MEDIAN BARRIER PARTS
RD610	ASPHALT CONCRETE PAVEMENT (ACP) DETAILS
RD615	ASPHALT CONCRETE PAVEMENT (ACP) DETAILS
RD1005	CHECK DAMS TYPE 1, 3 AND 4
RD1032	SEDIMENT BARRIER TYPE 8
RD1040	SEDIMENT FENCE
RD1070	CONCRETE TRUCK WASH OUT
TM500	PAVEMENT MARKING STANDARD DETAIL BLOCKS
TM840	CLOSURE DETAILS

STANDARD DRAWING RESOURCES

ODOT	HTTP://WWW.OREGON.GOV/ODOT/ENGINEERING/PAGES/STANDARDS.ASPX
CLACK. CO.	HTTP://WWW.CLACKAMAS.US/ENGINEERING/ROADWAY.HTML
WES	HTTPS://WWW.CLACKAMAS.US/WES/STORMWATERSTANDARDS.HTML

ABBREVIATIONS

ACP	ASPHALT CEMENT PAVEMENT	N	NORTH	S	SOUTH
CB	CATCHBASIN	NOM	NOMINAL	SE	SOUTHEAST
CT	COURT	N.T.S.	NOT TO SCALE	STD	STANDARD
DWG	DRAWING	ODOT	OREGON DEPT. OF TRANSPORTATION	STA.	STATION
E	EAST	PROP, PR	PROPOSED	SD	STORM DRAIN
EC	EROSION CONTROL	PT	POINT	THKN.	THICKNESS
ELEV	ELEVATION	PVI	POINT OF VERTICAL INTERSECTION	T	TOWNSHIP
EXTG, EX	EXISTING	R	RANGE	TYP	TYPICAL
HORIZ	HORIZONTAL	RD	ROAD	VERT	VERTICAL
IE	INVERT ELEVATION	RT	RIGHT	W	WEST
LF	LINEAR FEET	R/W, ROW	RIGHT OF WAY		
LT	LEFT	SS	SANITARY SEWER		
MH	MANHOLE	SEC	SECTION		

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STD DWG'S & ABBREVIATIONS

WOODCOCK CREEK AT GRIMM ROAD
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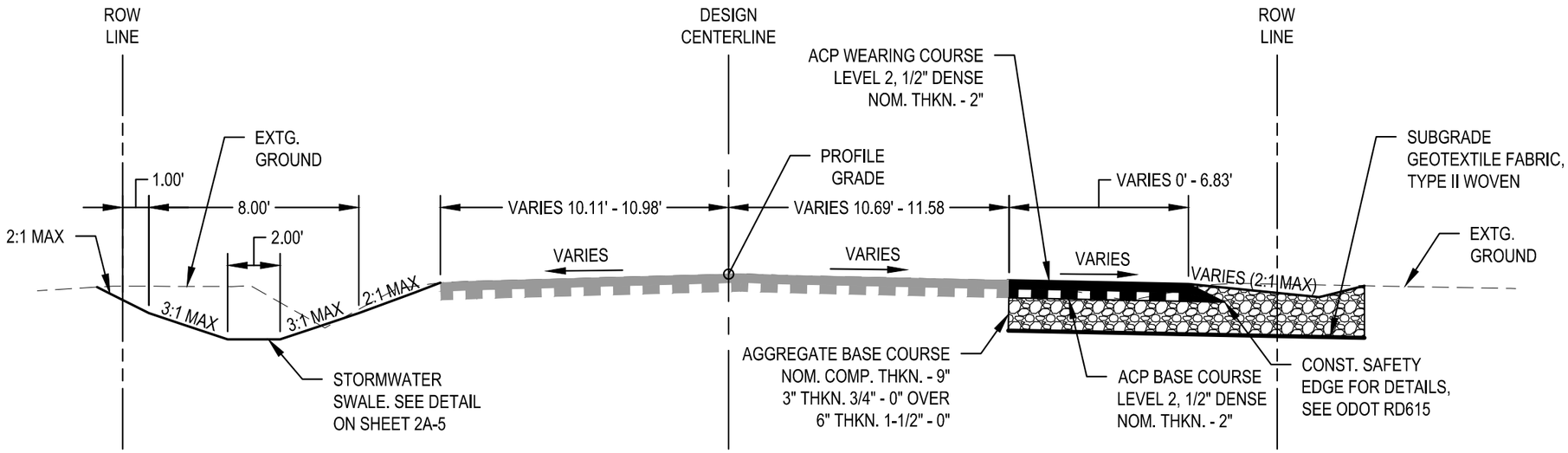
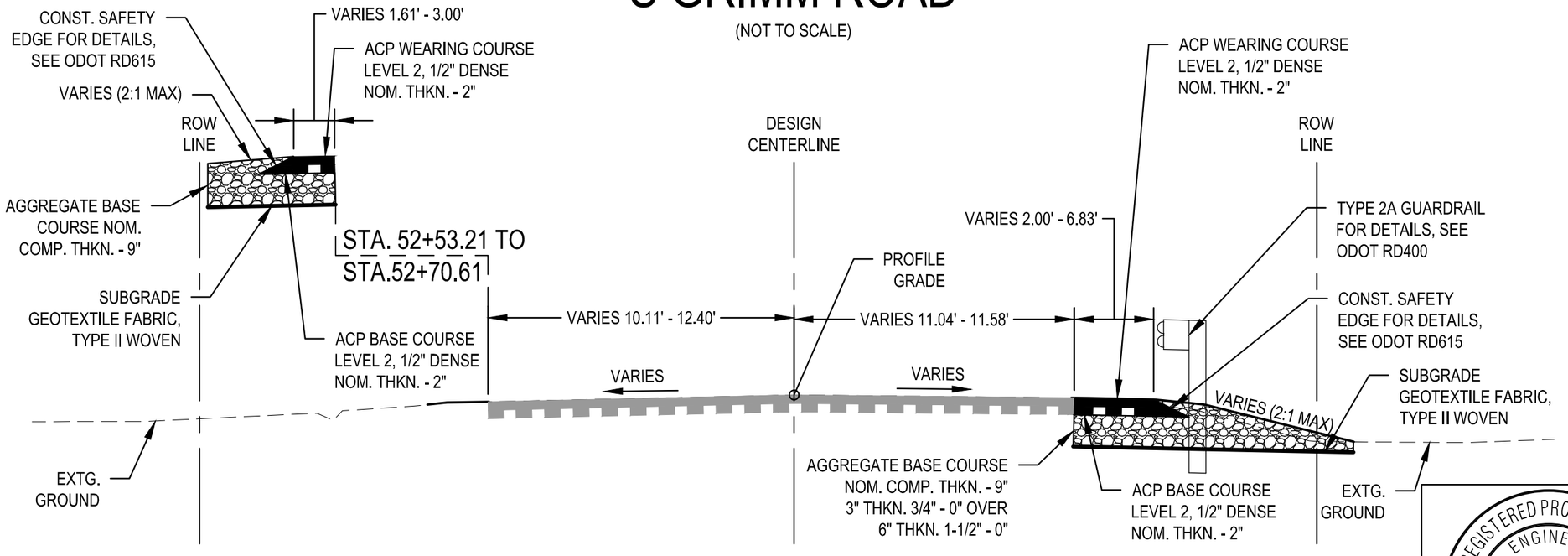


STA. 51+43.73 TO STA. 52+00.79

S GRIMM ROAD

(NOT TO SCALE)



NOTE:

1. ALL DIMENSIONS SHOW IN FEET UNLESS OTHERWISE NOTED
2. SIDE SLOPES ARE SHOWN AS HORIZ. TO VERT.
3. BRIDGE ABUTMENT TO CONFORM TO GEOTECHNICAL RECOMMENDATIONS IN "REPORT OF GEOTECHNICAL SERVICES" PREPARED BY PALI CONSULTING, DATED AUGUST 28, 2019.

STA. 52+00.79 TO STA. 52+70.61

S GRIMM ROAD

(NOT TO SCALE)

TYPICAL SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
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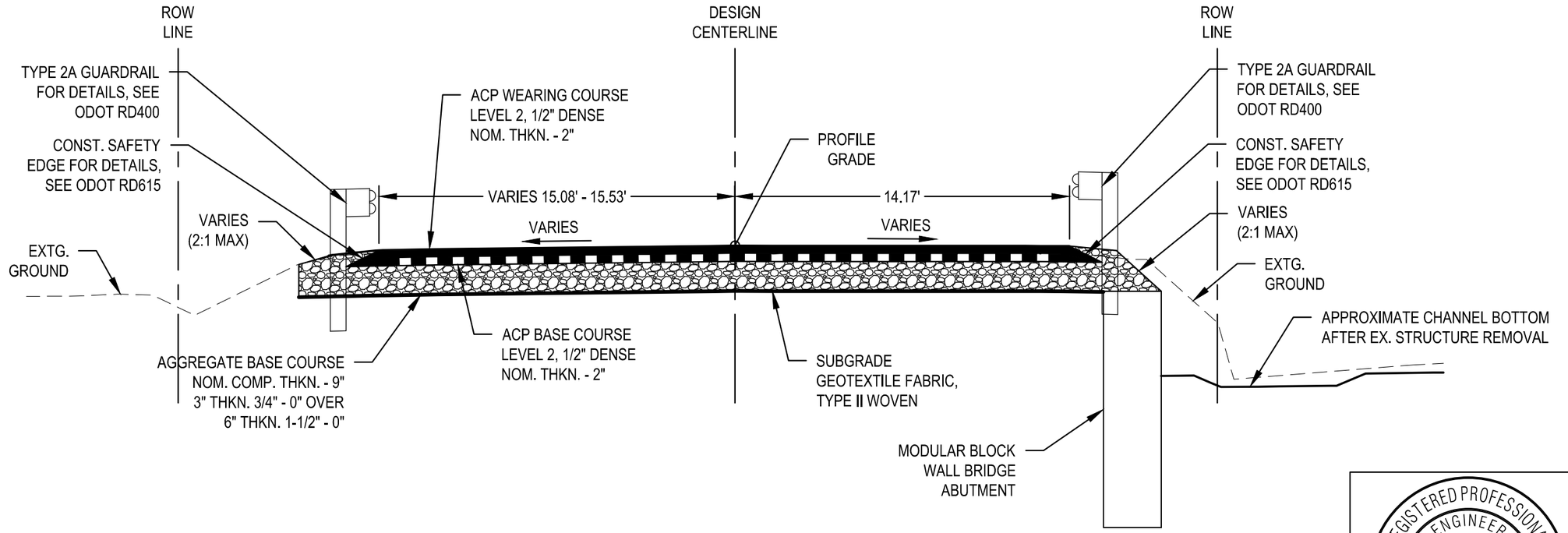

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STA. 52+70.61 TO STA. 52+80.37

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2A-2

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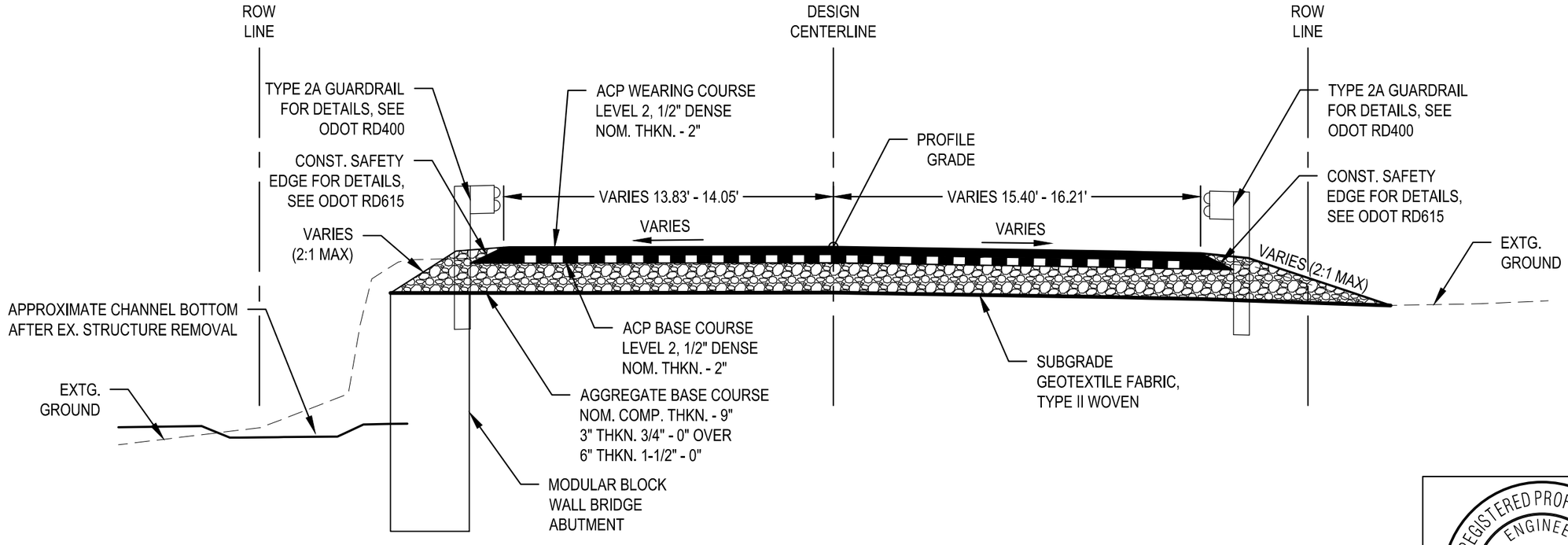

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STA. 53+64.34 TO STA. 53+84.76

S GRIMM ROAD

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JAN. 09, 2007
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WOODCOCK CREEK AT GRIMM ROAD
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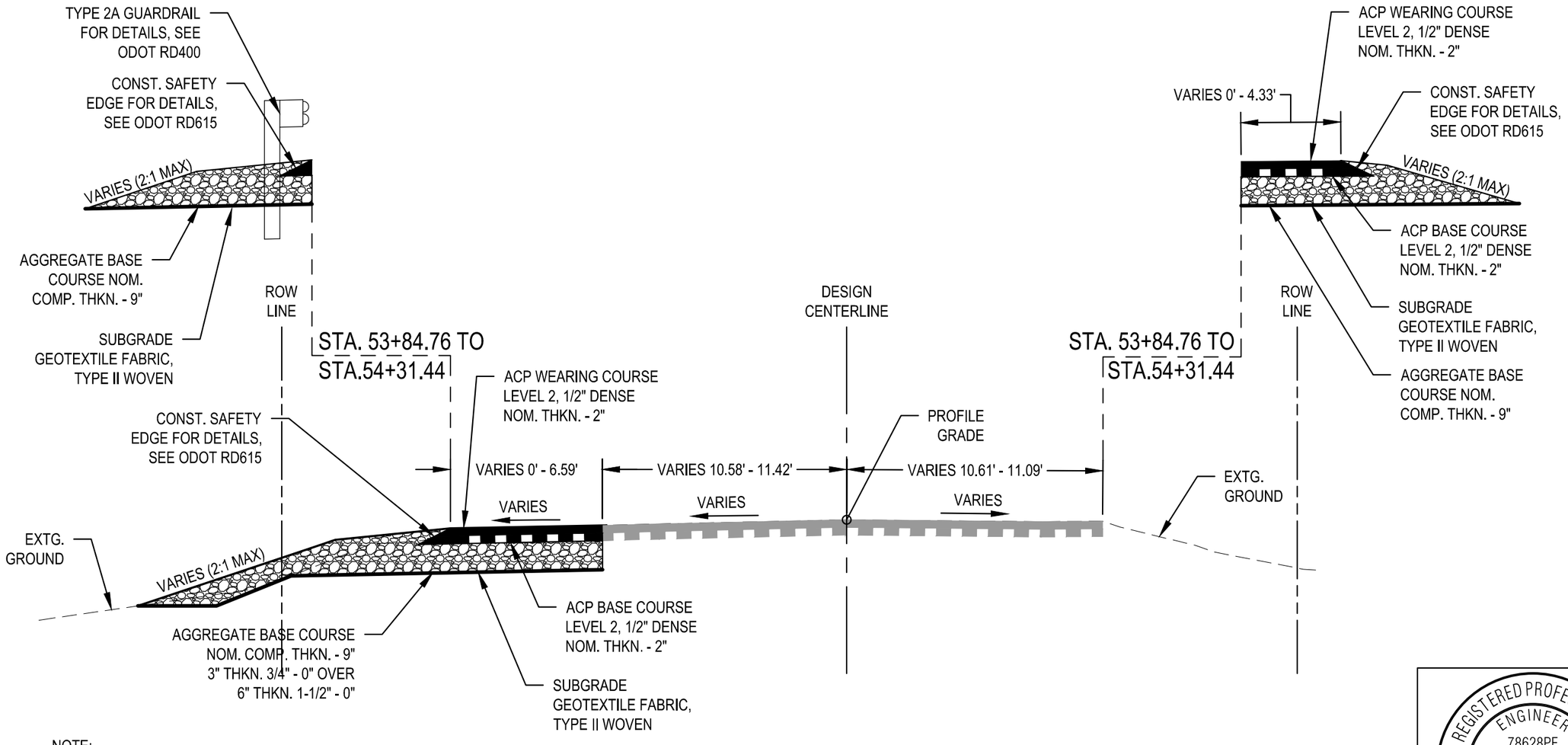

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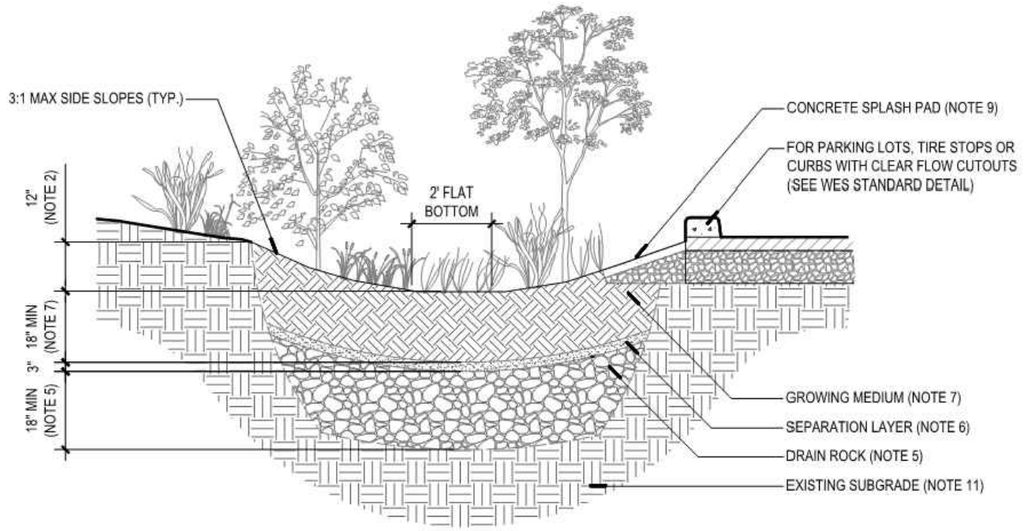

GENERAL NOTES:

1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION.
2. DIMENSIONS:
   - DEPTH OF SWALE (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION): 12"
   - LONGITUDINAL SLOPE OF SWALE: 6.0% OR LESS
   - FLAT BOTTOM WIDTH: 2'
   - SIDE SLOPES OF SWALE: 3:1 MAXIMUM
3. SETBACKS:
   - INFILTRATION VEGETATED SWALES MUST BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES.
4. OVERFLOW:
   - EMERGENCY OVERFLOW PATH FOR THE 100 YEAR DESIGN STORM SHALL BE IDENTIFIED ON THE STORMWATER MANAGEMENT PLAN.
5. DRAIN ROCK:
   - SIZE: 1 1/2" - 3/4"- WASHED
   - DEPTH: 18"
6. SEPARATION BETWEEN DRAIN ROCK AND GROWING MEDIUM: SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
7. GROWING MEDIUM:
   - 18" MINIMUM
   - FACILITY SURFACE AREA MAY BE REDUCED BY 20% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
8. VEGETATION: FOLLOW LANDSCAPE PLANS OR REFER TO PLANTING REQUIREMENTS IN APPENDIX F.
9. SPLASH PAD TO TRANSITION FROM INLETS TO GROWING MEDIUM.
10. CHECK DAMS: REQUIRED FOR OVER 4% SLOPE, SHALL BE SPACED AT A MAXIMUM 2-FOOT ELEVATION INTERVALS. MAINTAIN 4 - 10 INCH DEEP ROCK CHECK DAMS AT DESIGN INTERVALS.
11. SEASONAL HIGH GROUNDWATER SEPARATION:
    - SEPARATION DISTANCE AS REQUIRED BY WES.
12. SEE WES STANDARD DRAWINGS FOR LOCATING PLANTERS IN THE PUBLIC RIGHT-OF-WAY.

Vegetated Swale - Infiltration
Figure D6

CLACKAMAS WATER ENVIRONMENT SERVICES

WES STORMWATER AND GRADING DESIGN STANDARDS

GROWING MEDIUM NOTES

1. GROWING MEDIUM SHALL BE A BLEND OF LOAMY SOIL, SAND AND COMPOST THAT IS 30 TO 40 % COMPOST (BY VOLUME).

2. PARTICLE GRADATION ANALYSIS OF THE BLENDED MATERIAL, INCLUDING COMPOST, SHALL BE CONDUCTED IN CONFORMANCE WITH ASTM C1 17/C136 (AASHTO T1 1/T27). THE GRADATION OF THE BLEND SHALL MEET THE FOLLOWING GRADATION CRITERIA.

   - 1" SIEVE: 100 % PASSING
   - #4 SIEVE: 60-100 % PASSING
   - #10 SIEVE: 40-100 % PASSING
   - #40 SIEVE: 15-50 % PASSING
   - #100 SIEVE: 5-25 % PASSING
   - #200 SIEVE: 5-15 % PASSING

   THE BLEND SHALL HAVE A COEFFICIENT OF UNIFORMITY (D60/D10) EQUAL TO OR GREATER THAN 6 TO ENSURE THAT IT IS WELL GRADED.

3. AN ANALYSIS OF SOIL ORGANIC MATTER CONTENT SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM D2974 (LOSS ON IGNITION TEST). THE SOIL ORGANIC MATTER CONTENT SHALL BE A MINIMUM OF 10 %.

4. GROWING MEDIUM PH SHALL BE BETWEEN PH 5.5-7.

5. COMPOST SHALL COMPLY TO THE STANDARDS ESTABLISHED BY THE US COMPOSTING COUNCIL SEAL OF TESTING ASSURANCE (STA) PROGRAM. COMPOST SHALL: HAVE 100% PASSAGE THROUGH A ½" SCREEN, PH 6-8, ORGANIC MATTER OF 35-65%, SOLUBLE SALT CONTENT LESS THAN 6.0 MMHOS/CM, GERMINATION GREATER THAN 80%, STABILITY CLASS 5-7, CARBON/NITROGEN RATIO LESS THAN 25:1, TRACE METALS TEST RESULTS = 'PASS', MANUFACTURED INERT MATERIAL (PLASTIC, CONCRETE, CERAMICS, METAL, ETC.) SHALL BE LESS THAN 1 % BY WEIGHT.

6. SUBMIT GROWING MEDIUM TEST RESULTS TO THE OWNERS' REPRESENTATIVE 14 WORKING DAYS IN ADVANCE OF CONSTRUCTION FOR REVIEW AND WRITTEN APPROVAL. TEST RESULTS SHALL CONFIRM THE REQUIREMENTS OF THE SAMPLE AS NOTED WITHIN THIS DESCRIPTION. INCLUDE THE NAME AND ADDRESS OF THE LABORATORY, PHONE CONTACT NUMBER AND EMAIL, TEST DATA (INCLUDING THE DATE AND NAME OF THE TEST PROCEDURE.

7. BLENDED MATERIAL SHALL BE:

   7.1. LOOSE AND FRIABLE.
   7.2. WELL MIXED AND HOMOGENOUS.
   7.3. FREE OF WOOD PIECES, PLASTIC, SCREENED AND FREE OF STONES 1-IN OR LARGER IN ANY DIMENSION, ROOTS, PLANTS, SOD, CLODS, CLAY LUMPS, POCKETS OF COARSE SAND, PAINT, PAINT WASHOUT, CONCRETE SLURRY, CONCRETE LAYERS, OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, ACID AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.
   7.4. SHALL NOT BE INFESTED WITH NEMATODES, GRUBS, OTHER PESTS, PEST EGGS, OR OTHER UNDESIRABLE ORGANISMS AND DISEASE-CAUSING PLANT PATHOGENS; FRIABLE AND WITH SUFFICIENT STRUCTURE TO GIVE GOOD TILTH AND AERATION.

8. BLENDED MATERIAL SHALL BE FREE OF WEEDS AND INVASIVE PLANTS INCLUDING BUT NOT LIMITED TO:

   8.1. CIRSIUM ARVENSE (CANADIAN THISTLE)
   8.2. CONVOLVULUS SPP. (MORNING GLORY)
   8.3. CYTISUS SCOPARUS (SCOTCH BROOM)
   8.4. DIPSACUS SYLVESTRIS (COMMON TEASEL)
   8.5. FESTUCA ARUNDINACEAE (TALL FESCUE)
   8.6. HEDERA HELIX (ENGLISH IVY)
   8.7. HOLCUS CANATUS (VELVET GRASS)
   8.8. LOLIUM SPP. (RYE GRASSES)
   8.9. LOTUS CORNICULATUS (BIRD'S FOOT TREFOIL)
   8.10. LYTHRIUM SALICARIA (PURPLE LOOSE STRIFE)
   8.11. MELILOTUS SPP. (SWEET CLOVER)
   8.12. MYRIOPHYLLUM SPICATRUM (EURASION MILFOIL)
   8.13. PHALARIS ARUNDINACEAE (REED CANARY GRASS)
   8.14. RUBUS DISCOLOR (HIMILAYAN BLACKBERRY)
   8.15. SOLANUM SPP. (NIGHTSHADE)
   8.16. TRIFOLIUM SPP. (CLOVERS)

9. THE INSTALLATION SHALL INCLUDE: PROTECTING THE GROWING MEDIUM FROM SOURCES OF CONTAMINATION, PLACED IN LOOSE LIFTS NOT TO EXCEED 8" AND COMPACTED WITH A WATER-FILLED LANDSCAPE ROLLER (NO OTHERWISE MECHANICALLY COMPACTION), INSTALLED AFTER GRADING OPERATIONS, PROTECTED FROM EROSION AND PLANTED AS SOON AS POSSIBLE. PLACEMENT OF GROWING MEDIUM WILL NOT BE ALLOWED WHEN THE GROUND IS FROZEN OR SATURATED.

10. VERIFY WATER IS INFILTRATING AT A MINIMUM OF 2" PER HOUR AFTER PLACEMENT OF GROWING MEDIUM.

STORMWATER FACILITY GRASS SEED MIX			
	SIZE	QUANTITY	TYPE
LOW GROW SEED MIX	120 LBS/AC 3 LBS/1,000 SF	2,000 SF 6 LBS	DWARF TALL FESCUE 40% DWARF PERENNIAL RYE 30% CREEPING RED FESCUE 25% COLONIAL BENT GRASS 5%

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JAN. 09, 2007
MATTHEW C. LEWIS
RENEWS: 12/31/2024

TYPICAL SWALE DETAIL

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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DAN JOHNSON

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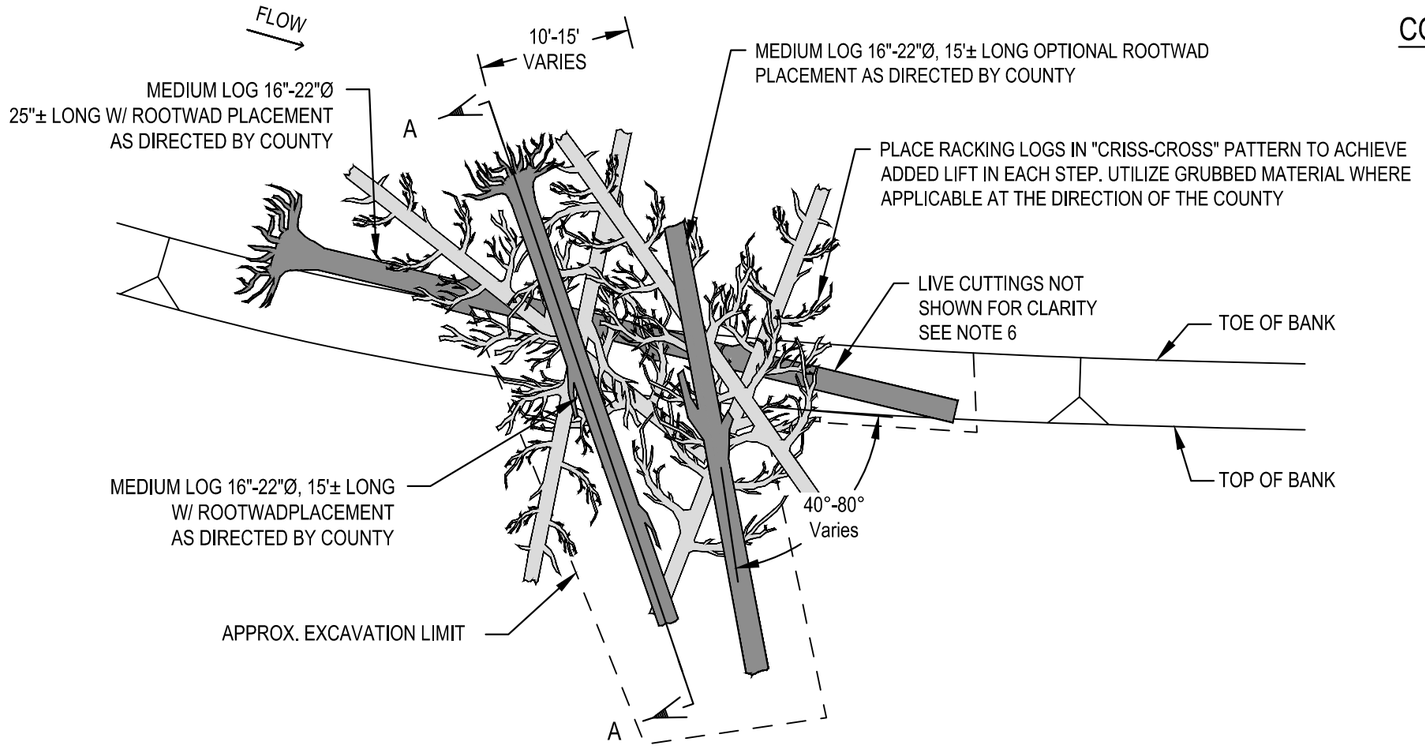
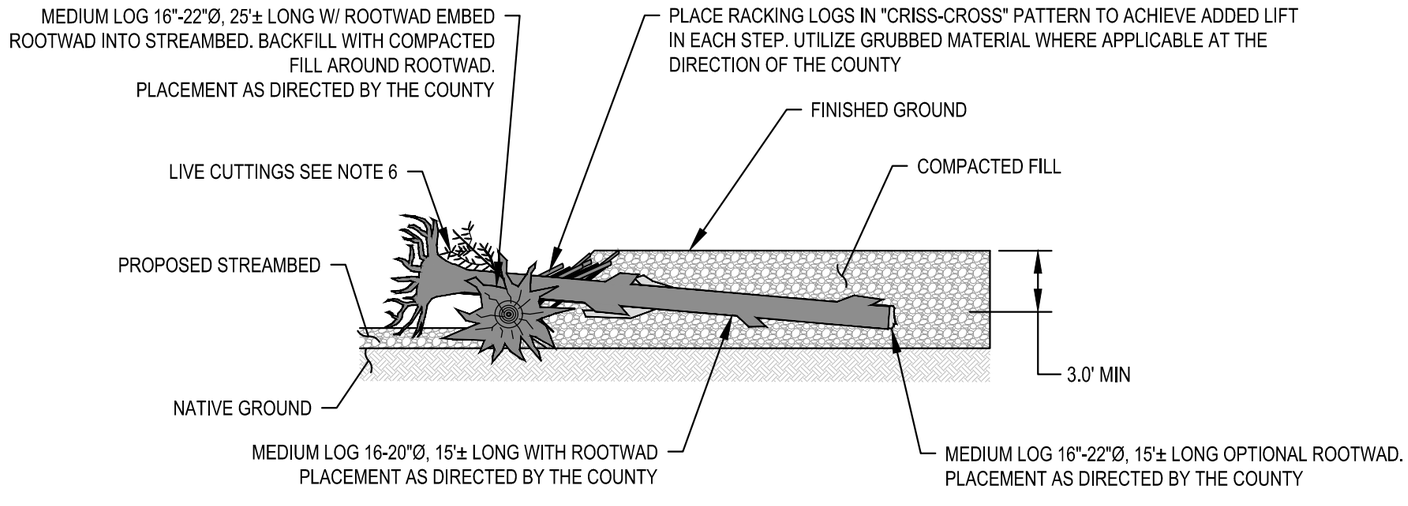


PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

CONSTRUCTION NOTES:

1. CONTRACTOR TO SELECT LARGE AND MEDIUM LOGS, PER TABLE ON 2A-7 WITH THE APPROVAL OF CLACKAMAS COUNTY
2. CONTRACTOR SHALL PLACE LOGS AS DESCRIBED IN SEQUENCE PLANS ON SHEET 2A-8.
3. RACKING LOGS AND SLASH WEDGED BETWEEN LARGE AND MEDIUM LOGS. RACKING LOGS AND SLASH SHALL HAVE IRREGULAR AND NATURAL APPEARANCE AND NOT STACKED.
4. MEDIUM LOG SHALL BE PLACED SO ITS UPSTREAM END RESTS ON STREAM BED, AND ITS DOWNSTREAM END IS EMBEDDED UP TO 6". BACKFILL AND COMPACT AROUND MEDIUM LOG WITH COMPACTED FILL.
5. BACKFILL STRUCTURE WITH COMPACTED FILL.
6. INSTALL LIVE CUTTINGS AT A RATE OF 3 CUTTINGS PER LARGE AND/OR MEDIUM LOG WHILE INSTALLING LOGS. LIVE CUTTINGS SHALL BE INSTALLED NEAR FACE OF EACH STRUCTURE WITHIN EXCAVATION LIMITS AS DIRECTED BY C.O. LIVE CUTTINGS SHALL BE PLACED SUCH THAT A MINIMUM OF 6" OF CUTTING IS SUBMERGED BELOW WATER TABLE. LIVE CUTTINGS SHALL BE BACKFILLED WITH EXCAVATED MATERIALS AND COMPACTED. LIVE CUTTINGS SHALL BE PROVIDED BY CONTRACTING AGENCY.
7. IF LOCATED IN SIDE CHANNELS, STRUCTURE MAY BE CONSTRUCTED WITH SMALLER LOGS AS DIRECTED BY THE COUNTY.
8. STRUCTURE LOCATION MAY BE FIELD ADJUSTED BY THE COUNTY.
9. ALL LARGE AND MEDIUM LOGS TO BE BROUGHT TO STRUCTURE LOCATION IN 25' LENGTHS. LOGS LISTED AT 15' LENGTH, SHALL BE BROKEN TO LENGTH. ANY REMAINING LENGTH SHALL BE USED IN STRUCTURE AS ADDITIONAL RACKING MATERIAL.
10. ALL VISIBLE ENDS OF LOGS SHALL BE CUT OR BROKEN OFF TO CREATE NATURAL APPEARANCE. NO FLAT CUTS ALLOWED.

REGISTERED PROFESSIONAL ENGINEER
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CHANNEL MARGIN JAM
WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT
DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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Sheet No.
2A-6

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CHANNEL MARGIN JAM LOCATIONS		
STRUCTURE ID	STATION	BANK
WC-01	1+78	RIGHT
WC-02	1+85	LEFT
WC-03	3+12	LEFT
WC-04	3+45	RIGHT

CHANNEL MARGIN JAM							
LOG TYPE	SIZE (DBH)	MIN LENGTH (FT)	ROOTWAD	MIN. ROOTWAD DIAMETER (FT)	BRANCHES	QUANTITY	TOTAL QUANTITY
MEDIUM	16" - 22"	25'	YES	4'	NO	1	6
MEDIUM	16" - 22"	15'	YES	4'	NO	1	6
MEDIUM	16" - 22"	15'	OPTIONAL	-	NO	1	6
RACKING	10" - 16"	10'	OPTIONAL	-	OPTIONAL	5	30
SLASH (CY)	1" - 6"	5'	-	-	YES	15	90
LIVE CUTTINGS	-	-	-	-	-	11	66

* DBH = DIAMETER AT BREAST HEIGHT

HYDRAULIC PURPOSE:

* TEMPORARILY STABILIZE NEW BANKS IN THE SHORT TERM TO RESTORE AQUATIC AND RIPARIAN HABITATS.
* MAINTAIN SCOUR HOLES BY FLOW CONVERGENCE.
* DIVERT HIGH FLOWS INTO SIDE CHANNELS AND FLOODPLAIN.
* SORT AND RETAIN GRAVEL.

HABITAT PURPOSE:

* CREATE DIVERSE FISH HABITAT ALONG CHANNEL MARGIN.
* PROVIDE COVER.

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CHANNEL MARGIN JAM

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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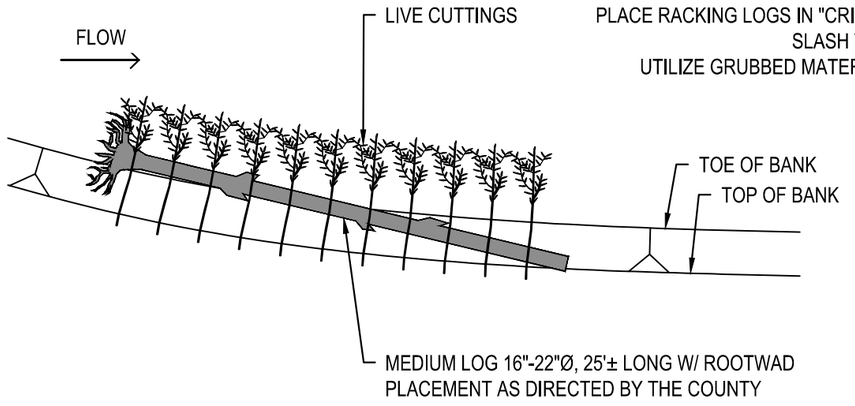
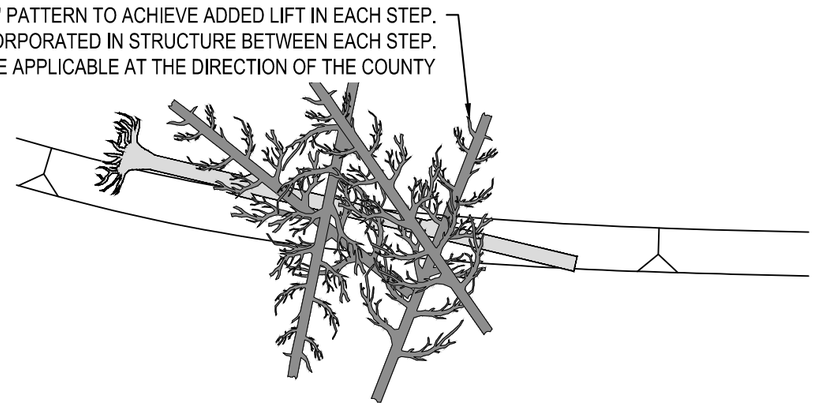
2A-7



STEP 1



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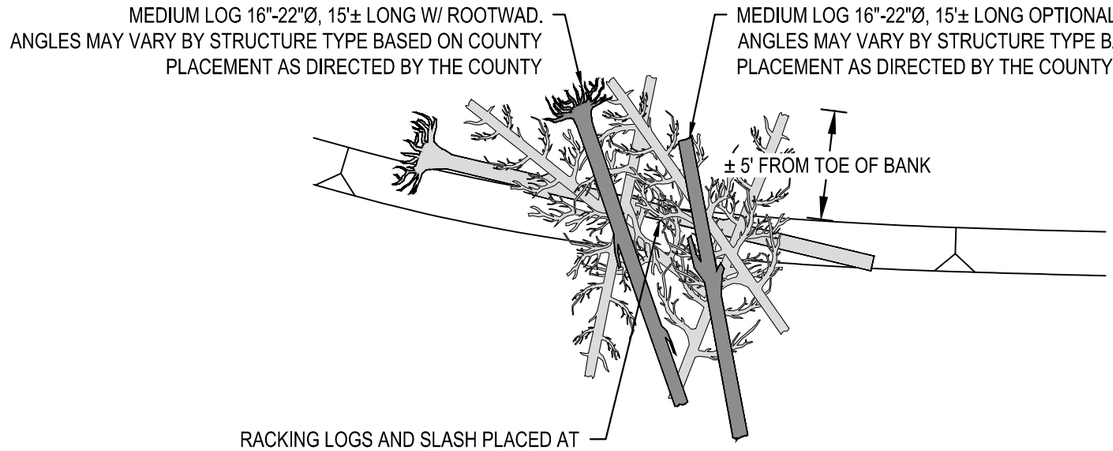

STEP 3

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RENEWS: 12/31/2024

CHANNEL MARGIN JAM SEQUENCE

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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Sheet No.
2A-8

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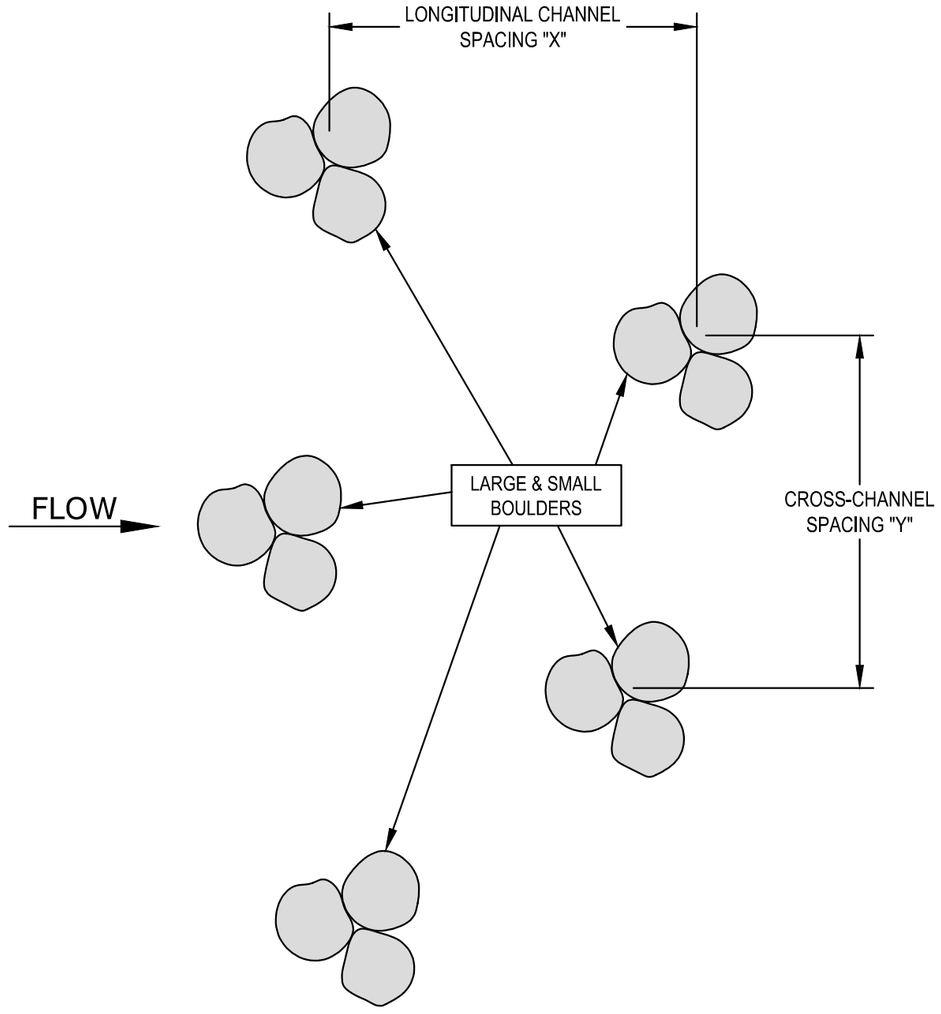

BOULDER PLACEMENT PLAN VIEW
NOT TO SCALE

BOULDER PLACEMENT DENSITY		
FEATURE	MINIMUM LONGITUDINAL CHANNEL SPACING "X"	MINIMUM CROSS-CHANNEL SPACING "Y"
WOODCOCK CREEK	12 FEET	12 FEET

NOTES:

1. PLACE LARGE AND SMALL BOULDERS AS DIRECTED BY C.O. ON RIFFLE FEATURES, TOPS OF GLIDE FEATURES, THROUGHOUT ROUGHENED CHANNELS, AND IN EXISTING CHANNEL BEDS.
2. LARGE TO SMALL BOULDER RATIO ON RIFFLE FEATURES, TOPS OF GLIDE FEATURES, THROUGHOUT ROUGHENED CHANNELS, AND IN EXISTING CHANNEL BEDS SHALL BE 1:1 OR AS DIRECTED BY C.O.
3. MINIMUM DENSITY OF BOULDER PLACEMENT IS DEPENDENT UPON FEATURE AS SHOWN IN TABLE.
4. STAGGER AND VARY BOULDER PLACEMENT AND EMBEDMENT DEPTHS TO MIMIC NATURAL STREAMS AND TO BREAK UP CURRENTS AS DIRECTED BY C.O.
5. BOULDERS SHALL BE PLACED IN GROUPINGS OF 1-3, IN AN UNEVEN PATTERN SO AS TO PROVIDE DIVERSE REFUGE FOR FISH.
6. MINIMUM BOULDER EMBEDMENT OF 50%.

BOULDERS		
DESCRIPTION	SIZE CLASS*	TOTAL QUANTITY
LARGE BOULDERS	GREATER THAN 24"	21
SMALL BOULDERS	12" - 24"	21

* SIZE CLASS IS UNIQUE TO THESE DRAWINGS AND IS NOT A STANDARD.

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BOULDER PLACEMENT
WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT
DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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2A-9

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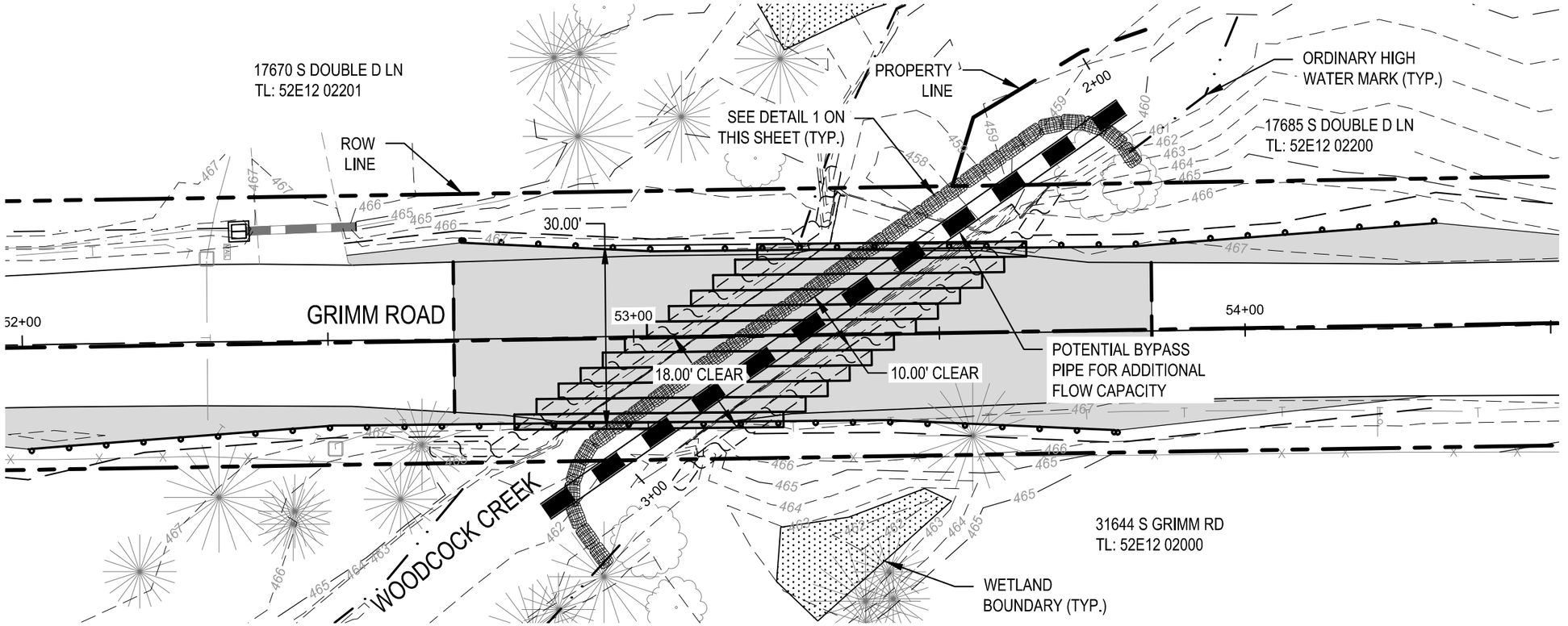
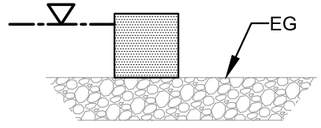
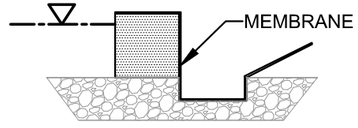




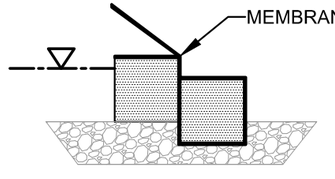
PLACE SINGLE ROW OF BAGS ACROSS CHANNEL TO BE DIVERTED



EXCAVATE 6" DEEP TRENCH 1 BAG WIDTH ON DOWNSTREAM SIDE OF PLACED ROW OF BAGS. LAY MEMBRANE AS SHOWN.

SEQUENCE 1 - SECTION

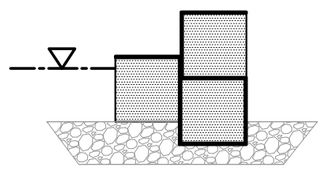
NOT TO SCALE



PLACE SECOND ROW OF BAGS. WRAP MEMBRANE AS SHOWN.

SEQUENCE 2 - SECTION

NOT TO SCALE



PLACE THIRD ROW ON TOP OF SECOND ROW. WRAP MEMBRANE AS SHOWN.

SEQUENCE 3 - SECTION

NOT TO SCALE

SEQUENCE 4 - SECTION

NOT TO SCALE

1 BYPASS DETAIL

SCALE: NOT TO SCALE

BYPASS PLAN GENERAL NOTES

1. BYPASS PLAN SHEETS ARE INTENDED TO SERVE AS A REFERENCE FOR POTENTIAL DISCHARGE LOCATIONS. THE CONTRACTOR SHALL PREPARE A FINAL DETAILED BYPASS PLAN FOR APPROVAL.
2. THE CONTRACTOR SHALL PERFORM FISH-SALVAGE AND RELOCATION PRIOR TO DEWATERING THE THE WORK AREA.
3. THE DESIGN, INSTALLATION, AND OPERATION OF THE TEMPORARY BYPASS AND PUMPING SYSTEM(S) SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
4. THE CONTRACTOR IS REQUIRED TO FURNISH ALL MATERIAL, LABOR, EQUIPMENT, POWER, MAINTENANCE, ETC. TO IMPLEMENT A TEMPORARY BYPASS AND PUMPING SYSTEM FOR THE PURPOSE OF DIVERTING THE EXISTING FLOW AROUND THE WORK AREAS FOR THE DURATION OF THE PROJECT.
5. CONTRACTOR SHALL USE TRASH PUMPS FOR SEEPAGE DEWATERING. ALL DEWATERING PUMPS SHALL HAVE 3/32" SCREENS. CONTRACTOR SHALL IMPLEMENT PUMP CONTAINMENT TO PREVENT ACCIDENTAL DISCHARGE OF CONTAMINANTS TO ACTIVE/FLOWING WATER.
6. CONTRACTOR SHALL PREVENT UNCURED CONCRETE FROM COMING IN CONTACT WITH ACTIVE/FLOWING WATER.

0 20 40

1 inch = 20 feet

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BYPASS PLAN

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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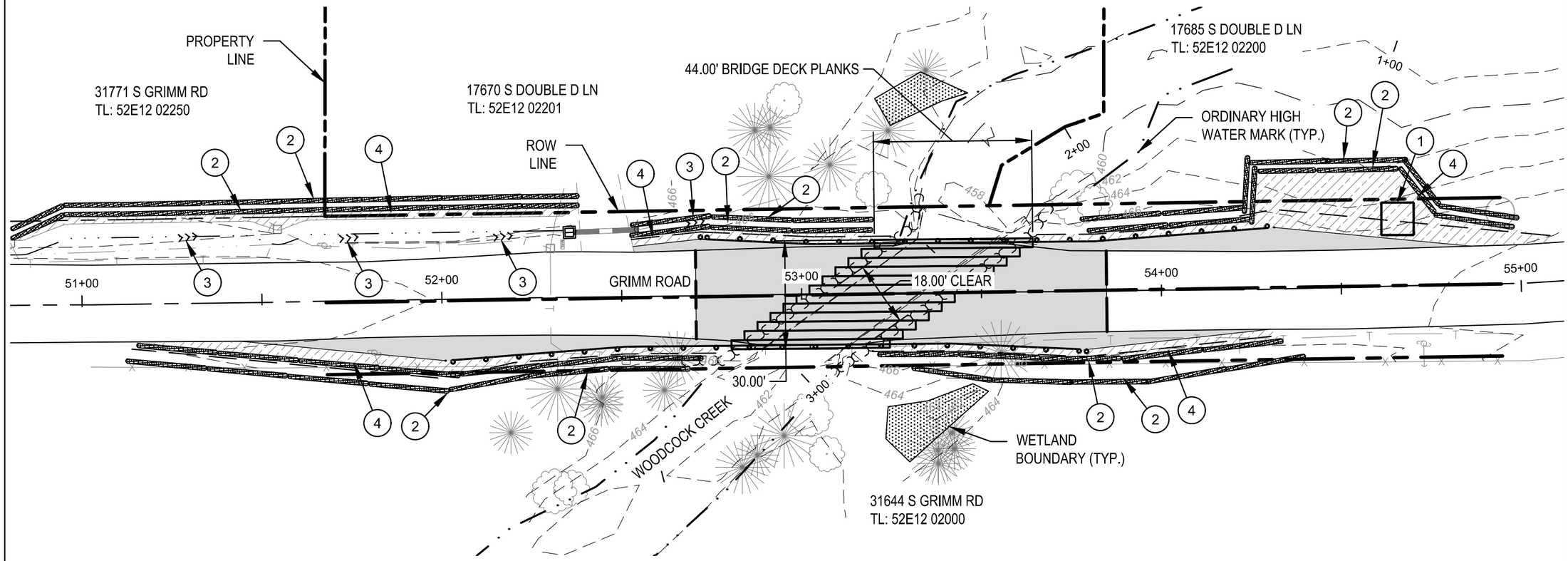

EROSION CONTROL CONSTRUCTION NOTES

1. INSTALL CONCRETE WASHOUT FACILITY
   FINAL LOCATION SHALL BE DETERMINED BY CONTRACTOR.
   FOR DETAILS SEE ODOT RD1070.
2. INSTALL SEDIMENT BARRIER, TYPE 8
   FOR DETAILS, SEE ODOT RD1032.
3. INSTALL CHECK DAM, TYPE 3 - 4 EA.
   L = 22', H = 8"
   FOR DETAILS, SEE ODOT RD1005.
4. INSTALL EROSION CONTROL MIX SEEDING, 6" MINIMUM DEPTH TOPSOIL, AND EROSION CONTROL MATTING, TYPE E TO GRADED AND DISTURBED AREAS UPON PROJECT COMPLETION AS DIRECTED BY COUNTY

LEGEND

- SEDIMENT BARRIER, TYPE 8
- CHECK DAM, TYPE 3
- EROSION CONTROL MIX SEEDING

0 30 60
1 inch = 30 feet

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EROSION CONTROL PLAN

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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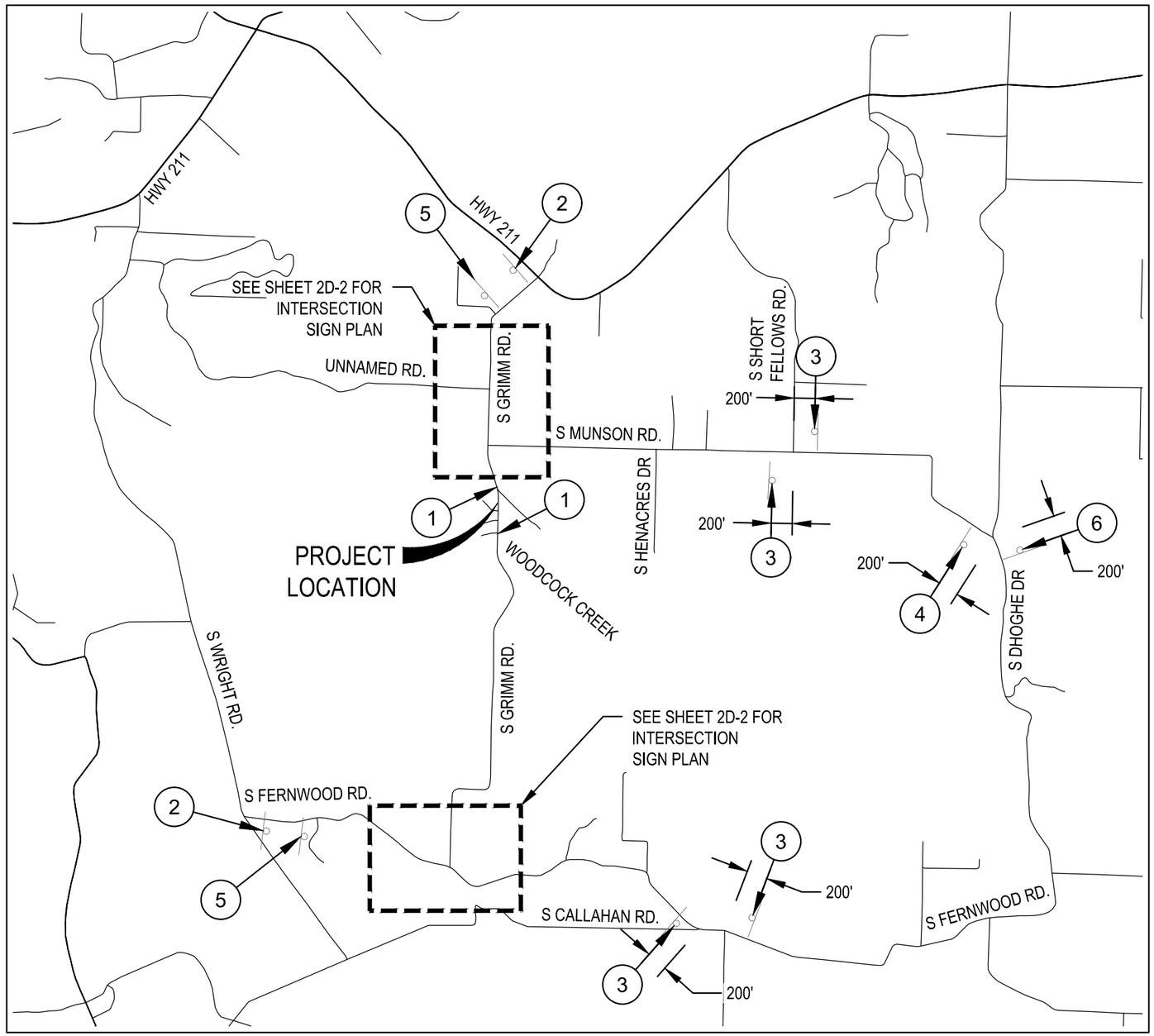


T. 5S, R. 2E, SEC. 12

NOTES:

1. PCMS SIGNS SHALL BE DEPLOYED 1-WEEK PRIOR TO ROAD CLOSURE.
2. SIGNS SHALL BE MOUNTED ON PSST POSTS. TEMPORARY SIGN SUPPORTS PER ODOT TM689 AND TM822.
3. FOR SIGN REQUIREMENTS, LAYOUT, AND SPACING REFER TO OREGON STD. DRAWING TM840.

R11-4
60x30

1

W20-2
36x36

5

W20-3
36x36

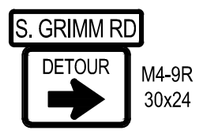
2

M4-9L
30x24

6

CG20-6
30x36

3



M4-9R
30x24

4

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RENEWS: 12/31/2024

DETOUR PLAN

WOODCOCK CREEK AT GRIMM ROAD CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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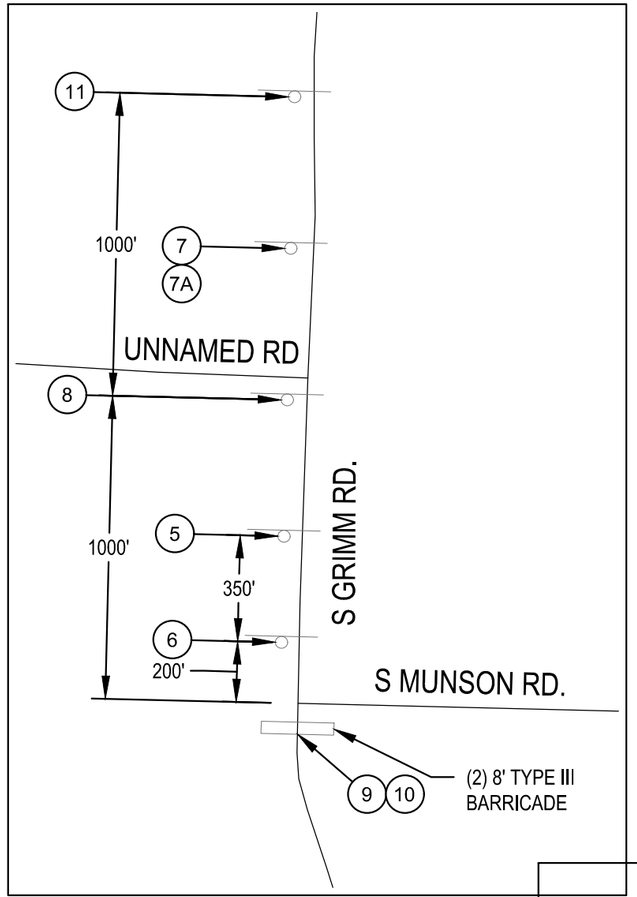


M4-9L
30x24

6

DURING CLOSURE

ROAD CLOSED X MILE	DETOUR MUNSON ROAD

PORTABLE CHANGEABLE MESSAGE SIGN
(SUGGESTED MESSAGE)
(LOCATE AS DIRECTED)

7A

1 WEEK PRIOR TO CLOSURE

GRIMM ROAD CLOSED	MMM DD TO MMM DD

PORTABLE CHANGEABLE MESSAGE SIGN
(SUGGESTED MESSAGE)
(LOCATE AS DIRECTED)
2 REQD.

7

DURING CLOSURE

ROAD CLOSED X MILE	DETOUR FERNWOOD ROAD

PORTABLE CHANGEABLE MESSAGE SIGN
(SUGGESTED MESSAGE)
(LOCATE AS DIRECTED)

7B

NOTES:
1. PCMS SIGNS SHALL BE DEPLOYED 1-WEEK PRIOR TO ROAD CLOSURE.
2. SIGNS SHALL BE MOUNTED ON PSST POSTS. TEMPORARY SIGN SUPPORTS PER ODOT TM689 AND TM822.
3. FOR SIGN REQUIREMENTS, LAYOUT, AND SPACING REFER TO OREGON STD. DRAWING TM840.

36x36
W20-3

8

36x36
W20-2

11

R11-4
60x30

M4-10
48x18

9

R11-4
60x30

M4-10
48x18

12

24x18

10

24x18

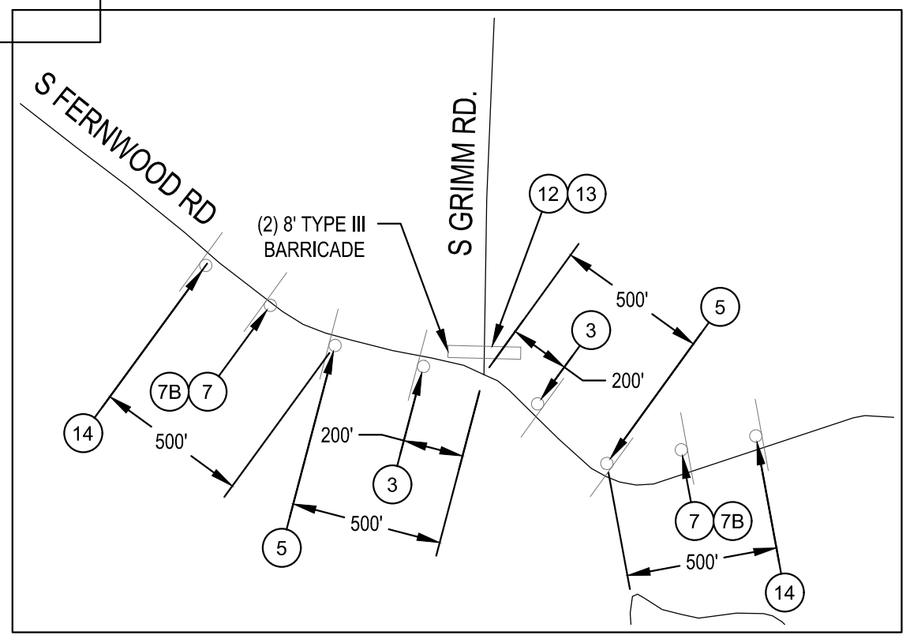
13

CG20-6
30x36

3

36x36
W20-2

5



W20-3
36x36

14

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DETOUR PLAN

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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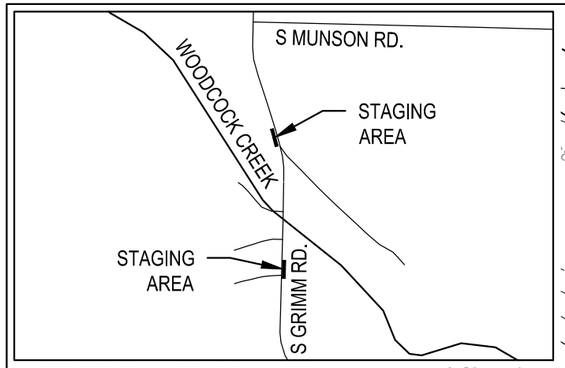
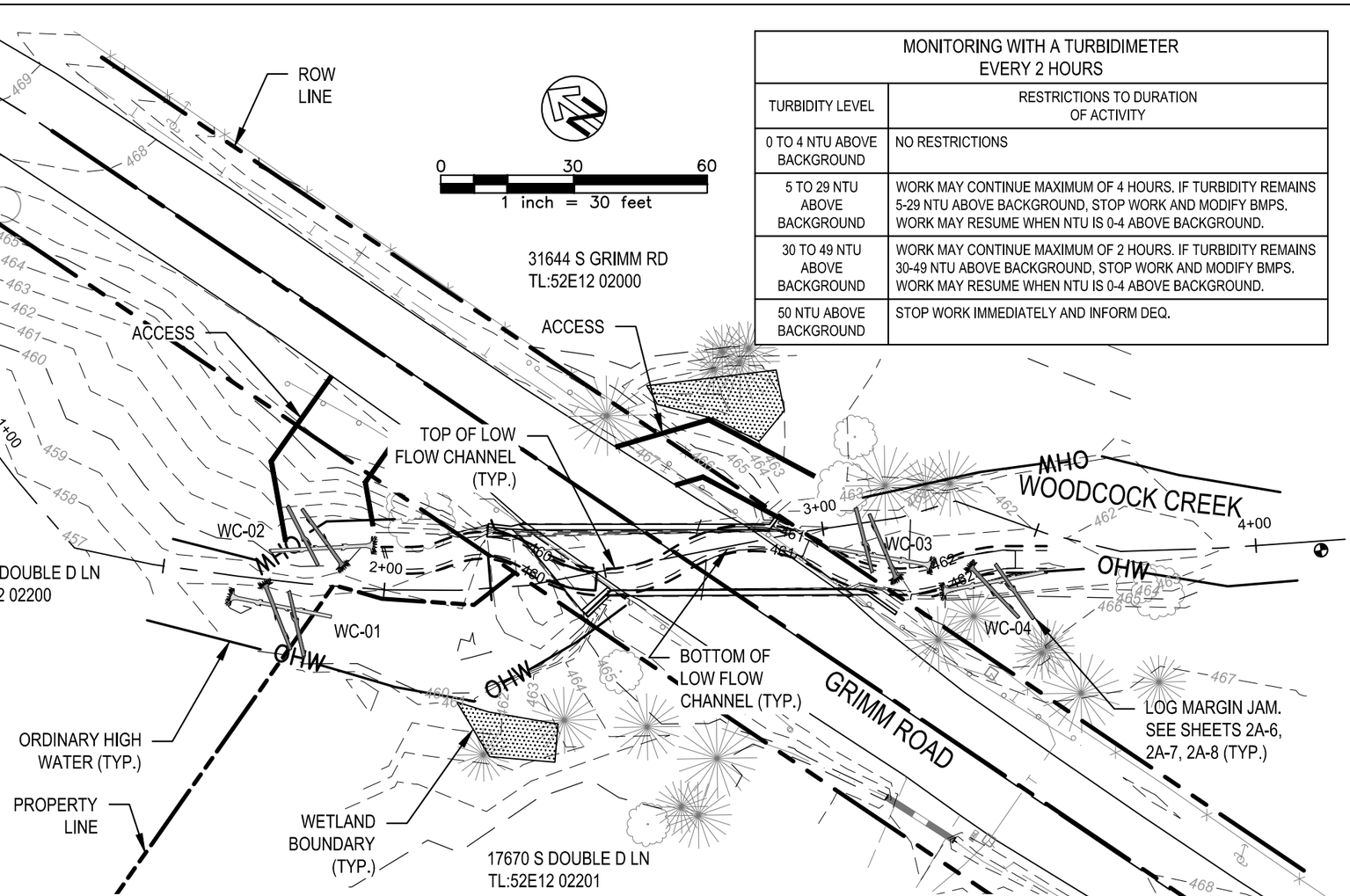


NOTE: STAGING AREAS SHALL BE A MINIMUM OF 150' FROM OWH.

TURBIDITY MONITORING STATION. LOCATION APPROXIMATE (TYP.)

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 ABOVE BACKGROUND	STOP WORK IMMEDIATELY AND INFORM DEQ.



TURBIDITY MONITORING NOTES

CONTRACTOR SHALL 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 PER TABLE ON THIS SHEET.

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.

TURBIDITY MONITORING NOTES CONTINUED

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.

REGISTERED PROFESSIONAL ENGINEER
78628PE
OREGON
JAN. 09, 2007
MATTHEW C. LEWIS
RENEWS: 12/31/2024

STREAM PLAN

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM–2017–00023

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DIRECTOR
DAN JOHNSON

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CHECKED BY: CJ

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Sheet No. 3A

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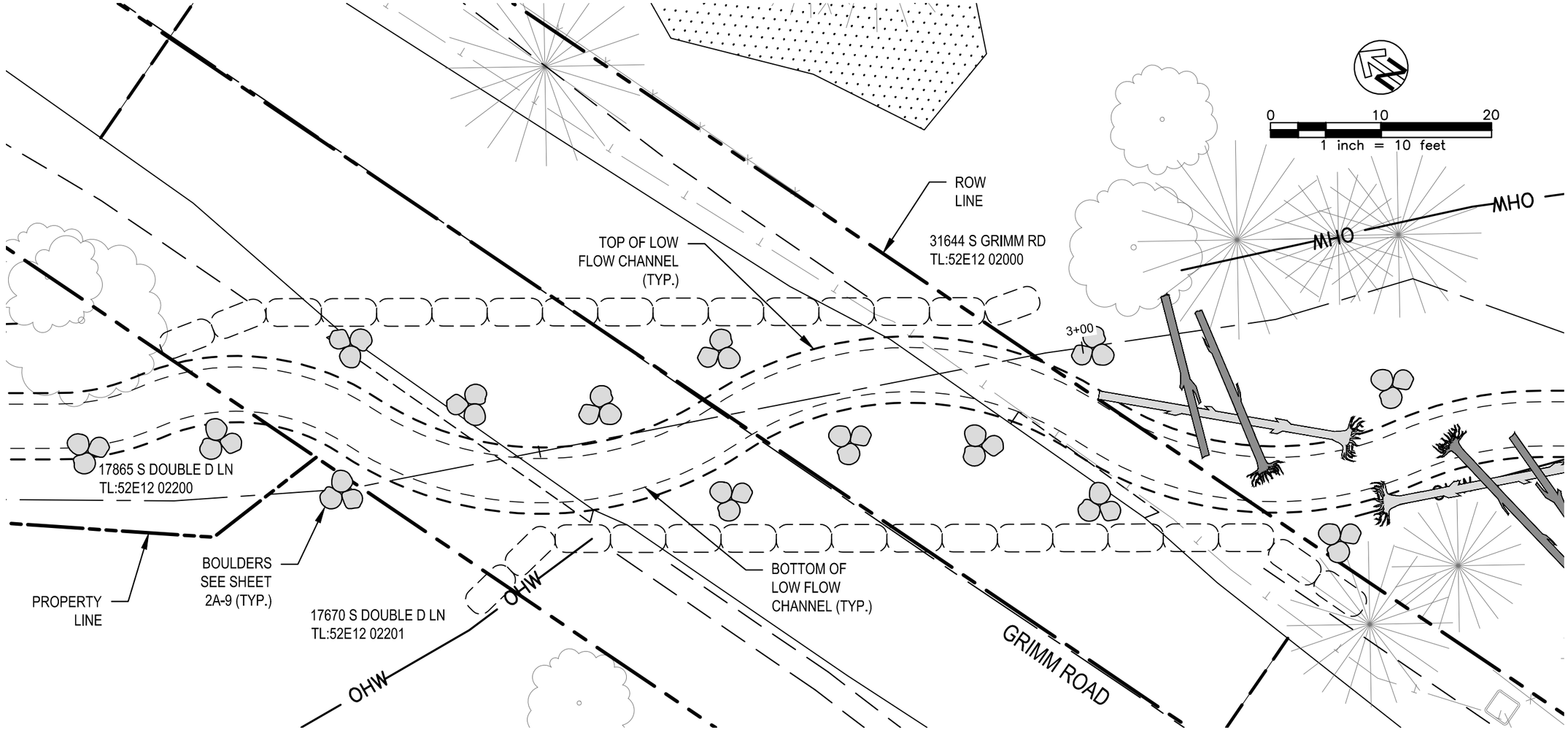

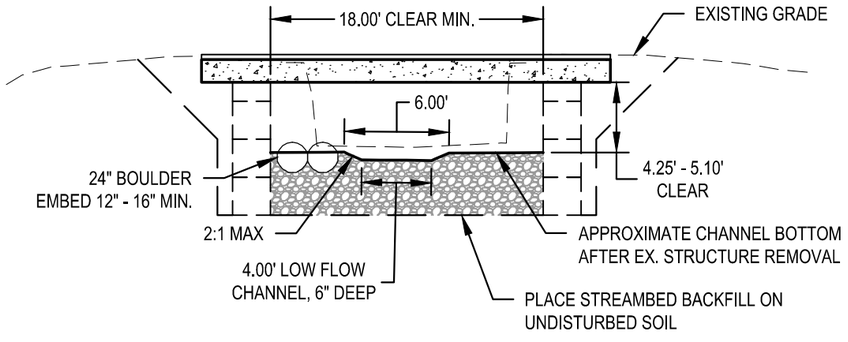

TYPICAL LOW FLOW CHANNEL SECTION

(NOT TO SCALE)

STREAMBED BACKFILL

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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Sheet No.
3A-2

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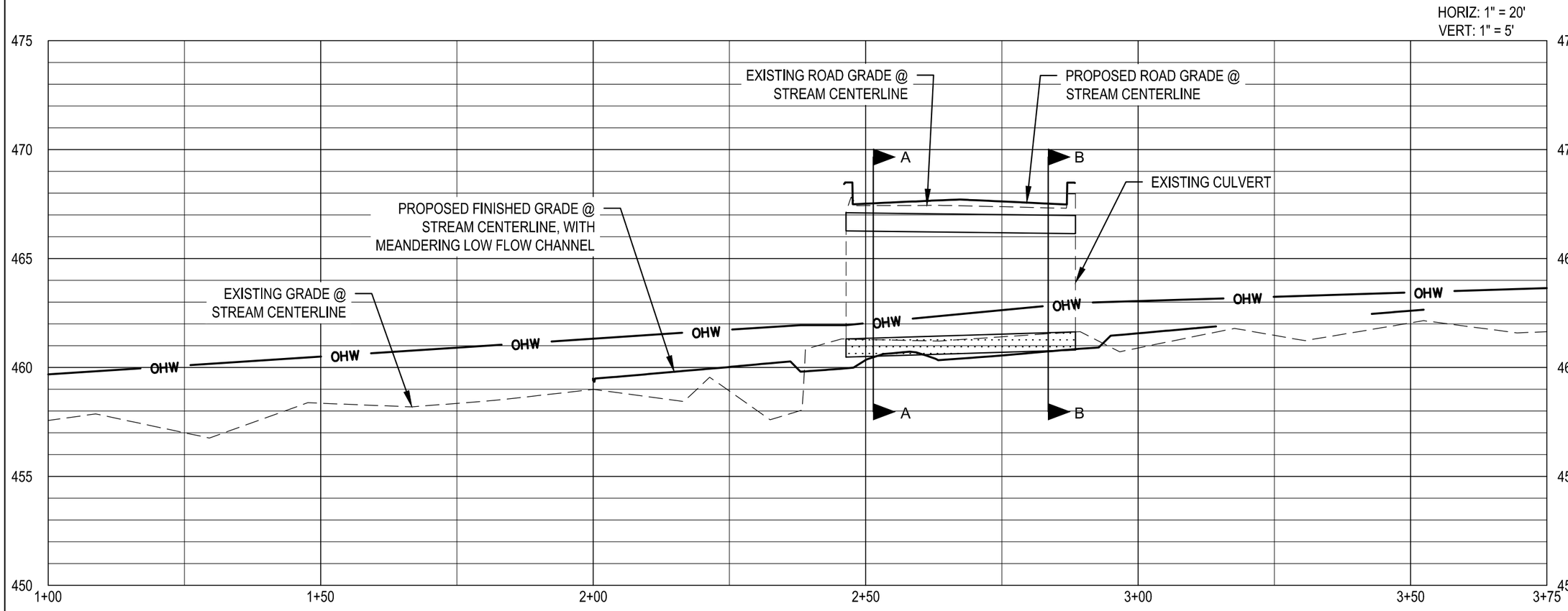
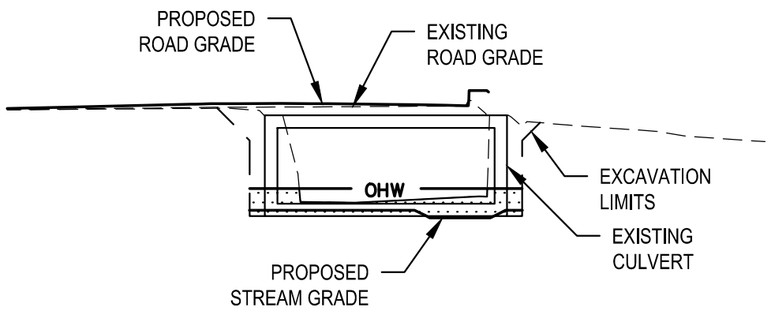


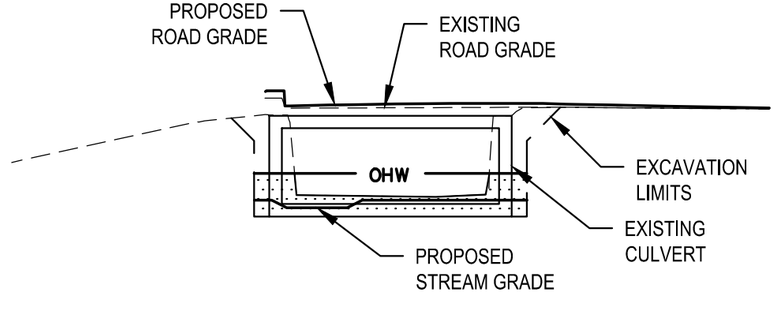
WOODCOCK CREEK - CENTERLINE PROFILE (EXISTING CULVERT)

PERMANENT WATER IMPACTS:

EXISTING CULVERT REMOVAL AND BACKFILL
REMOVAL: 2,000 CF, 74 CY



SECTION A-A - EXISTING CULVERT
SCALE: 1" = 10'



SECTION B-B - EXISTING CULVERT
SCALE: 1" = 10'

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STREAM PROFILE

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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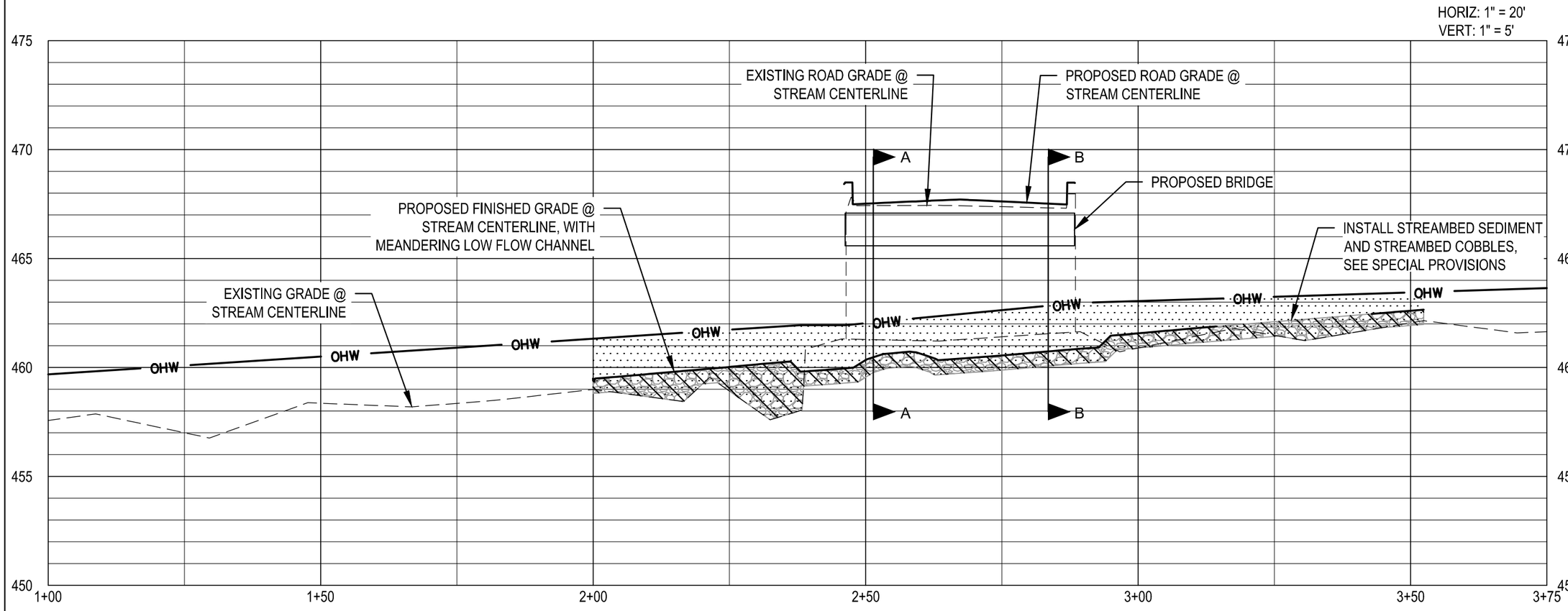


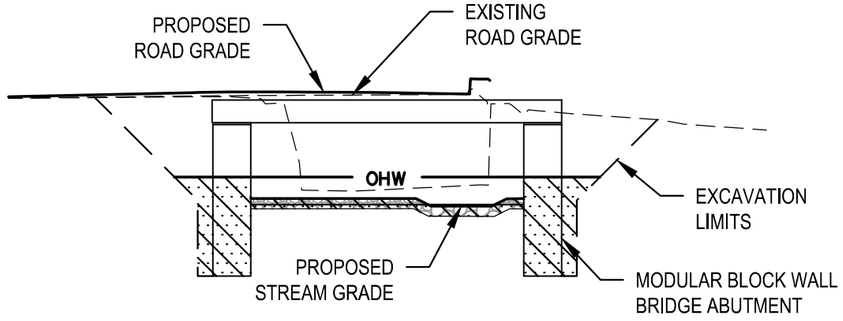
WOODCOCK CREEK - CENTERLINE PROFILE (PROPOSED BRIDGE)

PERMANENT WATER IMPACTS:

PROPOSED BRIDGE REMOVAL AND BACKFILL

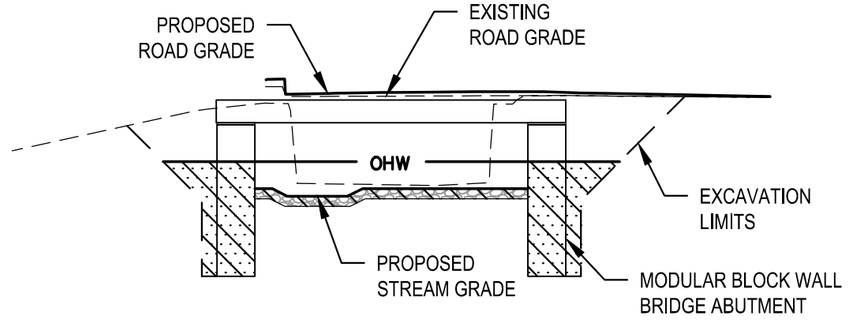
REMOVAL: 4,940 CF, 183 CY

FILL: 5,640 CF, 209 CY



SECTION A-A - PROPOSED BRIDGE

SCALE: 1" = 10'



SECTION B-B - PROPOSED BRIDGE

SCALE: 1" = 10'

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MATTHEW C. LEWIS

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STREAM PROFILE

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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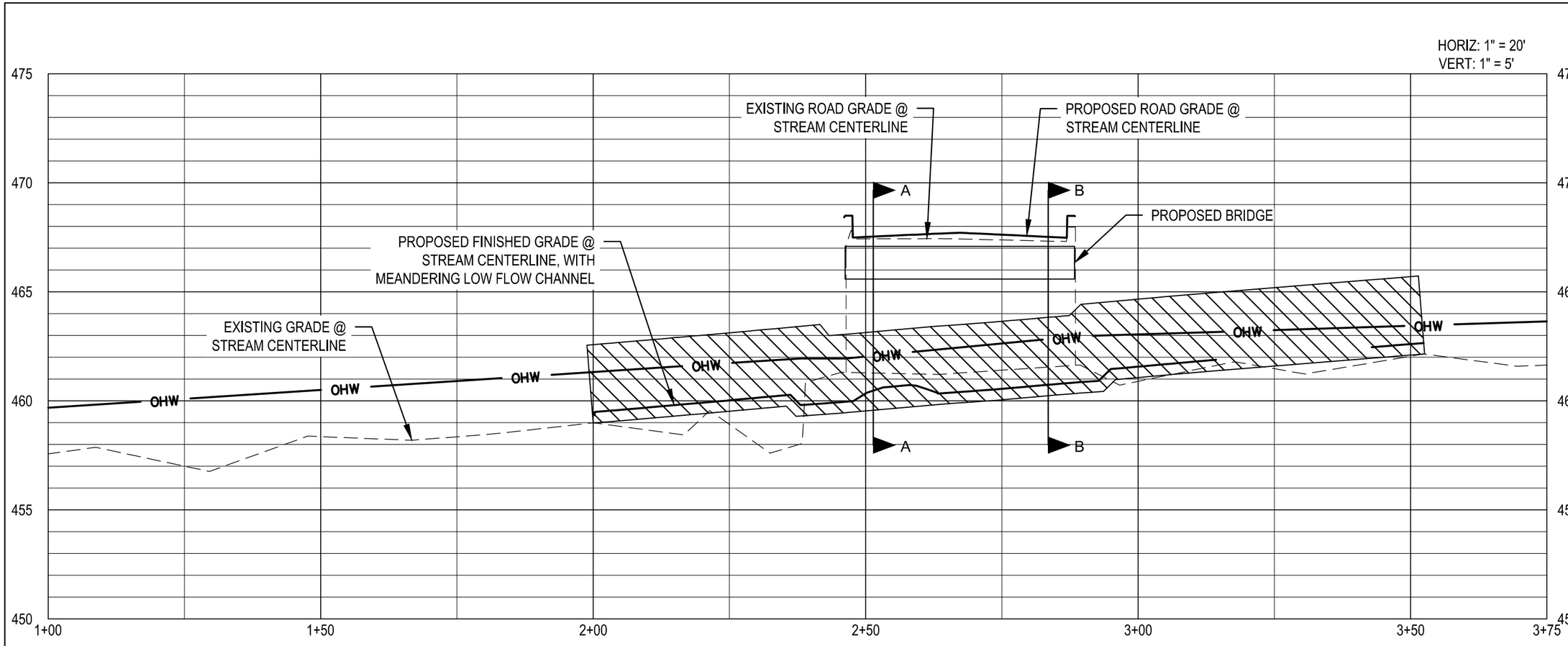
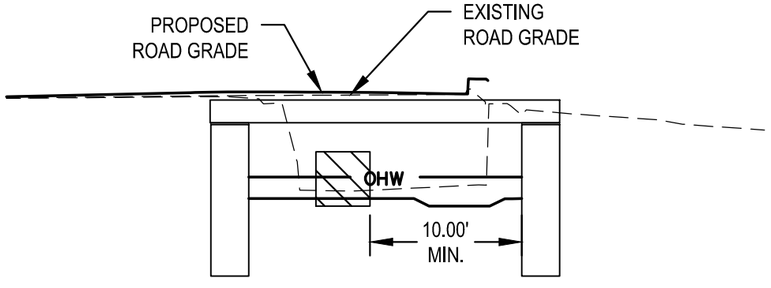


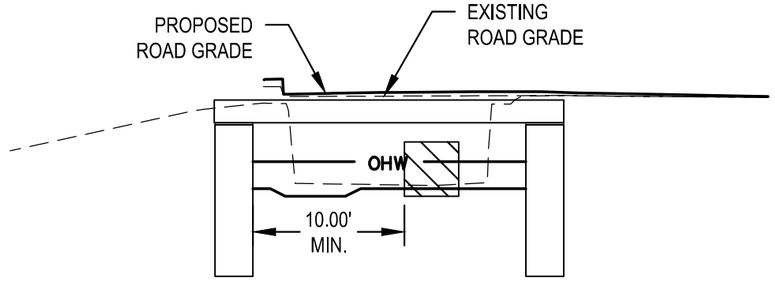
WOODCOCK CREEK - CENTERLINE PROFILE (DEWATERING)

TEMPORARY WATER IMPACTS:

DEWATERING REMOVAL AND BACKFILL
FILL: 4,940 CF, 183 CY



SECTION A-A - SOUTH ABUTMENT (DEWATERING)
SCALE: 1" = 10'



SECTION B-B - NORTH ABUTMENT (DEWATERING)
SCALE: 1" = 10'

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STREAM PROFILE
WOODCOCK CREEK AT GRIMM ROAD CULVERT REPLACEMENT
DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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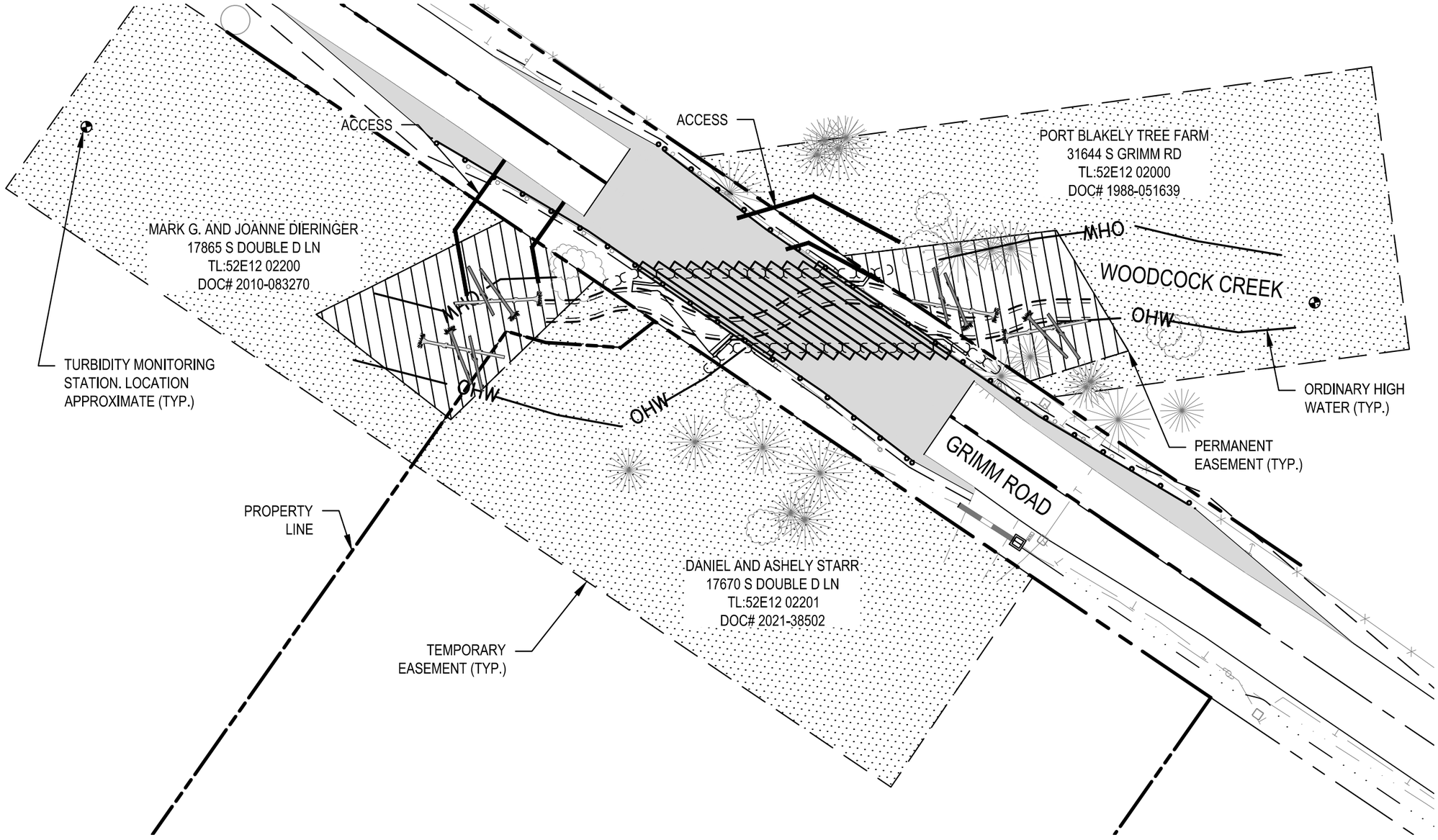

PROPOSED EASEMENTS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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Sheet No.
3E

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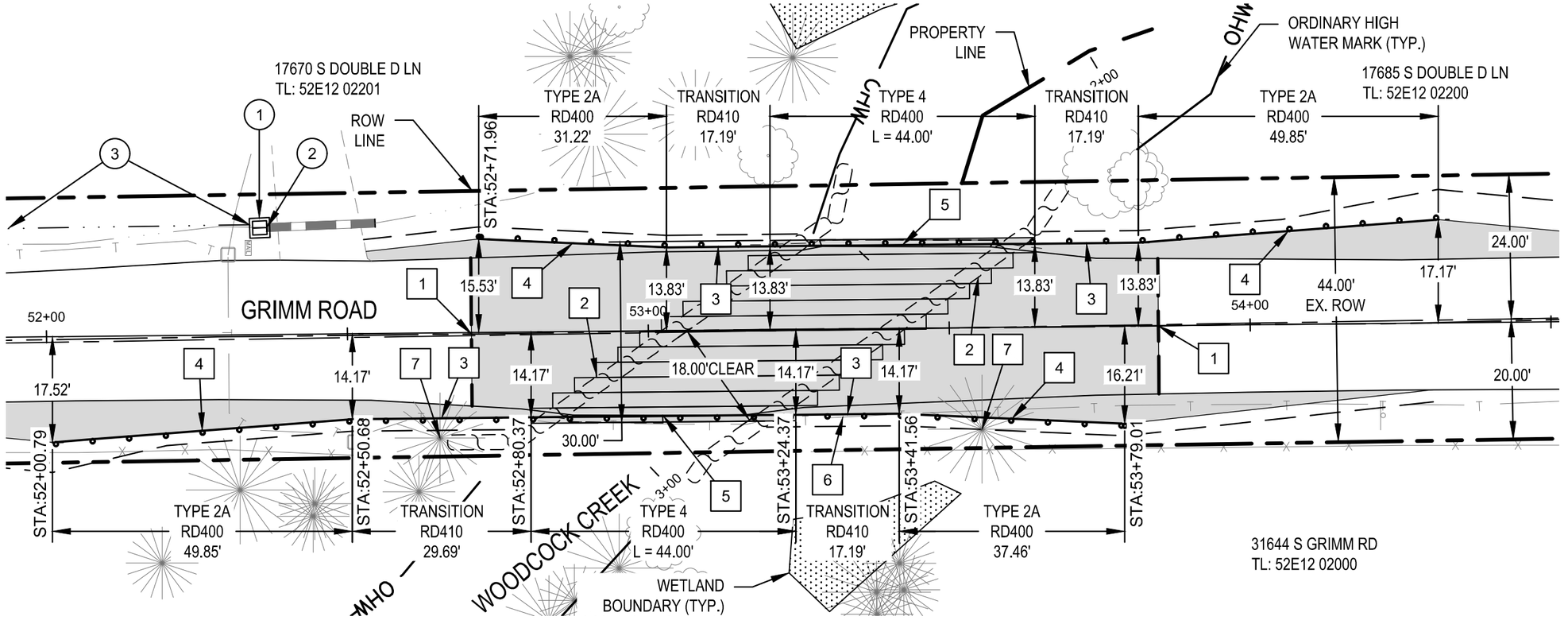

STREET CONSTRUCTION NOTES

1. STA. 52+70 TO STA. 53+85
SAWCUT EXISTING ASPHALT
CONSTRUCT NEW ROADWAY
FOR DETAILS, SEE SHEETS 2A THRU 2A-4

2. NONPROPRIETARY MODULAR BLOCK WALL BRIDGE ABUTMENT SYSTEM OR PREARROVED PROPRIETARY MODULAR BLOCK WALL BRIDGE ABUTMENT SYSTEM .

3. INSTALL GUARDRAIL TRANSITION. FOR DETAILS, SEE ODOT RD410.

4. INSTALL TYPE 2A GUARDRAIL, AND MIDWEST GUARDRAIL TERMINALS, NON-FLARED. FOR DETAILS, SEE ODOT RD402, RD403, RD404, RD407, RD415, RD416, RD419 & RD420.

5. INSTALL TYPE 4 GUARDRAIL OR CONCRETE BARRIER RAIL FOR PACIFIC BRIDGE. FOR DETAILS, SEE ODOT BR233.

6. TELECOM TEMPORARY RELOCATION AND REINSTALLATION IN NEW PRECAST CONDUIT SLEEVES (BY OTHERS)

7. REMOVE EXISTING TREES AND VEGETATION WITHIN RIGHT-OF-WAY FOR CONSTRUCTION OF WALL.

STORM CONSTRUCTION NOTES

1. CONSTRUCT CONCRETE
INLET, TYPE B-SL
STA. 52+35.60, 17+74 Lt.
SEE CENTERLINE PROFILE ON SHEET 4B
SEE ODOT STD. DRAWING RD368

2. CONNECT TO EXISTING 12" CULVERT
STA. 52+36.75, 17+74 Lt.

3. CONSTRUCT WATER QUALITY
BIOFILTRATION SWALE
STA. 50+80.30, 13+03 Lt. TO
STA. 52+36.75, 17+74 Lt.
SEE GRADING PLAN SHEET 4C
SEE FIGURE D6 ON SHEET 2A-5

0 20 40
1 inch = 20 feet

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MATTHEW C. LEWIS
RENEWS: 12/31/2024

CONSTRUCTION NOTES & PLAN

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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Sheet No. 4A

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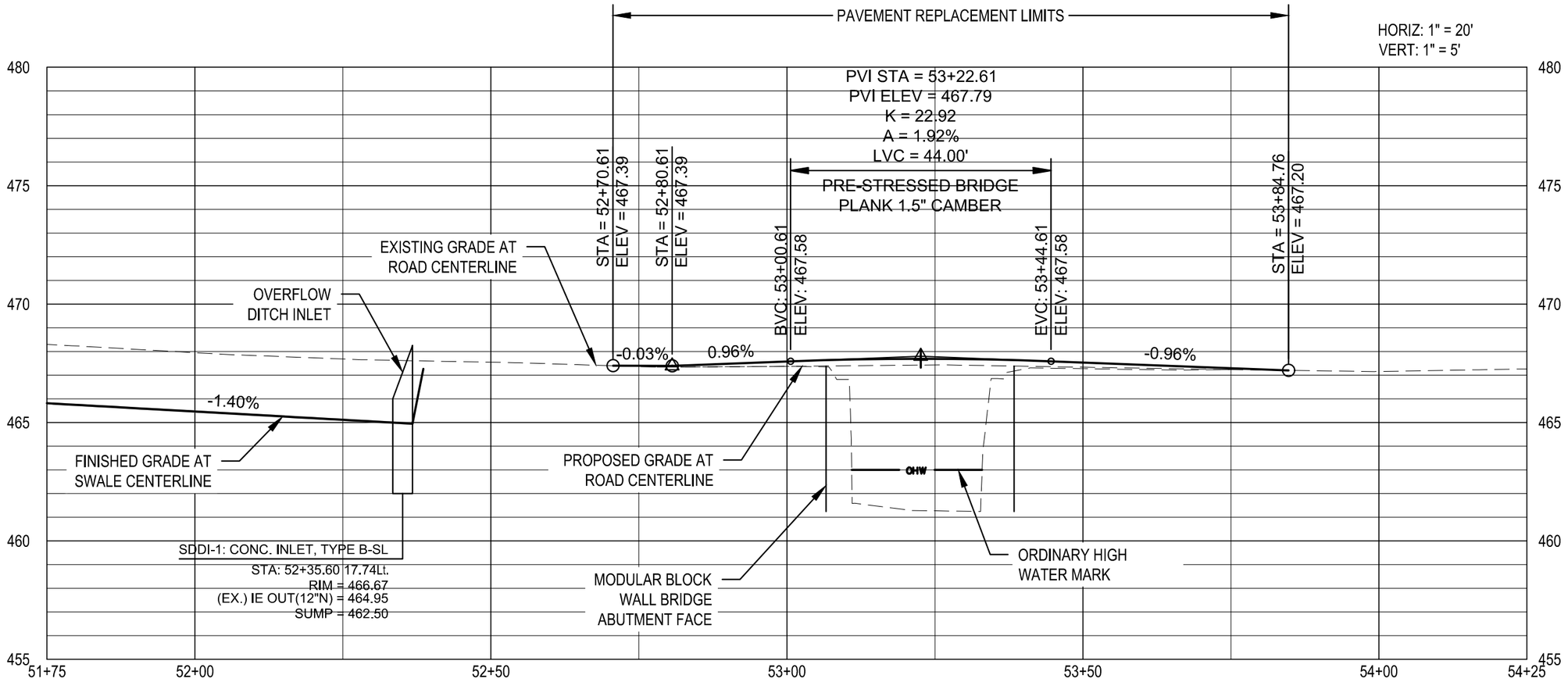
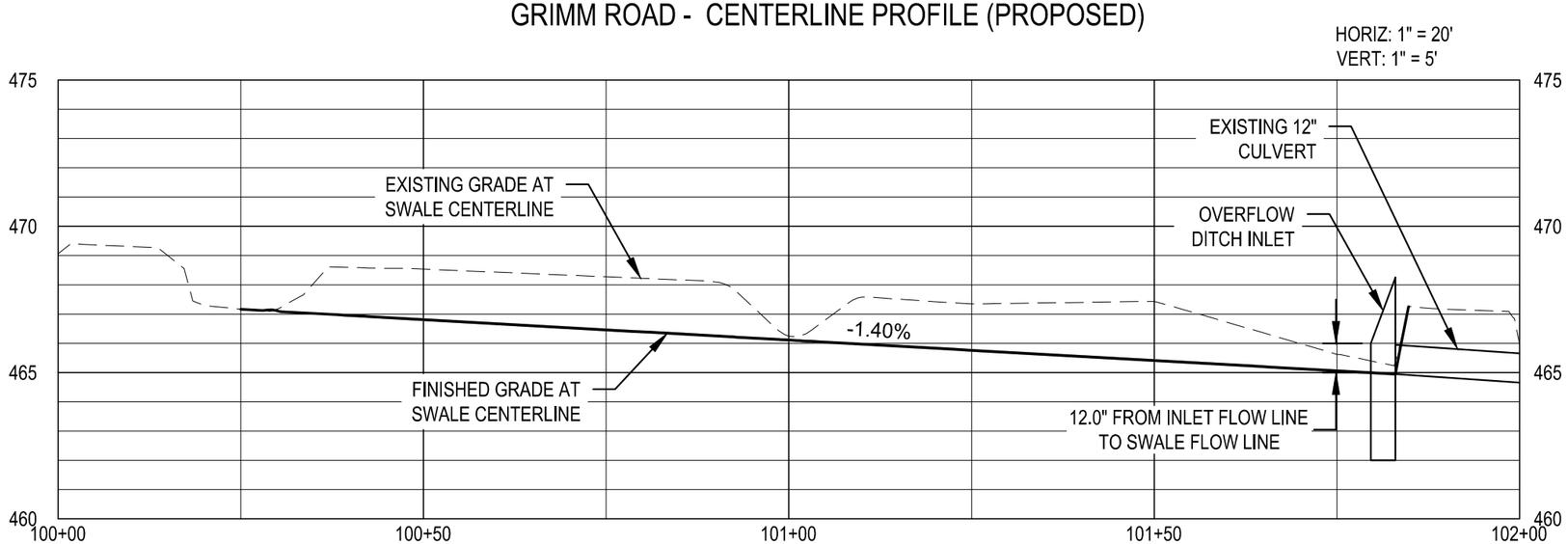


GRIMM ROAD - CENTERLINE PROFILE (PROPOSED)



SWALE - CENTERLINE PROFILE (PROPOSED)

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78628PE
OREGON
JAN. 09, 2007
MATTHEW C. LEWIS
RENEWS: 12/31/2024

CONSTRUCTION PROFILE

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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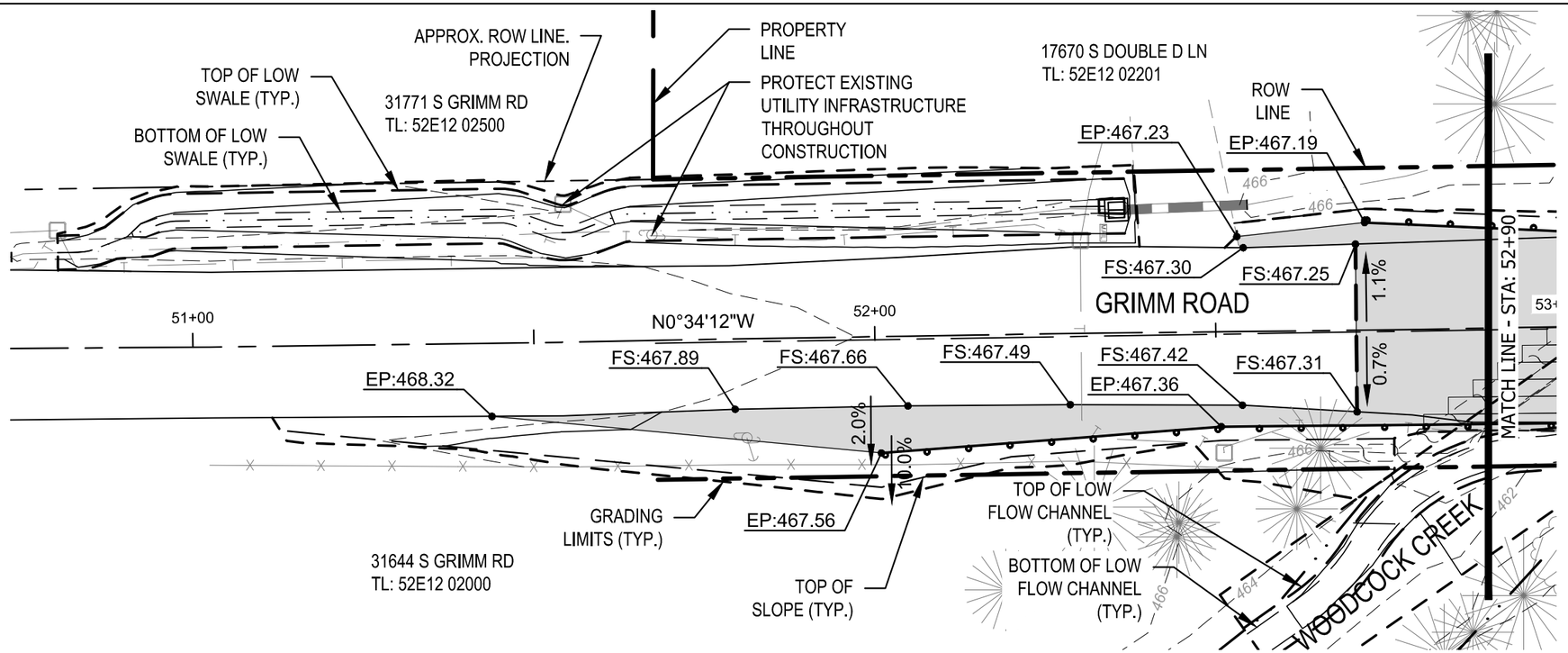

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GRADING PLAN

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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Sheet No.
4C

DESIGN CRITERIA AND LOADINGS

1. BRIDGE STRUCTURE SHALL BE DESIGNED TO COMPLY WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS DESIGN PROVISIONS, AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SEVENTH EDITION, 2014.

2. BRIDGE STRUCTURE DESIGN DEAD LOADS SHALL INCLUDE WEIGHT OF ALL PERMANENT BRIDGE STRUCTURE COMPONENTS AND THE FOLLOWING:
   - 2.1. FUTURE ACP WEARING SURFACE, 2" THICK
   - 2.2. DESIGN ACP WEARING SURFACE, 3.4" THICK
   - 2.3. DESIGN ACP BASE COURSE, 3.4" THICK

3. VEHICULAR LIVE LOAD
   - 3.1. SERVICE AND STRENGTH I LIMIT STATES: "HL-93" DESIGN TRUCK
   - 3.2. STRENGTH II LIMIT STATE: OR-STP-5BW

4. ABUTMENT AND WING WALL BACKFILL SOIL DESIGN PARAMETERS
   - 4.1. FAILURE STATE: AT REST
   - 4.2. DENSITY: 125 PCF
   - 4.3. COEFFICIENT OF INTERNAL FRICTION: 34 DEG.

5. SEISMIC DESIGN SHALL BE IN ACCORDANCE WITH 2ND EDITION OF THE "AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN".

6. GRS WING WALLS SHALL BE DESIGNED PER THE GEOSYNTHETIC REINFORCED SOIL INTEGRATED BRIDGE SYSTEM INTERIM IMPLEMENTATION GUIDE, FHWA-HRT-11-026, MAY 2012.

GRS WINGWALL SYSTEM

1. PROVIDE GRS FABRIC MARIFI HP570 OR APPROVED EQUAL.

CONCRETE

1. GENERAL
   - 1.1. CONCRETE SHALL COMPLY WITH ACI 301.
   - 1.2. USE NORMAL WEIGHT CONCRETE (145 ± 5 PCF) CONCRETE.
   - 1.3. AIR ENTRAINMENT VOLUME: 5% ± 1%.
   - 1.4. CONCRETE SHALL HAVE A MINIMUM CEMENT CONTENT OF 6 SACKS PER CUBIC YARD.
   - 1.5. CAST CONCRETE USING A MAXIMUM WATER/CEMENT RATIO OF 5-1/2 GAL PER SACK OF CEMENT.

2. PRECAST BRIDGE PLANKS
   - 2.1. MINIMUM 28-DAY STRENGTH: 5,000 PSI
   - 2.2. MINIMUM STRENGTH AT REMOVAL FROM FORM: 4,500 PSI
   - 2.3. AGGREGATES LARGER THAN 1" SHALL NOT BE USED.

3. PRECAST ABUTMENT BLOCK, FOOTING PLANK, AND/OR CLOSURE PANEL UNITS
   - 3.1. MINIMUM 28-DAY STRENGTH: 3,000 PSI
   - 3.2. MINIMUM STRENGTH AT REMOVAL FROM FORM: 2,000 PSI
   - 3.3. AGGREGATES LARGER THAN 3" SHALL NOT BE USED.

MORTARS AND GROUTS

1. PROVIDE NON-CORROSIVE NON-SHRINK CEMENTITIOUS GROUT. GROUT SHOULD BE IN A POURABLE CONSISTENCY WHEN PLACED IN LONGITUDINAL JOINTS BETWEEN BRIDGE DECK PLANKS.
   - 1.1. PROVIDE PRE-MOLDED COMPRESSIBLE BACK RODS ALONG BOTTOM AND AT ENDS OF ALL JOINTS TO RETAIN GROUT.
   - 1.2. FILL AREA AROUND TRANSVERSE ROD SLEEVES IN KEYWAY USING GROUT IN A PLASTIC CONSISTENCY. FILL TO ABOVE KEYWAY TO ENSURE THAT GROUT DOES NOT LEAK INTO VOID IN SLAB DURING KEYWAY GROUTING OPERATION.
   - 1.3. FILL LONGITUDINAL JOINTS FLUSH WITH TOP SURFACE OF PLANKS.

2. PROVIDE NON-CORROSIVE NON-SHRINK CEMENTITIOUS GROUT. GROUT SHOULD BE IN A FLUID CONSISTENCY WHEN PLACED BETWEEN TOP OF TOP ABUTMENT BLOCK UNITS AND UNDERSIDE OF PRECAST DECK PLANK UNITS.
   - 2.1. PROVIDE WOOD SETTING BLOCKS, PRE-MOLDED COMPRESSIBLE BACKER RODS, AND/OR EXPANDABLE, CLOSED-CELL, EXPANDABLE FOAM AROUND PERIMETER OF TOP ABUTMENT BLOCK(S) TO RETAIN GROUT.

3. FILL VERTICAL CYLINDRICAL VOIDS
   - 3.1. AROUND ABUTMENT-TO-DECK ANCHOR DOWEL PINS.
   - 3.2. AROUND ABUTMENT BLOCK VERTICAL POST TENSIONING RODS.

4. VIBRATE GROUT AS REQUIRED TO ENSURE ALL VOIDS ARE COMPLETELY FILLED.

SOILS, FOUNDATIONS AND BACKFILLS

1. REFER TO REPORT OF GEOTECHNICAL SERVICES, GRIMM ROAD BRIDGE REPLACEMENT AT WOODCOCK CREEK, PREPARED BY PALI CONSULTING, DATED AUGUST 28, 2019, FOR SITE SPECIFIC GEOTECHNICAL RECOMMENDATIONS.

2. SUBGRADE APPROVAL FROM THE GEOTECHNICAL ENGINEER IS REQUIRED PRIOR TO ABUTMENT WALL CONSTRUCTION. POTENTIAL OVER EXCAVATION AND REPLACEMENT WITH CRUSHED ROCK MAY BE REQUIRED IF SOFT SOILS ARE ENCOUNTERED. MINIMUM LEVELING PAD THICKNESS OF 6" EXTENDING AT LEAST 6" BEYOND FRONT AND BACK FACES OF FOOTING UNITS SHALL BE IMPORTED ¾"-0 COMPACTED CRUSHED ROCK BASE OVER A MEDIUM STIFF OR BETTER SUBGRADE, AS APPROVED BY THE GEOTECHNICAL ENGINEER.

3. REMOVE ANY EXISTING FILL, ANY EXISTING SILTY, SAND-SILT, OR CLAY-SILT SOIL, OR ANY SOIL THAT IS LOOSE OR HAS BEEN DISTURBED DOWN TO EXISTING VERY DENSE GRAVEL OR FOR A MINIMUM WIDTH OF 3'-6" EXTENDING AT LEAST 6" BEYOND FRONT AND BACK FACES OF FOOTING UNITS.

4. PROVIDE IMPORTED ANGULAR CRUSHED ROCK BASE PER DESIGN PLANS WHERE EXCAVATION OF FILL AND/OR SILT EXTENDS BELOW BOTTOM ELEVATION OF ABUTMENT BLOCKS.

5. IMPORTED BASE MATERIAL SHALL BE COMPACTED TO AT LEAST 95% RELATIVE COMPACTION.

6. PROVIDE A NON-WOVEN, NEEDLE-PUNCHED SOIL FILTER FABRIC WITH A MINIMUM WEIGHT OF 4 OZ PER SY BETWEEN BACKFILL SOIL AND BACK FACE OF ABUTMENT WALL AND WING WALL EXTENSIONS.
   - 6.1. LAP ALL JOINTS, HORIZONTAL AND VERTICAL, A MINIMUM OF 6".

7. USE ONLY FREE-DRAINING GRANULAR MATERIAL AS BACKFILL BEHIND ABUTMENT WALLS AND WING WALLS. COMPACT MATERIAL PLACED BEHIND WALL TO 95% RELATIVE COMPACTION USING ONLY LIGHT OR HAND-OPERATED COMPACTION EQUIPMENT.

8. INSTALL SOIL IN FRONT OF ABUTMENT WALLS SIMULTANEOUSLY WITH BACKFILL BEHIND ABUTMENT WALLS. INSTALL BACKFILL AGAINST BACK FACE OF ABUTMENT WALLS NO MORE THAN 6'-0" ABOVE ELEVATION OF SOIL PLACED AGAINST FRONT FACE UNTIL AFTER ABUTMENT WALL VERTICAL REINFORCEMENT HAS BEEN GROUTED AND ONLY AFTER BRIDGE DECK PLANK UNITS HAVE BEEN DOWEL, ANCHORED AND GROUTED TO TOP OF ABUTMENT WALLS AT EACH END.

REGISTERED PROFESSIONAL ENGINEER
78628PE
OREGON
JAN. 09, 2007
MATTHEW C. LEWIS
RENEWS: 12/31/2024

BRIDGE STRUCTURAL GENERAL NOTES

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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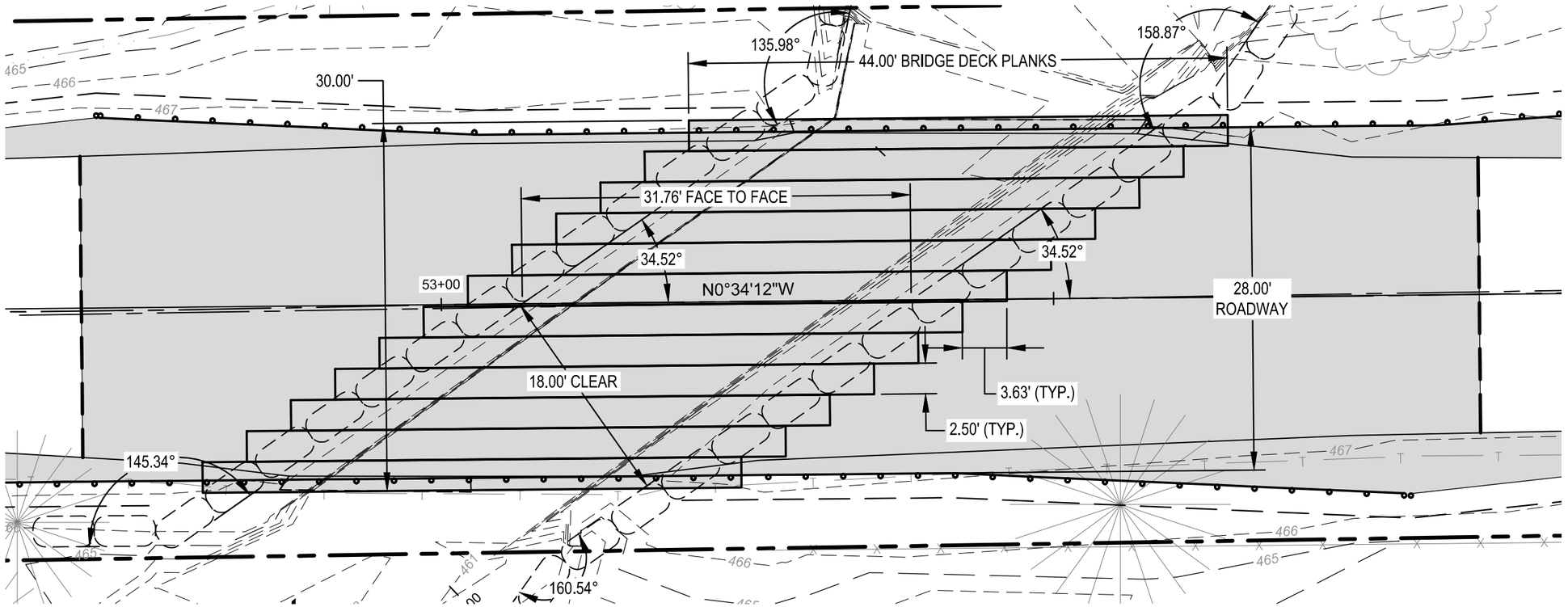
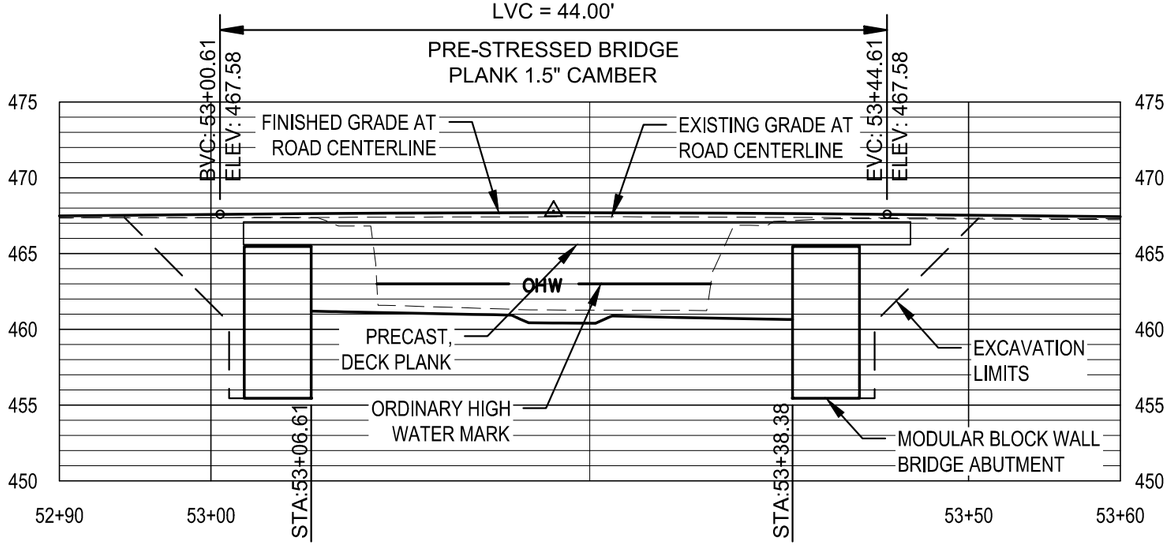
Sheet No. 5A



GRIMM ROAD - BRIDGE CENTERLINE PLAN

PVI STA = 53+22.61
PVI ELEV = 467.79
K = 22.92
A = 1.92%
LVC = 44.00'

HORIZ: 1" = 10'
VERT: 1" = 10'



GRIMM ROAD - BRIDGE CENTERLINE PROFILE

0 10 20
1 inch = 10 feet

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OREGON
JAN. 09, 2007
MATTHEW C. LEWIS
RENEWS: 12/31/2024

BRIDGE PLAN & PROFILE

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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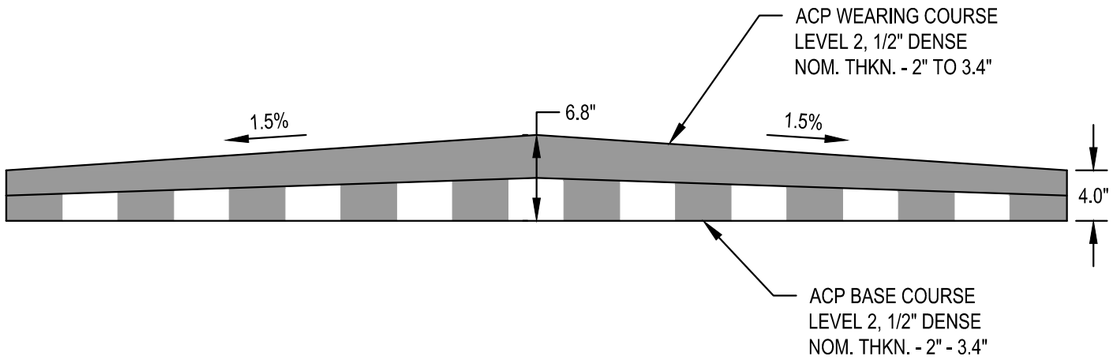

PAVEMENT LIFT SECTION

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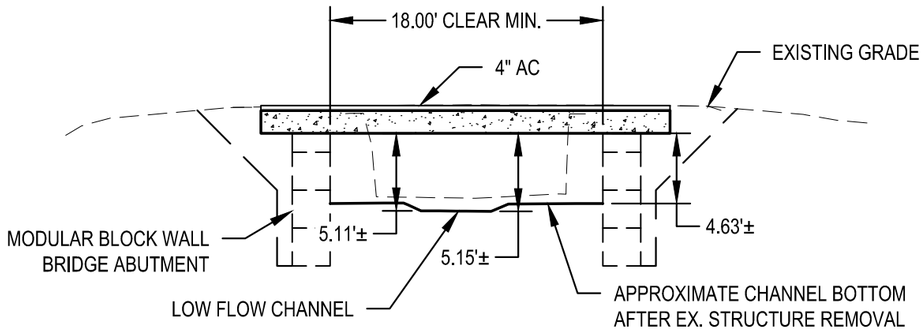
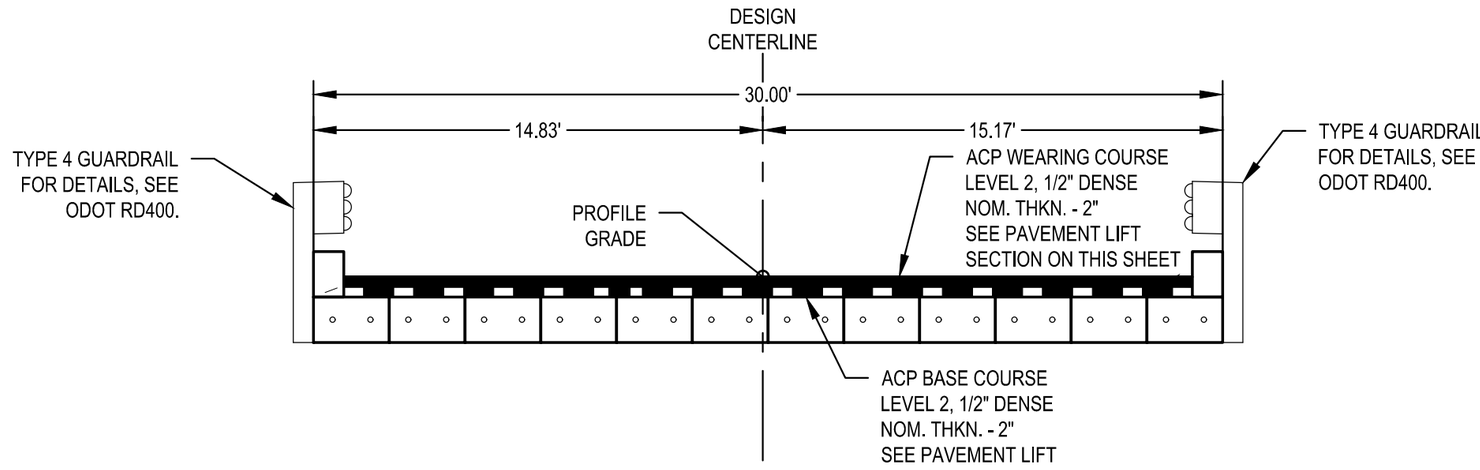


WOODCOCK CREEK - BRIDGE ELEVATION

(NOT TO SCALE)



TYPICAL DECK SECTION

(NOT TO SCALE)

NOTE:

1. ALL DIMENSIONS SHOW IN FEET UNLESS OTHERWISE NOTED
2. SIDE SLOPES ARE SHOWN AS HORIZ. TO VERT.
3. BRIDGE ABUTMENT TO CONFORM TO GEOTECHNICAL RECOMMENDATIONS IN "REPORT OF GEOTECHNICAL SERVICES" PREPARED BY PALI CONSULTING, DATED AUGUST 28, 2019.

REGISTERED PROFESSIONAL ENGINEER
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BRIDGE SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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5C

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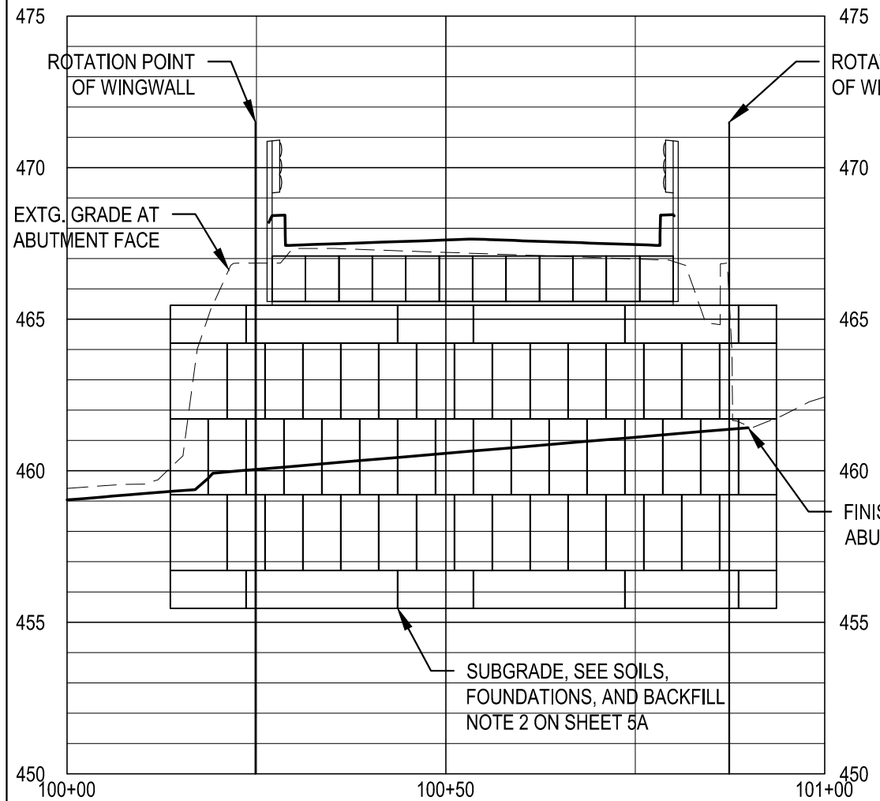
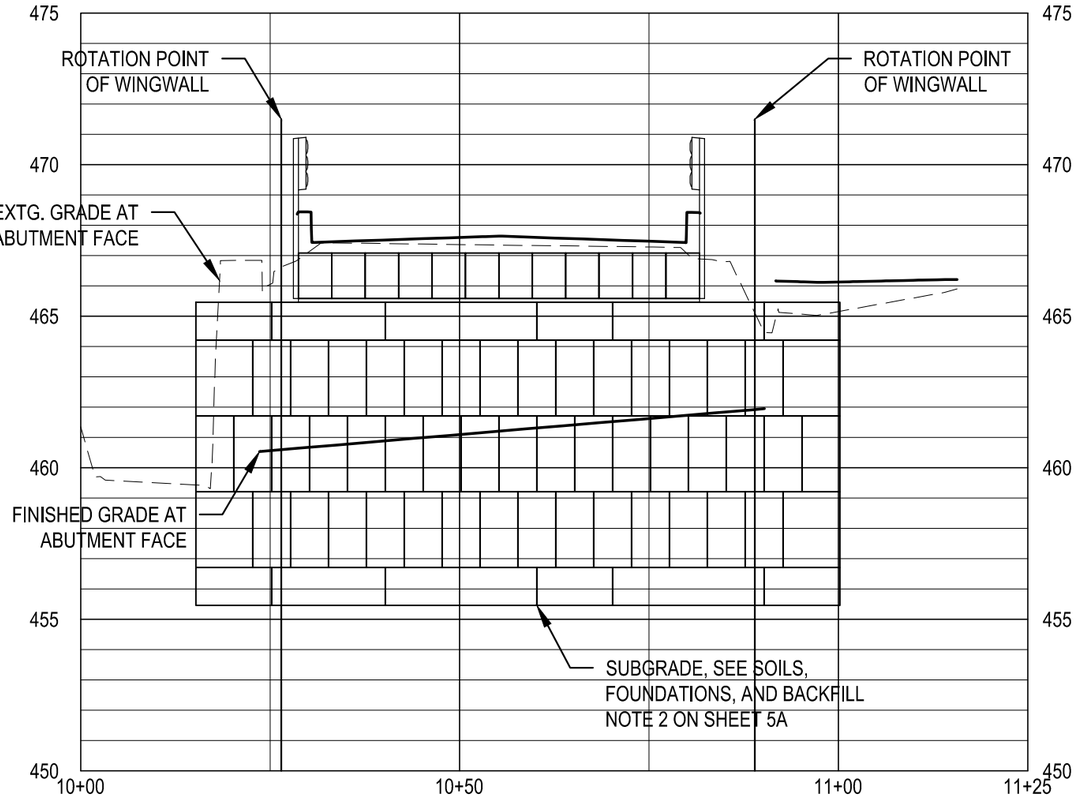


NORTH ABUTMENT - PROFILE

HORIZ: 1" = 20'
VERT: 1" = 5'



SOUTH ABUTMENT - PROFILE

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JAN. 09, 2007
MATTHEW C. LEWIS
RENEWS: 12/31/2024

ABUTMENT WALL PROFILES

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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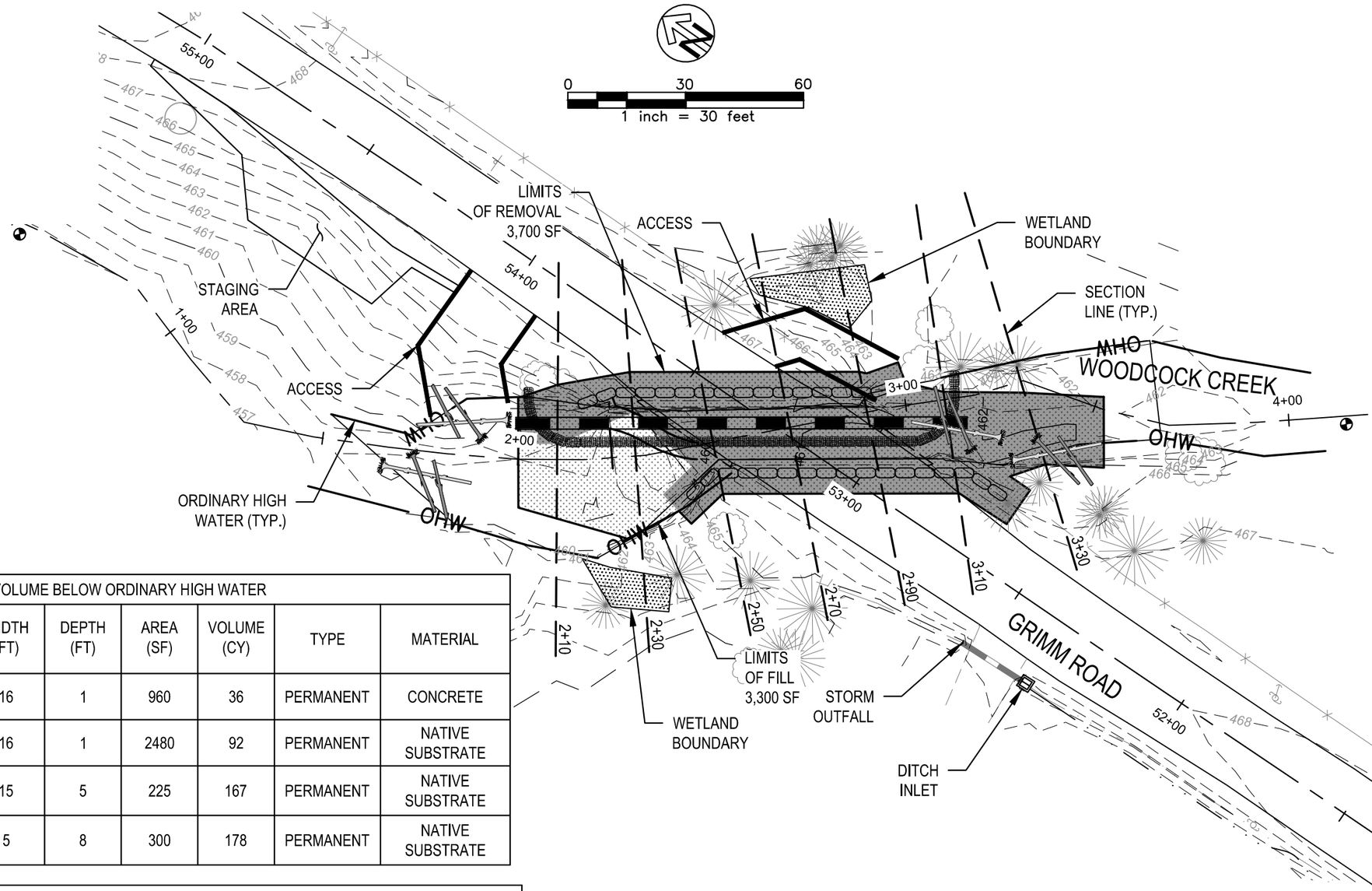

REMOVAL VOLUME BELOW ORDINARY HIGH WATER							
	LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	AREA (SF)	VOLUME (CY)	TYPE	MATERIAL
REMOVAL OF EXISTING BOX CULVERT	60	16	1	960	36	PERMANENT	CONCRETE
EXCAVATION OF NEW STREAMBED GRADE	155	16	1	2480	92	PERMANENT	NATIVE SUBSTRATE
EXCAVATION FOR NEW LARGE WOODY DEBRIS (x4)	15	15	5	225	167	PERMANENT	NATIVE SUBSTRATE
INSTALLATION OF MODULAR BRIDGE ABUTMENTS (x2)	60	5	8	300	178	PERMANENT	NATIVE SUBSTRATE

FILL VOLUME BELOW ORDINARY HIGH WATER							
	LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	AREA (SF)	VOLUME (CY)	TYPE	MATERIAL
INSTALLATION OF MODULAR BRIDGE ABUTMENTS (x2)	60	5	8	300	178	PERMANENT	CONCRETE
INSTALLATION OF NEW STREAMBED MATERIAL	155	18	1	2790	103	PERMANENT	SEDIMENT AND COBBLE
INSTALLATION OF NEW LARGE WOODY DEBRIS (x4)	15	15	5	225	167	PERMANENT	WOODY DEBRIS, ROOT WADS
INSTALLATION OF TEMPORARY BYPASS MEASURES	155	4	2	620	46	TEMPORARY	SANDBAGS, BYPASS PIPE

IMPACTS TO WATERS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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OREGON
JAN. 09, 2007
MATTHEW C. LEWIS
RENEWS: 12/31/2024

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6D

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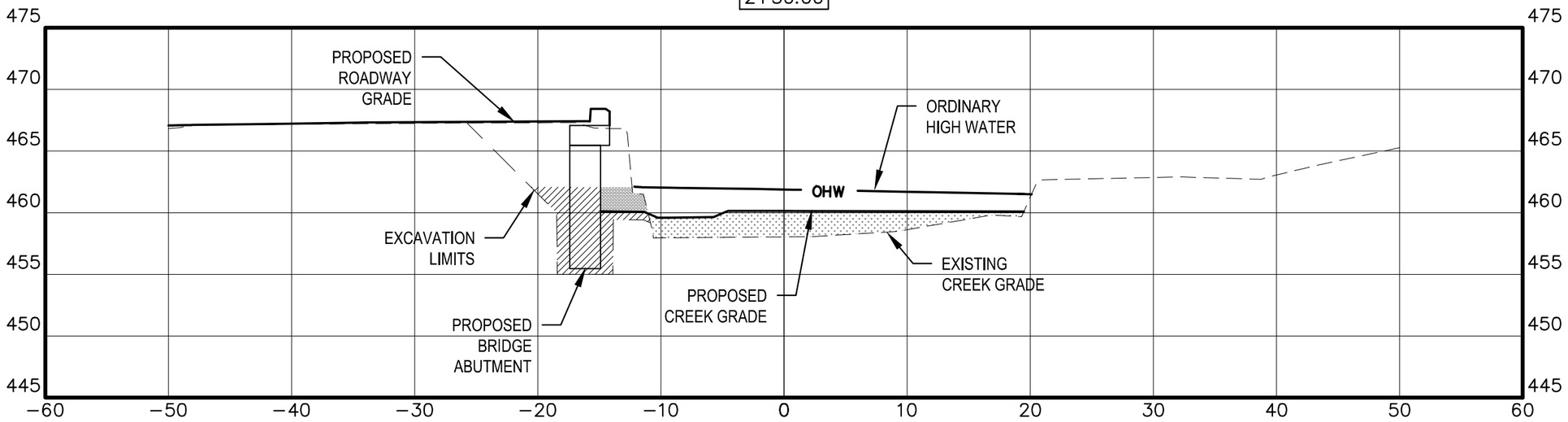

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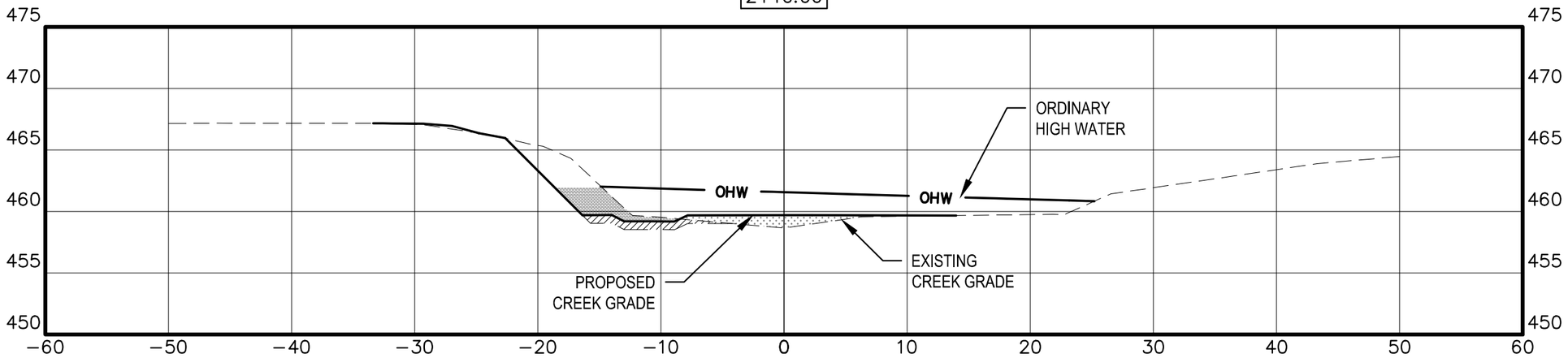

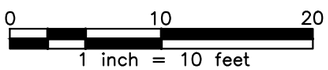

LEGEND

- PERMANENT REMOVAL BELOW ORDINARY HIGH WATER
- PERMANENT FILL BELOW ORDINARY HIGH WATER
- TEMPORARY REMOVAL BELOW ORDINARY HIGH WATER

REGISTERED PROFESSIONAL ENGINEER
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STREAM SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
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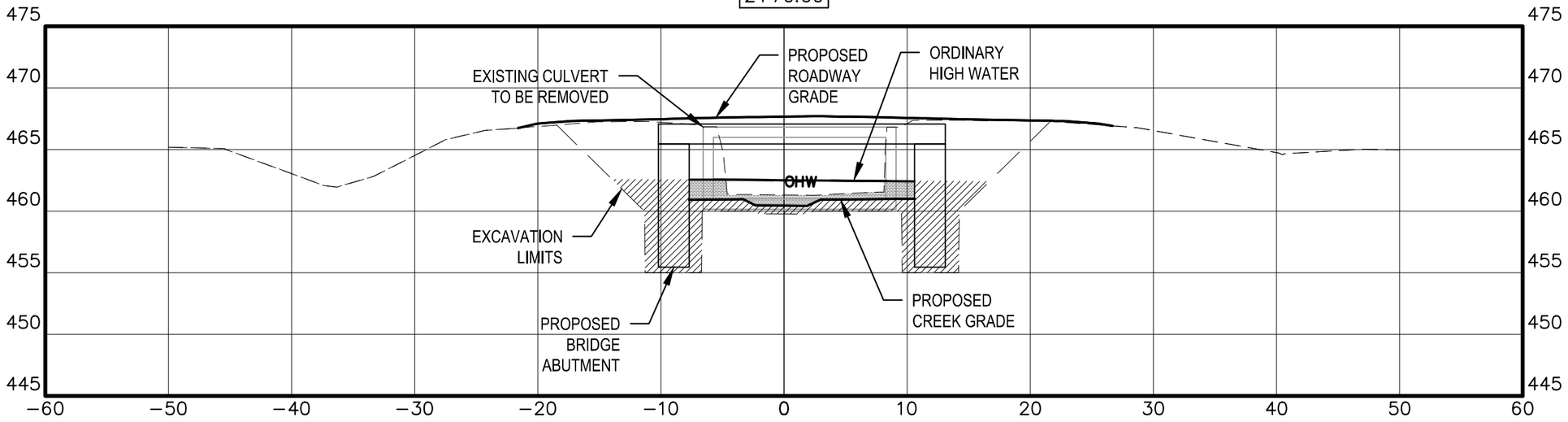
6D-2

2+70.00



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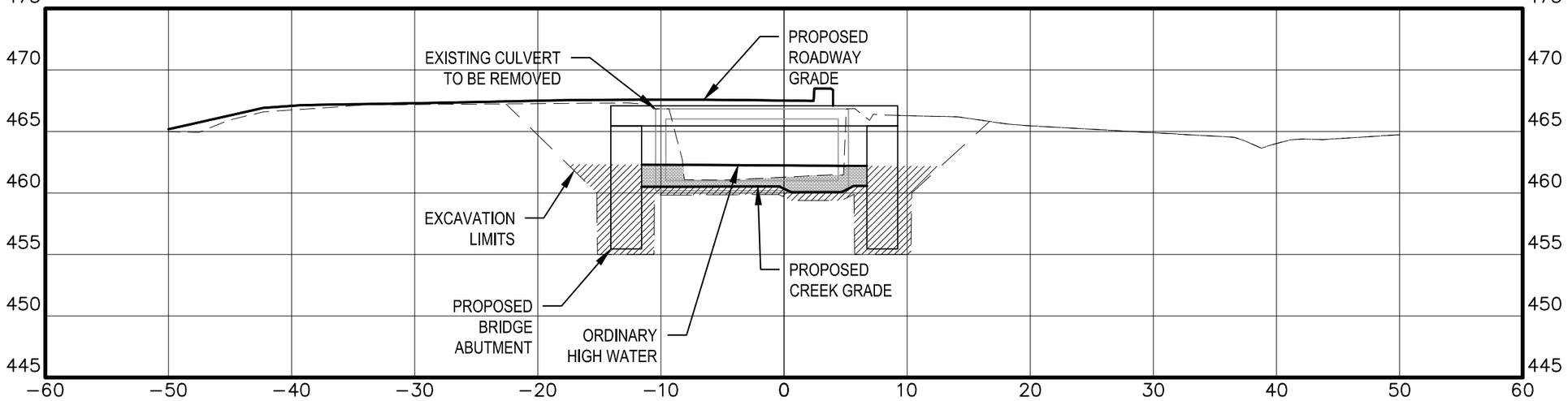

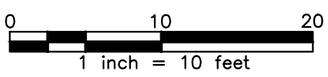

LEGEND

- PERMANENT REMOVAL BELOW ORDINARY HIGH WATER
- PERMANENT FILL BELOW ORDINARY HIGH WATER
- TEMPORARY REMOVAL BELOW ORDINARY HIGH WATER

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STREAM SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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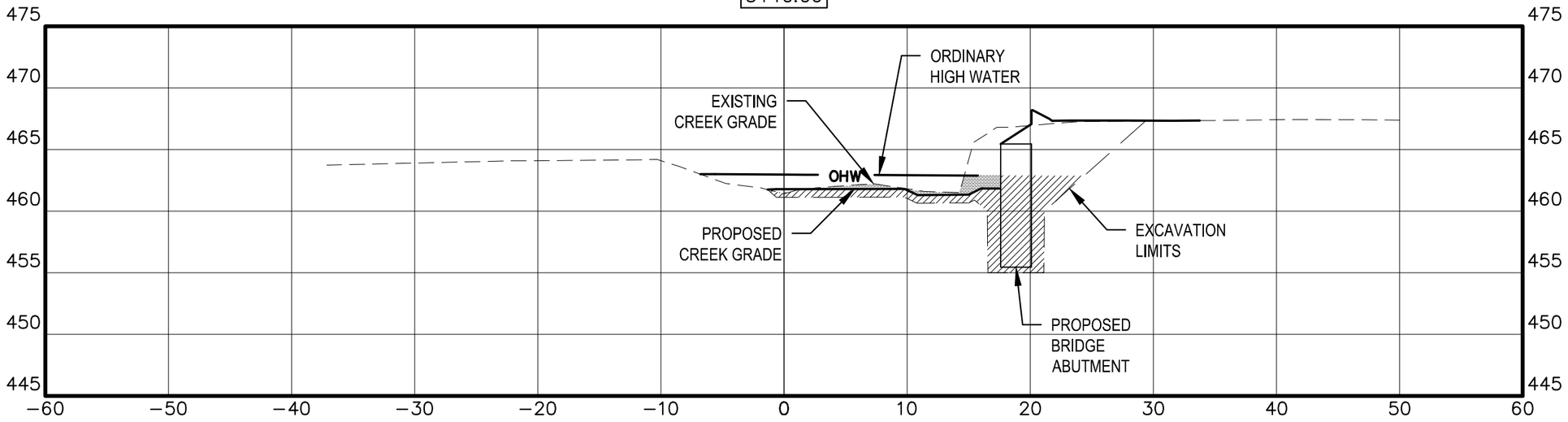

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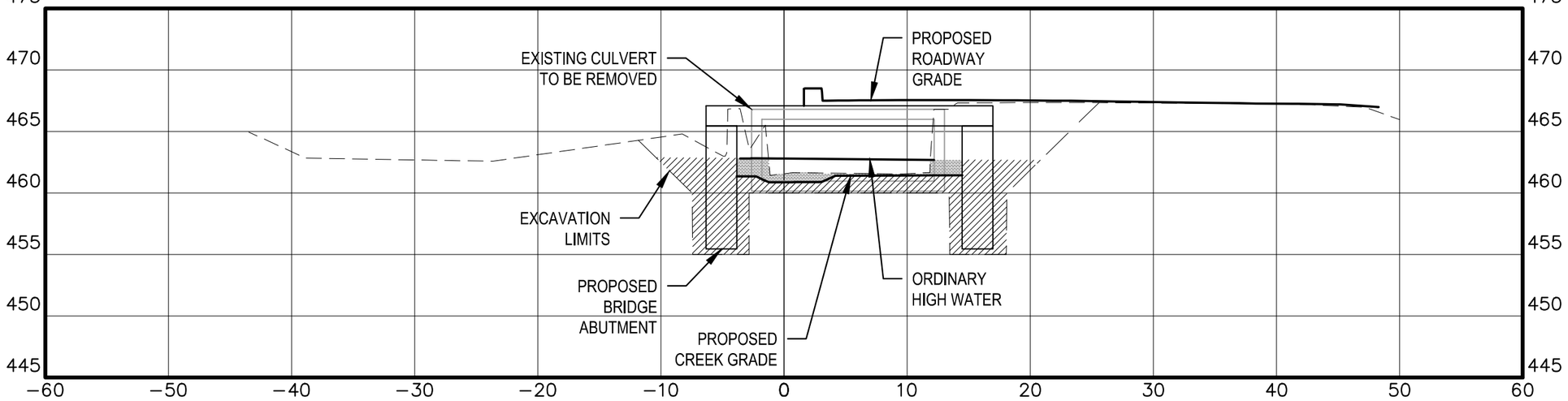

0 10 20

1 inch = 10 feet

LEGEND

PERMANENT REMOVAL BELOW ORDINARY HIGH WATER

PERMANENT FILL BELOW ORDINARY HIGH WATER

TEMPORARY REMOVAL BELOW ORDINARY HIGH WATER

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STREAM SECTIONS

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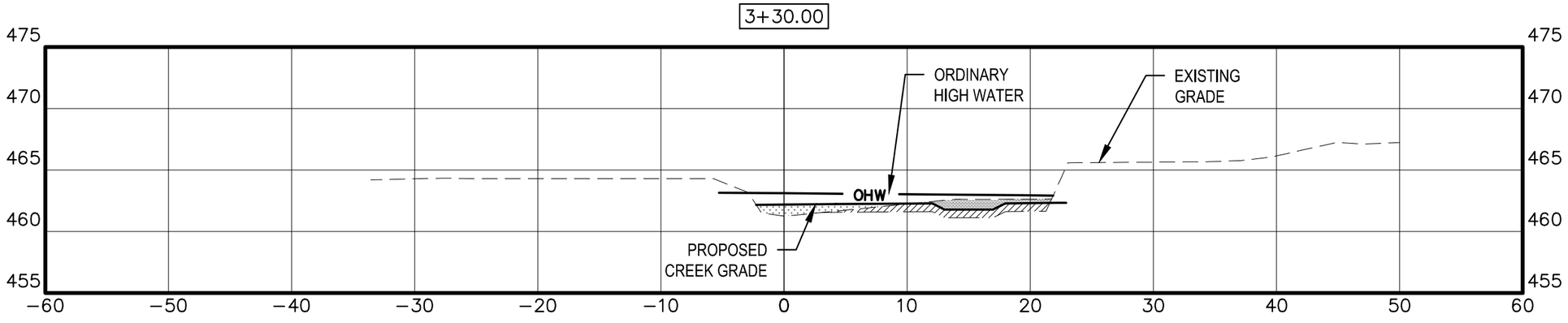
TEMPORARY REMOVAL VOLUME BELOW ORDINARY HIGH WATER				
START STATION	END STATION	LENGTH (FT)	AREA (SF)	VOLUME (CY)
2+00	2+13.56	13.56	5.96	2.99
2+13.56	2+39.11	25.55	34.36	32.51
2+39.11	2+98.15	59.04	87.94	192.30
2+98.15	3+20.15	22.00	51.67	42.10
3+20.15	3+52.41	32.26	9.79	11.70
			TOTAL	281.60

PERMANENT REMOVAL VOLUME BELOW ORDINARY HIGH WATER				
START STATION	END STATION	LENGTH (FT)	AREA (SF)	VOLUME (CY)
2+00	2+13.56	13.56	10.81	5.43
2+13.56	2+39.11	25.55	6.62	6.26
2+39.11	2+98.15	59.04	16.56	36.21
2+98.15	3+20.15	22.00	6.82	5.56
3+20.15	3+52.41	32.26	5.57	6.66
			TOTAL	60.12

PERMANENT FILL VOLUME BELOW ORDINARY HIGH WATER				
START STATION	END STATION	LENGTH (FT)	AREA (SF)	VOLUME (CY)
2+00	2+13.56	13.56	9.64	4.84
2+13.56	2+39.11	25.55	46.11	43.63
2+39.11	2+98.15	59.04	0.00	0.00
2+98.15	3+20.15	22.00	0.52	0.42
3+20.15	3+52.41	32.26	6.50	7.77
			TOTAL	56.67



0 10 20
1 inch = 10 feet

LEGEND

- PERMANENT REMOVAL BELOW ORDINARY HIGH WATER
- PERMANENT FILL BELOW ORDINARY HIGH WATER
- TEMPORARY REMOVAL BELOW ORDINARY HIGH WATER

REGISTERED PROFESSIONAL ENGINEER
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JAN. 09, 2007
MATTHEW C. LEWIS
RENEWS: 12/31/2024

STREAM SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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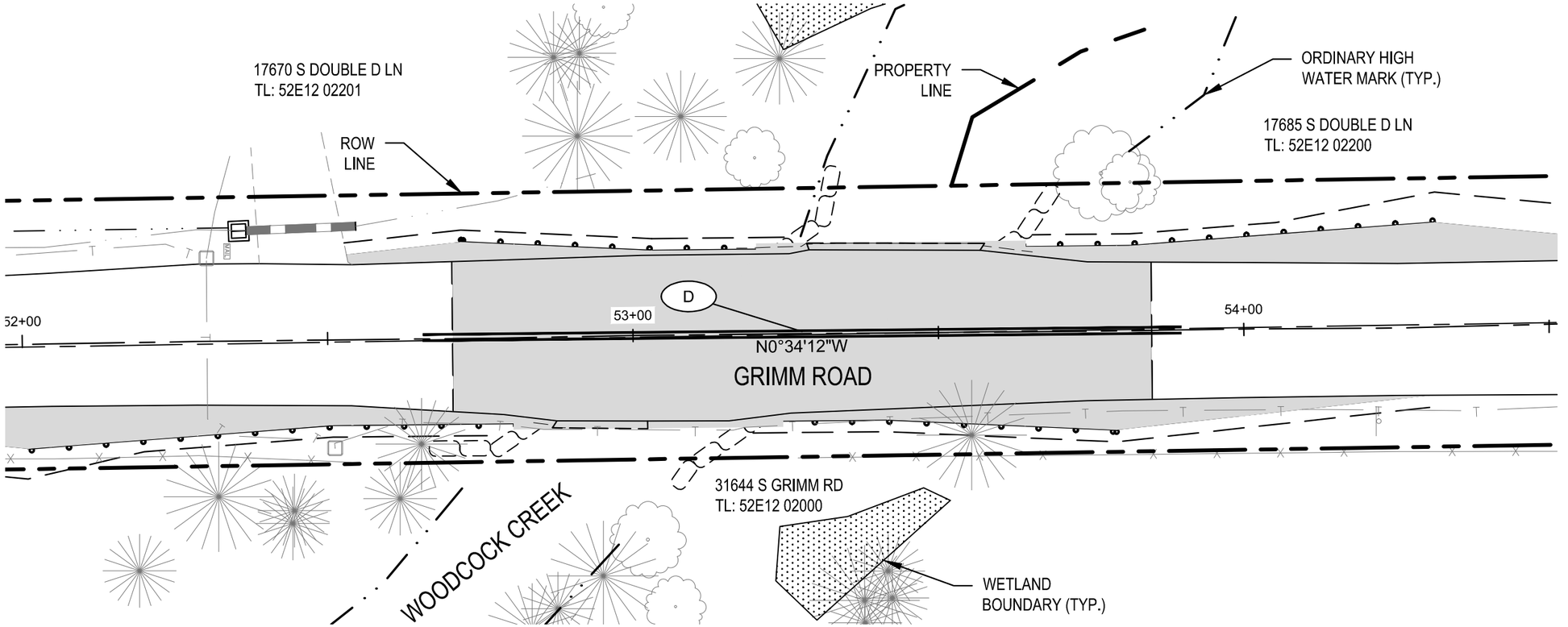

STRIPING NOTES

(D) INSTALL DOUBLE NO-PASS 4" YELLOW LINES

STRIPING GENERAL NOTES

1. ALL PAVEMENT MARKINGS SHALL BE PER REQUIREMENTS AND SPECIFICATIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION, THE OREGON SUPPLEMENT TO THE MUTCD 2009 EDITION, AND THE 2021 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. ALL PAVEMENT MARKINGS AND STRIPING LOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO FINAL PLACEMENT.
3. PERMANENT STRIPING SHALL BE THERMOPLASTIC MATERIAL UNLESS OTHERWISE NOTED. INSTALLATION METHOD OF LONGITUDINAL LINES SHALL BE APPROVED BY THE ENGINEER PRIOR TO FINAL PLACEMENT.
4. EXISTING MARKINGS NOT SHOWN ARE TO REMAIN IN PLACE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
5. EXISTING STRIPING REMOVED DURING SCORING AND REPAVING TO BE INSTALLED AS SHOWN.
6. REFER TO ODOT STANDARD DRAWINGS TM500, TM501, AND TM503 FOR ALL PAVEMENT MARKING DETAILS ON PLANS.

0 20 40
1 inch = 20 feet

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JAN. 09, 2007
MATTHEW C. LEWIS
RENEWS: 12/31/2024

PERMANENT SIGNING AND STRIPING PLAN

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023 | PROJECT NO.: BM-2017-00023

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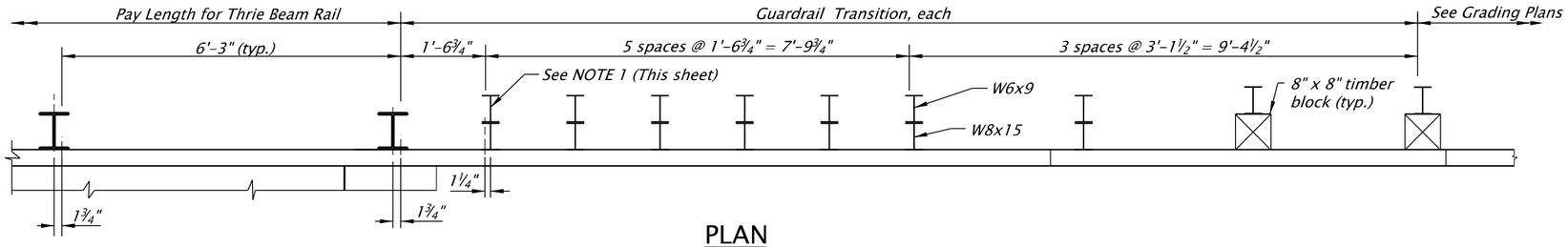
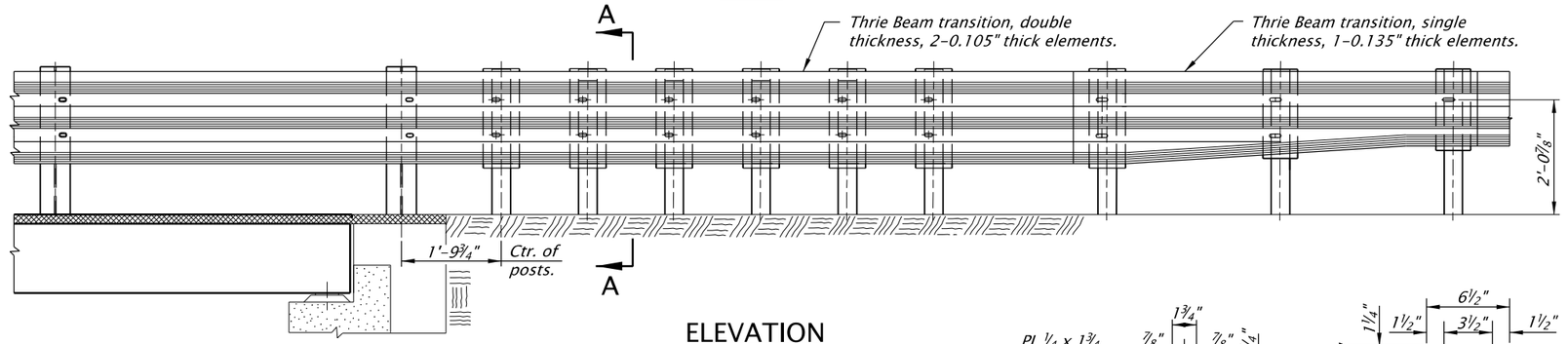
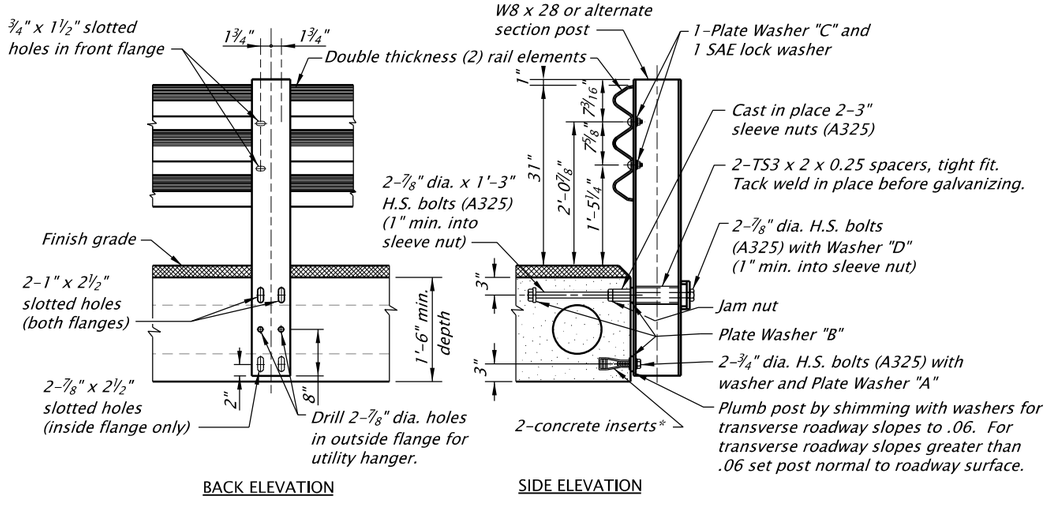


PLAN



ELEVATION



BACK ELEVATION

SIDE ELEVATION

POST DETAILS: SIDE MOUNT

NOTE
Field ream bolt holes in double thickness rail at splice locations. Repair damaged coating according to Specifications.

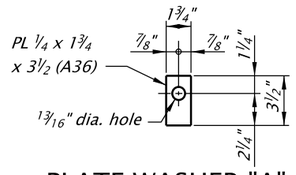


PLATE WASHER "A"

Position washer to completely cover slotted hole.

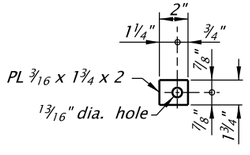


PLATE WASHER "C"

Position washer to completely cover slotted hole.

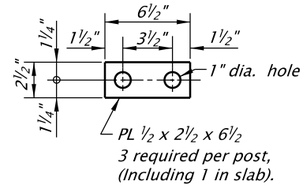
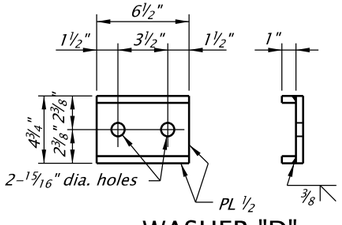
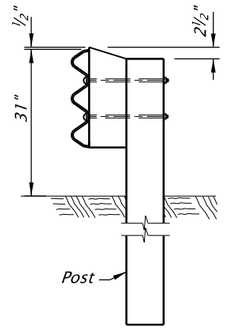


PLATE WASHER "B"



WASHER "D"



SECTION A-A

NOTE 1
Transition posts may be steel W6x9 or timber 8"x 8". All posts to be of same material. See dwg. BR203 for Thrie Beam blockouts.

**CONCRETE INSERTS*
Hot-dip galvanized expanded coil concrete inserts with closed-back ferrule threaded to receive ¾" dia., Gr36 (ASTM A307)
Minimum insert length= 4½"
Minimum safe working load in tension= 4000 lbs.

GENERAL NOTES

Provide steel posts and plates conforming to AASHTO Specification M183 (ASTM A36), unless noted otherwise.
Provide anchor bolts conforming to ASTM A325. (AASTHO M164).
Provide guardrail hardware as shown on Std. Dwgs. RD405 and RD410.
Hot dip galvanize all structural steel and hardware after fabrication.
Fabricate railing to the horizontal and vertical alignment of the structure. Install posts normal to grade. When wearing surface thickness varies due to beam camber and/or superelevation, vary rail post lengths to provide uniform rail height.
Tap nuts and inserts 0.0021 $^{+0.01}_{-0.00}$ oversize after galvanizing in accordance with ASTM A563.
Tighten upper high strength post bolts 1/6 turn past snug tight condition. Tighten lower high strength post bolts 1/3 turn past snug tight condition.
Do not use this rail for 12" thick slab.

Accompanied by dwgs. BR203, RD405, RD410, RD480

CALC. BOOK NO. -

SDR DATE: 20-April-2018

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

THRIE-BEAM RAIL AND TRANSITION

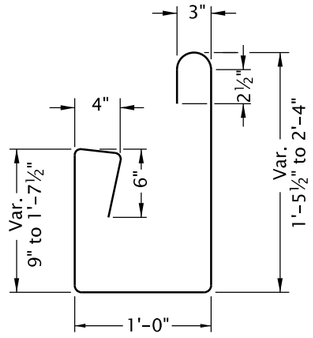
2021

DATE	REVISION DESCRIPTION
-	-
-	-
-	-
-	-
-	-

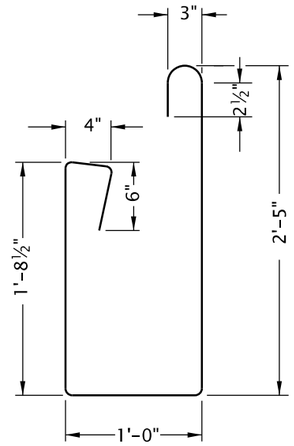
br233.dgn 03-2017

BR233

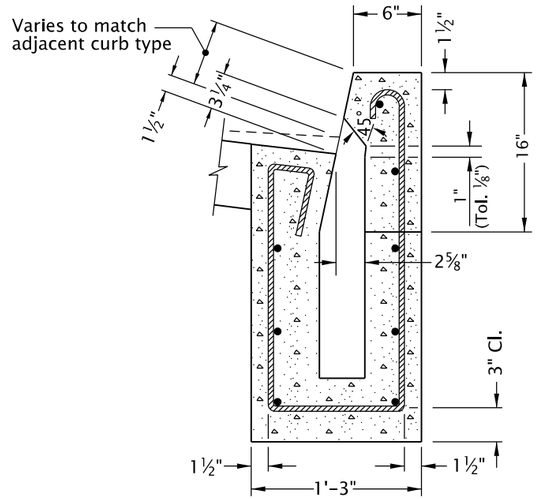
Effective Date:June 1, 2021 - November 30, 2021



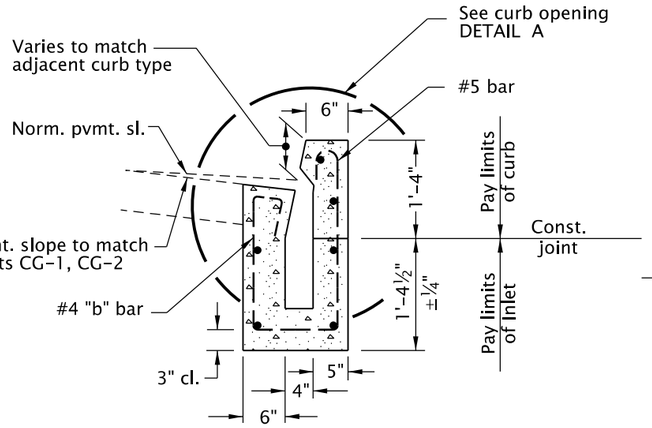
#3 "b" BAR



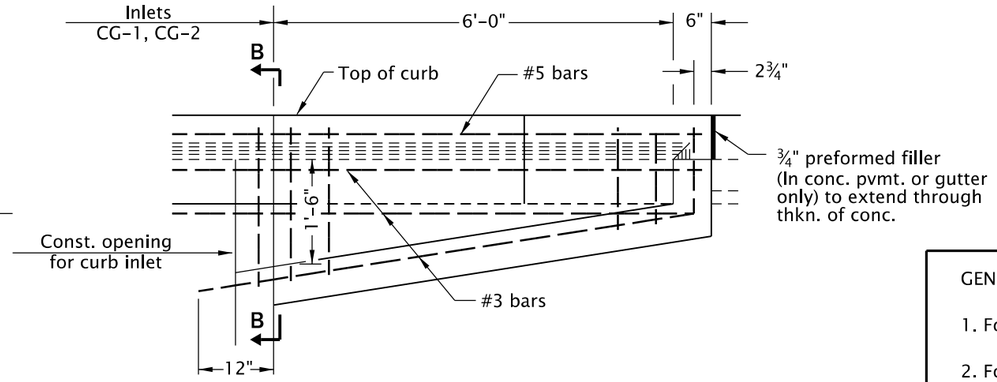
#4 "b" BAR



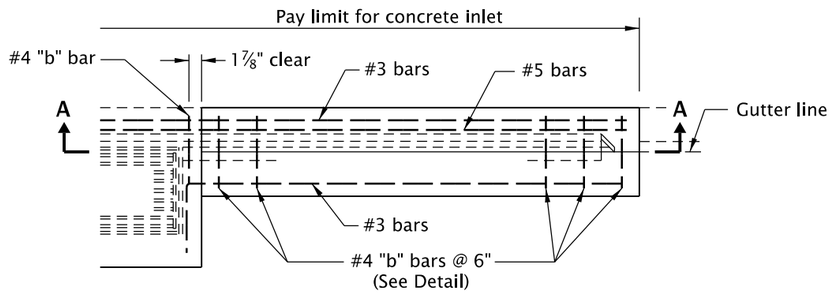
DETAIL A
CURB OPENING



SECTION B-B



SECTION A-A



PLAN

NOTES:
1. #4 "b" bar replaces #3 "a" bar of type CG-1 and CG-2 inlets.
2. #4 & #3 "b" bars to be placed during curb construction.
3. All bars to be placed 1½" clear of nearest face of concrete unless shown or noted otherwise.
4. All bar splices shall be 20 dia.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For inlet details, see appropriate inlet standard drawing(s).
2. For frame and grate details, see Std. Dwg. RD365.
3. For curb details, see Std. Dwgs. RD700 & RD701.
4. All concrete shall be commercial grade concrete.

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

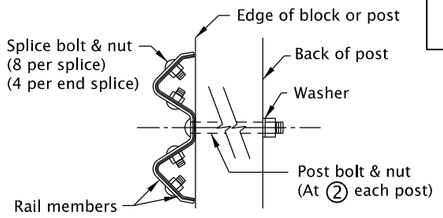
CURB INLET CHANNEL

2021

DATE	REVISION DESCRIPTION

rd367.dgn 20-JUL-2020

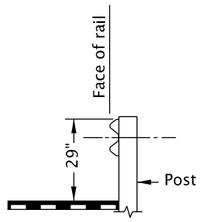
RD367



NOTES:
1. When required by the plans, post bolts to extend beyond the tightened nuts within limits of ¼" to ½".
2. When steel posts are used see "APPURTENANCES" for modified bolt detail, Std. Dwg. RD415.
3. All post bolt threads to be set after assembly for wrench removal only.

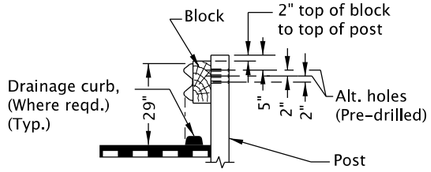
FITTINGS

NOTES:
1. Rail height measured from final paved surface at face of rail to top of rail (Typ. all types).
2. Final paved surfacing to extend to face of post.
3. Drainage curb alignment same as face of guardrail.

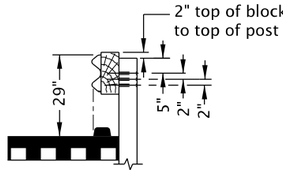


TYPE 1 GUARDRAIL

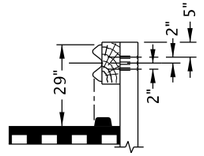
(Use restricted to non-roadway applications)



INITIAL INSTALLATION



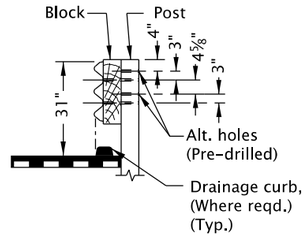
FUTURE ADJUSTMENT



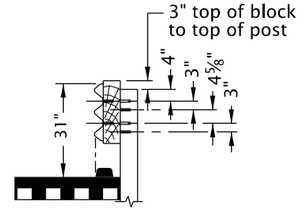
ALTERNATE INITIAL INSTALLATION OR FUTURE ADJUSTMENT

TYPES 2A & 3 GUARDRAIL

(See general note 2)
(For Type 3 use double thickness (2) rail elements)



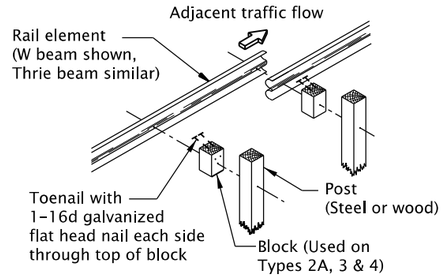
INITIAL INSTALLATION



RAIL AFTER OVERLAY

(Adjust as shown)

TYPE 4 GUARDRAIL



ASSEMBLY DETAILS (RELATION OF PARTS)

TABLE OF POST SPACING				
TYPE	1	2A	3	4
SPACING	12'-6"	6'-3"	3'-1½"	6'-3"

NORMAL RAIL ELEMENT DATA			
Type	Rail	Effective Lengths	Thkn. *
1, 2A, 3	W beam	6.25', 12.5', 25'	0.105" & 0.135"
4	Thrie beam	6.25', 12.5', 25'	0.105" & 0.135"

* Base metal thkn. nom. (Before galv.)

POST

NOTE:
Median barrier post spacing 6'-3".
See end construction for variations.

SECTION

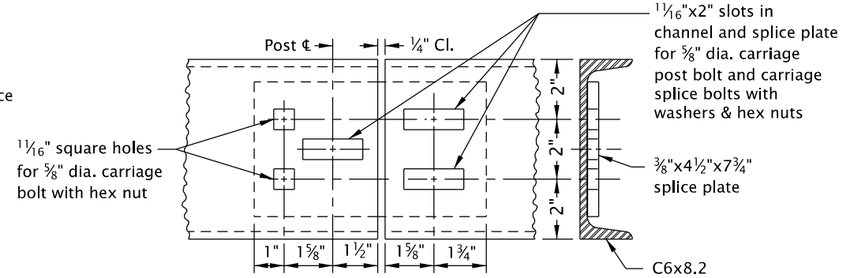
(See "Guardrail" details and general note 2)

① Post bolts to extend beyond the tightened nuts within limits of ¼" to ½".

② When barrier separates to double post mounting:
a) Use ⅝" dia. button or alternate bolt with washer and hex nut.
b) Use ⅝" dia. carriage bolt with washer and nut.

METAL MEDIAN BARRIER

NOTE:
Clearance to be 1⁹⁄₁₆" at rail splice for bridge expansion joints.



CHANNEL RAIL AND SPLICE PLATE (METAL MEDIAN BARRIER)

ASSEMBLY DETAILS (RELATION OF PARTS)

NOTE:
THIS DRAWING IS RETAINED FOR MAINTENANCE PURPOSES.
DO NOT USE FOR NEW CONSTRUCTION.

PLAN

CORRUGATED RAIL

CHANNEL RAIL AND SPLICE PLATE

NOTES:
① Place 2 - 1/32" polytetrafluoroethylene (TFE) sheets between corrugated rail members. The sheets shall be 12½" x 1'-7".

② Adjust nuts to provide a sliding fit and set threads to prevent loosening.

METAL MEDIAN BARRIER/SHOULDER GUARDRAIL INSTALLATION AT BRIDGE DECK EXPANSION JOINT

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. Use "Alternate Initial Installation", at bridge ends (See Std. Dwg. RD440), adjacent to P.C.C. pvmt. for temporary guardrail, to match existing guardrail, for Type 1 rail or as directed.
3. See Std. Dwg. RD701 for drainage curbs, where required.
4. Lap guardrail in direction of adjacent traffic.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

GUARDRAIL AND METAL MEDIAN BARRIER (29" RAIL HEIGHT)

2021

DATE	REVISION DESCRIPTION

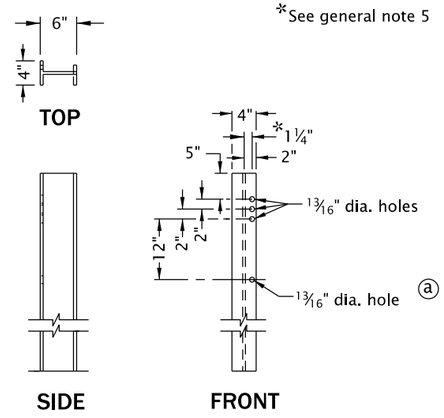
rd400.dgn 20-JUL-2020

RD400

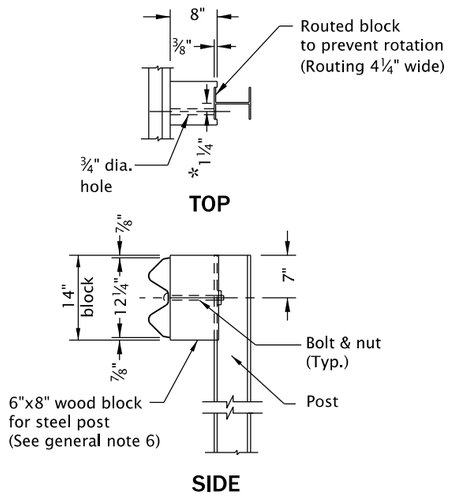
Effective Date: June 1, 2021 - November 30, 2021

POSTS

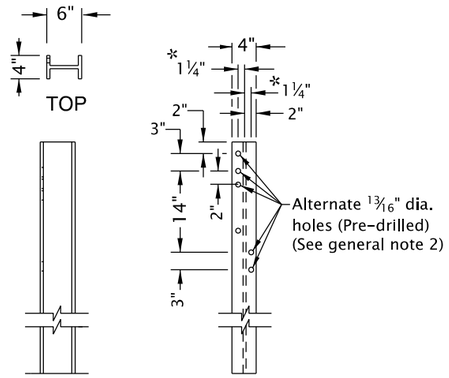
STEEL



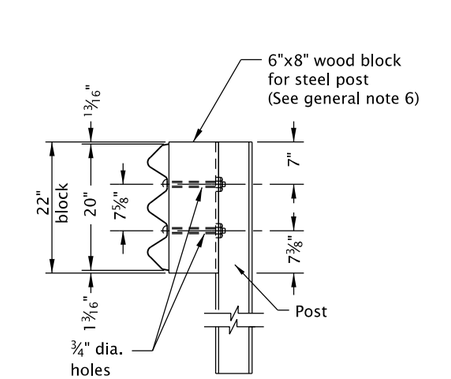
TYPE 2A, 3 OR METAL MEDIAN BARRIER



TYPE 2A, 3 OR METAL MEDIAN BARRIER WOOD BLOCK FOR STEEL POST



TYPE 4 OR TYPE 4 (TRANSITION) POST



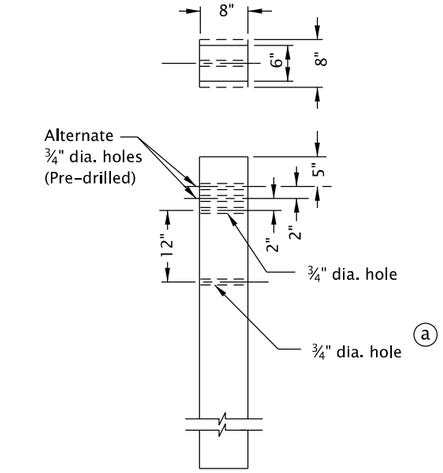
TYPE 4 OR TYPE 4 (TRANSITION) BLOCK

(Routing not required)

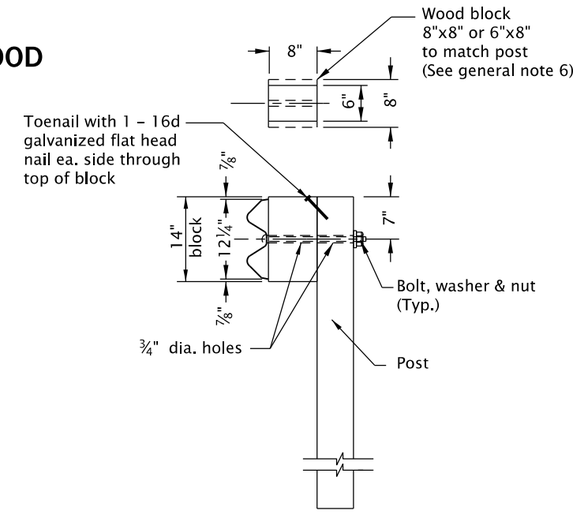
ⓐ Lowest hole(s) required only where channel rail is to be installed. Drill 12" below top 13⁄16" hole(s) used. (See general note 3)

GUARDRAIL POST TABLE				
GUARDRAIL TYPE	POST SIZE		POST LENGTH	
	WOOD	STEEL *	WOOD	STEEL
1	6"x8" or 8"x8"	——	6'-0"	——
2A	6"x8" or 8"x8"	W6x9 or W6x8.5	6'-0"	6'-6" or 6'-0"
3	8"x8"	W6x9 or W6x8.5	6'-0"	6'-6"
Metal median barrier	8"x8"	W6x9 or W6x8.5	6' 6"	6'-6"
4	6"x8" or 8"x8"	W6x9 or W6x8.5	7'-0"	7'-0"
4 (Transition)	8"x8"	W6x9 or W6x8.5	6'-0"	6'-9"

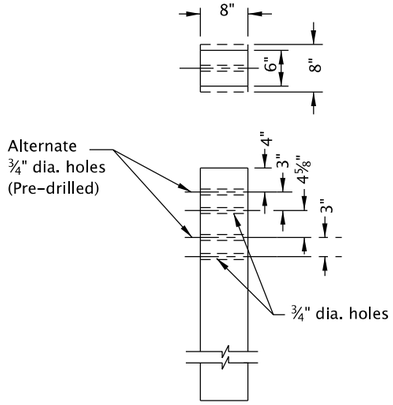
WOOD



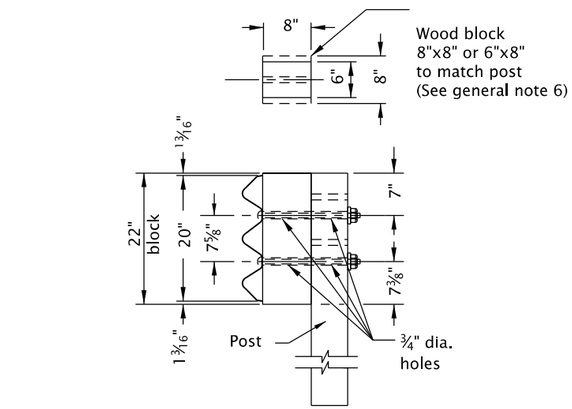
TYPE 1, 2A, 3 OR METAL MEDIAN BARRIER



TYPE 2A, 3 OR METAL MEDIAN BARRIER



TYPE 4 OR TYPE 4 (TRANSITION) POST



TYPE 4 OR TYPE 4 (TRANSITION) BLOCK

NOTE:
THIS DRAWING IS RETAINED FOR MAINTENANCE PURPOSES.
DO NOT USE FOR NEW CONSTRUCTION.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. See Bridge Dwgs. for bridge transition guardrail post & block requirements. Multiple holes are not required in bridge transition rail posts.
3. Posts and blocks to be pre-drilled for the intended guardrail installation.
4. Post and block dimensions are nominal.
5. Steel posts are shifted to accommodate bolt holes. Holes may be on left, right, or both sides of web.
6. Wood blocks shown. Blocks of an approved alternate material may be used. See ODOT's QPL.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

GUARDRAIL AND METAL MEDIAN BARRIER PARTS (29" RAIL HEIGHT)

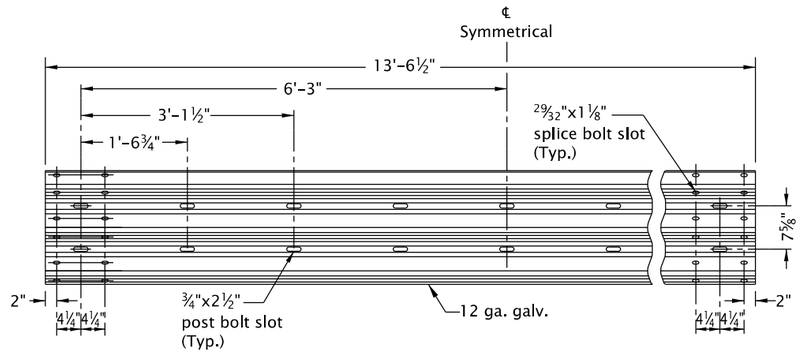
2021

DATE	REVISION DESCRIPTION

rd405.dgn 20-JUL-2020

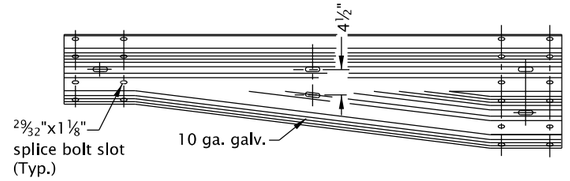
RD405

Effective Date: June 1, 2021 - November 30, 2021



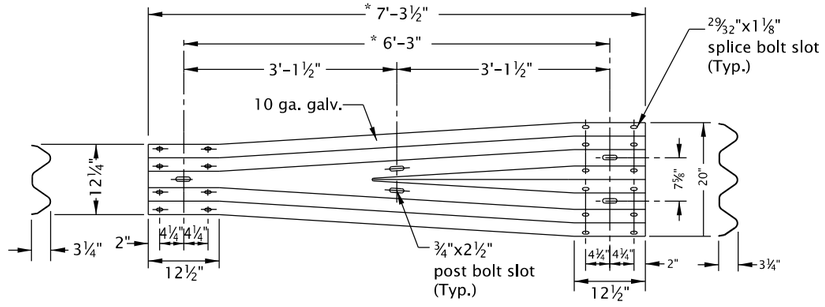
THRIE BEAM RAIL ELEMENT
¼ POST SPACING

(12'-6" section shown)



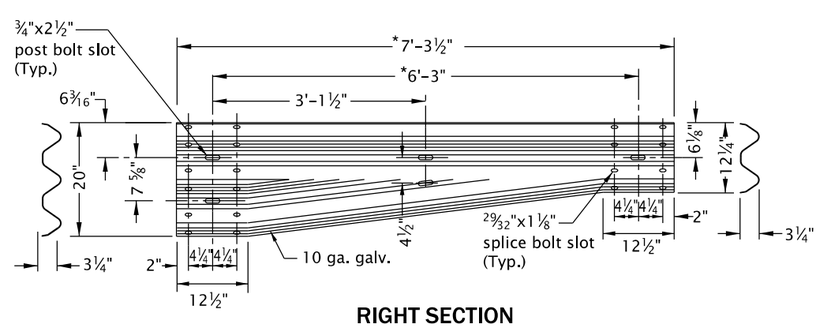
LEFT SECTION
(Reverse of right section)

* See general note 4



SYMMETRICAL THRIE BEAM TRANSITION ELEMENT

(Left section shown, right section reversed)



RIGHT SECTION

TYPICAL THRIE BEAM TRANSITION ELEMENT

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. See appropriate bridge standard drawing(s) for transition guardrail detail and installation limits at bridge ends.
3. All rail sections shall be lapped in the direction of adjacent traffic.
4. Slot layout per manufacturer with appropriate post and block.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

THRIE BEAM GUARDRAIL TRANSITION

2021

DATE	REVISION DESCRIPTION

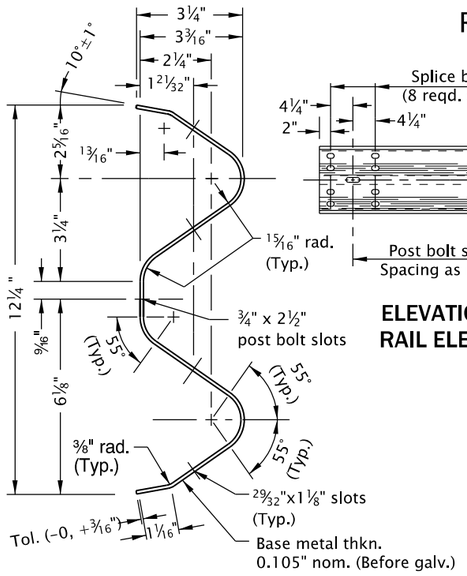
RD410

Effective Date: June 1, 2021 - November 30, 2021

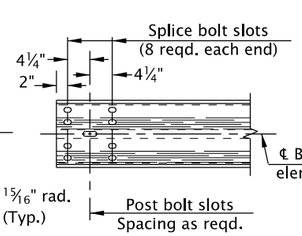
rd410.dgn 20-JUL-2020

rd415.dgn 20-JUL-2020

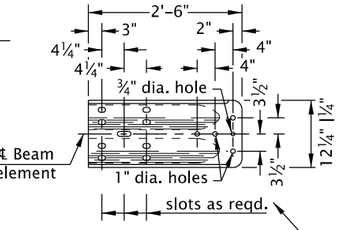
RAIL MEMBERS



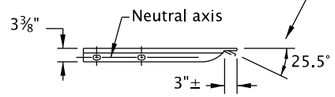
SECTION THRU RAIL ELEMENT



ELEVATION OF RAIL ELEMENT



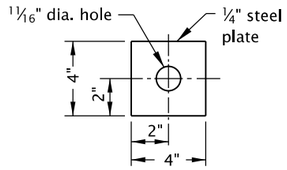
25.5° bend and hole reqd. only for use with alternate Type "C" end piece.



Base metal thickness 0.135" nominal (Before galv.)

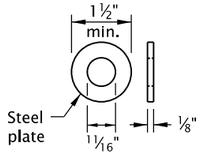
TERMINAL CONNECTOR

APPURTENANCES



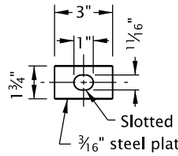
SNOW LOAD (OPTIONAL)

(In area of heavy snow, as directed by the engineer)



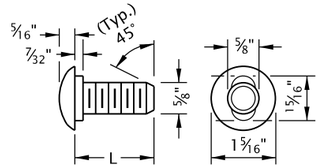
PLAIN ③

USE ON BACK OF POST



RECTANGULAR

USE ON RAIL ELEMENT FACE ON TYPE C END PIECE

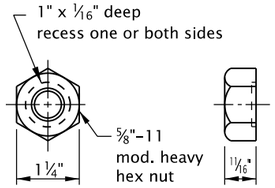


ALTERNATIVE No. 2

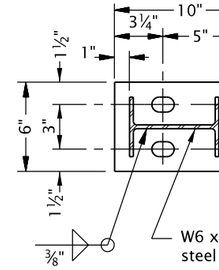
ALTERNATIVE No. 1

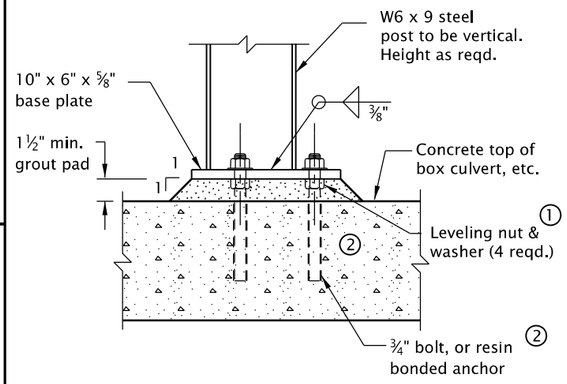
WASHERS ④

L (in.)	Thread Length (in.)
1¼	1⅛ min.
2	1¾ min.
10	4 min.
18	4 min.
25	4 min.



POST OR SPLICE BOLT AND NUT



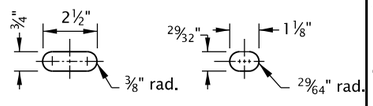


BASE PLATE DETAILS

(For additional details, see Std. Dwg. BR266)
(Use when depth of cover is less than normal for post installation.)

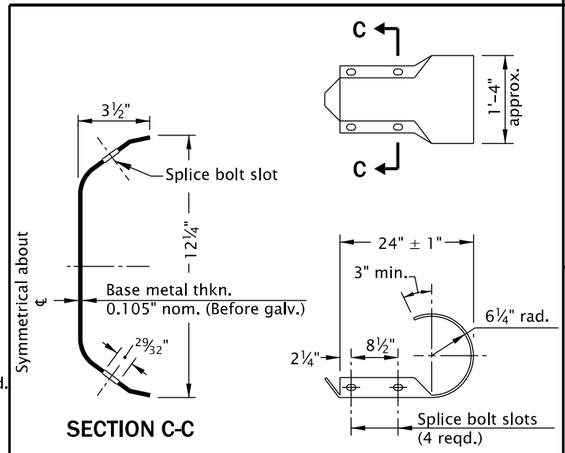
NOTES:

1. For guardrail installed on radii of 150' or less (5' min. radius) use rail elements pre-curved to industry standard. Install "Radius Identification Plate" (See detail right).
2. Effective length of rail sections shall be 12'-6".



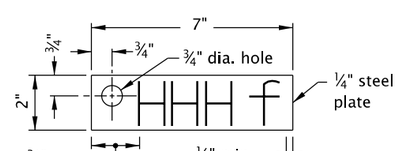
POST BOLT SLOT

SPLICE BOLT SLOT



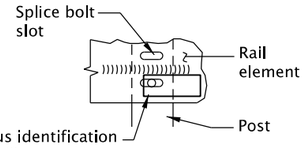
SECTION C-C

TYPE B END PIECE



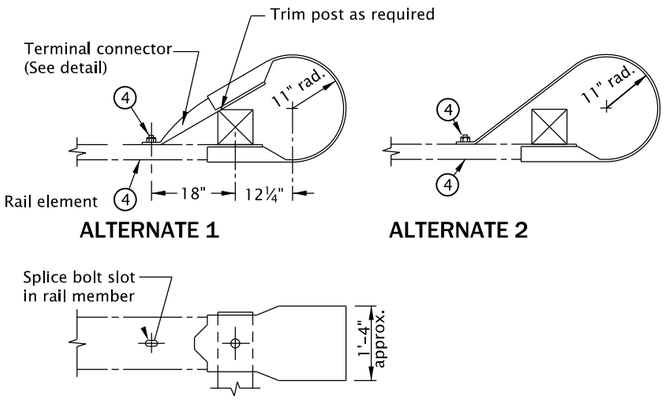
RADIUS IDENTIFICATION PLATE

(See general note 4)



RADIUS IDENTIFICATION PLATE MOUNTING DETAIL

(See general note 5)



ALTERNATE 1

ALTERNATE 2

ELEVATION

TYPE C END PIECE

(For details not shown, see Type B End Piece)

NOTES:

① Furnished & installed by structure contractor when shown on structure plans.

② 6" min. penetration into concrete slabs other than bridge decks. Cast in place or core and install using approved resin bonding system.

③ Not required if "Snow Load" washer option is used.

④ Use rectangular washer under bolt head and nut on Type C End Piece as shown.

NOTES: THIS DRAWING IS RETAINED FOR MAINTENANCE PURPOSES. DO NOT USE FOR NEW CONSTRUCTION.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. For details of guardrail connections to structural handrails, see special details or Standard Drawings as called for on plans.
3. All indicated welds shall attain the full strength of the section welded.
4. Radius dimensions, in feet to the nearest 0.5 foot, shall be placed on the plate with a raised weld bead replacing the letters "HHH", shown on the Radius Identification Plate detail. Digits shall be 1½" min. height and ¾" max. width. Plate shall be galvanized after placement of digits.
5. The guardrail radius identification plate is to be mounted on the back side of the rail element with the lowest splice bolt nearest the P.C. of the guardrail radius.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

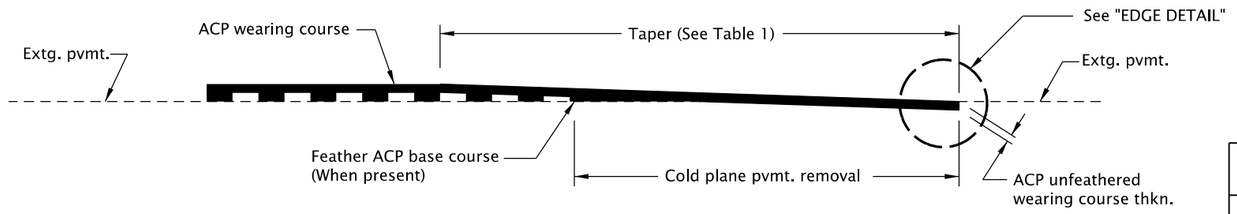
GUARDRAIL AND METAL MEDIAN BARRIER PARTS (29" RAIL HEIGHT)

2021

DATE	REVISION DESCRIPTION

RD415

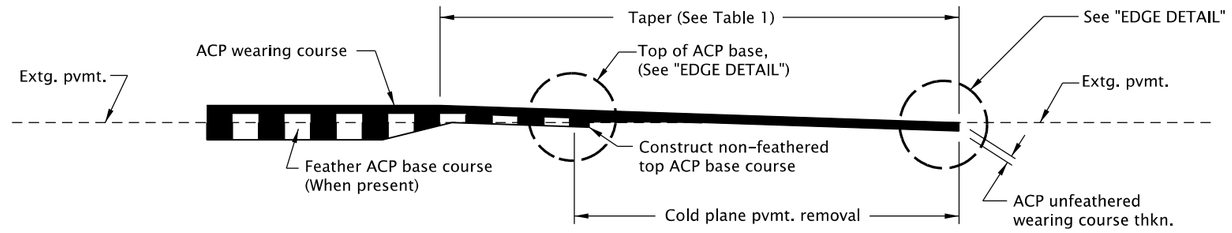
Effective Date: June 1, 2021 - November 30, 2021



METHOD A *

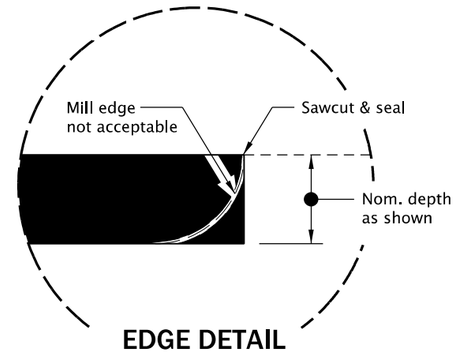
* See project plans for method.

TABLE 1	
TAPER LENGTHS	
Posted Speed	Taper Length
< 45 mph	1" per 50'
≥ 45 mph	1" per 100'

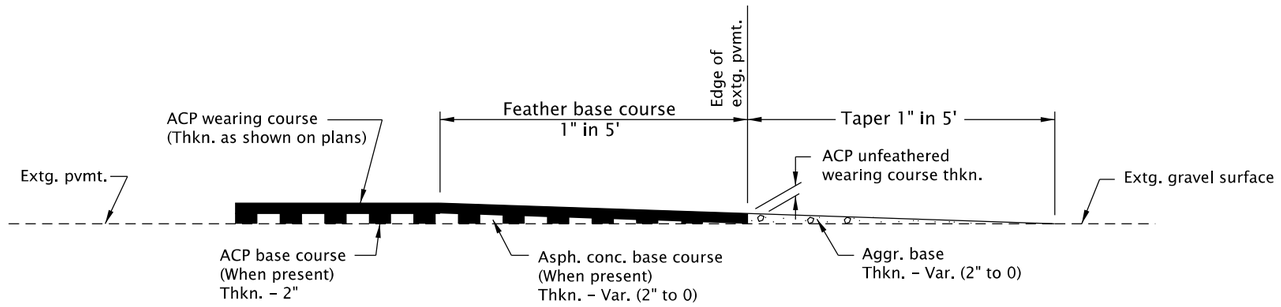


METHOD B *

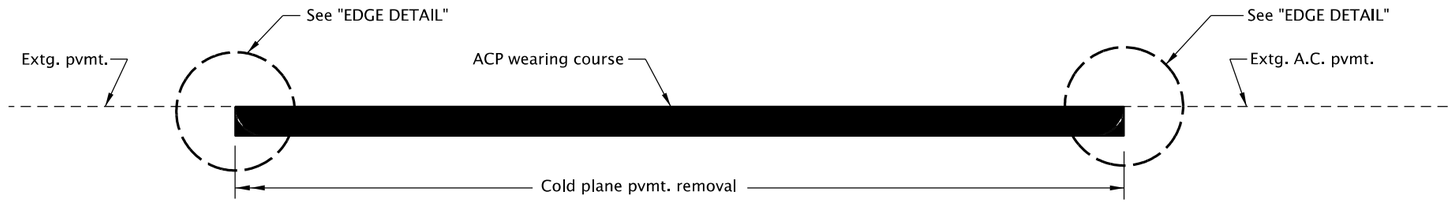
ACP PAVEMENT MATCH AT PROJECT ENDS OR BRIDGE ENDS WHEN NOT OVERLAYING THE BRIDGE



EDGE DETAIL



METHOD OF FEATHERING ACP PAVEMENT AT GRAVEL APPROACHES



METHOD OF MATCHING EXTG. ACP INLAY SURFACING

(Inlay to extg. asphalt conc. pvmt.)

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

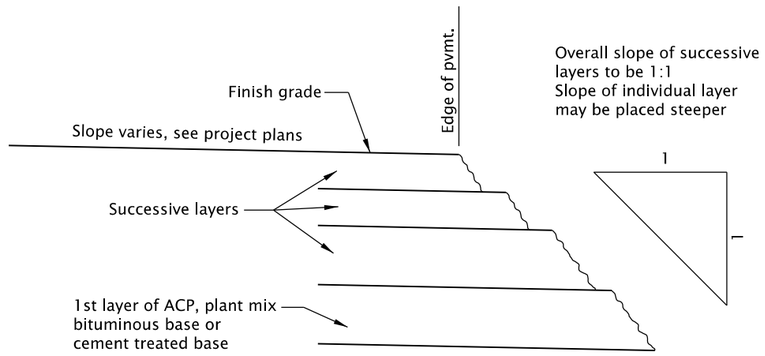
ASPHALT CONCRETE PAVEMENT (ACP) DETAILS

2021

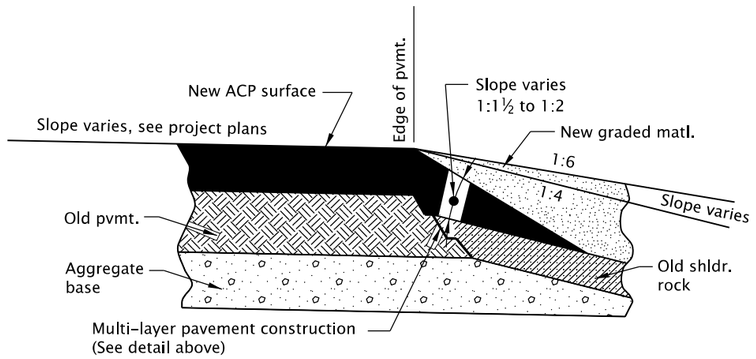
DATE	REVISION DESCRIPTION

rd610.dgn 20-JUL-2020

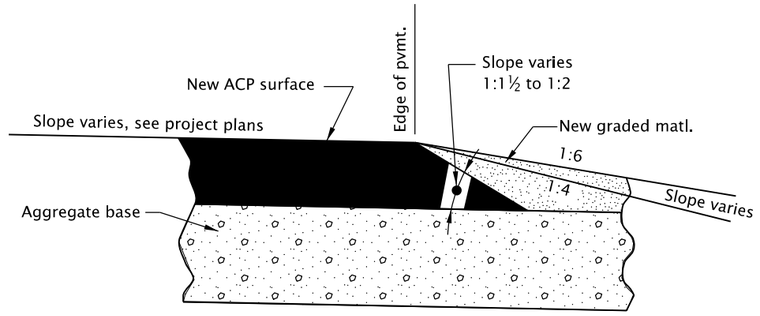
RD610



MULTI-LAYER PAVEMENT CONSTRUCTION



SAFETY EDGE
(RECONSTRUCTION INCLUDING MILL & INLAY)



SAFETY EDGE (NEW CONSTRUCTION)

CALC. BOOK NO. N/A	SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

ASPHALT CONCRETE PAVEMENT (ACP) DETAILS

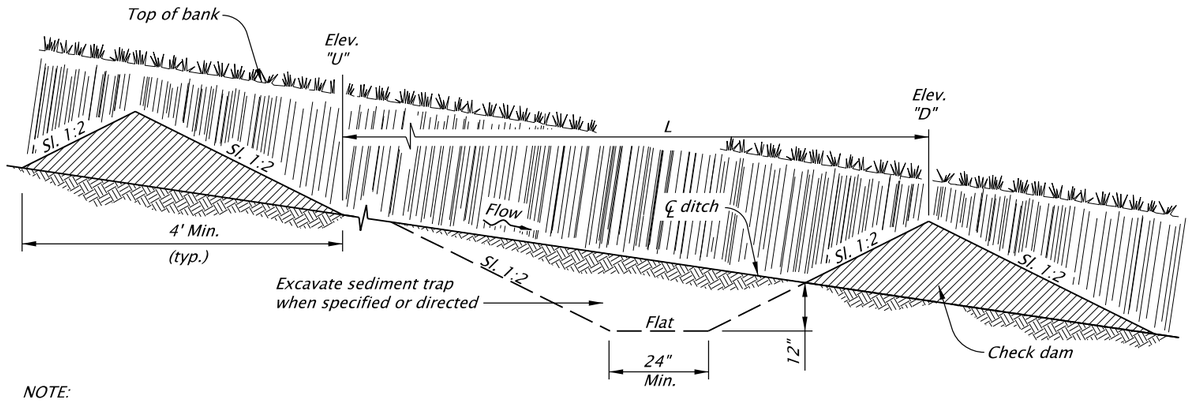
2021

DATE	REVISION DESCRIPTION

Effective Date: June 1, 2021 - November 30, 2021

rd615.dgn 20-JUL-2020

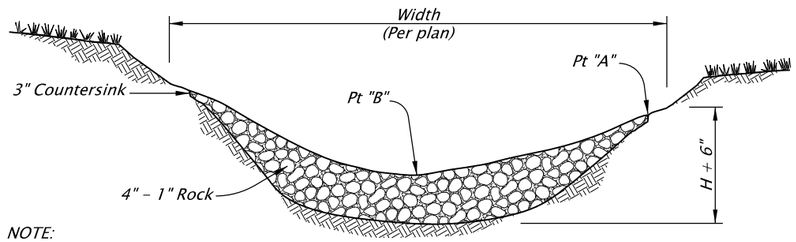
RD615



NOTE:
L = Spacing along swale or ditch so that Elevation "U" equals Elevation "D".

TYPICAL PROFILE SECTION CHECK DAMS (SHOWN WITH AGGREGATE)

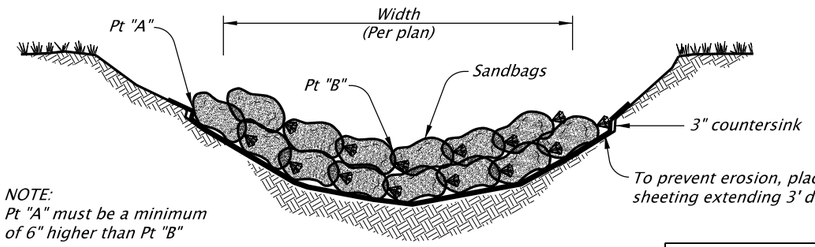
NOT TO SCALE



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

AGGREGATE CHECK DAM - TYPE 1

NOT TO SCALE



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

SANDBAG CHECK DAM - TYPE 4

NOT TO SCALE

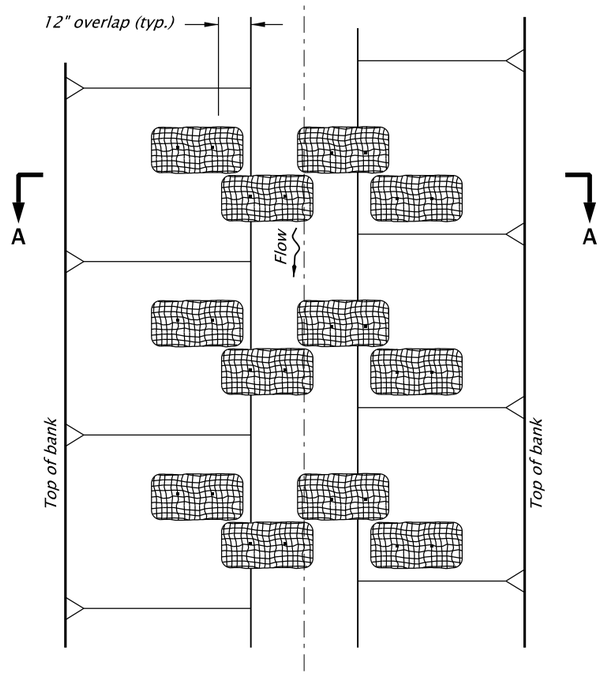
NOTES:

1. *Type 3 - stake biofilter bags with two 2"x2"x18" (minimum) wood stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags. Omit stakes if placed over paved surfaces. Overlap bags 12" minimum at each joint.*
2. *Type 4 - Tightly abut or overlap ends of sandbags at each joint.*
3. *Spacing between check dams for all check dam types shall comply with the typical profile section shown above.*

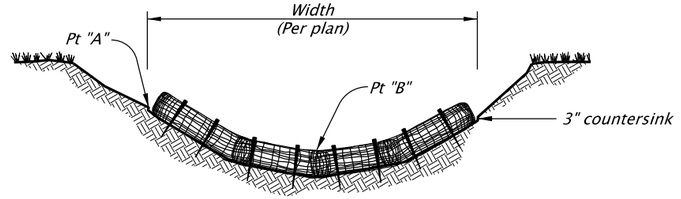
MAXIMUM CHECK DAM SPACING "L"

Ditch Grade	H=8"	H=12"	H=18"	H=24"
10%	* *	* *	15'	20'
9%	* *	* *	16'	22'
8%	* *	* *	18'	25'
7%	* *	* *	21'	28'
6%	* *	16'	25'	33'
5%	* *	20'	30'	40'
4%	16'	25'	37'	50'
3%	22'	33'	50'	66'
2%	33'	50'	75'	100'

** * Not allowed* *H = Min. dam height*



PLAN



SECTION A-A

BIOFILTER BAG CHECK DAM - TYPE 3

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

CHECK DAMS TYPE 1, 3 AND 4

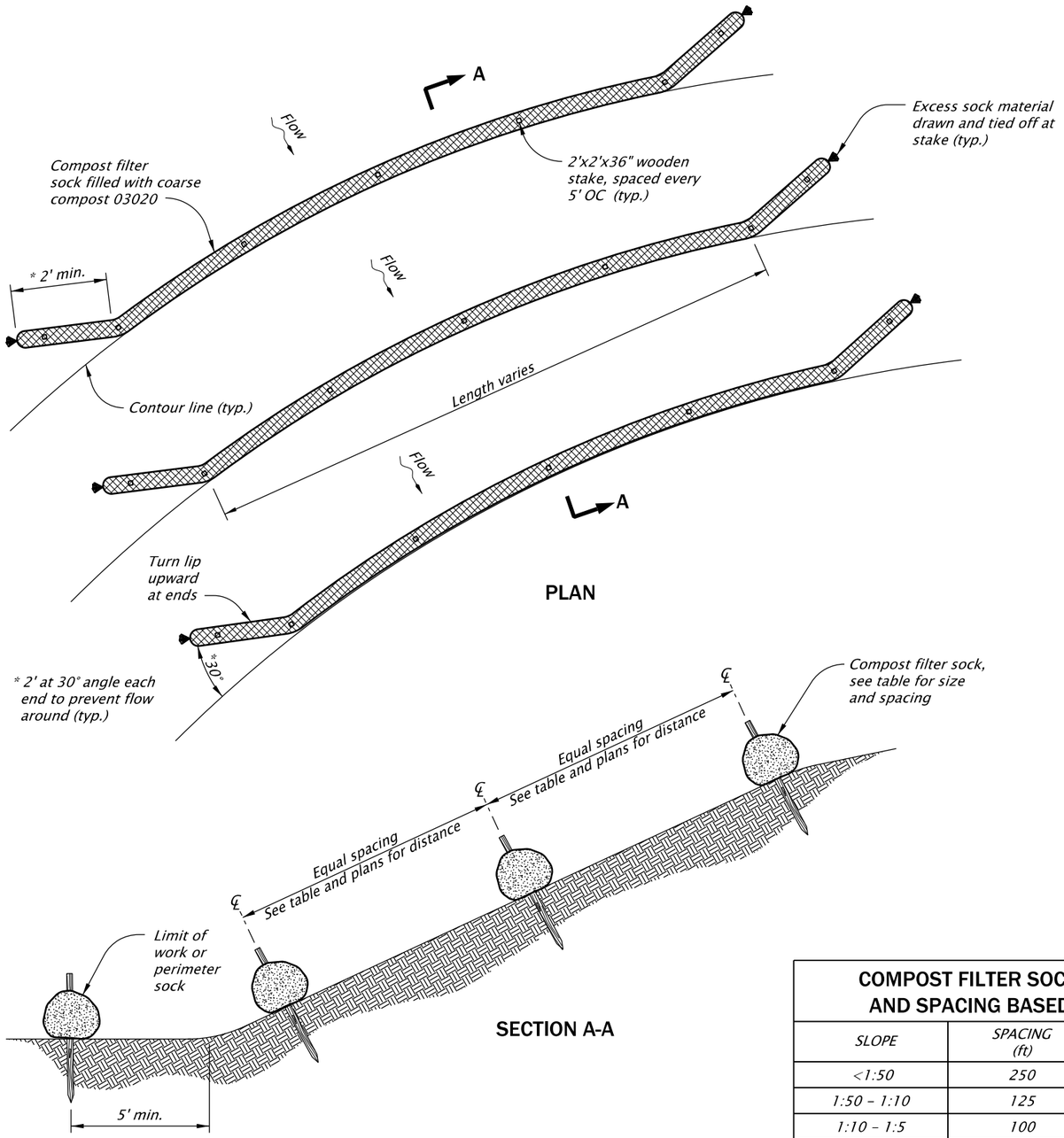
2021

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

rd1005.dgn 01-20-2021

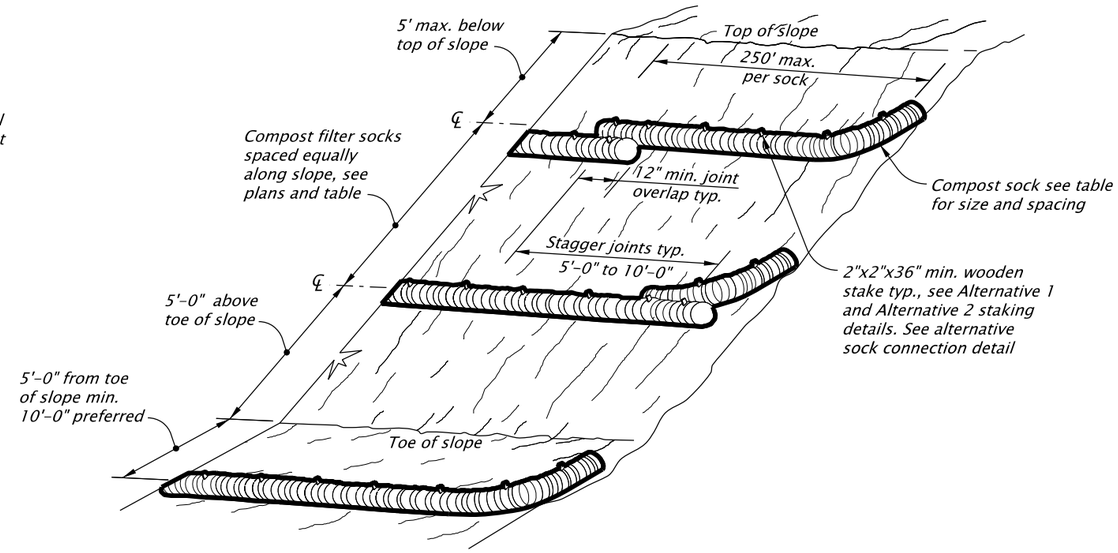
RD1005

Effective Date: June 1, 2021 - November 30, 2021

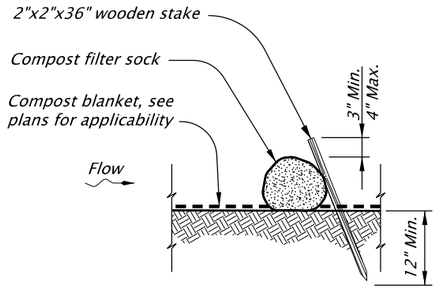


PLAN

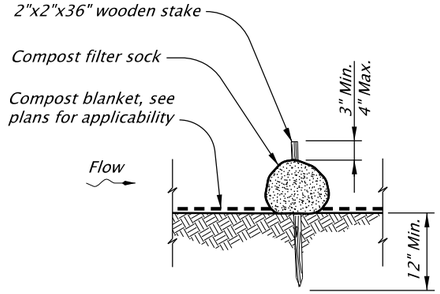
SECTION A-A



SLOPE APPLICATION - PERSPECTIVE VIEW



ALTERNATIVE 1 (Staking)



ALTERNATIVE 2 (Staking)

COMPOST FILTER SOCK DIAMETER AND SPACING BASED ON SLOPE		
SLOPE	*SPACING (ft)*	*DIAMETER (in)*
<1:50	*250*	*8*
1:50 - 1:10	*125*	*12*
1:10 - 1:5	*100*	*12*
1:5 - 1:2	*50*	*18*
>1:2	*25*	*18*

NOTE:
Fully biodegradable compost sock mesh is recommended for permanent installations. Where compost socks must be moved or removed, synthetic sock mesh should be used.

COMPOST FILTER SOCK

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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OREGON STANDARD DRAWINGS

SEDIMENT BARRIER TYPE 8

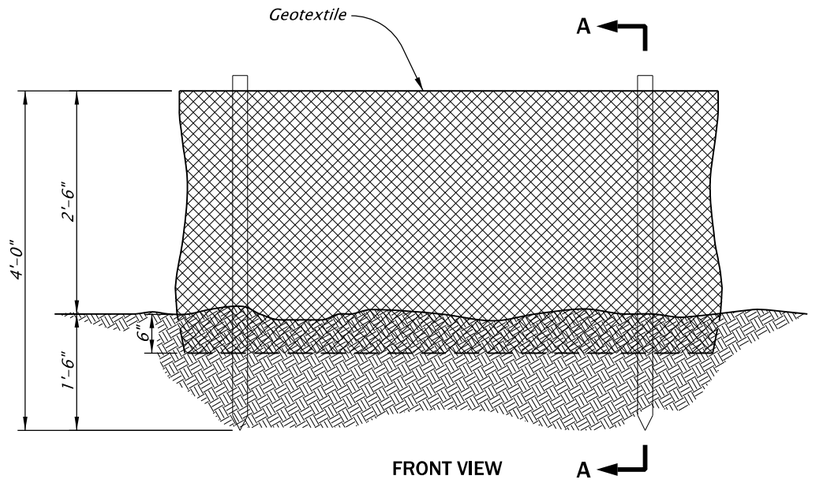
2021

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

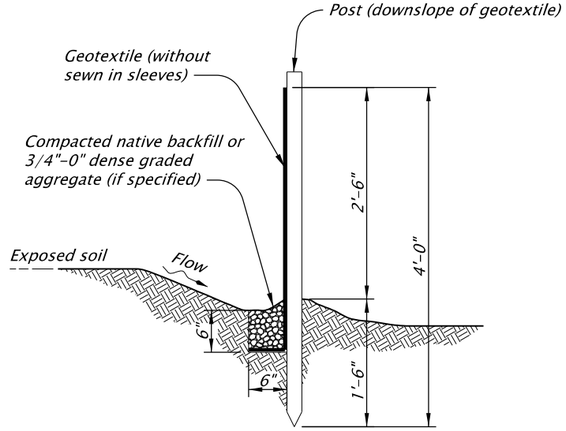
rd1032.dgn 01-20-2021

RD1032

Effective Date: June 1, 2021 - November 30, 2021



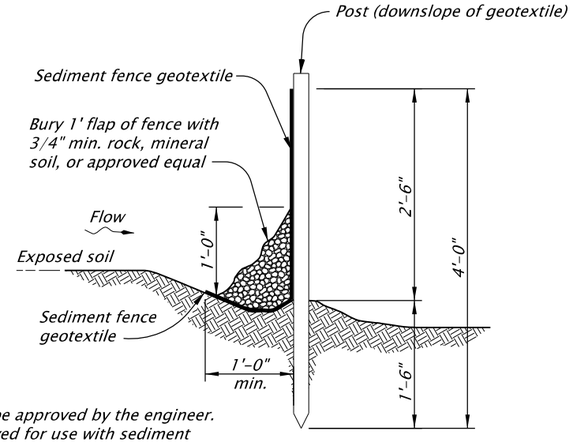
FRONT VIEW



SECTION A-A

SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1

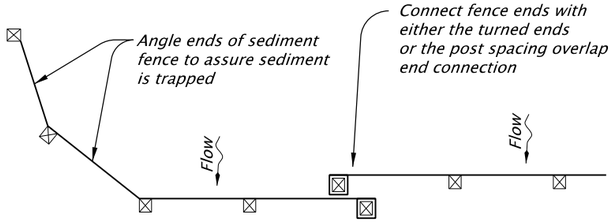
NOT TO SCALE



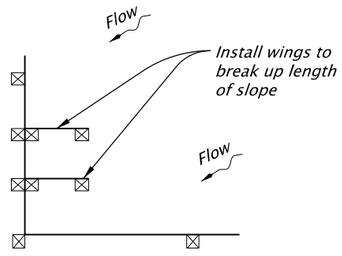
NOTES:
1. Use must be approved by the engineer.
2. Not approved for use with sediment fencing with sewn-in post sleeves.

ALTERNATE SEDIMENT FENCE WITHOUT TRENCHING - TYPE 2

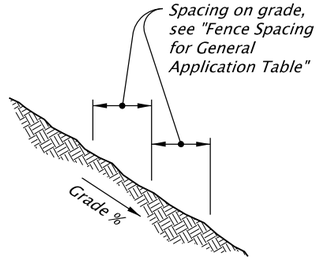
NOT TO SCALE



PLAN VIEW



TERMINATION AT CORNER OR PROPERTY LINE



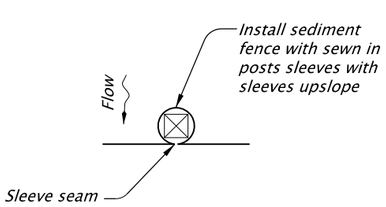
GENERAL NOTES:
1. Use 2"x2" wood fence posts.
2. Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.
3. Compact filter fabric trench backfill and soil on uphill side of fence.
4. Locate fence no closer than three feet to the toe of a slope.
5. Wing spacing shall comply with "Fence Spacing for General Application Table".

FENCE SPACING FOR GENERAL APPLICATION TABLE

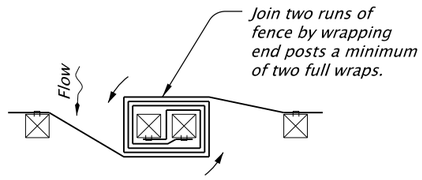
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% ≤ Grade < 15%	150'
15% ≤ Grade < 20%	100'
20% ≤ Grade < 30%	50'
30% ≤ Grade	25'

POST SPACING TABLE

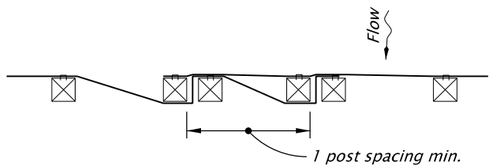
6'	Sediment Fence with Geotextile elongation less than 50%
4'	Sediment Fence with Geotextile elongation 50% or more



GEOTEXTILE WITH POST SLEEVES



TURNED ENDS CONNECTION



POST SPACING OVERLAP CONNECTION

GEOTEXTILE END CONNECTIONS

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

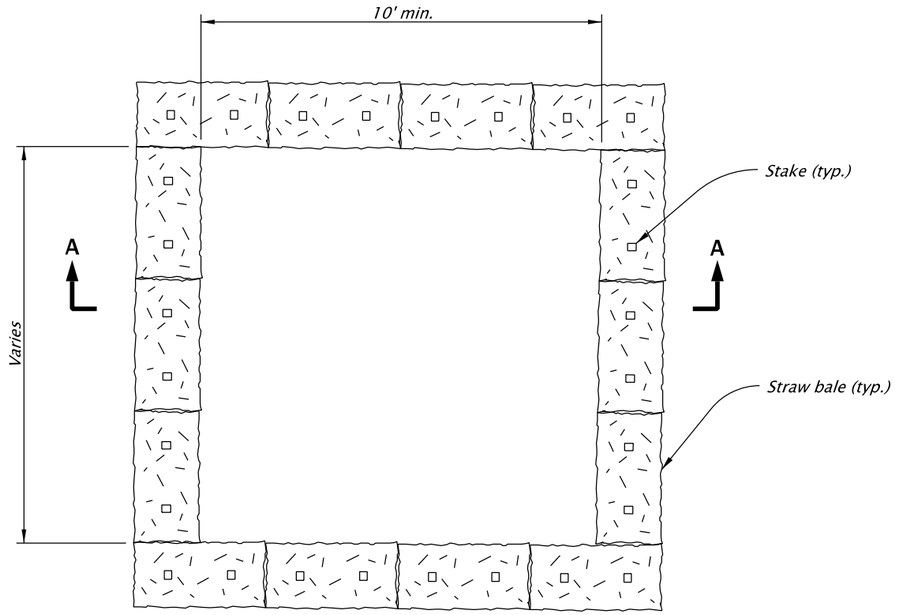
SEDIMENT FENCE

2021

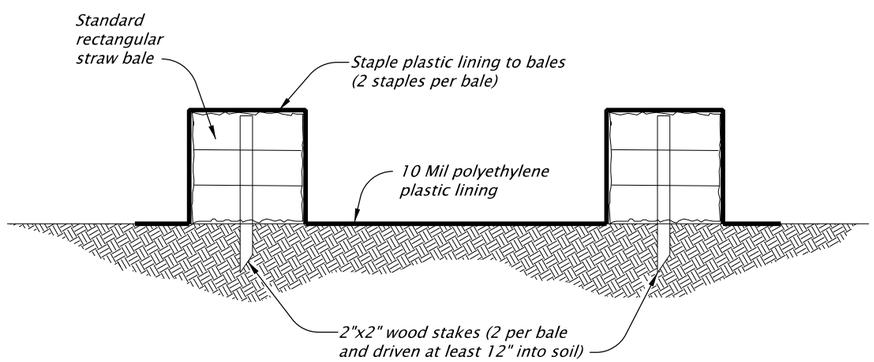
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

rd1040.dgn 01-20-2021

RD1040



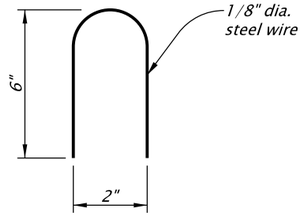
PLAN



SECTION A-A

CONCRETE TRUCK WASH OUT FACILITY

NOT TO SCALE



STAPLE DETAIL

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

CONCRETE TRUCK WASH OUT

2021

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

rd1070.dgn 01-20-2021

RD1070

Effective Date: June 1, 2021 - November 30, 2021

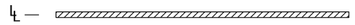
W

4" WHITE LINE

W-2

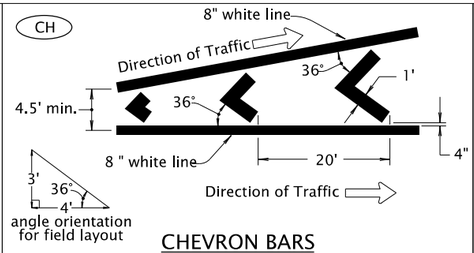
8" WHITE LINE

Y



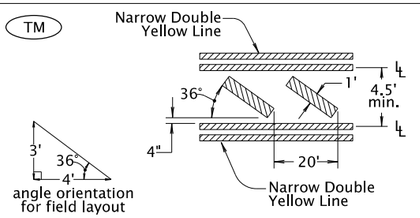
4" YELLOW LINE

CH



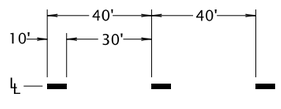
CHEVRON BARS
1' WHITE BARS AT 20' SPACING

TM



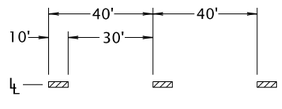
TRANSVERSE MEDIAN BARS
1' YELLOW BARS AT 20' SPACING

WB



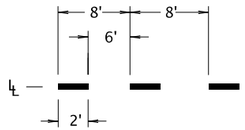
4" WHITE BROKEN LINE

YB



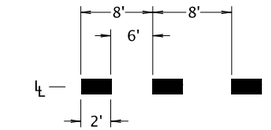
4" YELLOW BROKEN LINE

WD



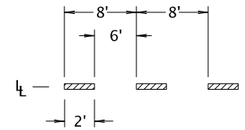
4" WHITE DOTTED LINE
For lane extensions

WD-2



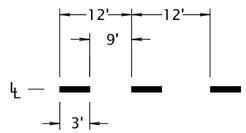
8" WHITE DOTTED LINE
For lane extensions and bike lane extensions

YD



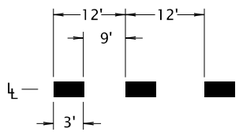
4" YELLOW DOTTED LINE
For lane extensions

DLL



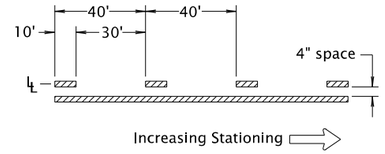
4" WHITE DOTTED LANE LINE
For lane lines in acceleration/deceleration lanes

DLL-2



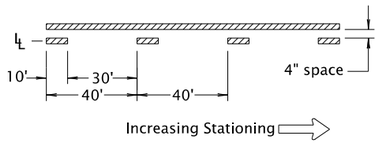
8" WHITE DOTTED LANE LINE
For lane lines in drop lanes

NPR



NO-PASS RIGHT
4" YELLOW LINES

NPL

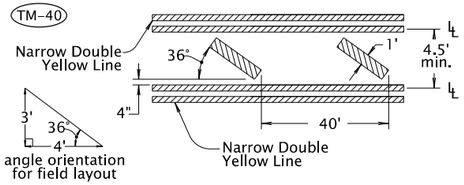


NO-PASS LEFT
4" YELLOW LINES

TWL

TWO-WAY LEFT TURN
4" YELLOW LINES

TM-40

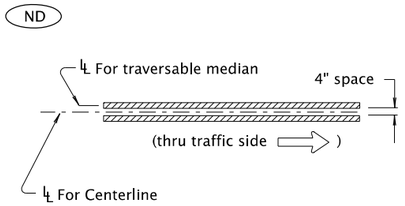


TRANSVERSE MEDIAN BARS
1' YELLOW BARS AT 40' SPACING
For use at painted medians where
distance between left turn refuges exceeds 200'

D

DOUBLE NO-PASS
TWO 4" YELLOW LINES

ND

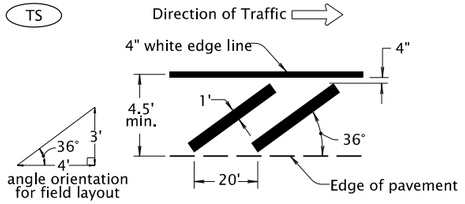


NARROW DOUBLE NO-PASS
TWO 4" YELLOW LINES

NDW

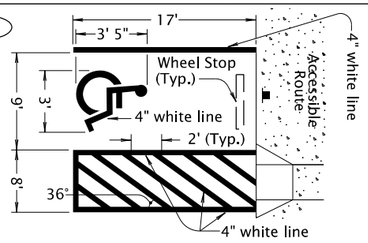
NARROW DOUBLE NO-LANE CHANGE
TWO 4" WHITE LINES

TS



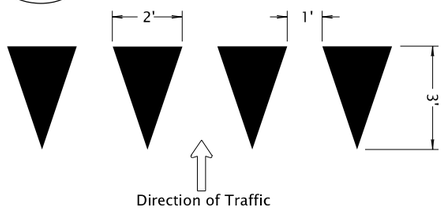
TRANSVERSE SHOULDER BARS
1' WHITE BARS AT 20' SPACING

HC



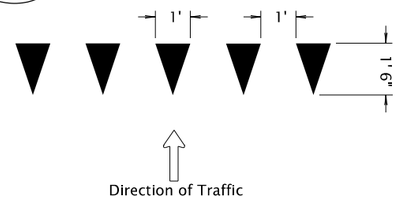
DISABLED PARKING DETAIL (white)

YLD



YIELD LINE (white)

BYLD



BICYCLE YIELD LINE (white)

LEGEND

Direction Of Traffic, Increasing Stationing Or Thru Traffic Side

℄ — Lane line dimensions are shown on the striping plans

CALC. BOOK NO. N/A

SDR DATE 07/01/2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

PAVEMENT MARKING STANDARD DETAIL BLOCKS

2021

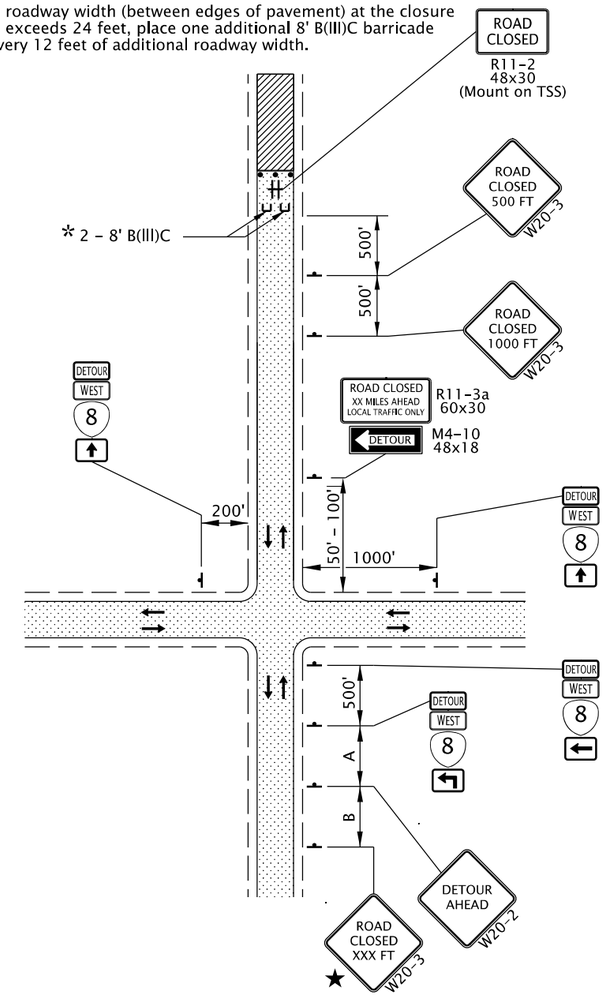
DATE	REVISION DESCRIPTION
07/2020	*Changed Min. widths for CH, TM, TM-40, and TS*

TM500

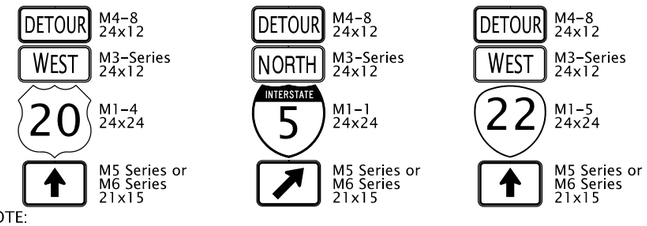
Effective Date: June 01, 2021 - November 30, 2021

NOTES:
If closure point is less than 1500 ft. from nearest intersection, use a "ROAD CLOSED TO THRU TRAFFIC" (R11-4)sign in place of the "ROAD CLOSED XX MILES AHEAD" sign.

* If the roadway width (between edges of pavement) at the closure point exceeds 24 feet, place one additional 8' B(III)C barricade for every 12 feet of additional roadway width.

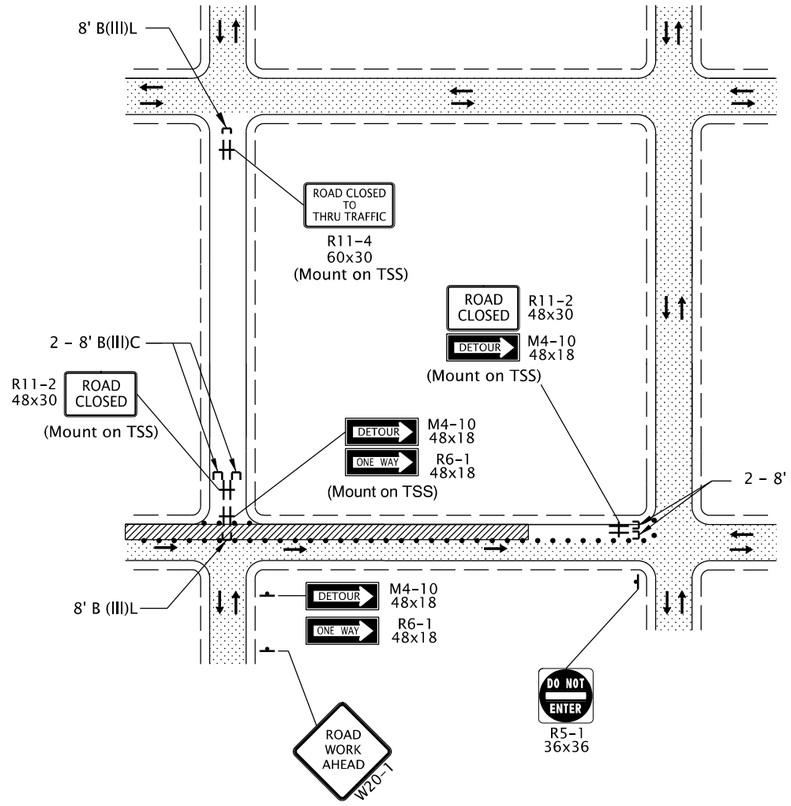


TYPICAL ROAD CLOSURE WITH DETOUR



NOTE:
- When detour routes overlap, each Route Shield will include a seperate cardinal direction, detour, and directional arrow auxiliary sign assembly.

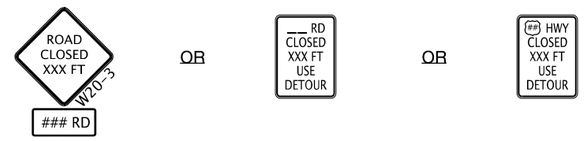
TYPICAL TRAILBLAZER ASSEMBLY



TYPICAL PARTIAL ROAD CLOSURE

GENERAL NOTES FOR ALL DETAILS:

★ A "Street Name" rider may be used to enhance Road Closure signing; or provide a project specific design; or, as shown in the traffic control plan.



##x18 Rider
Rider width to be determined by width of street name.

48 x 60 (nom.)
Project Specific Design

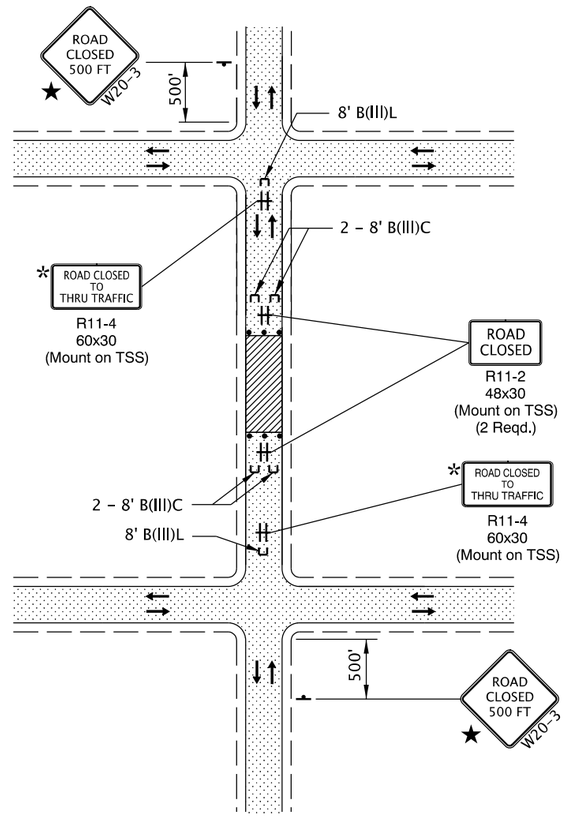
48 x 60 (nom.)
Project Specific Design

- Use a minimum of two Type III barricades for a road closure. For roads ≥ 36' wide between curbs or edge of pavement, use a minimum of three Type III barricades for the closure point.
- For full road closures, the C or LR barricade may be used.
- Place additional signing as directed.
- To determine sign spacing A, B, & C, use the "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. TM800.
- To be accompanied by Dwg. Nos.TM820 & TM821.

• • • • • 28" Tubular Markers
See TCD Spacing Table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION



NOTE:
* If accesses exist between intersection and point of closure, install "ROAD CLOSED TO THRU TRAFFIC" sign as shown.

TYPICAL ROAD CLOSURE

CALC. BOOK NO. N/A

SDR DATE 01-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

CLOSURE DETAILS

2021

DATE	REVISION DESCRIPTION

tm840.dgn 01-JUL-2020

TM840

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

BEFORE THE DIRECTOR OF THE DEPARTMENT OF STATE LANDS
OF THE STATE OF OREGON

In the Matter of Removal-Fill Permit)
Application 64156GP) Proposed Permit Decision and Order;
) Notice of Right to a Hearing
By Clackamas County Department Of Transportation And Development)

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.

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 March 2, 2023 for the proposed removal-fill activity consisting of replacing an existing box culvert on Woodcock Creek with a bridge to improve fish passage. Project involves 214 CY of removal (old culvert and grading streambed) and 275 CY of fill (new bridge abutments, stream sediment, and large wood) covering 0.09 acres.
2. The Department circulated the complete application for 15-day public comment period March 17, 2023 to March 31, 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 April 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 not an identified economic cost to the public if the proposed fill or removal is not accomplished.

    c. The application describes 3 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 existing culvert has been identified as an obstruction to fish passage so the project purpose is to replace that structure. 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. No permanent adverse effects to aquatic resources are expected, therefore, compensatory mitigation is not required.

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.:	**64156-RF**
Permit Type:	**Transportation-Related Str**
Waters:	**Woodcock Creek**
County:	**Clackamas**
Expiration Date:	April 5, 2024

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

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 — April 5, 2023

Authorized Signature

ATTACHMENT A

Permit Holder: Clackamas County Department of Transportation and Development

Project Name: Woodcock Creek at Grimm Road

Special Conditions for Removal/Fill Permit No. 64156-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, Devin Patterson is acting as the representative of Clackamas County Department of Transportation and Development. By proceeding under this permit, Clackamas County Department of Transportation and Development 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 0.0 acres of wetland and 155 linear feet of waterway impact(s) with associated removal and fill of material in T05S R02E Section 12, Tax Lot(s) ROW, 2000, 2200, 2201 easment in Clackamas County, as referenced in the application, map and drawings (See Attachment B for project location(s)), dated March 2, 2023.

3. **Work Period in Jurisdictional Areas:** Fill or removal activities below the ordinary high water elevation of Woodcock Creek must be conducted between July 15th and August 31st, 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 contaminates 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).

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) PDF pg 42 Bypass Plan) 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.

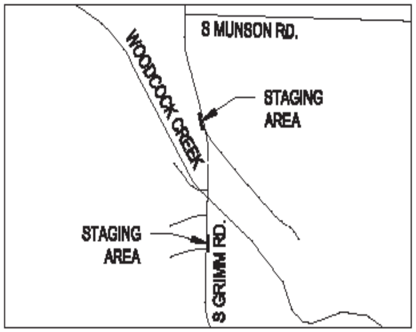
ATTACHMENT B

Permit Holder: Clackamas County Department of Transportation and Development

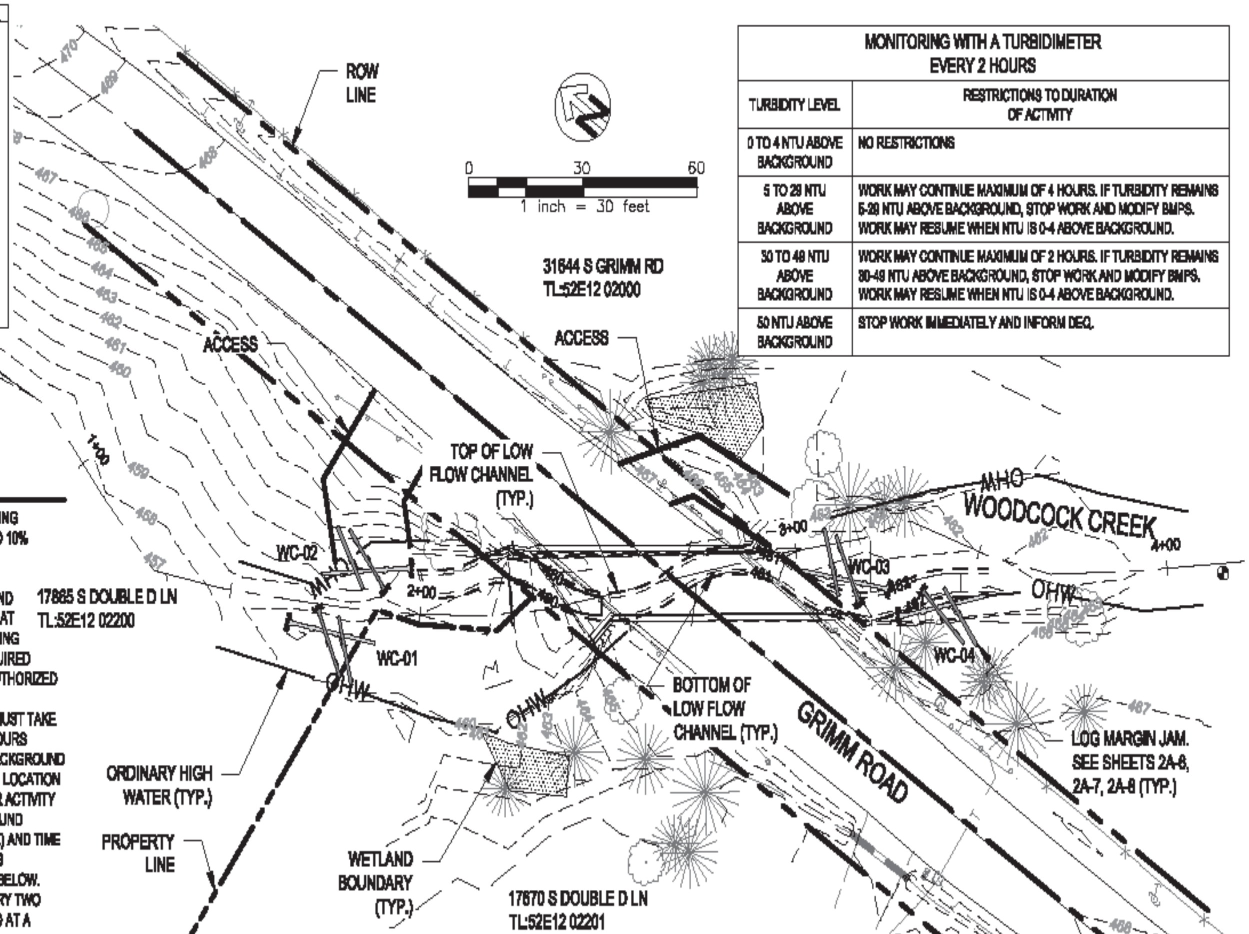
Project Name: Woodcock Creek at Grimm Road

Maps and Drawings for Removal/Fill Permit No. 64156-GP

Figure 2: Tax Lot Map
Woodcock Creek at Grimm Road
(ORMAP 2021)



NOTE: STAGING AREAS SHALL BE A MINIMUM OF 150' FROM OWH.



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 ABOVE BACKGROUND	STOP WORK IMMEDIATELY AND INFORM DEQ.

TURBIDITY MONITORING NOTES

CONTRACTOR SHALL 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 PER TABLE ON THIS SHEET.

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.

TURBIDITY MONITORING NOTES CONTINUED

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.

ENGINEERING STAMP HERE
PRELIMINARY COPY
100 PERCENT
SUBJECT TO CHANGE
DTD CLACKAMAS CO.

REVISIONS

NO.	DATE:

DESIGNED BY: RPM
DRAFTED BY: RPM
CHECKED BY: CJ

CLACKAMAS COUNTY
DAN JOHNSON
DIRECTOR

Cardno
PORTLAND
6720 SW MACADAM AVE, STE 200, PORTLAND, OR
97219 TEL: (503) 419-2500 FAX: (503) 419-2600
www.cardno.com

STREAM PLAN

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: FEBRUARY 2023
PROJECT NO.: BM-2017-D0D23

Sheet No. 3A

C:_LOCALDRIVES\WDRIVE\2181343O\CAD\CIVIL_CD\1343-CD-STREAM-PLAN-PRO.DWG 2/7/2023 11:09 AM

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, PORTLAND DISTRICT
P.O. BOX 2946
PORTLAND, OR 97208-2946

February 21, 2023

Regulatory Branch
Corps No. NWP-2022-499

Mr. Devin Patterson
Clackamas County DTD
150 Beavercreek Road
Oregon City, Oregon 97045
DevinPat@clackamas.us

Dear Mr. Patterson:

The U.S. Army Corps of Engineers (Corps) received your request for Department of the Army authorization to discharge a total of 275 cubic yards (cy) of fill within 4,021 square feet (155 linear feet) below the ordinary high water mark (OHWM) of Woodcock Creek for replacement of an existing culvert. The project is proposed in Woodcock Creek located at South Grimm Road crossing, in Molalla, Clackamas County, Oregon at Latitude/Longitude: 45.1472°, -122.5028°. This letter verifies your project as depicted on the enclosed drawings (Enclosure 1) is authorized by Nationwide Permit (NWP) No. 14, Linear Transportation Projects (Federal Register, December 27, 2021, Vol. 86, No. 245).

Permanent impacts below the OHWM of Woodcock Creek will include 229 cy of fill (concrete blocks, cobbles, sediment, large wood, root wads) within 3,401 square feet. Temporary impacts to Woodcock Creek include 46 cy of fill (sandbags, bypass pipe), and 214 cy of removal (existing concrete, native substrate) within 4,071 square feet.

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); the Oregon Department of Environmental Quality (DEQ) 401 Water Quality Certification Conditions (Enclosure 3); and the following special conditions:

a. This Corps permit does not authorize you to take an endangered species in particular those species identified in Enclosure 4. 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.

b. Permittee shall fully implement all applicable Project Design Criteria (PDC) of the SLOPES V Stormwater, Transportation and Utilities programmatic biological opinion. detailed list of the PDCs are enclosed (Enclosure 4). The applicable PDCs for the project include numbers: 5-7, 13, 14, 18-20, 22, 23, 25-27, 30, 31, 33, 34, 36-38, 41, 42.

c. Permittee shall complete and submit an Action Completion Form, which is provided in Enclosure 4 within 60 days of completing all work below ordinary high water. Submit the form by email to cenwp.notify@usace.army.mil and the email subject line shall include: NWP-2022-499, Clackamas County. If you are submitting files larger than 20 MB, contact your county Regulatory Project Manager for instructions.

d. All in-water work shall be performed during the in-water work period of July 15 to September 30, to minimize impacts to aquatic species. Exceptions to this time period requires specific approval from the Corps and the National Marine Fisheries Service.

e. Permittee shall ensure all appropriate sediment and erosion control devices are installed and in proper working order prior to construction. Devices shall remain in place until the area is stabilized and construction is complete. If necessary, sediment and erosion control may be left in place after construction is complete to facilitate stabilization. However, upon stabilization all devices shall be removed from the area and disposed of in an upland location that does not contain waters of the United States.

f. Permittee shall dispose of excavated materials at a suitable upland location, and materials shall be adequately stabilized to minimize increases in turbidity levels and indirect impacts to waters. The material shall be placed in a location and manner that prevents its discharge into waterways. In the event of spills, affected material shall be taken to an appropriate upland location (and properly disposed of in accordance with any state standards or requirements).

g. Permittee shall submit an as built report to the Corps by December 31, of the year work is complete. The report shall contain photographs of the site and the initial grading survey, specifically work below the OHWM. A map identifying the locations and directions of the photographs shall be included in the as-built report. The as-built report shall be provided by e-mail to cenwp.notify@usace.army.mil and the email subject line

shall include: NWP-2022-499, Clackamas County. If you are submitting files larger than 20 MB, contact your county Regulatory Project Manager for instructions.

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. 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/). 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 DEQ has issued a 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.

Please note, Portland District NWP Regional General Condition 3, *Cultural Resources and Human Burials-Inadvertent Discovery Plan*, describes procedures should an inadvertent discovery occur. You must ensure that you comply with this condition during the construction of your project.

The Corps did not prepare a jurisdictional determination for this project. The Corps has treated the aquatic resource(s) to be affected by this project as jurisdictional waters of the U.S. 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.

NWP General Condition 29, *Transfer of Nationwide Permit Verifications*, requires you to obtain the signatures(s) of the new owner(s) if you sell the property associated with this permit in order to transfer the permit to the new owner. For your convenience, the enclosed *Permit Transfer* form (Enclosure 5) can be prepared and submitted to document the permit transfer.

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 6). 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 Mr. Rafael Orozco by telephone at (503) 808-4959 or by email at rafael.s.orozco@usace.army.mil.

FOR THE COMMANDER, MICHAEL D. HELTON, PMP, COLONEL, CORPS OF ENGINEERS, DISTRICT COMMANDER:

For: William D. Abadie
Chief, Regulatory Branch

Enclosures

cc:
Campbell Environmental, LLC (Eric Campbell, eric@campbellenviro.com)
Oregon Department of State Lands (Katie Blauvelt, katie.blauvelt@dsl.oregon.gov)
Oregon Department of Environmental Quality (Ari Sindel, ari.sindel@deq.oregon.gov)

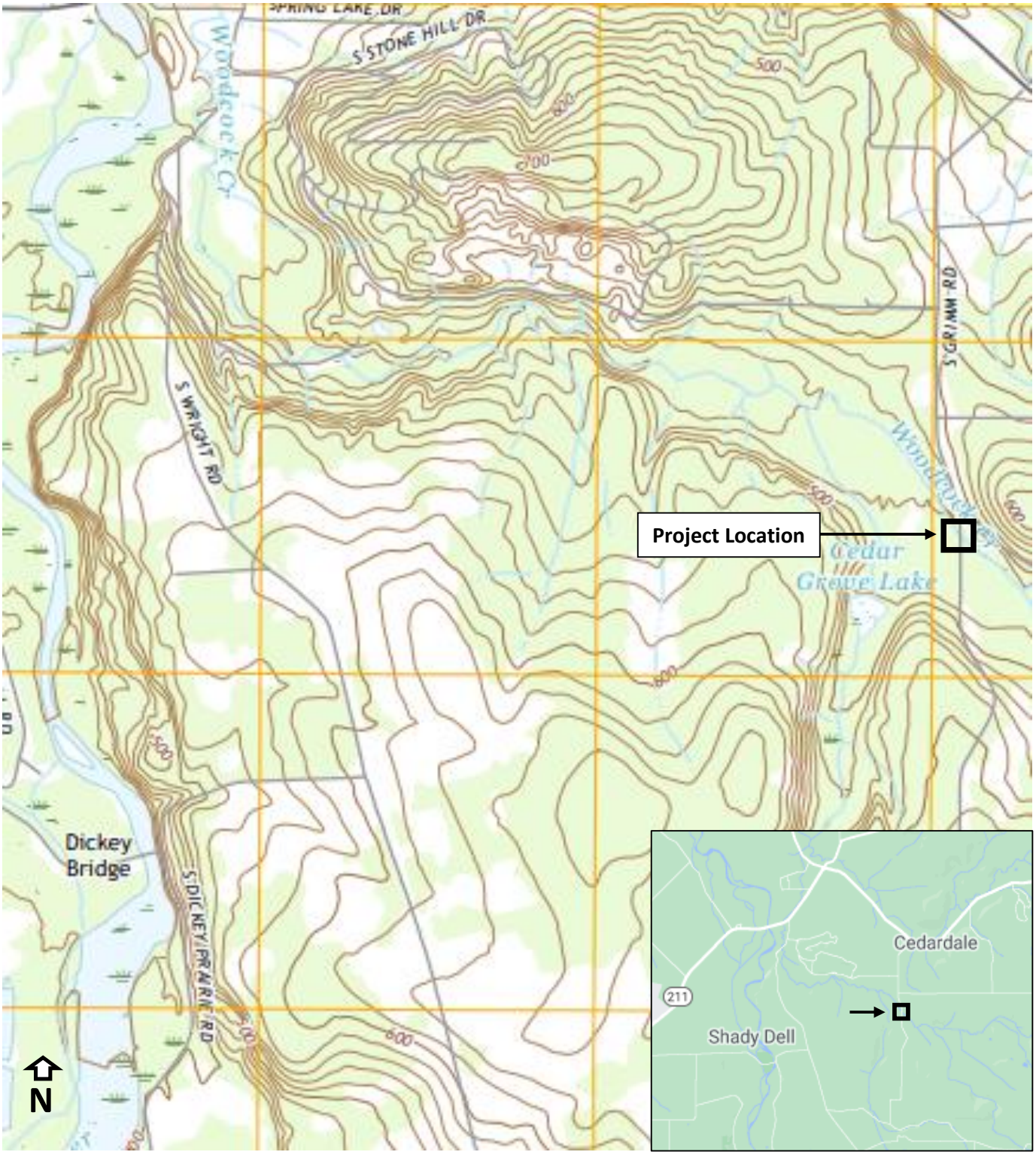


Figure 1: Project Location

Woodcock Creek at Grimm Road

(USGS Molalla, OR 2020)

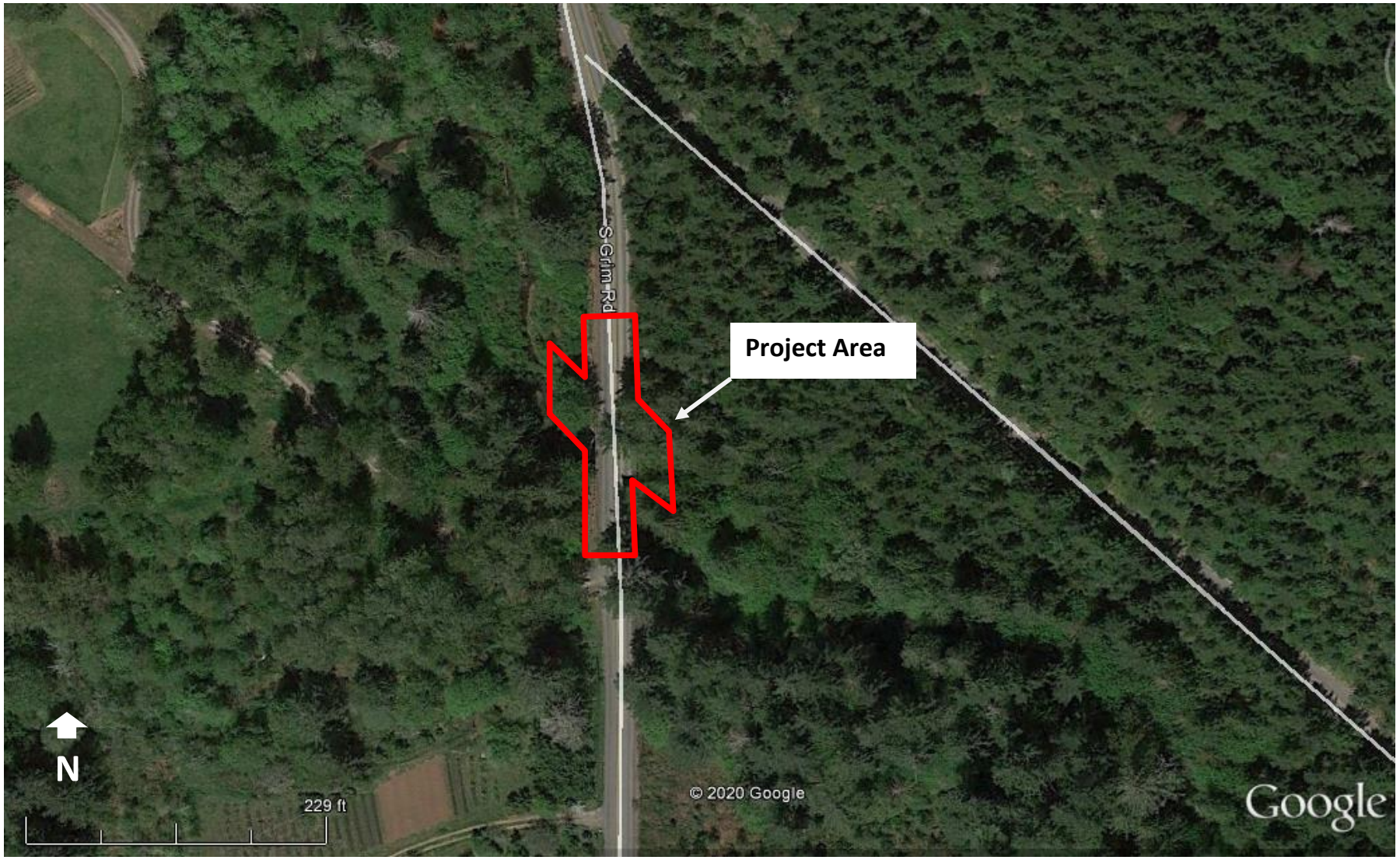
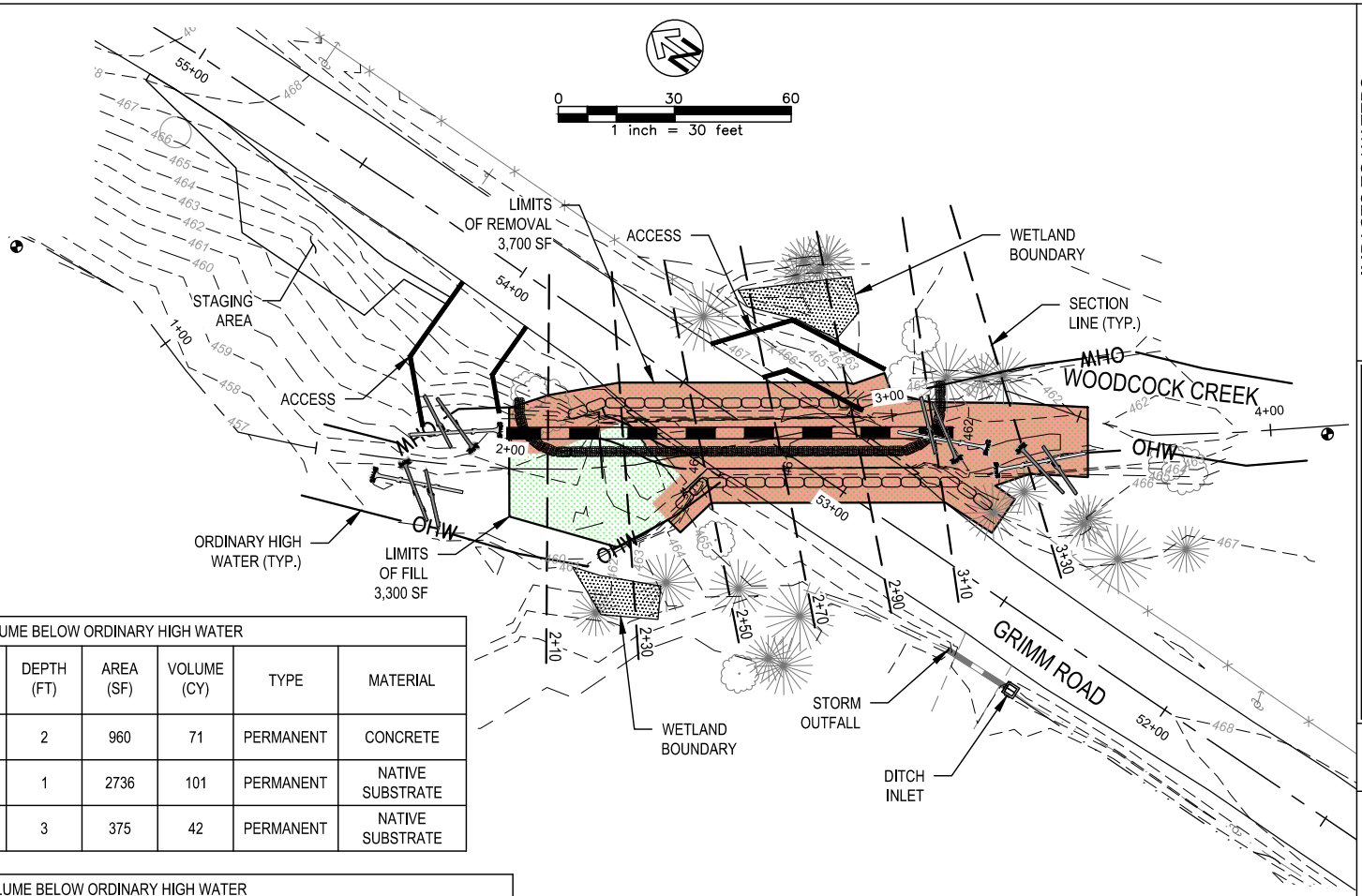


Figure 3: Aerial Photograph

Woodcock Creek at Grimm Road

(Google Earth 2020)



REMOVAL VOLUME BELOW ORDINARY HIGH WATER							
	LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	AREA (SF)	VOLUME (CY)	TYPE	MATERIAL
REMOVAL OF EXISTING BOX CULVERT	60	16	2	960	71	PERMANENT	CONCRETE
EXCAVATION OF NEW STREAMBED GRADE	152	18	1	2736	101	PERMANENT	NATIVE SUBSTRATE
EXCAVATION FOR NEW LARGE WOODY DEBRIS	25	15	3	375	42	PERMANENT	NATIVE SUBSTRATE

FILL VOLUME BELOW ORDINARY HIGH WATER							
	LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	AREA (SF)	VOLUME (CY)	TYPE	MATERIAL
INSTALLATION OF MODULAR BRIDGE ABUTMENTS	58	5	8	290	86	PERMANENT	CONCRETE
INSTALLATION OF NEW STREAMBED MATERIAL	152	18	1	2736	101	PERMANENT	SEDIMENT AND COBBLE
INSTALLATION OF NEW LARGE WOODY DEBRIS	25	15	3	375	42	PERMANENT	WOODY DEBRIS, ROOT WADS
INSTALLATION OF TEMPORARY BYPASS MEASURES	155	4	2	620	46	TEMPORARY	SANDBAGS, BYPASS PIPE

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IMPACTS TO WATERS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: OCTOBER 2021 | PROJECT NO.: BM-2017-00023

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Sheet No. 6D

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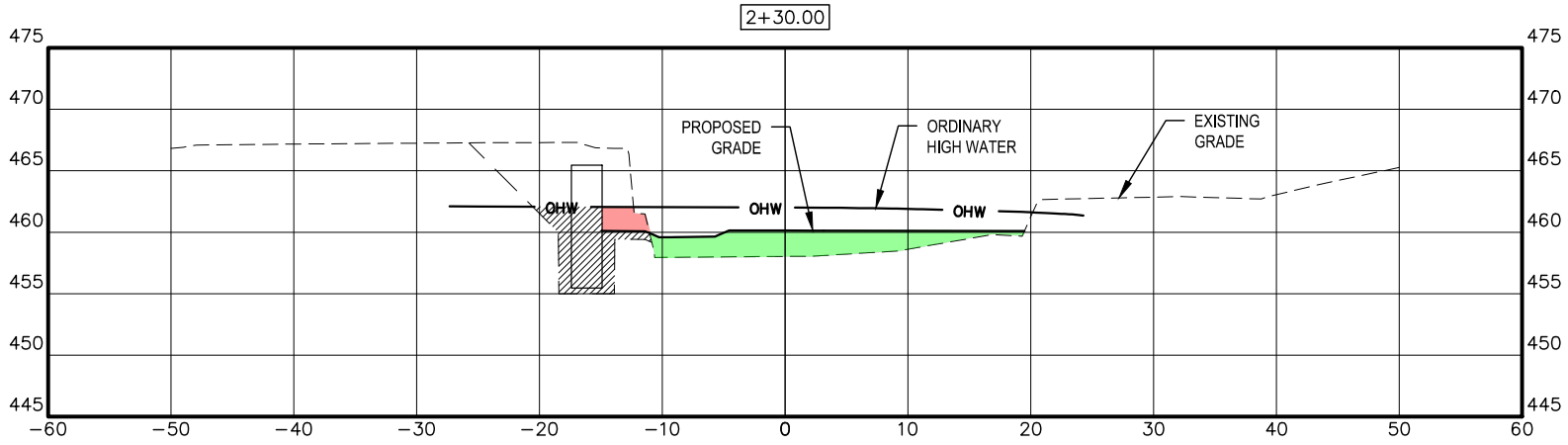

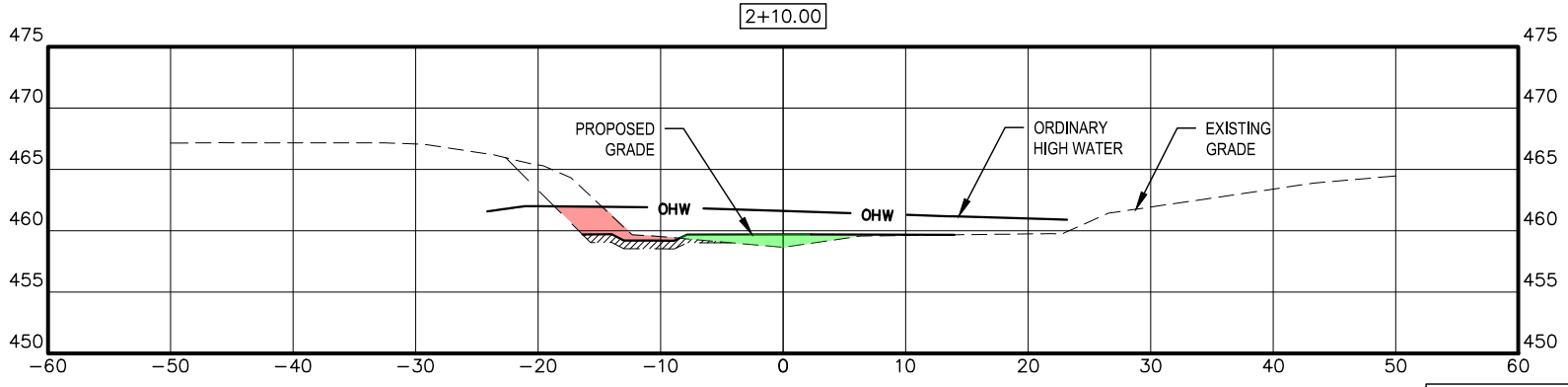

0 10 20
1 inch = 10 feet

LEGEND

- PERMANENT REMOVAL BELOW ORDINARY HIGH WATER
- PERMANENT FILL BELOW ORDINARY HIGH WATER
- TEMPORARY REMOVAL BELOW ORDINARY HIGH WATER

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STREAM SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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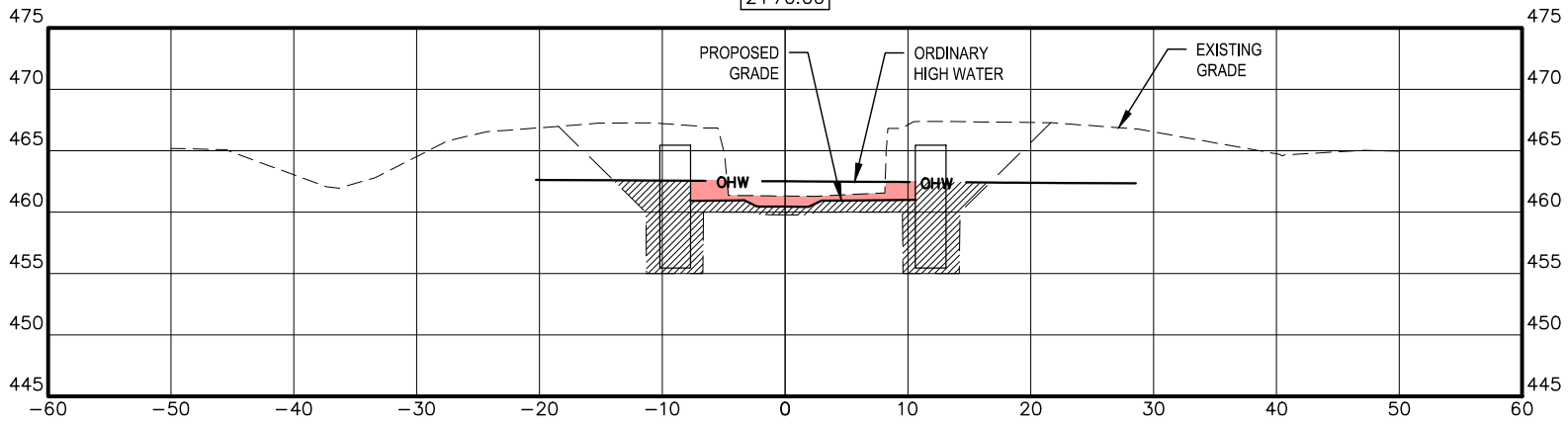

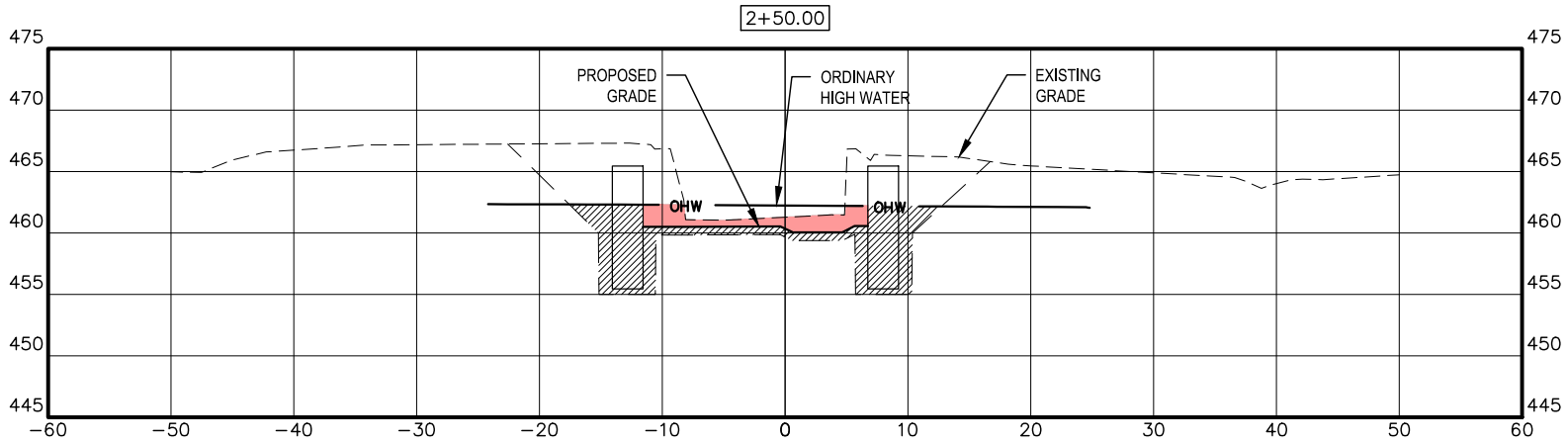

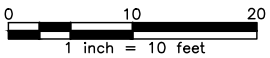

LEGEND

- PERMANENT REMOVAL BELOW ORDINARY HIGH WATER
- PERMANENT FILL BELOW ORDINARY HIGH WATER
- TEMPORARY REMOVAL BELOW ORDINARY HIGH WATER

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STREAM SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: OCTOBER 2021 | PROJECT NO.: BM-2017-00023

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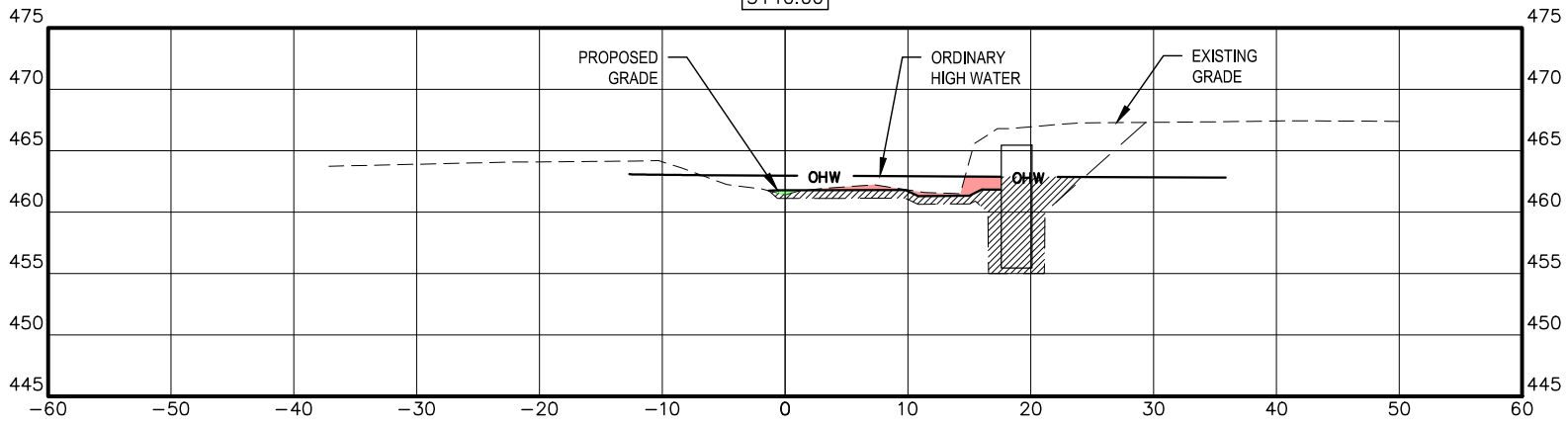

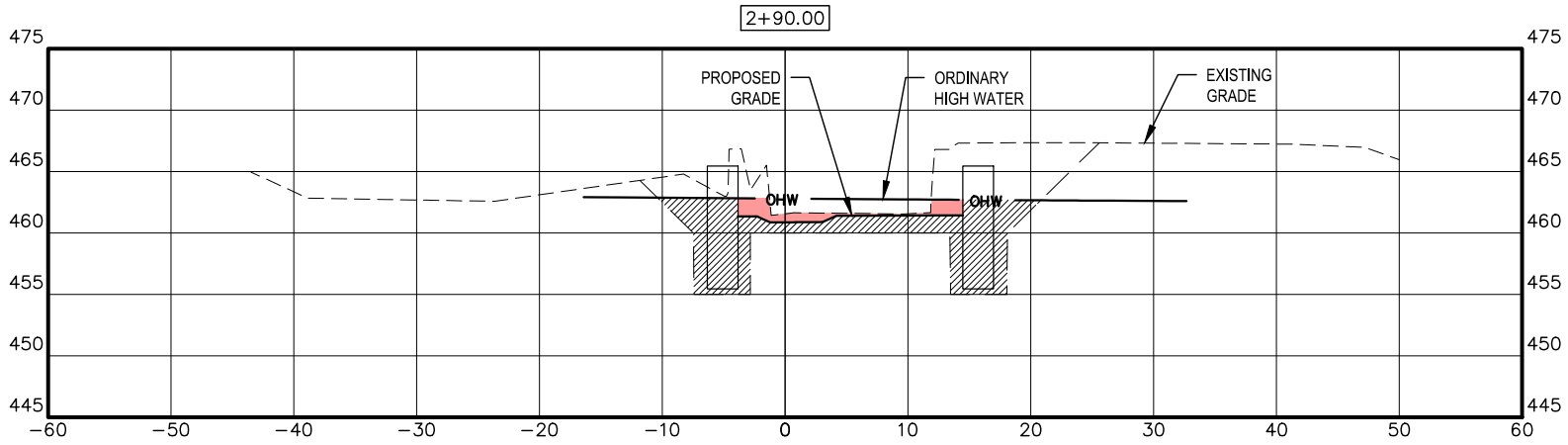

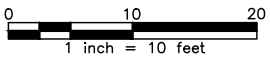

LEGEND

PERMANENT REMOVAL BELOW ORDINARY HIGH WATER

PERMANENT FILL BELOW ORDINARY HIGH WATER

TEMPORARY REMOVAL BELOW ORDINARY HIGH WATER

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STREAM SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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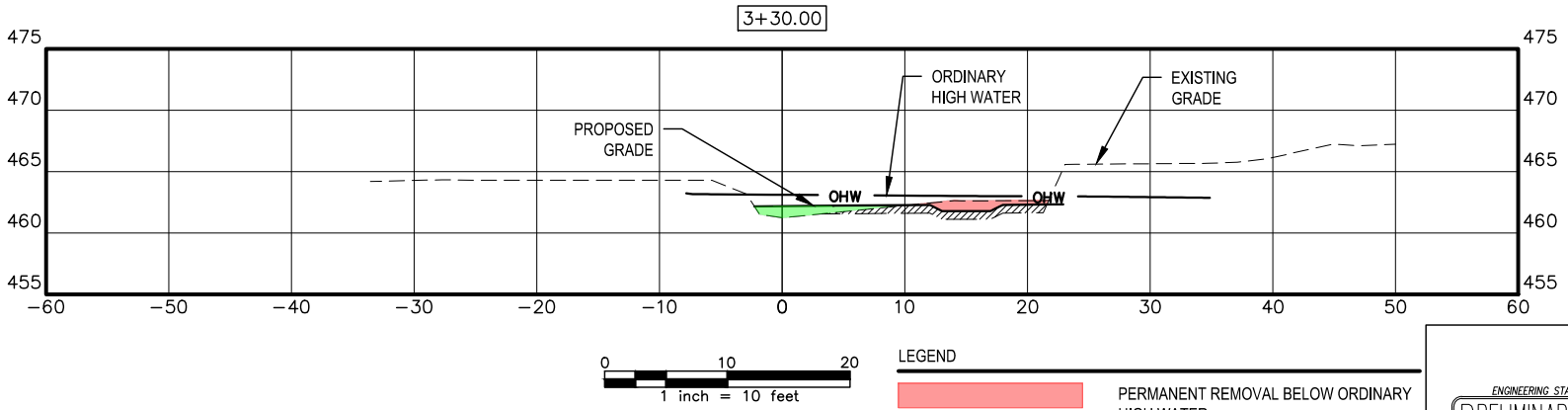
TEMPORARY REMOVAL VOLUME BELOW ORDINARY HIGH WATER				
START STATION	END STATION	LENGTH (FT)	AREA (SF)	VOLUME (CY)
2+00	2+13.56	13.56	5.96	2.99
2+13.56	2+39.11	25.55	34.36	32.51
2+39.11	2+98.15	59.04	87.94	192.30
2+98.15	3+20.15	22.00	51.67	42.10
3+20.15	3+52.41	32.26	9.79	11.70
			TOTAL	281.60

PERMANENT REMOVAL VOLUME BELOW ORDINARY HIGH WATER				
START STATION	END STATION	LENGTH (FT)	AREA (SF)	VOLUME (CY)
2+00	2+13.56	13.56	10.81	5.43
2+13.56	2+39.11	25.55	6.62	6.26
2+39.11	2+98.15	59.04	16.56	36.21
2+98.15	3+20.15	22.00	6.82	5.56
3+20.15	3+52.41	32.26	5.57	6.66
			TOTAL	60.12

PERMANENT FILL VOLUME BELOW ORDINARY HIGH WATER				
START STATION	END STATION	LENGTH (FT)	AREA (SF)	VOLUME (CY)
2+00	2+13.56	13.56	9.64	4.84
2+13.56	2+39.11	25.55	46.11	43.63
2+39.11	2+98.15	59.04	0.00	0.00
2+98.15	3+20.15	22.00	0.52	0.42
3+20.15	3+52.41	32.26	6.50	7.77
			TOTAL	56.67



0 10 20
1 inch = 10 feet

LEGEND

- PERMANENT REMOVAL BELOW ORDINARY HIGH WATER
- PERMANENT FILL BELOW ORDINARY HIGH WATER
- TEMPORARY REMOVAL BELOW ORDINARY HIGH WATER

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STREAM SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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6D-5

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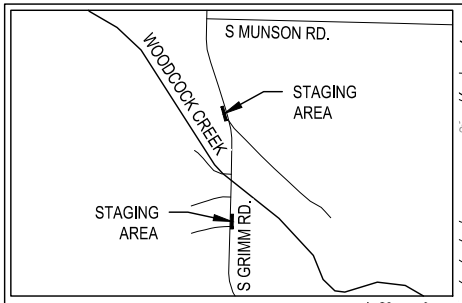

NOTE: STAGING AREAS SHALL BE A MINIMUM OF 150' FROM OWH.

TURBIDITY MONITORING STATION. LOCATION APPROXIMATE (TYP.)

ROW LINE

0 30 60

1 inch = 30 feet

31644 S GRIMM RD
TL:52E12 02000

ACCESS

ACCESS

TOP OF LOW FLOW CHANNEL (TYP.)

WC-02

WC-01

WC-03

WC-04

MHO

WOODCOCK CREEK

OHW

OHW

OHW

17865 S DOUBLE D LN
TL:52E12 02200

BOTTOM OF LOW FLOW CHANNEL (TYP.)

GRIMM ROAD

LOG MARGIN JAM. SEE SHEETS 2A-6, 2A-7, 2A-8 (TYP.)

ORDINARY HIGH WATER (TYP.)

PROPERTY LINE

WETLAND BOUNDARY (TYP.)

17670 S DOUBLE D LN
TL:52E12 02201

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 ABOVE BACKGROUND	STOP WORK IMMEDIATELY AND INFORM DEQ.

TURBIDITY MONITORING NOTES

CONTRACTOR SHALL 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 PER TABLE ON THIS SHEET.

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.

TURBIDITY MONITORING NOTES CONTINUED

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.

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STREAM PLAN

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: OCTOBER 2021 PROJECT NO.: BM-2017-00023

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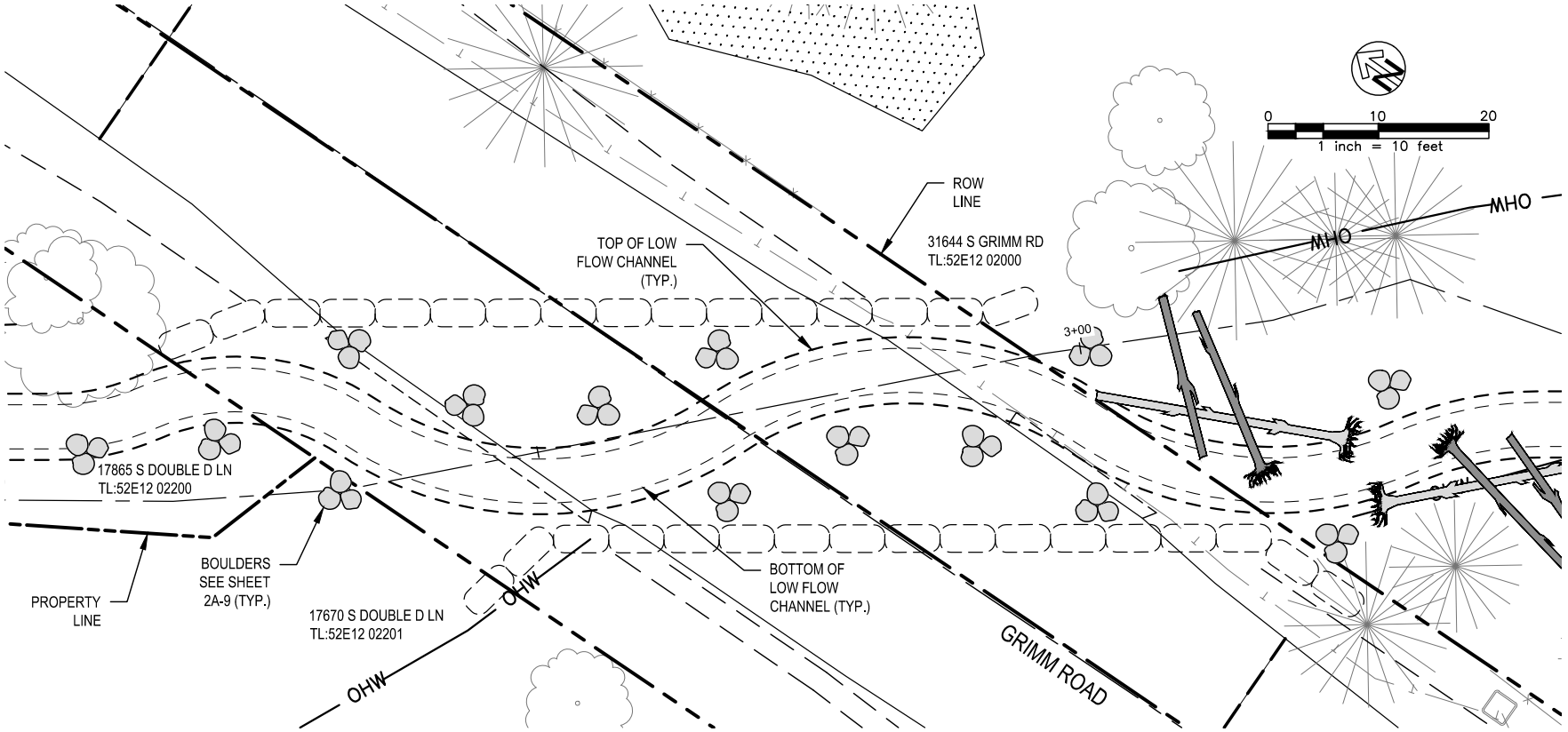

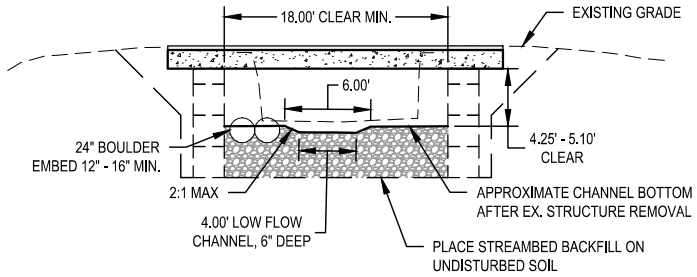

TYPICAL LOW FLOW CHANNEL SECTION

(NOT TO SCALE)

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STREAMBED BACKFILL

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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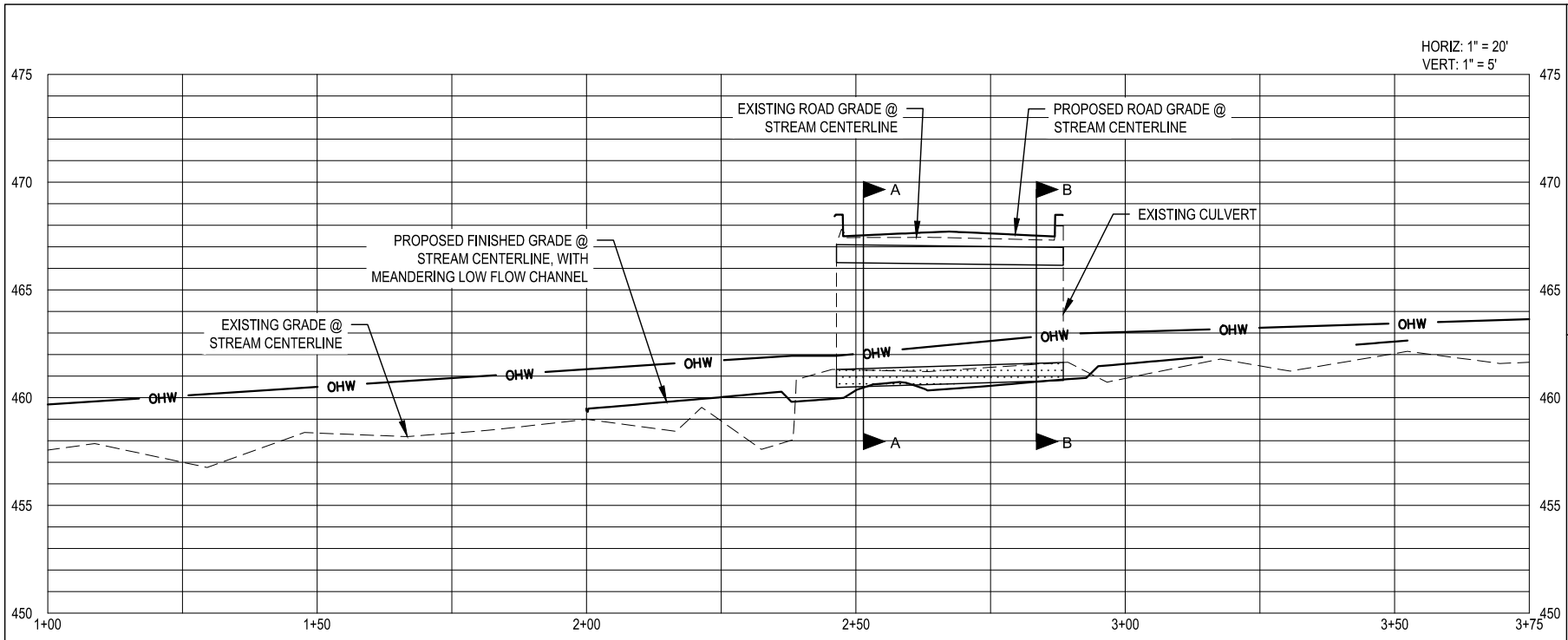
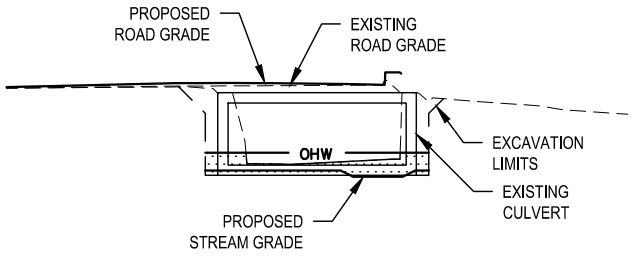


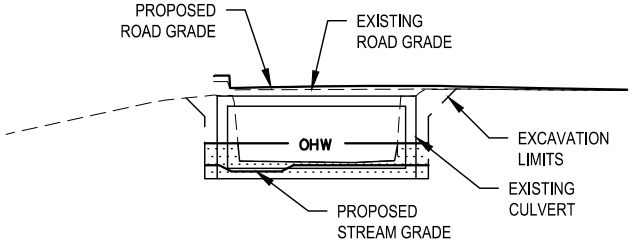
WOODCOCK CREEK - CENTERLINE PROFILE (EXISTING CULVERT)

PERMANENT WATER IMPACTS:

EXISTING CULVERT REMOVAL AND BACKFILL
REMOVAL: 2,000 SF, 74 CY



SECTION A-A - EXISTING CULVERT
SCALE: 1" = 10'



SECTION B-B - EXISTING CULVERT
SCALE: 1" = 10'

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STREAM PROFILE
WOODCOCK CREEK AT GRIMM ROAD CULVERT REPLACEMENT
DATE: OCTOBER 2021
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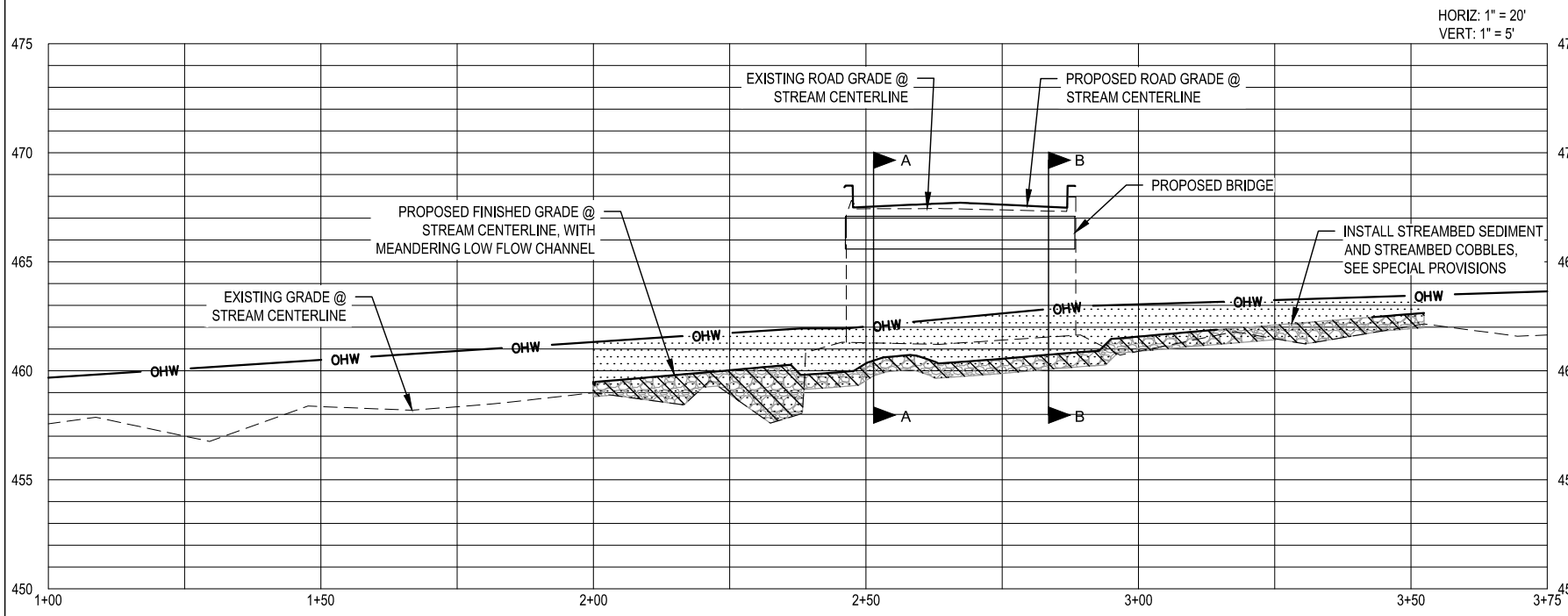
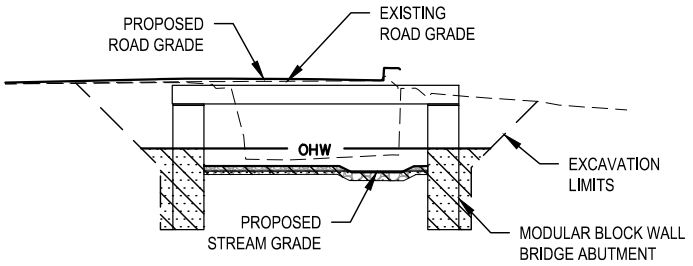


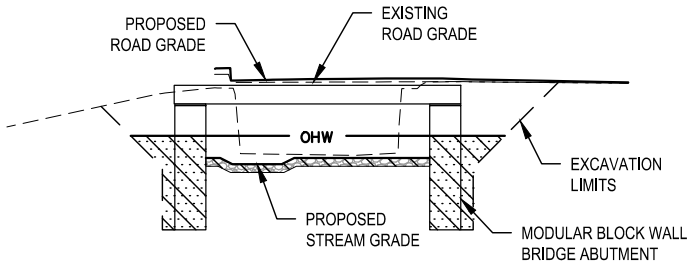
WOODCOCK CREEK - CENTERLINE PROFILE (PROPOSED BRIDGE)

PERMANENT WATER IMPACTS:

PROPOSED BRIDGE REMOVAL AND BACKFILL
REMOVAL: 4,940 SF, 183 CY
FILL: 5,640 SF, 209 CY



SECTION A-A - PROPOSED BRIDGE
SCALE: 1" = 10'



SECTION B-B - PROPOSED BRIDGE
SCALE: 1" = 10'

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STREAM PROFILE
WOODCOCK CREEK AT GRIMM ROAD CULVERT REPLACEMENT
DATE: OCTOBER 2021
PROJECT NO.: BM-2017-00023

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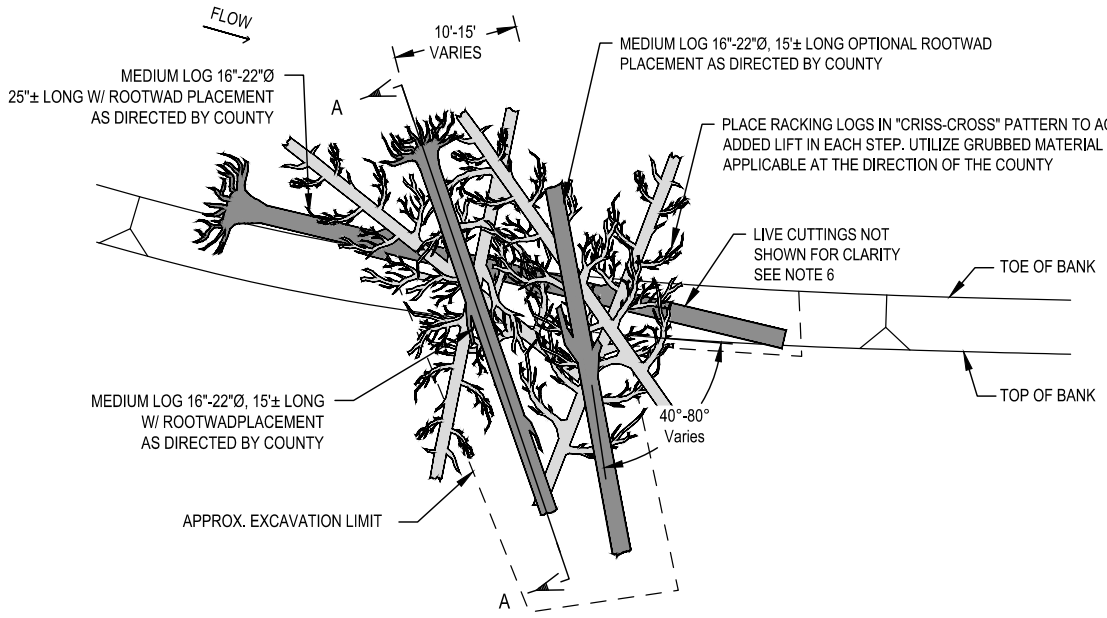

PLAN VIEW
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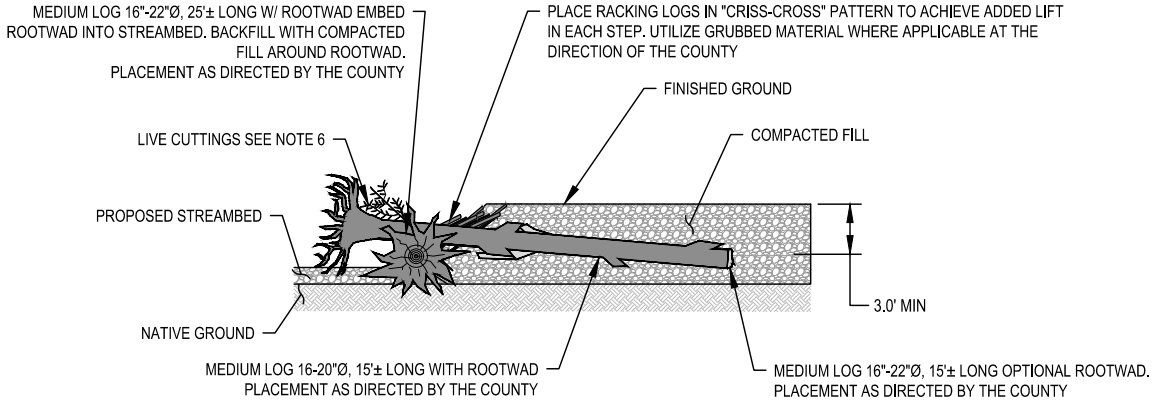

SECTION A-A
NOT TO SCALE

CONSTRUCTION NOTES:

1. CONTRACTOR TO SELECT LARGE AND MEDIUM LOGS, PER TABLE ON 2A-7 WITH THE APPROVAL OF CLACKAMAS COUNTY
2. CONTRACTOR SHALL PLACE LOGS AS DESCRIBED IN SEQUENCE PLANS ON SHEET 2A-8.
3. RACKING LOGS AND SLASH WEDGED BETWEEN LARGE AND MEDIUM LOGS. RACKING LOGS AND SLASH SHALL HAVE IRREGULAR AND NATURAL APPEARANCE AND NOT STACKED.
4. MEDIUM LOG SHALL BE PLACED SO ITS UPSTREAM END RESTS ON STREAM BED, AND ITS DOWNSTREAM END IS EMBEDDED UP TO 6". BACKFILL AND COMPACT AROUND MEDIUM LOG WITH COMPACTED FILL.
5. BACKFILL STRUCTURE WITH COMPACTED FILL.
6. INSTALL LIVE CUTTINGS AT A RATE OF 3 CUTTINGS PER LARGE AND/OR MEDIUM LOG WHILE INSTALLING LOGS. LIVE CUTTINGS SHALL BE INSTALLED NEAR FACE OF EACH STRUCTURE WITHIN EXCAVATION LIMITS AS DIRECTED BY C.O. LIVE CUTTINGS SHALL BE PLACED SUCH THAT A MINIMUM OF 6" OF CUTTING IS SUBMERGED BELOW WATER TABLE. LIVE CUTTINGS SHALL BE BACKFILLED WITH EXCAVATED MATERIALS AND COMPACTED. LIVE CUTTINGS SHALL BE PROVIDED BY CONTRACTING AGENCY.
7. IF LOCATED IN SIDE CHANNELS, STRUCTURE MAY BE CONSTRUCTED WITH SMALLER LOGS AS DIRECTED BY THE COUNTY.
8. STRUCTURE LOCATION MAY BE FIELD ADJUSTED BY THE COUNTY.
9. ALL LARGE AND MEDIUM LOGS TO BE BROUGHT TO STRUCTURE LOCATION IN 25' LENGTHS. LOGS LISTED AT 15' LENGTH, SHALL BE BROKEN TO LENGTH. ANY REMAINING LENGTH SHALL BE USED IN STRUCTURE AS ADDITIONAL RACKING MATERIAL.
10. ALL VISIBLE ENDS OF LOGS SHALL BE CUT OR BROKEN OFF TO CREATE NATURAL APPEARANCE. NO FLAT CUTS ALLOWED.

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CHANNEL MARGIN JAM
WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT
DATE: OCTOBER 2021 PROJECT NO.: BM-2017-00023

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Sheet No.
2A-6

C:_LOCALDRIVES\WDRIVE\21813430\CAD\CIVIL_CD\1343-CD-DETAILS.DWG 10/1/2021 10:04 AM

CHANNEL MARGIN JAM LOCATIONS		
STRUCTURE ID	STATION	BANK
WC-01	1+78	RIGHT
WC-02	1+85	LEFT
WC-03	3+12	LEFT
WC-04	3+45	RIGHT

CHANNEL MARGIN JAM							
LOG TYPE	SIZE (DBH)	MIN LENGTH (FT)	ROOTWAD	MIN. ROOTWAD DIAMETER (FT)	BRANCHES	QUANTITY	TOTAL QUANTITY
MEDIUM	16" - 22"	25'	YES	4'	NO	1	6
MEDIUM	16" - 22"	15'	YES	4'	NO	1	6
MEDIUM	16" - 22"	15'	OPTIONAL	-	NO	1	6
RACKING	10" - 16"	10'	OPTIONAL	-	OPTIONAL	5	30
SLASH (CY)	1" - 6"	5'	-	-	YES	15	90
LIVE CUTTINGS	-	-	-	-	-	11	66

* DBH = DIAMETER AT BREAST HEIGHT

HYDRAULIC PURPOSE:

* TEMPORARILY STABILIZE NEW BANKS IN THE SHORT TERM TO RESTORE AQUATIC AND RIPARIAN HABITATS.
* MAINTAIN SCOUR HOLES BY FLOW CONVERGENCE.
* DIVERT HIGH FLOWS INTO SIDE CHANNELS AND FLOODPLAIN.
* SORT AND RETAIN GRAVEL.

HABITAT PURPOSE:

* CREATE DIVERSE FISH HABITAT ALONG CHANNEL MARGIN.
* PROVIDE COVER.

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CHANNEL MARGIN JAM
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CULVERT REPLACEMENT
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2A-7

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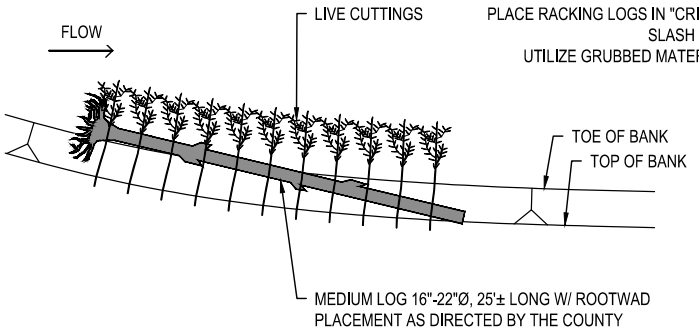
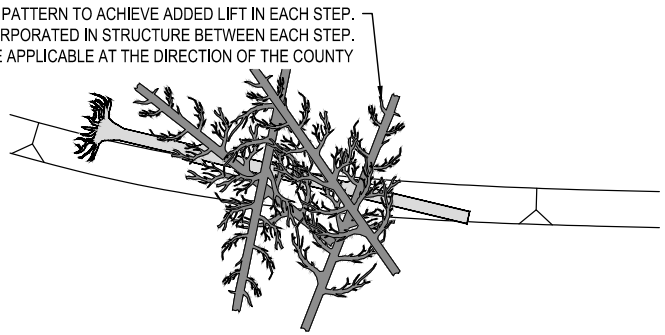
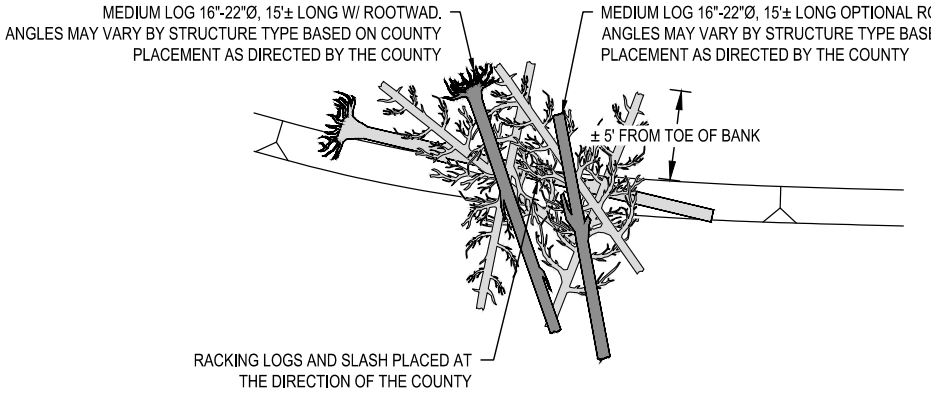


STEP 1



STEP 2



STEP 3

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CHANNEL MARGIN JAM SEQUENCE

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: OCTOBER 2021 | PROJECT NO.: BM-2017-00023

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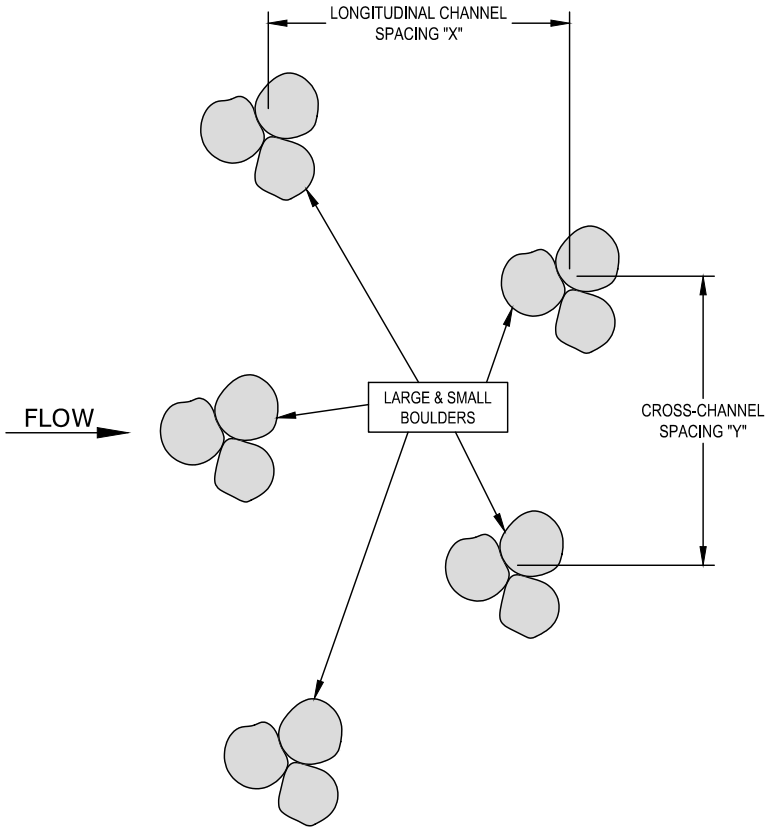

BOULDER PLACEMENT PLAN VIEW
NOT TO SCALE

BOULDER PLACEMENT DENSITY		
FEATURE	MINIMUM LONGITUDINAL CHANNEL SPACING "X"	MINIMUM CROSS-CHANNEL SPACING "Y"
WOODCOCK CREEK	12 FEET	12 FEET

NOTES:

1. PLACE LARGE AND SMALL BOULDERS AS DIRECTED BY C.O. ON RIFFLE FEATURES, TOPS OF GLIDE FEATURES, THROUGHOUT ROUGHENED CHANNELS, AND IN EXISTING CHANNEL BEDS.
2. LARGE TO SMALL BOULDER RATIO ON RIFFLE FEATURES, TOPS OF GLIDE FEATURES, THROUGHOUT ROUGHENED CHANNELS, AND IN EXISTING CHANNEL BEDS SHALL BE 1:1 OR AS DIRECTED BY C.O.
3. MINIMUM DENSITY OF BOULDER PLACEMENT IS DEPENDENT UPON FEATURE AS SHOWN IN TABLE.
4. STAGGER AND VARY BOULDER PLACEMENT AND EMBEDMENT DEPTHS TO MIMIC NATURAL STREAMS AND TO BREAK UP CURRENTS AS DIRECTED BY C.O.
5. BOULDERS SHALL BE PLACED IN GROUPINGS OF 1-3, IN AN UNEVEN PATTERN SO AS TO PROVIDE DIVERSE REFUGE FOR FISH.
6. MINIMUM BOULDER EMBEDMENT OF 50%.

BOULDERS		
DESCRIPTION	SIZE CLASS*	TOTAL QUANTITY
LARGE BOULDERS	GREATER THAN 24"	21
SMALL BOULDERS	12" - 24"	21

* SIZE CLASS IS UNIQUE TO THESE DRAWINGS AND IS NOT A STANDARD.

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BOULDER PLACEMENT
WOODCOCK CREEK AT GRIMM ROAD CULVERT REPLACEMENT
DATE: OCTOBER 2021 | PROJECT NO.: BM-2017-00023

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2A-9

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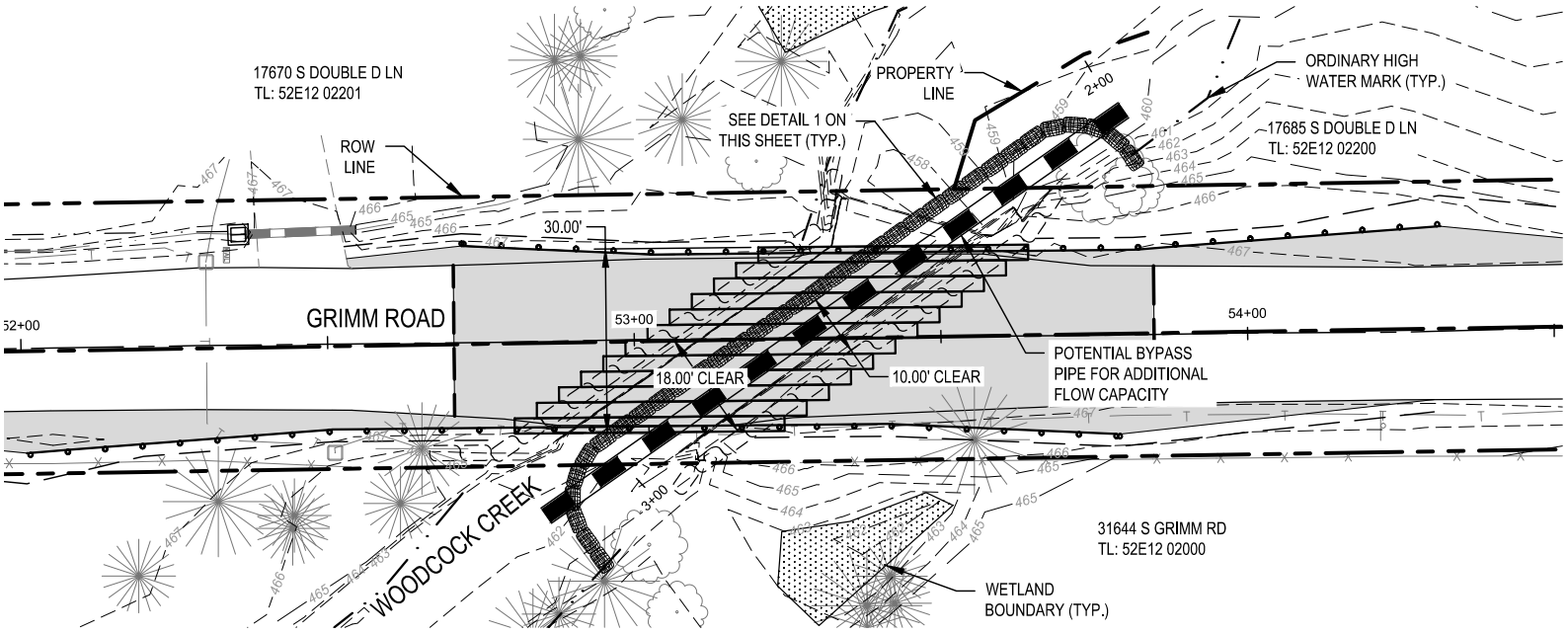
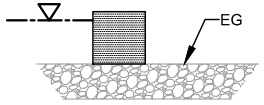
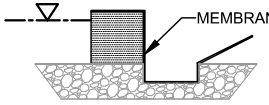




PLACE SINGLE ROW OF BAGS ACROSS CHANNEL TO BE DIVERTED



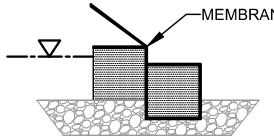
EXCAVATE 6" DEEP TRENCH 1 BAG WIDTH ON DOWNSTREAM SIDE OF PLACED ROW OF BAGS. LAY MEMBRANE AS SHOWN.

SEQUENCE 1 - SECTION

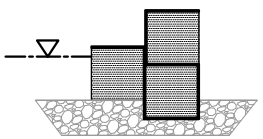
NOT TO SCALE

SEQUENCE 2 - SECTION

NOT TO SCALE



PLACE SECOND ROW OF BAGS. WRAP MEMBRANE AS SHOWN.



PLACE THIRD ROW ON TOP OF SECOND ROW. WRAP MEMBRANE AS SHOWN.

SEQUENCE 3 - SECTION

NOT TO SCALE

SEQUENCE 4 - SECTION

NOT TO SCALE

1 BYPASS DETAIL

SCALE: NOT TO SCALE

BYPASS PLAN GENERAL NOTES

1. BYPASS PLAN SHEETS ARE INTENDED TO SERVE AS A REFERENCE FOR POTENTIAL DISCHARGE LOCATIONS. THE CONTRACTOR SHALL PREPARE A FINAL DETAILED BYPASS PLAN FOR APPROVAL.
2. THE CONTRACTOR SHALL PERFORM FISH-SALVAGE AND RELOCATION PRIOR TO DEWATERING THE THE WORK AREA.
3. THE DESIGN, INSTALLATION, AND OPERATION OF THE TEMPORARY BYPASS AND PUMPING SYSTEM(S) SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
4. THE CONTRACTOR IS REQUIRED TO FURNISH ALL MATERIAL, LABOR, EQUIPMENT, POWER, MAINTENANCE, ETC. TO IMPLEMENT A TEMPORARY BYPASS AND PUMPING SYSTEM FOR THE PURPOSE OF DIVERTING THE EXISTING FLOW AROUND THE WORK AREAS FOR THE DURATION OF THE PROJECT.
5. CONTRACTOR SHALL USE TRASH PUMPS FOR SEEPAGE DEWATERING. ALL DEWATERING PUMPS SHALL HAVE 3/32" SCREENS. CONTRACTOR SHALL IMPLEMENT PUMP CONTAINMENT TO PREVENT ACCIDENTAL DISCHARGE OF CONTAMINANTS TO ACTIVE/FLOWING WATER.
6. CONTRACTOR SHALL PREVENT UNCURED CONCRETE FROM COMING IN CONTACT WITH ACTIVE/FLOWING WATER.

0 20 40

1 inch = 20 feet

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BYPASS PLAN

WOODCOCK CREEK AT GRIMM ROAD CULVERT REPLACEMENT

DATE: OCTOBER 2021 PROJECT NO.: BM-2017-00023

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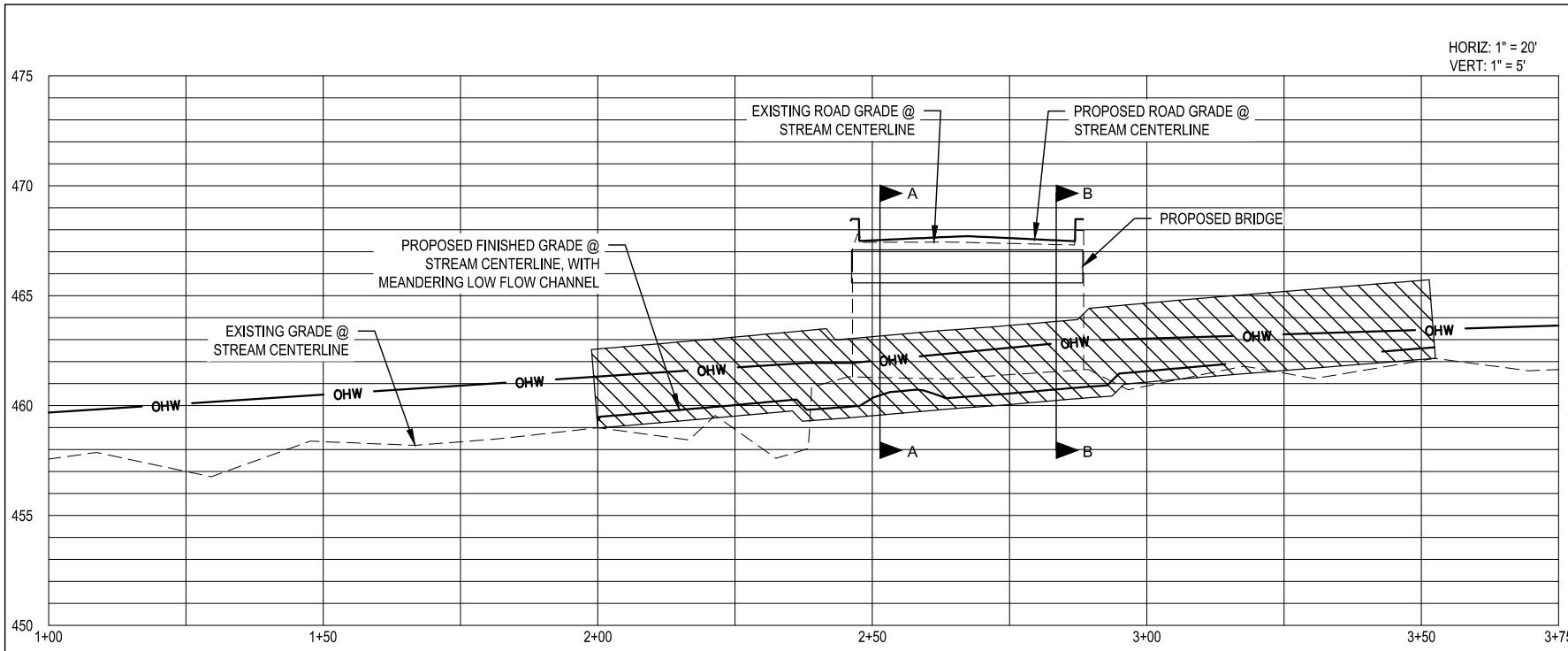
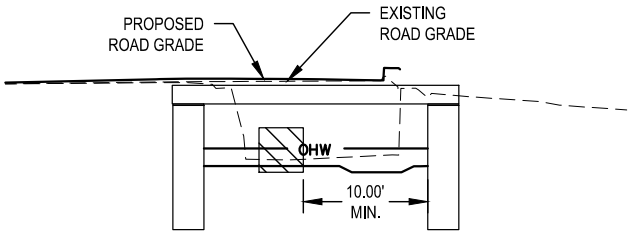
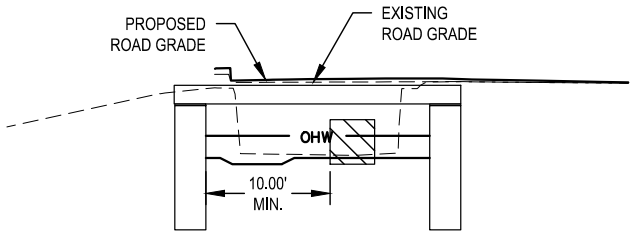


WOODCOCK CREEK - CENTERLINE PROFILE (DEWATERING)

TEMPORARY WATER IMPACTS:
DEWATERING REMOVAL AND BACKFILL
FILL: 4,940 SF, 183 CY



SECTION A-A - SOUTH ABUTMENT (DEWATERING)
SCALE: 1" = 10'



SECTION B-B - NORTH ABUTMENT (DEWATERING)
SCALE: 1" = 10'

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STREAM PROFILE
WOODCOCK CREEK AT GRIMM ROAD CULVERT REPLACEMENT
DATE: OCTOBER 2021 PROJECT NO.: BM-2017-00023

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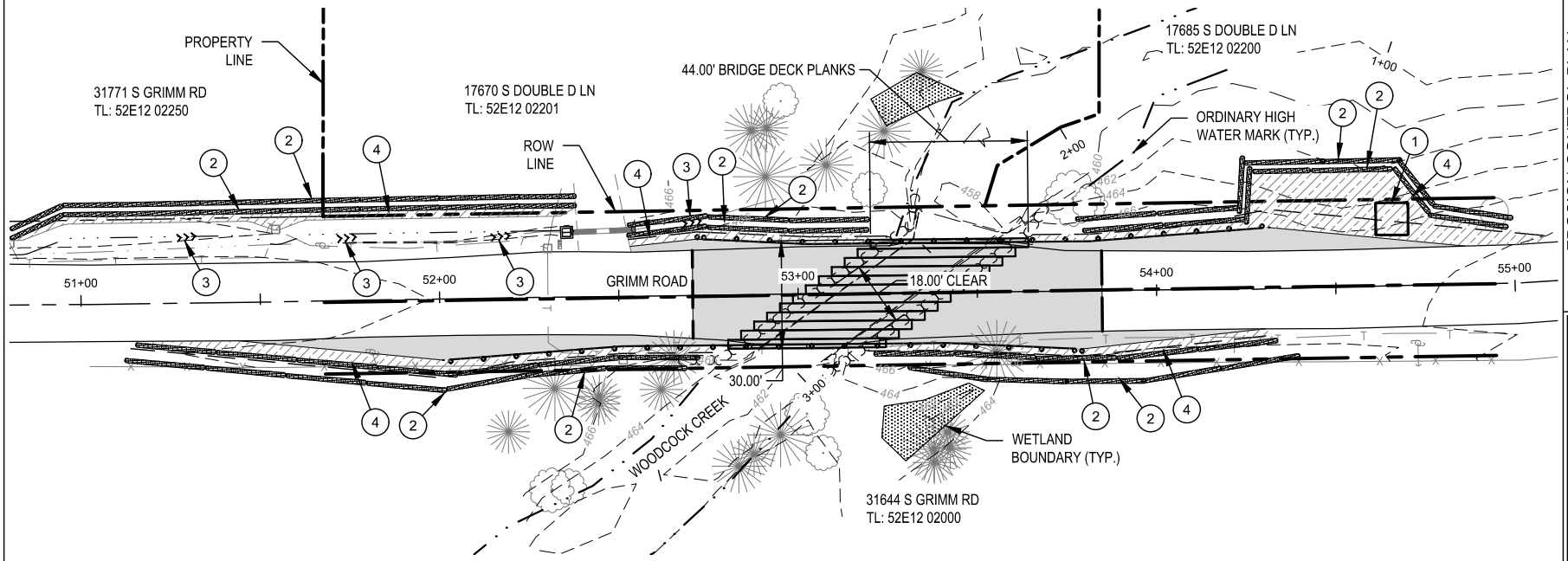

EROSION CONTROL CONSTRUCTION NOTES

1. INSTALL CONCRETE WASHOUT FACILITY
   FINAL LOCATION SHALL BE DETERMINED BY CONTRACTOR.
   FOR DETAILS SEE ODOT RD1070.
2. INSTALL SEDIMENT BARRIER, TYPE 8
   FOR DETAILS, SEE ODOT RD1032.
3. INSTALL CHECK DAM, TYPE 3 - 4 EA.
   L = 22', H = 8"
   FOR DETAILS, SEE ODOT RD1005.
4. INSTALL EROSION CONTROL MIX SEEDING, 6" MINIMUM DEPTH TOPSOIL, AND EROSION CONTROL MATTING, TYPE E TO GRADED AND DISTURBED AREAS UPON PROJECT COMPLETION AS DIRECTED BY COUNTY

LEGEND

- SEDIMENT BARRIER, TYPE 8
- CHECK DAM, TYPE 3
- EROSION CONTROL MIX SEEDING

0 30 60
1 inch = 30 feet

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EROSION CONTROL PLAN
WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT
DATE: OCTOBER 2021 PROJECT NO.: BM-2017-00023

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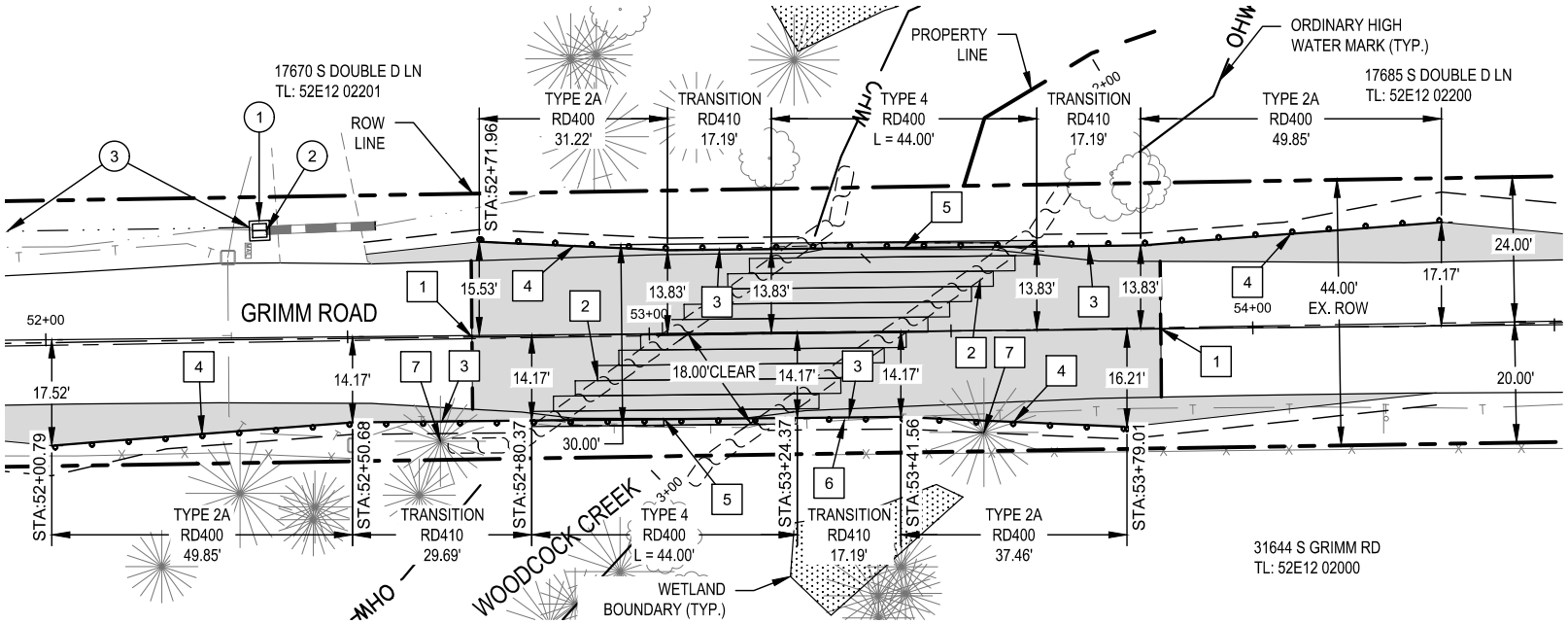

STREET CONSTRUCTION NOTES

1. STA. 52+70 TO STA. 53+85
   SAWCUT EXISTING ASPHALT
   CONSTRUCT NEW ROADWAY
   FOR DETAILS, SEE SHEETS 2A THRU 2A-4
2. NONPROPRIETARY MODULAR BLOCK WALL BRIDGE ABUTMENT SYSTEM OR PREARROVED PROPRIETARY MODULAR BLOCK WALL BRIDGE ABUTMENT SYSTEM .
3. INSTALL GUARDRAIL TRANSITION. FOR DETAILS, SEE ODOT RD410.
4. INSTALL TYPE 2A GUARDRAIL, AND MIDWEST GUARDRAIL TERMINALS, NON-FLARED. FOR DETAILS, SEE ODOT RD402, RD403, RD404, RD407, RD415, RD416, RD419 & RD420.
5. INSTALL TYPE 4 GUARDRAIL OR CONCRETE BARRIER RAIL FOR PACIFIC BRIDGE. FOR DETAILS, SEE ODOT BR233.
6. TELECOM TEMPORARY RELOCATION AND REINSTALLATION IN NEW PRECAST CONDUIT SLEEVES (BY OTHERS)
7. REMOVE EXISTING TREES AND VEGETATION WITHIN RIGHT-OF-WAY FOR CONSTRUCTION OF WALL.

STORM CONSTRUCTION NOTES

1. CONSTRUCT CONCRETE INLET, TYPE B-SL
   STA. 52+35.60, 17+74 Lt.
   SEE CENTERLINE PROFILE ON SHEET 4B
   SEE ODOT STD. DRAWING RD368
2. CONNECT TO EXISTING 12" CULVERT
   STA. 52+36.75, 17+74 Lt.
3. CONSTRUCT WATER QUALITY BIOFILTRATION SWALE
   STA. 50+80.30, 13+03 Lt. TO
   STA. 52+36.75, 17+74 Lt.
   SEE GRADING PLAN SHEET 4C
   SEE FIGURE D6 ON SHEET 2A-5

0 20 40
1 inch = 20 feet

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CONSTRUCTION NOTES & PLAN
WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT
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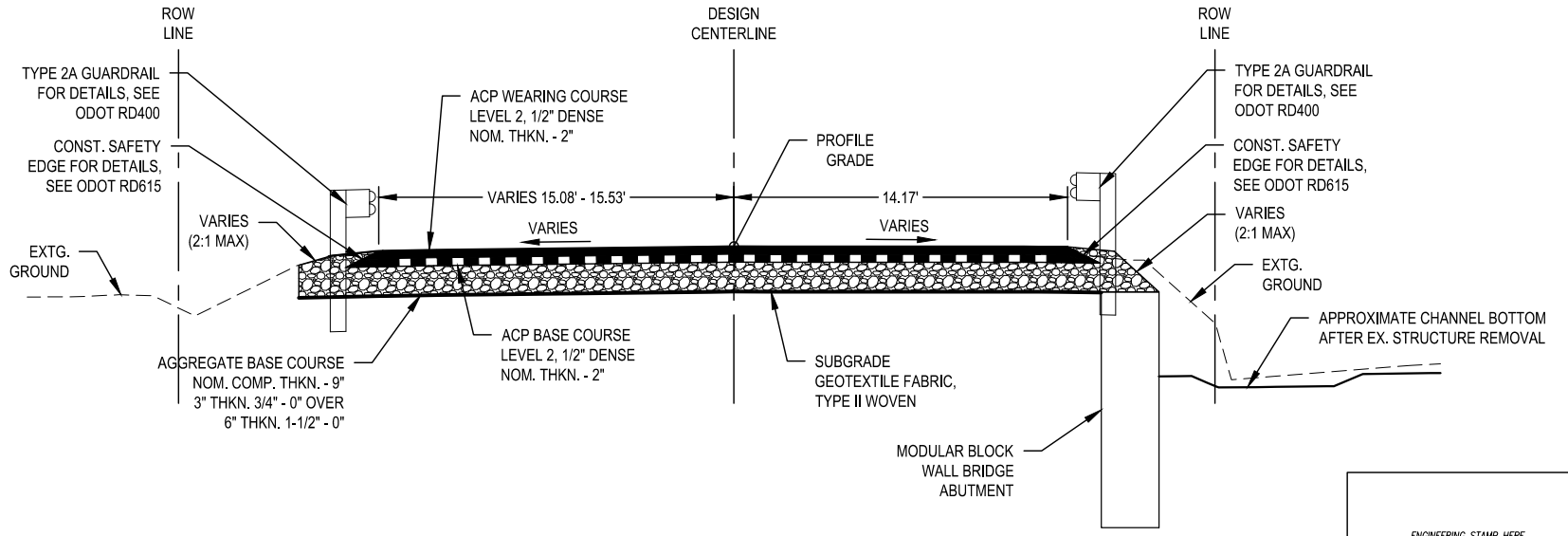

NOTE:
1. ALL DIMENSIONS SHOW IN FEET UNLESS OTHERWISE NOTED
2. SIDE SLOPES ARE SHOWN AS HORIZ. TO VERT.
3. BRIDGE ABUTMENT TO CONFORM TO GEOTECHNICAL RECOMMENDATIONS IN "REPORT OF GEOTECHNICAL SERVICES" PREPARED BY PALI CONSULTING, DATED AUGUST 28, 2019.

STA. 52+70.61 TO STA. 52+80.37

S GRIMM ROAD

(NOT TO SCALE)

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TYPICAL SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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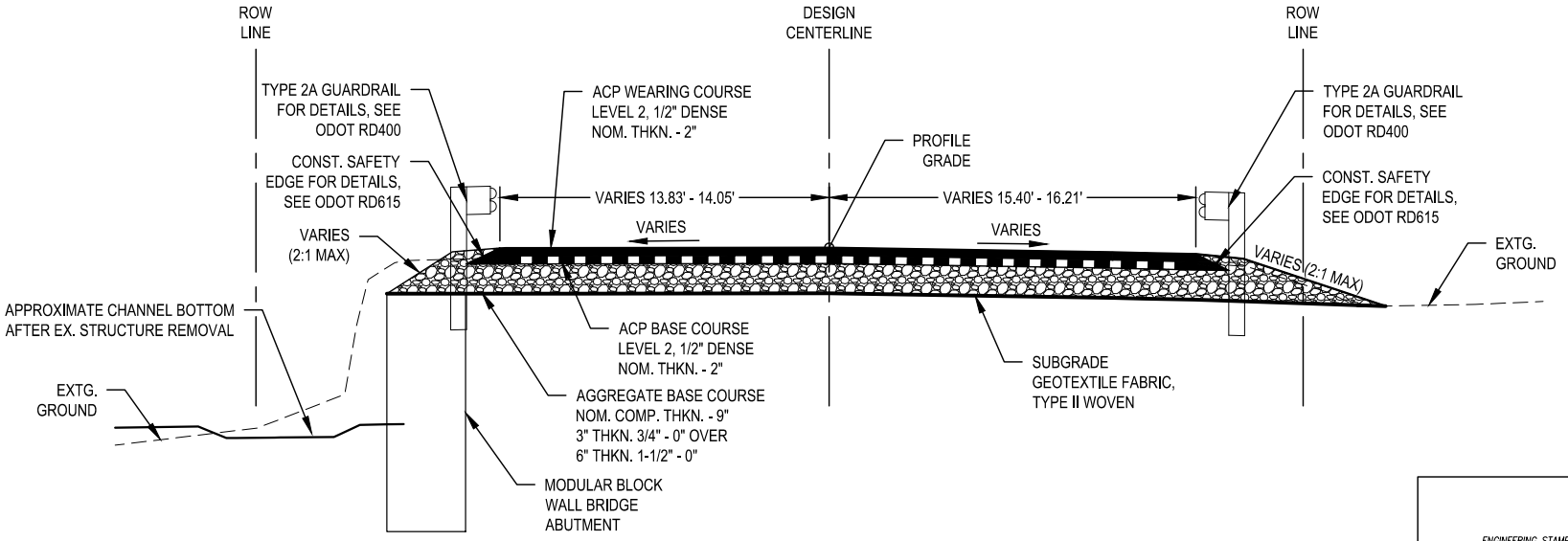

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STA. 53+64.34 TO STA. 53+84.76

S GRIMM ROAD

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TYPICAL SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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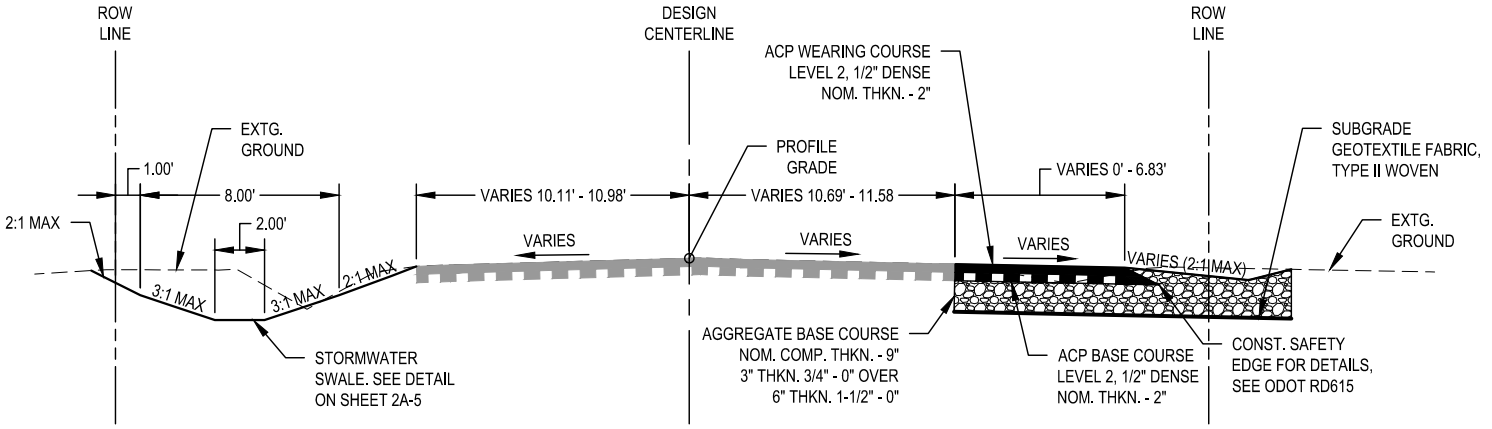
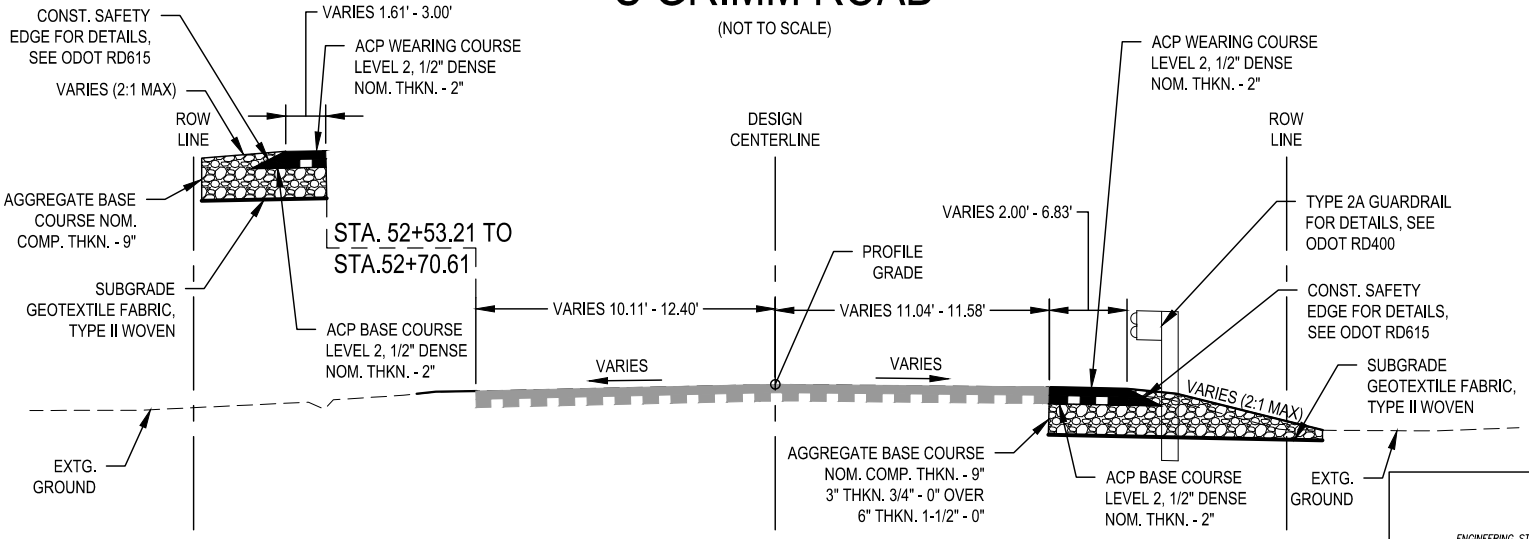


STA. 51+43.73 TO STA. 52+00.79

S GRIMM ROAD

(NOT TO SCALE)



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STA. 52+00.79 TO STA. 52+70.61

S GRIMM ROAD

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TYPICAL SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

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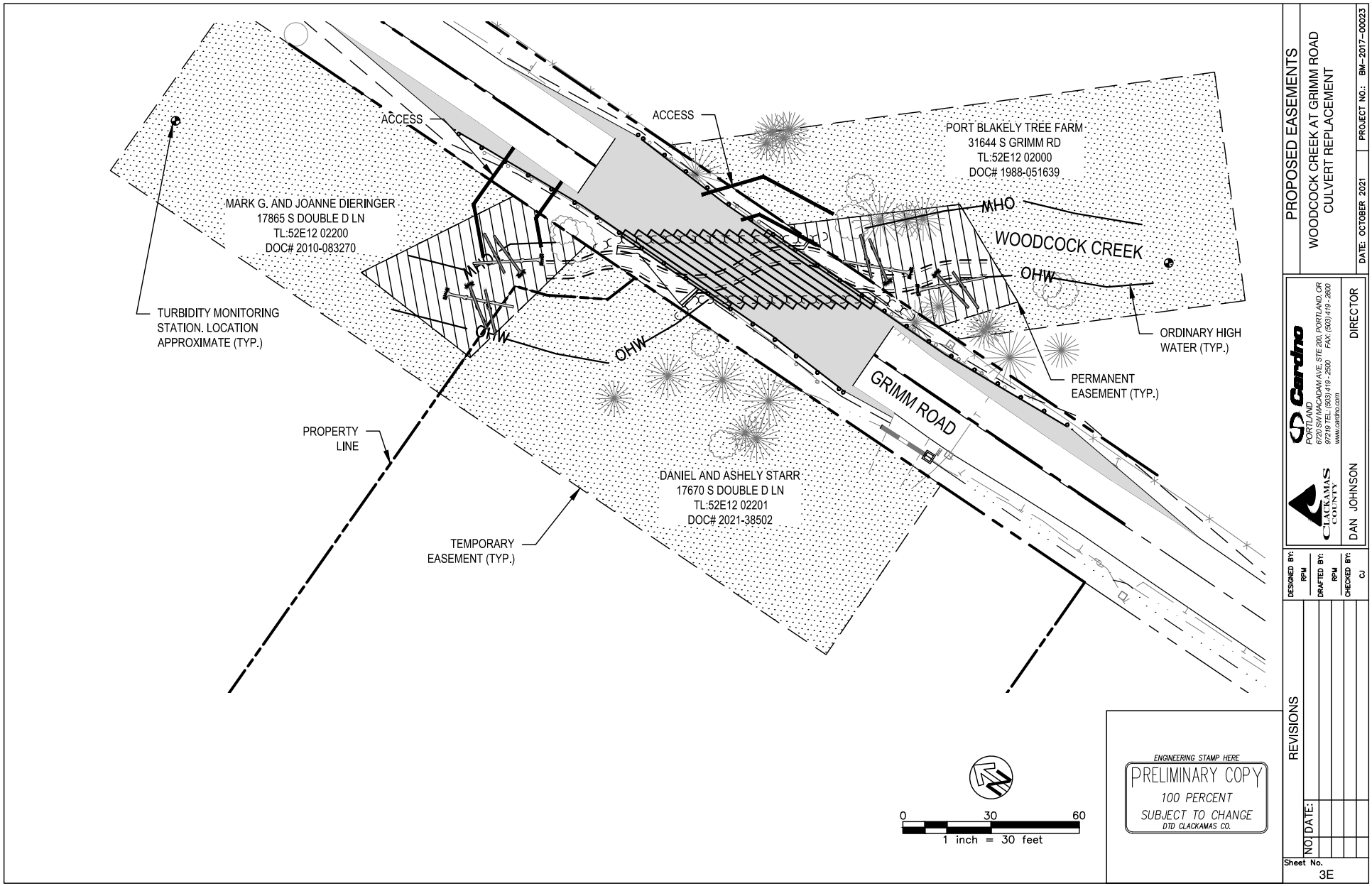
ACCESS
ACCESS
PORT BLAKELY TREE FARM
31644 S GRIMM RD
TL:52E12 02000
DOC# 1988-051639
MARK G. AND JOANNE DIERINGER
17865 S DOUBLE D LN
TL:52E12 02200
DOC# 2010-083270
MHO
WOODCOCK CREEK
OHW
OHW
OHW
TURBIDITY MONITORING
STATION. LOCATION
APPROXIMATE (TYP.)
ORDINARY HIGH
WATER (TYP.)
PERMANENT
EASEMENT (TYP.)
GRIMM ROAD
PROPERTY
LINE
DANIEL AND ASHELY STARR
17670 S DOUBLE D LN
TL:52E12 02201
DOC# 2021-38502
TEMPORARY
EASEMENT (TYP.)
0
30
60
1 inch = 30 feet
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PROPOSED EASEMENTS
WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT
DATE: OCTOBER 2021
PROJECT NO.: BM-2017-00023
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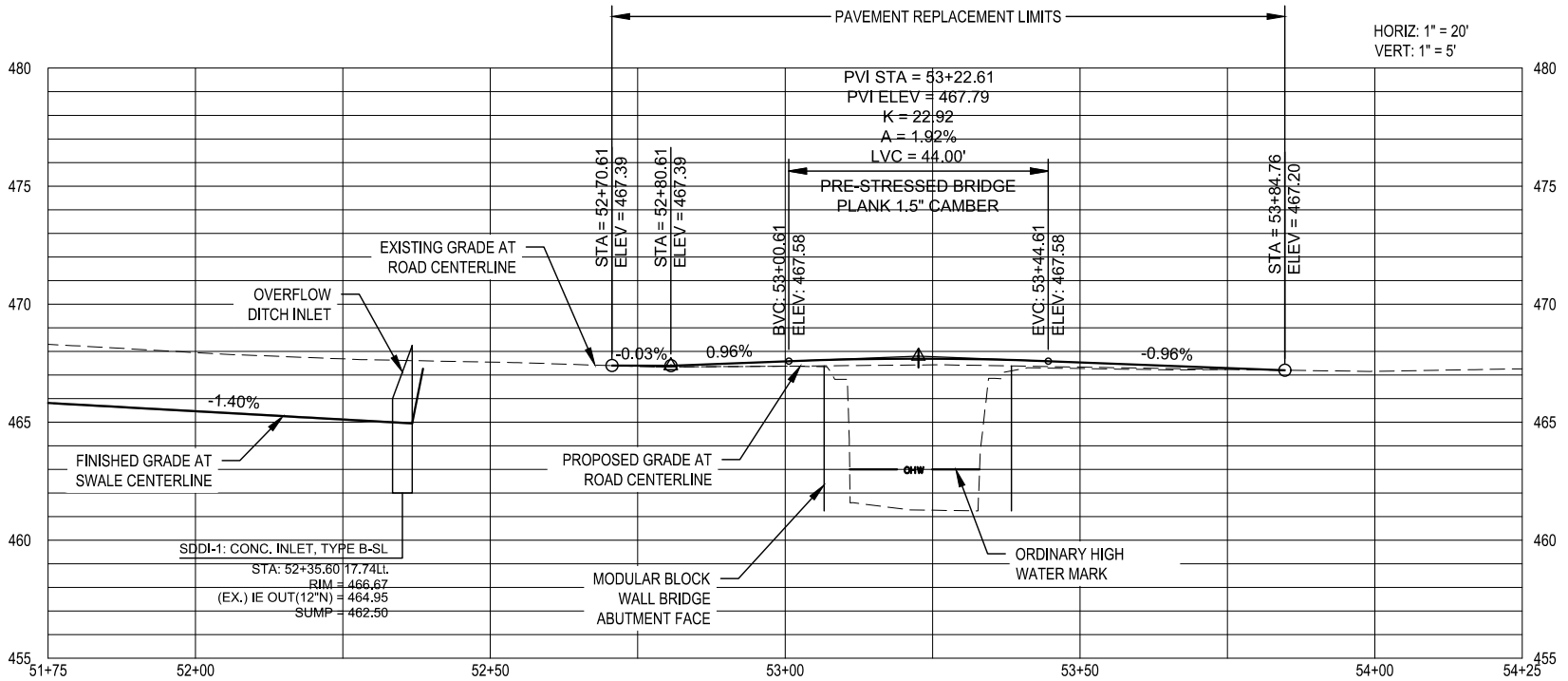
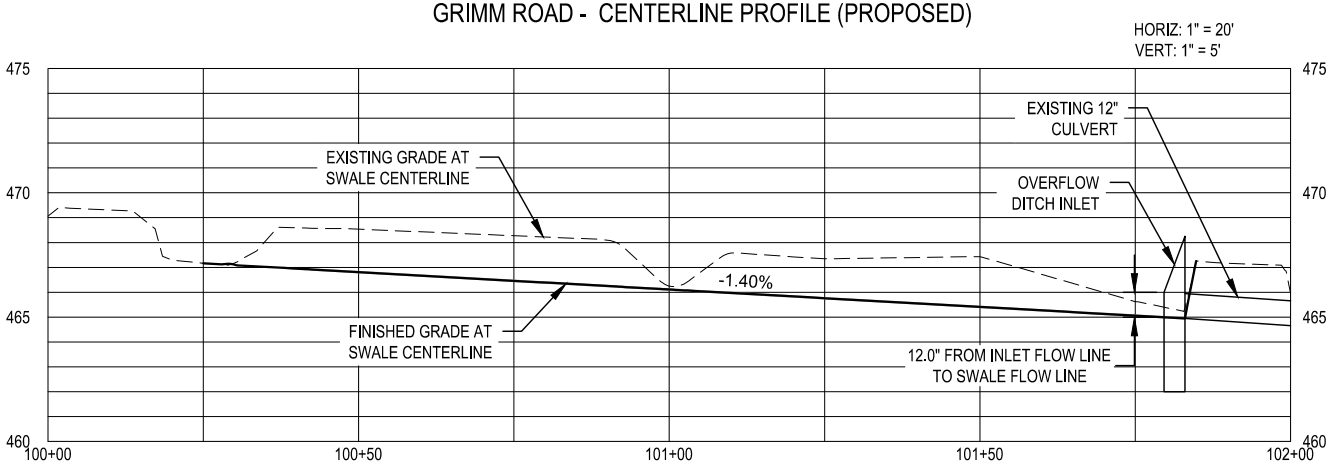


GRIMM ROAD - CENTERLINE PROFILE (PROPOSED)



SWALE - CENTERLINE PROFILE (PROPOSED)

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CONSTRUCTION PROFILE

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: OCTOBER 2021 | PROJECT NO.: BM-2017-00023

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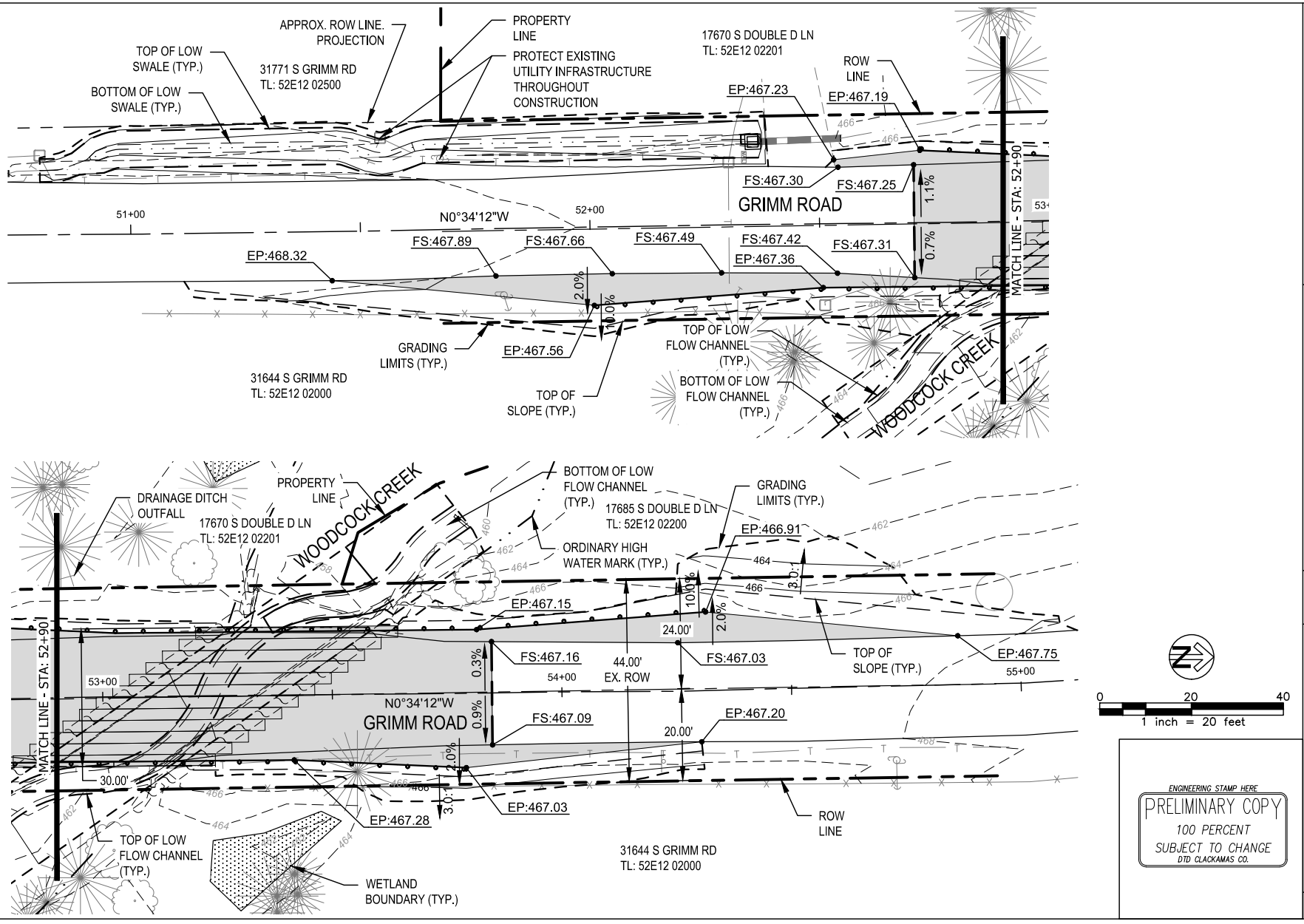
APPROX. ROW LINE. PROJECTION
PROPERTY LINE
PROTECT EXISTING UTILITY INFRASTRUCTURE THROUGHOUT CONSTRUCTION
TOP OF LOW SWALE (TYP.)
BOTTOM OF LOW SWALE (TYP.)
31771 S GRIMM RD TL: 52E12 02500
17670 S DOUBLE D LN TL: 52E12 02201
ROW LINE
EP:467.23
EP:467.19
FS:467.30
FS:467.25
GRIMM ROAD
N0°34'12"W
51+00
52+00
MATCH LINE - STA: 52+90
FS:467.89
FS:467.66
FS:467.49
FS:467.42
FS:467.31
EP:468.32
EP:467.36
2.0%
1.0%
1.1%
0.7%
GRADING LIMITS (TYP.)
EP:467.56
TOP OF SLOPE (TYP.)
TOP OF LOW FLOW CHANNEL (TYP.)
BOTTOM OF LOW FLOW CHANNEL (TYP.)
31644 S GRIMM RD TL: 52E12 02000
WOODCOCK CREEK
DRAINAGE DITCH OUTFALL
PROPERTY LINE
17670 S DOUBLE D LN TL: 52E12 02201
WOODCOCK CREEK
BOTTOM OF LOW FLOW CHANNEL (TYP.)
17685 S DOUBLE D LN TL: 52E12 02200
GRADING LIMITS (TYP.)
ORDINARY HIGH WATER MARK (TYP.)
EP:466.91
EP:467.15
10.0%
3.0:1
2.0%
24.00'
0.3%
FS:467.16
54+00
44.00' EX. ROW
FS:467.03
TOP OF SLOPE (TYP.)
EP:467.75
55+00
53+00
N0°34'12"W
GRIMM ROAD
0.9%
FS:467.09
EP:467.20
20.00'
MATCH LINE - STA: 52+90
30.00'
2.0%
3.0:1
EP:467.28
EP:467.03
ROW LINE
TOP OF LOW FLOW CHANNEL (TYP.)
WETLAND BOUNDARY (TYP.)
31644 S GRIMM RD TL: 52E12 02000
0
20
40
1 inch = 20 feet
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GRADING PLAN
WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT
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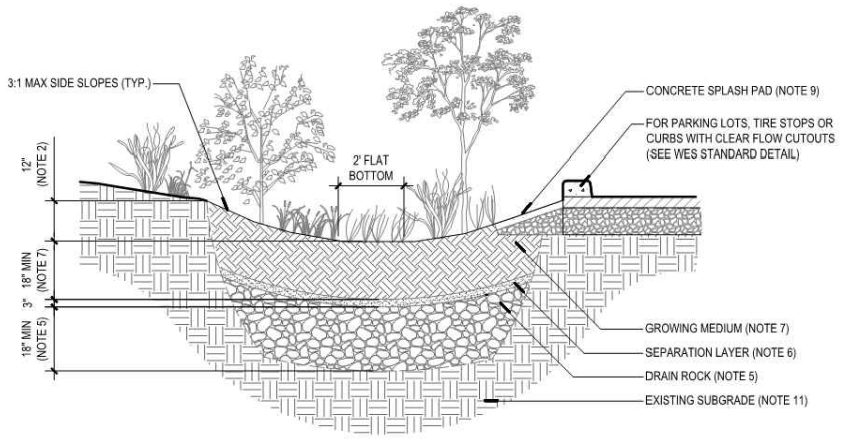

GENERAL NOTES:

1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION.
2. DIMENSIONS:
   - DEPTH OF SWALE (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION): 12"
   - LONGITUDINAL SLOPE OF SWALE: 6.0% OR LESS
   - FLAT BOTTOM WIDTH: 2'
   - SIDE SLOPES OF SWALE: 3:1 MAXIMUM
3. SETBACKS:
   - INFILTRATION VEGETATED SWALES MUST BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES.
4. OVERFLOW:
   - EMERGENCY OVERFLOW PATH FOR THE 100 YEAR DESIGN STORM SHALL BE IDENTIFIED ON THE STORMWATER MANAGEMENT PLAN.
5. DRAIN ROCK:
   - SIZE: 1 1/2" - 3/4"- WASHED
   - DEPTH: 18"
6. SEPARATION BETWEEN DRAIN ROCK AND GROWING MEDIUM: SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
7. GROWING MEDIUM:
   - 18" MINIMUM
   - FACILITY SURFACE AREA MAY BE REDUCED BY 20% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
8. VEGETATION: FOLLOW LANDSCAPE PLANS OR REFER TO PLANTING REQUIREMENTS IN APPENDIX F.
9. SPLASH PAD TO TRANSITION FROM INLETS TO GROWING MEDIUM.
10. CHECK DAMS: REQUIRED FOR OVER 4% SLOPE, SHALL BE SPACED AT A MAXIMUM 2-FOOT ELEVATION INTERVALS. MAINTAIN 4 - 10 INCH DEEP ROCK CHECK DAMS AT DESIGN INTERVALS.
11. SEASONAL HIGH GROUNDWATER SEPARATION:
    - SEPARATION DISTANCE AS REQUIRED BY WES.
12. SEE WES STANDARD DRAWINGS FOR LOCATING PLANTERS IN THE PUBLIC RIGHT-OF-WAY.

Vegetated Swale - Infiltration
Figure D6

CLACKAMAS WATER ENVIRONMENT SERVICES

WES STORMWATER AND GRADING DESIGN STANDARDS

GROWING MEDIUM NOTES

1. GROWING MEDIUM SHALL BE A BLEND OF LOAMY SOIL, SAND AND COMPOST THAT IS 30 TO 40 % COMPOST (BY VOLUME).
2. PARTICLE GRADATION ANALYSIS OF THE BLENDED MATERIAL, INCLUDING COMPOST, SHALL BE CONDUCTED IN CONFORMANCE WITH ASTM C1 17/C136 (AASHTO T1 1/T27). THE GRADATION OF THE BLEND SHALL MEET THE FOLLOWING GRADATION CRITERIA.
   - 1" SIEVE: 100 % PASSING
   - #4 SIEVE: 60-100 % PASSING
   - #10 SIEVE: 40-100 % PASSING
   - #40 SIEVE: 15-50 % PASSING
   - #100 SIEVE: 5-25 % PASSING
   - #200 SIEVE: 5-15 % PASSING

   THE BLEND SHALL HAVE A COEFFICIENT OF UNIFORMITY (D60/D10) EQUAL TO OR GREATER THAN 6 TO ENSURE THAT IT IS WELL GRADED.
3. AN ANALYSIS OF SOIL ORGANIC MATTER CONTENT SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM D2974 (LOSS ON IGNITION TEST). THE SOIL ORGANIC MATTER CONTENT SHALL BE A MINIMUM OF 10 %.
4. GROWING MEDIUM PH SHALL BE BETWEEN PH 5.5-7.
5. COMPOST SHALL COMPLY TO THE STANDARDS ESTABLISHED BY THE US COMPOSTING COUNCIL SEAL OF TESTING ASSURANCE (STA) PROGRAM. COMPOST SHALL: HAVE 100% PASSAGE THROUGH A ½" SCREEN, PH 6-8, ORGANIC MATTER OF 35-65%, SOLUBLE SALT CONTENT LESS THAN 6.0 MMHOS/CM, GERMINATION GREATER THAN 80%, STABILITY CLASS 5-7, CARBON/NITROGEN RATIO LESS THAN 25:1, TRACE METALS TEST RESULTS = 'PASS', MANUFACTURED INERT MATERIAL (PLASTIC, CONCRETE, CERAMICS, METAL, ETC.) SHALL BE LESS THAN 1 % BY WEIGHT.
6. SUBMIT GROWING MEDIUM TEST RESULTS TO THE OWNERS' REPRESENTATIVE 14 WORKING DAYS IN ADVANCE OF CONSTRUCTION FOR REVIEW AND WRITTEN APPROVAL. TEST RESULTS SHALL CONFIRM THE REQUIREMENTS OF THE SAMPLE AS NOTED WITHIN THIS DESCRIPTION. INCLUDE THE NAME AND ADDRESS OF THE LABORATORY, PHONE CONTACT NUMBER AND EMAIL, TEST DATA (INCLUDING THE DATE AND NAME OF THE TEST PROCEDURE.
7. BLENDED MATERIAL SHALL BE:
   - 7.1. LOOSE AND FRIABLE.
   - 7.2. WELL MIXED AND HOMOGENOUS.
   - 7.3. FREE OF WOOD PIECES, PLASTIC, SCREENED AND FREE OF STONES 1-IN OR LARGER IN ANY DIMENSION, ROOTS, PLANTS, SOD, CLODS, CLAY LUMPS, POCKETS OF COARSE SAND, PAINT, PAINT WASHOUT, CONCRETE SLURRY, CONCRETE LAYERS, OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, ACID AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.
   - 7.4. SHALL NOT BE INFESTED WITH NEMATODES, GRUBS, OTHER PESTS, PEST EGGS, OR OTHER UNDESIRABLE ORGANISMS AND DISEASE-CAUSING PLANT PATHOGENS; FRIABLE AND WITH SUFFICIENT STRUCTURE TO GIVE GOOD TILTH AND AERATION.
8. BLENDED MATERIAL SHALL BE FREE OF WEEDS AND INVASIVE PLANTS INCLUDING BUT NOT LIMITED TO:
   - 8.1. CIRSIUM ARVENSE (CANADIAN THISTLE)
   - 8.2. CONVOLVULUS SPP. (MORNING GLORY)
   - 8.3. CYTISUS SCOPARUS (SCOTCH BROOM)
   - 8.4. DIPSACUS SYLVESTRIS (COMMON TEASEL)
   - 8.5. FESTUCA ARUNDINACEAE (TALL FESCUE)
   - 8.6. HEDERA HELIX (ENGLISH IVY)
   - 8.7. HOLCUS CANATUS (VELVET GRASS)
   - 8.8. LOLIUM SPP. (RYE GRASSES)
   - 8.9. LOTUS CORNICULATUS (BIRD'S FOOT TREFOIL)
   - 8.10. LYTHRIUM SALICARIA (PURPLE LOOSE STRIFE)
   - 8.11. MELILOTUS SPP. (SWEET CLOVER)
   - 8.12. MYRIOPHYLLUM SPICATRUM (EURASION MILFOIL)
   - 8.13. PHALARIS ARUNDINACEAE (REED CANARY GRASS)
   - 8.14. RUBUS DISCOLOR (HIMILAYAN BLACKBERRY)
   - 8.15. SOLANUM SPP. (NIGHTSHADE)
   - 8.16. TRIFOLIUM SPP. (CLOVERS)
9. THE INSTALLATION SHALL INCLUDE: PROTECTING THE GROWING MEDIUM FROM SOURCES OF CONTAMINATION, PLACED IN LOOSE LIFTS NOT TO EXCEED 8" AND COMPACTED WITH A WATER-FILLED LANDSCAPE ROLLER (NO OTHERWISE MECHANICALLY COMPACTION), INSTALLED AFTER GRADING OPERATIONS, PROTECTED FROM EROSION AND PLANTED AS SOON AS POSSIBLE. PLACEMENT OF GROWING MEDIUM WILL NOT BE ALLOWED WHEN THE GROUND IS FROZEN OR SATURATED.
10. VERIFY WATER IS INFILTRATING AT A MINIMUM OF 2" PER HOUR AFTER PLACEMENT OF GROWING MEDIUM.

STORMWATER FACILITY GRASS SEED MIX			
	SIZE	QUANTITY	TYPE
LOW GROW SEED MIX	120 LBS/AC 3 LBS/1,000 SF	2,000 SF 6 LBS	DWARF TALL FESCUE 40% DWARF PERENNIAL RYE 30% CREEPING RED FESCUE 25% COLONIAL BENT GRASS 5%

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TYPICAL SWALE DETAIL

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: OCTOBER 2021 | PROJECT NO.: BM-2017-00023

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DESIGN CRITERIA AND LOADINGS

1. BRIDGE STRUCTURE SHALL BE DESIGNED TO COMPLY WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS DESIGN PROVISIONS, AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SEVENTH EDITION, 2014.

2. BRIDGE STRUCTURE DESIGN DEAD LOADS SHALL INCLUDE WEIGHT OF ALL PERMANENT BRIDGE STRUCTURE COMPONENTS AND THE FOLLOWING:
   - 2.1. FUTURE ACP WEARING SURFACE, 2" THICK
   - 2.2. DESIGN ACP WEARING SURFACE, 3.4" THICK
   - 2.3. DESIGN ACP BASE COURSE, 3.4" THICK

3. VEHICULAR LIVE LOAD
   - 3.1. SERVICE AND STRENGTH I LIMIT STATES: "HL-93" DESIGN TRUCK
   - 3.2. STRENGTH II LIMIT STATE: OR-STP-5BW

4. ABUTMENT AND WING WALL BACKFILL SOIL DESIGN PARAMETERS
   - 4.1. FAILURE STATE: AT REST
   - 4.2. DENSITY: 125 PCF
   - 4.3. COEFFICIENT OF INTERNAL FRICTION: 34 DEG.

5. SEISMIC DESIGN SHALL BE IN ACCORDANCE WITH 2ND EDITION OF THE "AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN".

6. GRS WING WALLS SHALL BE DESIGNED PER THE GEOSYNTHETIC REINFORCED SOIL INTEGRATED BRIDGE SYSTEM INTERIM IMPLEMENTATION GUIDE, FHWA-HRT-11-026, MAY 2012.

GRS WINGWALL SYSTEM

1. PROVIDE GRS FABRIC MARIFI HP570 OR APPROVED EQUAL.

CONCRETE

1. GENERAL
   - 1.1. CONCRETE SHALL COMPLY WITH ACI 301.
   - 1.2. USE NORMAL WEIGHT CONCRETE (145 ± 5 PCF) CONCRETE.
   - 1.3. AIR ENTRAINMENT VOLUME: 5% ± 1%.
   - 1.4. CONCRETE SHALL HAVE A MINIMUM CEMENT CONTENT OF 6 SACKS PER CUBIC YARD.
   - 1.5. CAST CONCRETE USING A MAXIMUM WATER/CEMENT RATIO OF 5-1/2 GAL PER SACK OF CEMENT.

2. PRECAST BRIDGE PLANKS
   - 2.1. MINIMUM 28-DAY STRENGTH: 5,000 PSI
   - 2.2. MINIMUM STRENGTH AT REMOVAL FROM FORM: 4,500 PSI
   - 2.3. AGGREGATES LARGER THAN 1" SHALL NOT BE USED.

3. PRECAST ABUTMENT BLOCK, FOOTING PLANK, AND/OR CLOSURE PANEL UNITS
   - 3.1. MINIMUM 28-DAY STRENGTH: 3,000 PSI
   - 3.2. MINIMUM STRENGTH AT REMOVAL FROM FORM: 2,000 PSI
   - 3.3. AGGREGATES LARGER THAN 3" SHALL NOT BE USED.

MORTARS AND GROUTS

1. PROVIDE NON-CORROSIVE NON-SHRINK CEMENTITIOUS GROUT. GROUT SHOULD BE IN A POURABLE CONSISTENCY WHEN PLACED IN LONGITUDINAL JOINTS BETWEEN BRIDGE DECK PLANKS.
   - 1.1. PROVIDE PRE-MOLDED COMPRESSIBLE BACK RODS ALONG BOTTOM AND AT ENDS OF ALL JOINTS TO RETAIN GROUT.
   - 1.2. FILL AREA AROUND TRANSVERSE ROD SLEEVES IN KEYWAY USING GROUT IN A PLASTIC CONSISTENCY. FILL TO ABOVE KEYWAY TO ENSURE THAT GROUT DOES NOT LEAK INTO VOID IN SLAB DURING KEYWAY GROUTING OPERATION.
   - 1.3. FILL LONGITUDINAL JOINTS FLUSH WITH TOP SURFACE OF PLANKS.

2. PROVIDE NON-CORROSIVE NON-SHRINK CEMENTITIOUS GROUT. GROUT SHOULD BE IN A FLUID CONSISTENCY WHEN PLACED BETWEEN TOP OF TOP ABUTMENT BLOCK UNITS AND UNDERSIDE OF PRECAST DECK PLANK UNITS.
   - 2.1. PROVIDE WOOD SETTING BLOCKS, PRE-MOLDED COMPRESSIBLE BACKER RODS, AND/OR EXPANDABLE, CLOSED-CELL, EXPANDABLE FOAM AROUND PERIMETER OF TOP ABUTMENT BLOCK(S) TO RETAIN GROUT.

3. FILL VERTICAL CYLINDRICAL VOIDS
   - 3.1. AROUND ABUTMENT-TO-DECK ANCHOR DOWEL PINS.
   - 3.2. AROUND ABUTMENT BLOCK VERTICAL POST TENSIONING RODS.

4. VIBRATE GROUT AS REQUIRED TO ENSURE ALL VOIDS ARE COMPLETELY FILLED.

SOILS, FOUNDATIONS AND BACKFILLS

1. REFER TO REPORT OF GEOTECHNICAL SERVICES, GRIMM ROAD BRIDGE REPLACEMENT AT WOODCOCK CREEK, PREPARED BY PALI CONSULTING, DATED AUGUST 28, 2019, FOR SITE SPECIFIC GEOTECHNICAL RECOMMENDATIONS.

2. SUBGRADE APPROVAL FROM THE GEOTECHNICAL ENGINEER IS REQUIRED PRIOR TO ABUTMENT WALL CONSTRUCTION. POTENTIAL OVER EXCAVATION AND REPLACEMENT WITH CRUSHED ROCK MAY BE REQUIRED IF SOFT SOILS ARE ENCOUNTERED. MINIMUM LEVELING PAD THICKNESS OF 6" EXTENDING AT LEAST 6" BEYOND FRONT AND BACK FACES OF FOOTING UNITS SHALL BE IMPORTED ¾"-0 COMPACTED CRUSHED ROCK BASE OVER A MEDIUM STIFF OR BETTER SUBGRADE, AS APPROVED BY THE GEOTECHNICAL ENGINEER.

3. REMOVE ANY EXISTING FILL, ANY EXISTING SILTY, SAND-SILT, OR CLAY-SILT SOIL, OR ANY SOIL THAT IS LOOSE OR HAS BEEN DISTURBED DOWN TO EXISTING VERY DENSE GRAVEL OR FOR A MINIMUM WIDTH OF 3'-6" EXTENDING AT LEAST 6" BEYOND FRONT AND BACK FACES OF FOOTING UNITS.

4. PROVIDE IMPORTED ANGULAR CRUSHED ROCK BASE PER DESIGN PLANS WHERE EXCAVATION OF FILL AND/OR SILT EXTENDS BELOW BOTTOM ELEVATION OF ABUTMENT BLOCKS.

5. IMPORTED BASE MATERIAL SHALL BE COMPACTED TO AT LEAST 95% RELATIVE COMPACTION.

6. PROVIDE A NON-WOVEN, NEEDLE-PUNCHED SOIL FILTER FABRIC WITH A MINIMUM WEIGHT OF 4 OZ PER SY BETWEEN BACKFILL SOIL AND BACK FACE OF ABUTMENT WALL AND WING WALL EXTENSIONS.
   - 6.1. LAP ALL JOINTS, HORIZONTAL AND VERTICAL, A MINIMUM OF 6".

7. USE ONLY FREE-DRAINING GRANULAR MATERIAL AS BACKFILL BEHIND ABUTMENT WALLS AND WING WALLS. COMPACT MATERIAL PLACED BEHIND WALL TO 95% RELATIVE COMPACTION USING ONLY LIGHT OR HAND-OPERATED COMPACTION EQUIPMENT.

8. INSTALL SOIL IN FRONT OF ABUTMENT WALLS SIMULTANEOUSLY WITH BACKFILL BEHIND ABUTMENT WALLS. INSTALL BACKFILL AGAINST BACK FACE OF ABUTMENT WALLS NO MORE THAN 6'-0" ABOVE ELEVATION OF SOIL PLACED AGAINST FRONT FACE UNTIL AFTER ABUTMENT WALL VERTICAL REINFORCEMENT HAS BEEN GROUTED AND ONLY AFTER BRIDGE DECK PLANK UNITS HAVE BEEN DOWEL, ANCHORED AND GROUTED TO TOP OF ABUTMENT WALLS AT EACH END.

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BRIDGE STRUCTURAL GENERAL NOTES

WOODCOCK CREEK AT GRIMM ROAD
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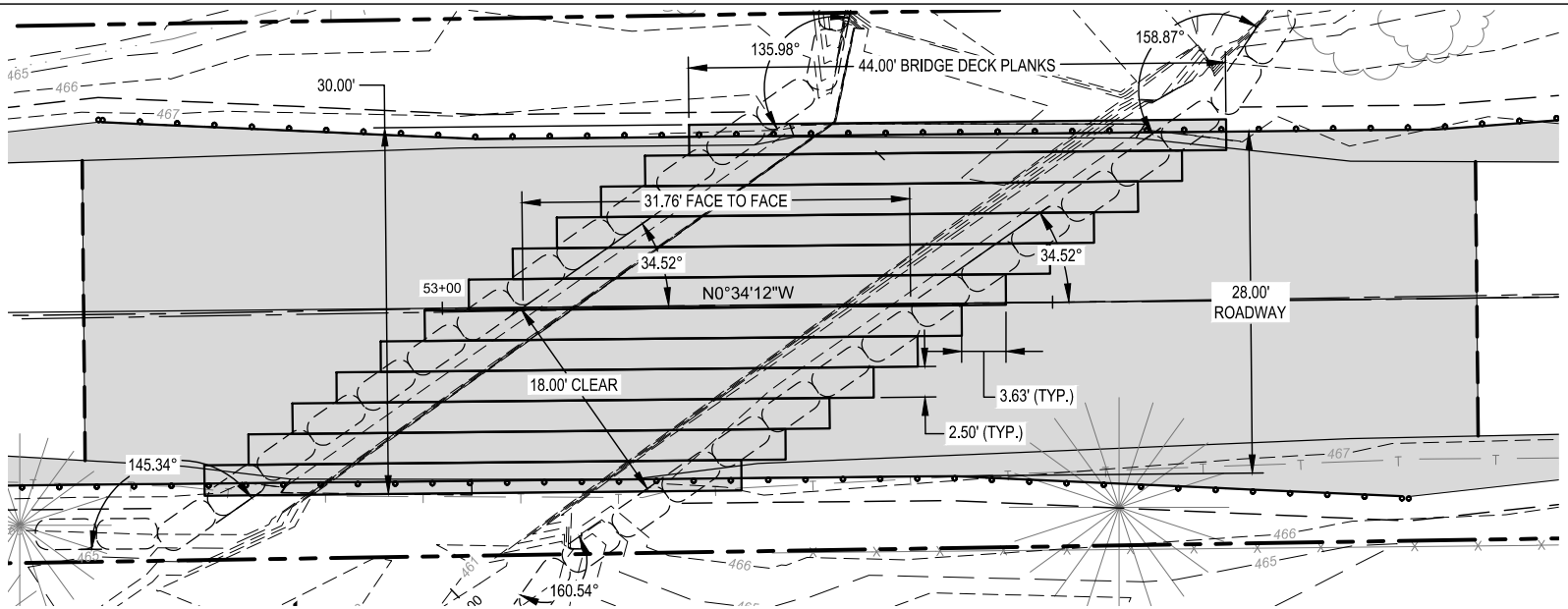
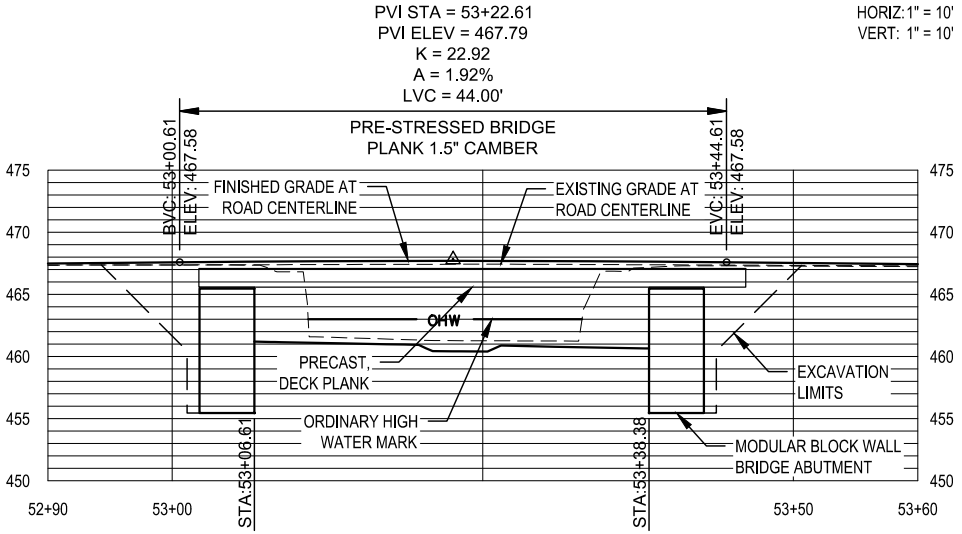
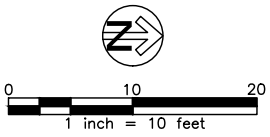


GRIMM ROAD - BRIDGE CENTERLINE PLAN



GRIMM ROAD - BRIDGE CENTERLINE PROFILE



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BRIDGE PLAN & PROFILE

WOODCOCK CREEK AT GRIMM ROAD
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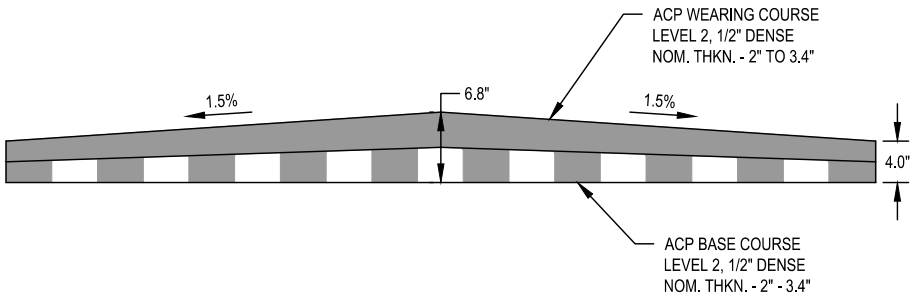
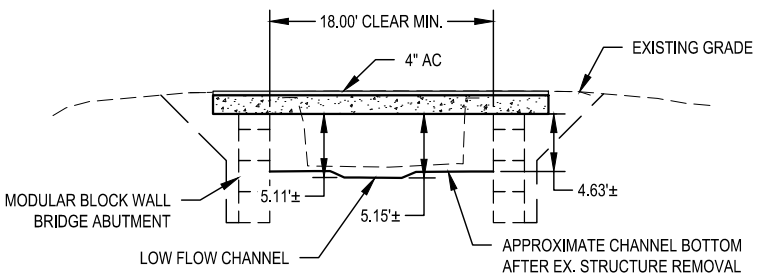


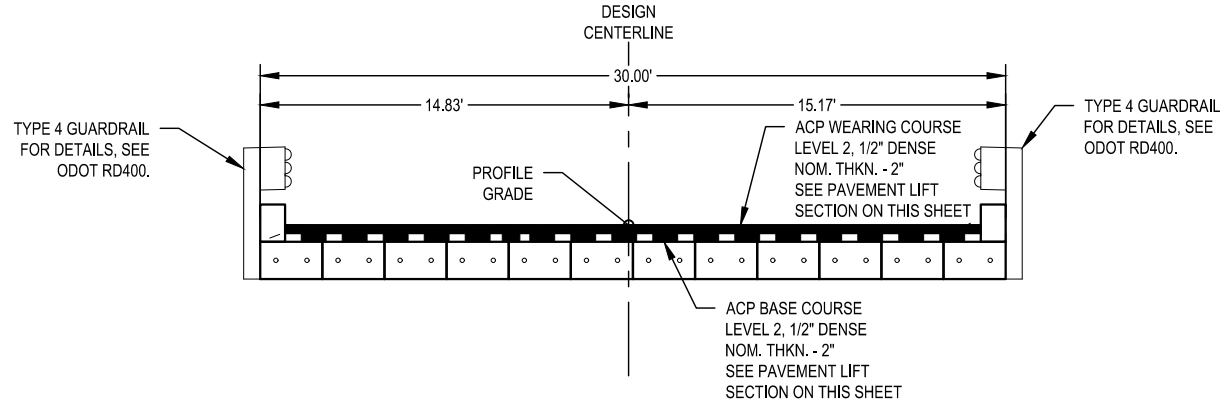
PAVEMENT LIFT SECTION

(NOT TO SCALE)



WOODCOCK CREEK - BRIDGE ELEVATION

(NOT TO SCALE)



TYPICAL DECK SECTION

(NOT TO SCALE)

NOTE:

1. ALL DIMENSIONS SHOW IN FEET UNLESS OTHERWISE NOTED
2. SIDE SLOPES ARE SHOWN AS HORIZ. TO VERT.
3. BRIDGE ABUTMENT TO CONFORM TO GEOTECHNICAL RECOMMENDATIONS IN "REPORT OF GEOTECHNICAL SERVICES" PREPARED BY PALI CONSULTING, DATED AUGUST 28, 2019.

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BRIDGE SECTIONS

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: OCTOBER 2021 | PROJECT NO.: BM-2017-00023

Cardno
PORTLAND
6720 SW MACADAM AVE. STE 200, PORTLAND, OR 97219 TEL: (503) 419 - 2500 FAX: (503) 419 - 2600
www.cardno.com

CLACKAMAS COUNTY

DIRECTOR

DAN JOHNSON

DESIGNED BY: RPM | DRAFTED BY: RPM | CHECKED BY: CJ

REVISIONS

NO	DATE:

Sheet No. 5C

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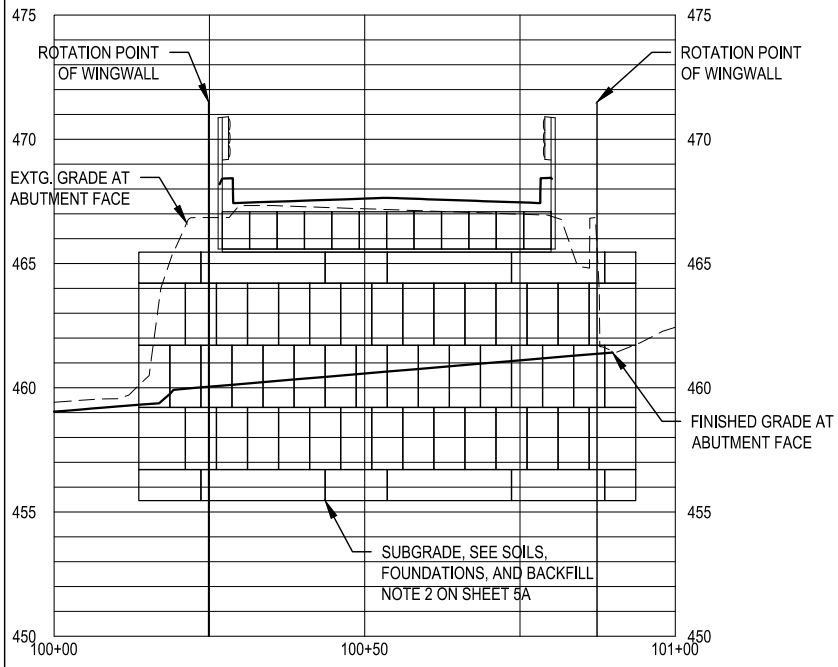
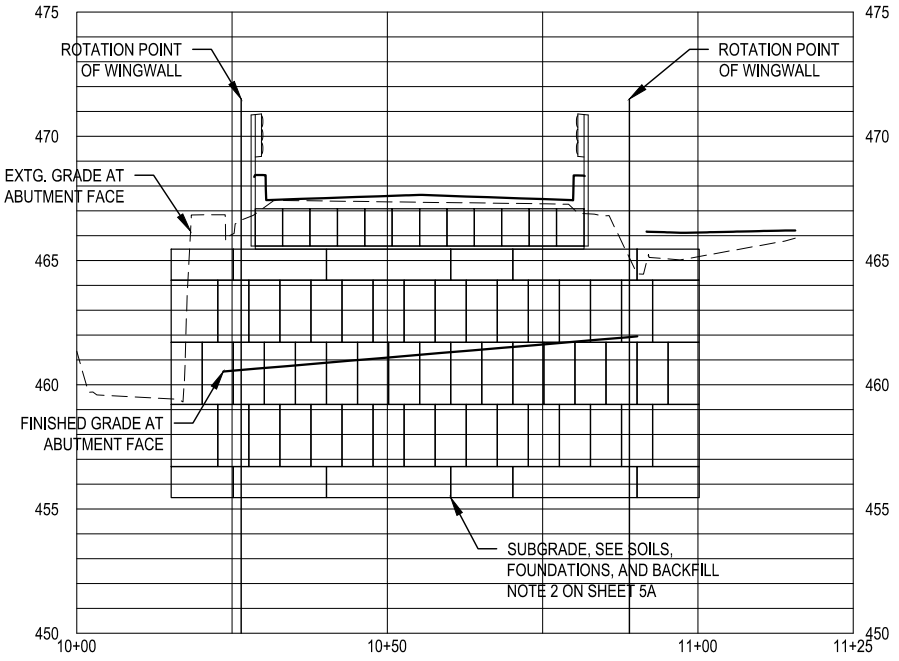


NORTH ABUTMENT - PROFILE

HORIZ: 1" = 20'
VERT: 1" = 5'



SOUTH ABUTMENT - PROFILE

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ABUTMENT WALL PROFILES

WOODCOCK CREEK AT GRIMM ROAD
CULVERT REPLACEMENT

DATE: OCTOBER 2021 PROJECT NO.: BM-2017-00023

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CLACKAMAS COUNTY
DIRECTOR
DAN JOHNSON

DESIGNED BY: RPM
DRAFTED BY: RPM
CHECKED BY: CJ

REVISIONS

NO	DATE:

Sheet No. 5D

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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 NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. *Suitable Material*. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. *Water Supply Intakes*. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. *Adverse Effects from Impoundments*. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. *Management of Water Flows*. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not

restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. *Fills Within 100-Year Floodplains*. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. *Equipment*. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. *Soil Erosion and Sediment Controls*. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. *Removal of Temporary Structures and Fills*. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. *Proper Maintenance*. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. *Single and Complete Project*. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. *Wild and Scenic Rivers*. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management

responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. *Tribal Rights*. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. *Endangered Species*. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA Section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA Section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA Section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA Section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under Section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation)

that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA Section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(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 Regulatorywebsite 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 (½) 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
Kate Brown, Governor

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Northwest Region
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December 29, 2022

Devin Patterson
Clackamas County DTD
150 Beavercreek Road
Oregon City, Oregon 97045

RE: 401 Water Quality Certification Approval for 2022-499, Woodcock Creek at Grimm Road 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*	
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

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/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, 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 Ari Sindel, at 503-367-7584, by email at ari.sindel@deq.oregon.gov, or at the address on this letterhead.

Sincerely,

Tiffany YELTON-BRAM for Steve Mrazik
Tiffany YELTON-BRAM for Steve Mrazik (Dec 29, 2022 13:51 PST)
Steve Mrazik,
Water Quality Manager
Northwest Region

ec: Rafael Orozco, USACE
Katie Blauvelt, DSL
Eric Campbell, Consultant

State of Oregon
DEQ Department of Environmental Quality

401 Water Quality Certification Turbidity Monitoring Report

Project Name:	USACE Project #	DSL Project #

Name of Inspector(s):	Turbidimeter Model:	Calibration Standard Type (Circle One) Formazin Solution or Gelex	Calibration Standard Expiration Date:

Sampling Date:	Calibration Values:	*Upstream (Background) Point Location:	*Downstream (Compliance) Point Location:
	_____NTU (Standard) = _____NTU (Reading) _____NTU (Standard) = _____NTU (Reading) _____NTU (Standard) = _____NTU (Reading)	Latitude: Longitude:	Latitude: Longitude:

In-Water Work Start Time:	In-Water Work End Time:	Description of In-Water Work:

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	

** Include a figure with the turbidity sampling forms showing the sampling locations.*

State of Oregon
DEQ Department of Environmental Quality

401 Water Quality Certification Turbidity Monitoring Report

NWP-2022-499

Page 16 of 16

Enclosure 3

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.

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

Issued by:

William W. Stelle, Jr.
Regional Administrator

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 µs, use 900 to 1100 volts.
2. If conductivity is between 100 and 300 µs, use 500 to 800 volts.
3. If conductivity greater than 300 µs, 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 de-watered 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 products[13] 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 Wood[15]

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, bending[17], 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 safely 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 etholoxylates, *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 Management[20]

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").

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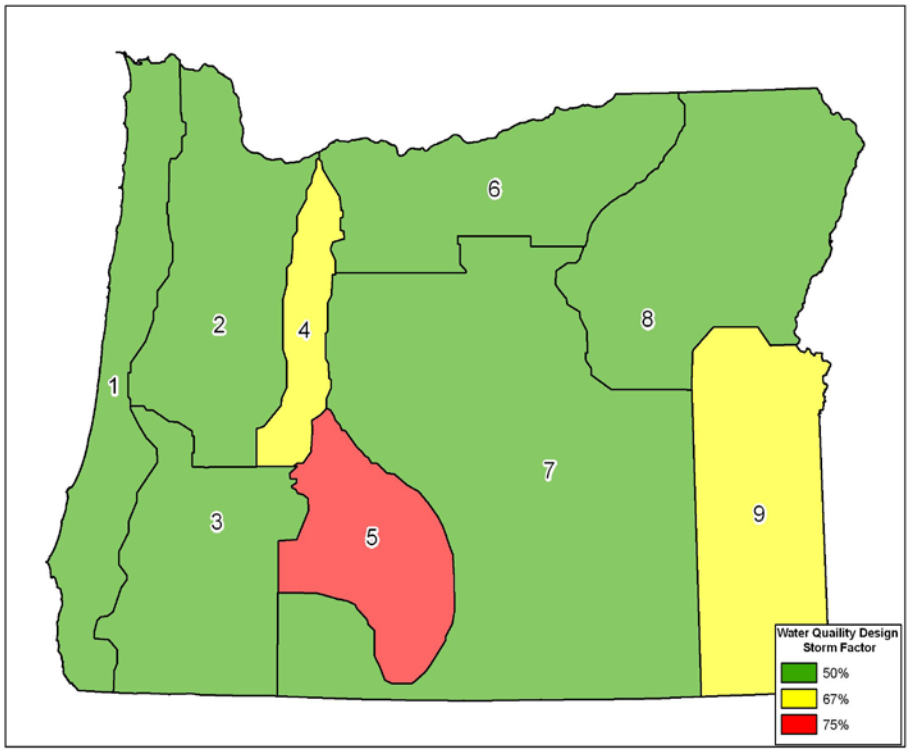
v. Provide a justification for the capacity of the facilities provided based on the expected runoff volume, including, *e.g.*, the design storm, BMP geometry, analyses of residence time, as appropriate.

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. Propriety 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 to1.0 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 availably, 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	☐ Yes (include details below)	☐ 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.

US Army Corps of Engineers®
Portland District

Permit Transfer

This form may be used to transfer a Department of the Army (DA) Nationwide Permit verification, Regional General Permit verification, or Letter of Permission permit.[1] When the structures or work authorized by a DA permit are still in existence at the time the property is sold or transferred, the permittee may transfer the DA permit to the new owner(s). The DA permit may also be transferred when the permittee does not own the underlying property (e.g., structures on state aquatic lands). For some DA permits the permit must be transferred when the property ownership changes.

When a DA permit is transferred the terms and conditions of the permit, including any special conditions, will continue to be binding on the transferee. To validate the transfer of the DA permit and to accept the liabilities associated with complying with the terms and conditions of the permit, the transferee must sign and date below. This permit transfer form 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-G
P.O. Box 2946
Portland, OR 97208-2946

To transfer a Nationwide Permit verification a copy of the Nationwide Permit verification letter must be attached as required by Nationwide Permit General Condition 29.

Corps Number: NWP-2022-499

TRANSFEREE:

_____ _____
Signature Date

_____ _____
Name (Please print) Email

_____
Address

_____
City, State, and Zip Code

[1] This form may not be used to validate the transfer of a standard individual Department of the Army permit. The individual permit form includes a section for the transferee's signature.

US Army Corps of Engineers ®
Portland District

Compliance Certification

1. **Permit Number:** NWP-2022-499
2. **Permittee Name:** Clackamas County DTD
3. **County Location:** Clackamas County

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**

INVITATION TO BID #2023-34
Woodcock Creek (Grimm Road) Bridge Replacement Project
ADDENDUM NUMBER 1
April 27, 2023

On April 18, 2023, Clackamas County ("County") published Invitation to Bid #2023-34 ("BID"). The County has found that it is in its interest to amend the BID through the issuance of this Addendum #1. Except as expressly amended below, all other terms and conditions of the original BID and subsequent Addenda shall remain unchanged.

1. **Project Information, Plans, Specifications and Drawings**

   The following document has been added:

   - Report of Geotechnical Services, Grimm Road Bridge Replacement at Woodcock Creek (28 pages)

5/3/23

Attachments:
Report of Geotechnical Services, Grimm Road Bridge Replacement at Woodcock Creek

End of Addendum 1

INVITATION TO BID #2023-34
Woodcock Creek (Grimm Road) Bridge Replacement Project
ADDENDUM NUMBER 2
May 1, 2023

5/3/23

On April 19, 2023, Clackamas County ("County") published Invitation to Bid #2023-34 ("BID") and Addendum #1 on April 27, 2023. The County has found that it is in its interest to amend the BID through the issuance of this Addendum #2. Except as expressly amended below, all other terms and conditions of the original BID and subsequent Addenda shall remain unchanged.

The following changes are made to the Project Special Provisions:

1. Subsection 00120.00 Prequalification of Bidders - Replace the bulleted sections in the Standard Special Provisions with the following:

   • If hand delivered, the application shall be date stamped with the provided date stamping device and the application and fee shall be placed in the ODOT Procurement Office Bid Box located in the lobby of:

   Oregon Department of Transportation
   355 Capitol Street NE
   Salem, OR 97301.

   • If delivered by mail or parcel delivery service, the application and fee shall be sent to:

   ODOT Procurement Office - Construction Contracts Unit, MS# 2-2
   355 Capitol Street NE
   Salem, OR 97301.

2. Subsection 00180.50(h) Contract Time - This subsection is replaced with the following:

   00180.50(h) Contract Time - Complete all Work to be done under the Contract, except seeding and planting establishment not later than **October 31, 2024**.

3. Subsection 00195.10 Payment for Changes in Material Costs – This subsection is replaced with the following subsections:

   00195.10 Asphalt Cement Material Price Escalation/De-escalation - An asphalt cement escalation/de-escalation clause will be in effect during the life of the Contract.

   The Agency reserves all of its rights under the Contract, including, but not limited to, its rights for suspension of the Work under 00180.70 and its rights for termination of the

Contract under 00180.90, and this escalation/de-escalation provision shall not limit those rights.

(a) Monthly Asphalt Cement Material Price (MACMP) - The Monthly Asphalt Cement Material Price (MACMP) is established by the Agency each month. For the actual MACMP, go to the Agency website at:

https://www.oregon.gov/ODOT/Business/Pages/Asphalt-Fuel-Price.aspx

The MACMP is based on selling prices of asphalt cement published by Poten & Partners, Inc. for primarily PG 64-22 paving grades in the Portland, Oregon area and typical non-modified paving grades in the Boise, Idaho area. The MACMP for a given month is the average of the weekly published prices for each area reported each Friday in that month. If any portion of the Project Site is located within the boundaries of ODOT Maintenance District 13 or 14, the MACMP will be based on the prices for the Boise, Idaho area. If no portion of the Project Site is within the boundaries of ODOT Maintenance District 13 or 14, the Contractor may elect to have the MACMP based on the prices of either the Portland, Oregon area or the Boise, Idaho area. If electing to use Boise, Idaho area prices for determination of the MACMP, the Contractor shall notify the Engineer in writing of the Contractor's election before or within 7 Calendar Days after the date of the preconstruction conference. This election, once acknowledged by the Engineer, will be binding for the entire duration of the Contract. If no such written notification is made, the Portland, Oregon area prices will be used as the basis of the MACMP. The area selected as the basis of the MACMP, once chosen, will become the sole area to be used as the basis for all asphalt cement used on the Project.

If the weekly prices cease to be available from Poten & Partners, Inc. for any reason, the Agency, in its discretion will select and begin using a substitute price source or index to establish the MACMP each month. The Agency does not guarantee that asphalt cement will be available at the MACMP.

(b) Base Asphalt Cement Material Price (Base) - The base asphalt cement material price for this Project is the MACMP published on the Agency website for the month immediately preceding the Bid Opening date.

(c) Monthly Asphalt Cement Adjustment Factor - The monthly asphalt cement adjustment factor will be determined each month as follows:

- If the MACMP is within ± 5% of the Base, there will be no adjustment.
- If the MACMP is more than 105% of the Base, then:

  Adjustment Factor = (MACMP) - (1.05 x Base)

- If the MACMP is less than 95% of the Base, then:

Adjustment Factor = (MACMP) - (0.95 x Base)

(d) Asphalt Cement Price Adjustment - A price adjustment will be made for the items containing asphalt cement listed below. The price adjustment as calculated in (c) above will use the MACMP for the month the asphalt is incorporated into the Project. The price adjustment will be determined by multiplying the asphalt incorporated during the month for subject Pay Items by the Adjustment Factor.

The Pay Items for which price adjustments will be made are:

Pay Item(s)

Level 2, ½ Inch Dense ACP Mixture

Add the following subsection:

00195.11 Fuel Cost Price Escalation/De-escalation - A fuel escalation/de-escalation clause will be in effect during the life of the Contract.

The Agency reserves all of its rights under the Contract, including, but not limited to, its rights for suspension of the Work under 00180.70 and its rights for termination of the Contract under 00180.90, and this escalation/de-escalation provision will not limit those rights.

(a) Monthly Fuel Price (MFP) - A Monthly Fuel Price (MFP) is established by the Agency each month. For the actual MFP, go to the Agency website at:

https://www.oregon.gov/ODOT/Business/Pages/Asphalt-Fuel-Price.aspx

The MFP for a given month is the average rack price obtained from the Oil Price Information Service (OPIS) listing dated the first Monday of that month for ultra low sulfur distillate No. 2 diesel fuel for Portland, Oregon. If the average rack price is not posted by OPIS or is otherwise not available to the Agency for the first Monday of any month for any reason, the Agency may use the average rack price posted by OPIS immediately before or after the first Monday of that month. If the average rack prices cease to be available from OPIS for any reason, the Agency in its discretion will select and begin using a substitute price source or index to establish the MFP each month. The Agency does not guarantee that fuel will be available at the MFP.

(b) Base Fuel Price (Base) - The base fuel price for this Project is the MFP published on the Agency website for the month immediately preceding the Bid Opening date.

(c) Monthly Fuel Adjustment Factor - A monthly fuel adjustment factor is determined each month as follows:

- If the MFP is within ± 25% of the Base, there will be no adjustment.

- If the MFP is more than 125% of the Base, then:

  Adjustment Factor = (MFP) - (1.25 x Base)

- If the MFP is less than 75% of the Base, then:

  Adjustment Factor = (MFP) - (0.75 x Base)

(d) Fuel Price Adjustment - A fuel price adjustment for fluctuations in the cost of fuel will apply only to the major fuel usage Pay Items shown in the following list and at the respective fuel factors listed:

The following Pay Items associated with the following Bridges and Structures:

Bridge Removal Work	10 Gal/$1000
Structure Excavation	10 Gal/$1000
Shoring, Cribbing, and Cofferdams	10 Gal/$1000
Pre-Fabricated Bridge	10 Gal/$1000

4. Subsection 00510.80(d)(1) Lump Sum – This subsection is replaced with the following:

   00510.80(d)(1) **Lump Sum** - Add the following to the end of this subsection:

   The estimated quantities of granular wall backfill and granular structure backfill are provided in Section 00560.80.

5. **Section 00565 – Pre-Fabricated Bridge** heading. Delete the heading and comply sentence and replace with the following:

   SECTION 00565 – PRE-FABRICATED BRIDGE

   Section 00565, which is not a Standard Specification, is included in this Project by Special Provision.

6. Subsection 00565.00 Scope – Add the following paragraph to the beginning of this section:

   The Woodcock Creek (Grimm Road) Bridge structure is a design-build structure. For these Bid Plans, the Engineer has prepared a preliminary design using a pre-fabricated bridge with a Pacific Bridge modular bridge as the basis. Contractor is required to submit Oregon Professional Engineer signed and stamped drawings and calculations for the modular bridge structure. The Bridge Design, abutment walls, and wing walls shall be designed in accordance with plan sheet 5A. Reference the construction plans for this work.

These changes will be included in the Contract for this Project. It is understood that your Bid will be submitted accordingly.

End of Addendum #2

INVITATION TO BID #2023-34
Woodcock Creek (Grimm Road) Bridge Replacement Project
ADDENDUM NUMBER 3
May 2, 2023

5/3/23

On April 19, 2023, Clackamas County ("County") published Invitation to Bid #2023-34 ("BID"). The County has found that it is in its interest to amend the BID through the issuance of this Addendum #2. Except as expressly amended below, all other terms and conditions of the original BID and subsequent Addenda shall remain unchanged.

The following changes are made to the Project Special Provisions:

1. Subsection 00150.50 Cooperation with Utilities – This subsection is replaced with the following subsections:

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.

(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 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.

(f) Utility Information: Add the following subsection:

There are no anticipated conflicts with the Utilities listed below. However, relocation of energized power lines will occur and the lines temporarily overhang a portion of the Work with a minimum vertical clearance of approximately 15 feet. Contractor shall maintain at least 10 feet of safety clearance. Exceptions require written approval from Portland General Electric and may require an On-Site safety watcher, at no cost to the Contractor. Provide the Engineer a copy of the written approval of exception before beginning work.

Utility	Estimated Completion Date (Time)
1. Portland General Electric Ray Lambert 503-463-4335 Office 503-849-6306 Mobile Raymond.Lambert@pgn.com	July 30, 2023

Notify, in writing, Portland General Electric at least 30 Calendar Days (4 weeks) before beginning Work on the Project.

The following organizations may be adjusting Utilities within the limits of the Project during the period of the Contract with relocation Work estimated to be completed by the following dates (times):

Utility	Estimated Completion Date (Time)
2. Molalla Communications Company Michael Paulsen (971) 235-0362 mpaulsen@molalla.com	See below for timing requirements

Notify, in writing, Molalla Communications Company, with a copy to the Engineer, at least 10 Calendar Days before the existing bridge removal construction is to begin. The Contractor shall allow Molalla Communications Company 7 Calendar Days to complete temporary relocation work prior to the demolition of the existing bridge.

The Contractor shall notify, in writing, Molalla Communications Company, with a copy to the Engineer, at least 10 Calendar Days before placement of bridge slabs. The Contractor shall allow Molalla Communications Company 7 Calendar Days to complete relocation work after bridge slabs are placed.

2. Subsection 00565.10 Materials – The following is added to the end of the subsection:

On the outside east beam of the bridge, provide expanded coil ferrule threaded concrete inserts hot-dip galvanized after fabrication spaced 10 feet apart starting at 5 feet from the edge of the beam with a ¾-inch bolt/threaded rod diameter, 4000 lb. minimum safe tension working load, 2000 lb. minimum safe shear working load, and 4 ½-inch minimum length, and 4 3/4-inch maximum length.

These changes will be included in the Contract for this Project. It is understood that your Bid will be submitted accordingly.

End of Addendum #3

Dmf Lw
5/9/23

INVITATION TO BID #2023-34
Woodcock Creek (Grimm Road) Bridge Replacement Project
ADDENDUM NUMBER 4
May 9, 2023

On April 19, 2023, Clackamas County ("County") published Invitation to Bid #2023-34 ("BID"). The County has found that it is in its interest to amend the BID through the issuance of this Addendum #4. Except as expressly amended below, all other terms and conditions of the original BID and subsequent Addenda shall remain unchanged.

1. **The Bid Closing date is hereby changed from May 10, 2023 at 2:00PM to May 11, 2023 at 3:00PM**

Attachments:
New Bid Schedule

End of Addendum #4

Woodcock Creek (Grimm Road) Bridge Replacement
BID SCHEDULE

5/4/2023

ITEM #	SECTION	ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL
PART 00200 - TEMPORARY FEATURES AND APPURTENANCES						
1	00180	WORK PLACE HARASSMENT PREVENTION PLAN	LS	1		
2	00196	EXTRA WORK	FA	1	$50,000.00	$50,000.00
3	00210	MOBILIZATION	LS	1		
4	00221	TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC, COMPLETE	LS	1		
5	00222	PORTABLE CHANGEABLE MESSAGE SIGNS	EACH	2		
6	00231	CONSTRUCT AND REMOVE TEMPORARY ACCESS ROAD	LS	1		
7	00245	TEMPORARY WATER MANAGEMENT FACILITY	LS	1		
8	00280	EROSION CONTROL	LS	1		
9	00280	MATTING, TYPE D	SQYD	300		
10	00280	SEDIMENT BARRIER, TYPE 8	FOOT	1,300		
11	00280	CONCRETE WASHOUT FACILITY	EACH	1		
12	00280	CONSTRUCTION ENTRANCE, TYPE 1	EACH	1		
13	00280	CHECK DAM, TYPE 3	EACH	4		
14	00280	POLLUTION CONTROL PLAN	LS	1		
15	00290	WORK CONTAINMENT PLAN	LS	1		
16	00290	TURBIDITY MONITORING	LS	1		
PART 00300 - ROADWORK						
17	00305	CONSTRUCTION SURVEY WORK	LS	1		
18	00310	REMOVAL OF SURFACINGS	SQYD	325		
19	00310	REMOVAL OF GUARDRAIL	FOOT	310		
20	00320	CLEARING AND GRUBBING	LS	1		
21	00330	GENERAL EXCAVATION	CY	350		
22	00331	18 INCH SUBGRADE STABILIZATION	SQYD	60		
23	00350	SUBGRADE GEOTEXTILE	SQYD	350		
PART 00400 - DRAINAGE AND SEWERS						
24	00490	CONNECT NEW STRUCTURE TO EXISTING STORM LINE	EACH	1		
PART 00500 - BRIDGES						
25	00501	BRIDGE REMOVAL WORK	LS	1		
26	00510	STRUCTURE EXCAVATION	CY	100		
27	00510	SHORING, CRIBBING, AND COFFERDAMS	LS	1		
28	00565	PRE-FABRICATED BRIDGE	LS	1		
PART 00600 - BASES						
29	00640	AGGREGATE BASE	TON	160		
PART 00700 - WEARING SURFACES						
30	00744	LEVEL 2, 1/2 INCH DENSE ACP MIXTURE	TON	130		
PART 00800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
31	00810	GUARDRAIL, TYPE 2A	FOOT	170		
32	00810	GUARDRAIL, TYPE 4	FOOT	88		
33		Deleted Bid Item				
34		Deleted Bid Item				
35	00810	GUARDRAIL TRANSITION	EACH	4		
36	00810	MIDWEST GUARDRAIL TERMINALS, NON-FLARED	EACH	4		
37	00860	LONGITUDINAL PAVEMENT MARKINGS, PAINT	FOOT	140		
PART 01000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
38	01012	WATER QUALITY BIOFILTRATION SWALE	LS	1		
39	01030	SEEDING MOBILIZATION	EACH	2		
40	01030	PERMANENT SEEDING, WATER QUALITY MIX	ACRE	0.03		
41	01030	PERMANENT SEEDING, EROSION CONTROL MIX	ACRE	0.06		
42	01040	IMPORTED TOP SOIL, 12-INCH SECTION	CY	40.00		
43	01091	BOULDERS	EACH	42		
44	01091	STREAMBED SEDIMENT	TON	60.00		
45	01091	STREAMBED COBBLES, 6 INCH TO 10 INCH	TON	60		
46	01091	CHANNEL MARGIN JAMS, COMPLETE	EACH	4		

PROPOSED COST BID SCHEDULE_____
(Numericaly)

PROPOSED COST BID SCHEDULE_____
Written in Words

COMPANY NAME_____

AUTHORIZED SIGNATURE_____

WOODCOCK CREEK - ADDENDA #5

5/11/2023

Discipline Type: Public Improvement

Procurement Method: Competitive Sealed Bid

Amendments:

Amendment #	Amendment Date	Amendment Note
1	04/27/2023 11:22:07 AM	Addendum 1 Attachment File Changes: Header 1. File 'BID 2023-34 Addendum 1 4.27.pdf': File 'BID 2023-34 Addendum 1 4.27.pdf' added.
2	05/01/2023 09:13:55 AM	Addendum 2 Attachment File Changes: Header 1. File 'BID 2023-34 Addendum 2.pdf': File 'BID 2023-34 Addendum 2.pdf' added.
3	05/02/2023 05:18:40 PM	Addendum 3 Attachment File Changes: Header 1. File 'BID 2023-34 Addendum 3.pdf': File 'BID 2023-34 Addendum 3.pdf' added.
4	05/09/2023 09:15:23 AM	Addendum 4 Attachment File Changes: Header 1. File 'BID 2023-34 Addendum 4.pdf': File 'BID 2023-34 Addendum 4.pdf' added.
5	05/11/2023 10:33:15 AM	Bid Closing date and time Header 1. Bid Opening Date changed from "05/10/2023 02:00:00 PM" to "05/11/2023 03:00:00 PM".

ADDENDA #5 Recognized

Item Information

Item # 1: (913 - 13) Woodcock Creek (Grimm Road) Bridge Replacement Project

NIGP Code: 913-13
Construction, Bridge and Drawbridge (Includes Reconstruction/Rehabilitation)

Qty	Unit Cost	UOM	Tax Rate	Tax Amount
1.0		EA - Each		