CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

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

Board of County Commissioners
Clackamas County

Members of the Board:

Approval of a Contract with Eagle Elsner, Inc. for the
S Central Point Rd and New Era Rd Intersection Realignment

Purpose/Outcome	This contract will complete all work related to the realignment of the intersection of Central Point Road and New Era Road. This contract will complete all work to construct including excavation, embankment, storm water facilities, roadway paving, electrical, landscaping, signs and striping.
Dollar Amount and Fiscal Impact	Contract Value $1,010,101.01, budgeted in DTD CIP Project #22254.
Funding Source	County Road Fund and HB 2017 Safety
Duration	Contract Execution through December 30,2022
Previous Board Action/Review	September 22, 2020 - Policy work Session, evaluate and approve design options January 30, 2020- BCC public meeting review / outreach. April 27, 2021- Discussion at Issues
Strategic Plan Alignment	This project follows the Board's Key Initiatives to provide strong infrastructure and ensure safe communities by maintaining and improving the County's existing road infrastructure.
Counsel Review	Counsel Date: April 15, 2021 Counsel Initials: AN
Procurement Review	Was this project processed through Procurement? Yes.
Contact Person	Stan Monte, Construction Project Manager 503-742-4678
Contract No.	**3926**

Background:
The intersection of S Central Point Rd and S New Era Rd is skewed at 75 degrees with a two-way-stop-controlled in the northbound and southbound directions and uncontrolled in the eastbound and westbound directions. An Independent Safety Evaluation in 2017 indicated there may be a correlation between the 75 degree intersection skew and the high percentage of crashes at this intersection.

This project will realign the existing intersection approaches to eliminate the intersection skew, improving sight distance to meet the current sight distance/safety requirements. Flashing yellow beacons will also be added to "Stop Ahead" signs and flashing red beacons will be added to the Stop signs.

The project work is anticipated to begin in the summer of 2021 following contract signing. Substantial completion will be not later than October 31, 2021, with final completion of plant establishment no later than December 31, 2022.

Procurement Process:
This project was advertised in accordance with ORS and LCRB Rules on February 22, 2021. Bids were publicly opened on March 23, 2021. The County received seven (7) bids: Dirt & Aggregate Interchange, $1,267,666.00; Eagle-Elsner, $1,010,101.01; Kerr Contractors, $1,179,660.00; Carter & Company, $1,137,489.00; M.L. Houck Construction, $1,231,780.00; Kodiak Pacific, $1450,450.00; and Elting NW, $1,088,886.00. After review of the bids, Eagle Elsner, Inc., was determined to be the lowest responsive bidder.

Recommendation:
Staff respectfully recommends that the Board approve and sign this public improvements contract with Eagle Elsner, Inc. for the S Central Point Rd and New Era Rd Intersection Realignment project.

Sincerely,

Stan Monte

Stan Monte,
Construction Project Manager
Department of Transportation and Development

Placed on the BCC Agenda _____ by Procurement

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
Contract #3926

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 **Eagle-Elsner, Inc.**, 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: #2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction

1. Contract Price, Contract Documents and Work.
The Contractor, in consideration of the sum of **one million ten thousand one hundred one dollars and one cent ($1,010,101.01)** (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 as indicated in the accepted Bid.

Also, 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
- Performance Bond and Payment Bond
- Payroll and Certified Statement Form
- Addenda #1 and #2
- Instructions to Bidders
- Bid Bond
- Public Improvement Contract Form
- Prevailing Wage Rates
- Plans, Specifications and Drawings

The Plans, Specifications and Drawings expressly incorporated by reference into this Contract includes, but is not limited to, the Special Provisions for Highway Construction (the "Specifications"), together with the provisions of the Oregon Standard Specifications for Construction (2018) 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 Curtis Cooksey 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 Jonathan Hangartner 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: Curtis Cooksey shall be the Contractor's project executive, and will provide oversight and guidance throughout the project term.

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

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

4. Contract Dates.
COMMENCEMENT DATE: Upon issuance of Notice to Proceed ("NTP")
On-site work no sooner than May 1, 2021 per special provisions 00180.40(b)
SUBSTANTIAL COMPLETION DATE: October 31, 2021
FINAL COMPLETION DATE/3rd Note: June 30, 2022

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 Procurement@clackamas.us.

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. $ 700 per Calendar day past the Substantial Completion date as identified in section 00180.85 (b) and 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. Escrow and Retainage. If retainage is withheld, unless the Contractor requests and the Owner accepts a form of retainage permitted under ORS 279C.560, the Owner will deposit the retainage in an interest-bearing escrow account as required by ORS 279C.570(2). The Contractor shall execute such documentation and instructions respecting the interest-bearing escrow account as the Owner may require to protect its interests, including but not limited to a provision that no funds may be paid from the account to anyone without the Owner's advance written authorization.

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

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:
Eagle-Elsner, Inc.
P.O. Box 23294
Tigard, Oregon 97281

Contractor CCB # 27112 Expiration Date: 04/2/2022
Oregon Business Registry # 135009-13 Entity Type: DBC State of Formation: Oregon

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

Eagle-Elsner, Inc.	Clackamas County
Richard Eagle, Pres 04-15-21	
Authorized Signature Date	Chair Date
Richard Eagle, President	
Name / Title Printed	Recording Secretary
	APPROVED AS TO FORM 04/15/2021
	County Counsel Date

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

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CLACKAMAS COUNTY
NOTICE OF PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

INVITATION TO BID #2021-13
South Central Point Road and South New Era Road
Intersection Realignment Construction
February 22, 2021

Clackamas County ("County") through its Board of County Commissioners is accepting sealed bids for the **South Central Point Road and South New Era Road Intersection Realignment Construction** Project until **March 18, 2021, 2:00 PM,** Pacific Time, ("Bid Closing") at the following location:

DELIVER BIDS TO: Clackamas County Procurement Division, Attention George Marlton, County Procurement Officer, via email to procurement@clackamas.us.

Bidding Documents can be downloaded from ORPIN at the following address: http://orpin.oregon.gov/open.dll/welcome, Document No.C01010-2021-13-21. 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.

Engineers Estimate: $1,270,000.00

Contact Information
Procurement Process and Technical Questions: Ryan Rice, rrice@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 ORPIN listing shortly after the opening.

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

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, January 1, 2021, 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 ORPIN 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 Procurement 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 Clackamas County Procurement 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 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 procurement@clackamas.us.

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

Project Name: #2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction

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

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

2. **COVID- Buildings Closed.** The County is requiring all bids for this project be electronically submitted. Complete Bids (including all attachments) must be received by the closing time and date 2:00 p.m. Pacific Time, March 18, 2021. The Bid must be emailed to the following address: **Procurement@clackamas.us. The email subject line must read "Bid for #2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction."** Upon receiving of the bid, the County will send bidders an email confirmation acknowledging receipt. Bids delayed or lost by email system filtering or failures may be considered at Clackamas County's sole and absolute discretion.
   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:
   Join Zoom Meeting
   https://clackamascounty.zoom.us/j/89516057960
   Meeting ID: 895 1605 7960
   One tap mobile
   +12532158782,,89516057960# US (Tacoma)
   +13462487799,,89516057960# US (Houston)

   Dial by your location
   +1 253 215 8782 US (Tacoma)
   +1 346 248 7799 US (Houston)
   +1 408 638 0968 US (San Jose)

+1 669 900 6833 US (San Jose)
+1 312 626 6799 US (Chicago)
+1 646 876 9923 US (New York)
+1 301 715 8592 US (Washington DC)
Meeting ID: 895 1605 7960

****The Apparent Low bid results will be posted to the projects OPRIN 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 by hand delivery to the location the Bid was due or may email the completed Forms to Procurement@clackamas.us. "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: Eagle-Elsner, Inc.

Total Contract Amount: 1,010,101.01

Project Name: #2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction

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)

Paving	Signs
Grading	
Pipe	
Excavation	

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. Hand delivery to Procurement, 2051 Kaen Road, Oregon City, OR 97045 or email to procurement@clackamas.us 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 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 Address City/St/Zip Phone # OCCB#	Mountain View Tree PO Box 80805 Portland, OR 97280 (503) 363-0991 179875	Tree Removal	$21,600	☐	☐	☑
Name Address City/St/Zip Phone # OCCB#	Brothers Concrete Cutting 1721 Fescue Street SE Albany, OR 97322 (800) 252-5091 48661	Saw Cutting	$250.00	☑	☐	☐
Name Address City/St/Zip Phone # OCCB#	Fox Erosion Control 11901 Hwy. 212 Clackamas, OR 97015 (503) 654-8816 LCB 7393	Landscaping	$68,821.50	☐	☐	☐
Name Address City/St/Zip Phone # OCCB#				☐	☐	☐

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

Prime Contractor Name: Eagle-Elsner, Inc. **Total Contract Amount:** 1,010,101.01

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LIST ALL SUBCONTRACTORS BELOW Use correct legal name of Subcontractor (No Assumed Business Names)		Division of Work 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 Address City/St/Zip Phone # OCCB#				☐	☐	☐
Name Address City/St/Zip Phone # OCCB#				☐	☐	☐
Name Address City/St/Zip Phone # OCCB#				☐	☐	☐
Name Address City/St/Zip Phone # OCCB#				☐	☐	☐
Name Address City/St/Zip Phone # OCCB#				☐	☐	☐
Name Address City/St/Zip Phone # OCCB#				☐	☐	☐
Name Address City/St/Zip Phone # OCCB#				☐	☐	☐

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

Prime Contractor: Eagle-Elsner, Inc.

Project: #2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction

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, etc.)	Date Solicitation Letter/Fax Sent	PHONE CONTACT		BID ACTIVITY Check Yes or No			REJECTED BIDS (if bid received & not used)		Notes
			Date of Call	Person Receiving Call	Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used	
TruLine Striping (541) 647-4410	Striping	3/10/2021	3/11/2021	Got Voicemail - Left Message	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No			
Oregon Asphalt Maintenance (541) 451-4687	Striping	3/11/2021	3/11/2021	Got Voicemail - Left Message	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No			
Angell Flight Asphalt (541) 349-9208	Striping	3/11/2021	3/11/2021	Jordan	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No			Business is Closing Down
Anderson Erosion Control (541) 998-2062	Landscaping	3/10/2021	3/11/2021	Kevin Madsen	☑ Yes ☐ No	☑ Yes ☐ No	☐ Yes ☑ No	$79,152	Were not low Bid	
Valley Growers Nursery (503) 651-3535	Landscaping	3/11/2021	3/11/2021	Voicemail with Matthew Brown - Left Message	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No			
Azuri Construction (503) 289-8431	Landscaping	3/11/2021	3/11/2021	Got Voicemail - Left Message	☐ 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: Eagle-Elsner, Inc.
Project: #2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction

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, etc.)	Date Solicitation Letter/Fax Sent	PHONE CONTACT		BID ACTIVITY Check Yes or No			REJECTED BIDS (if bid received & not used)		Notes
			Date of Call	Person Receiving Call	Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used	
Mountain View Tree Service (503) 363-0991	Tree Falling	3/11/2021	3/11/2021	Jamos Velarde	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No			
Brothers Concrete Cutting (800) 252-5091	Saw Cutting	3/11/2021	3/11/2021	TJ Herrold	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No			Emailed add'l Job Information
Bedrock Commercial Concrete Cutting (503) 761-3961	Saw Cutting	3/10/2021	3/11/2021	Left Voicemail with Ian	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No			
Fritz Cutting & Coring (503) 729-0268	Saw Cutting	3/11/2021	3/11/2021	No Answer / No Voicemail	☐ 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
PROJECT COMPLETION REPORT
(FORM 3)

Prime Contractor Name: **Total Contract Amount:**
Project Name: #2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction

Complete this form and submit with your request for final payment upon the project completion. Please list all subcontractors used for the project. Use additional sheets as necessary.

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	**FINAL DOLLAR AMOUNT OF SUBCONTRACT**	If Certified or self-reported MBE/WBE/ESB Subcontractor Check box ✓		
			MBE	WBE	ESB
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐

BY SIGNING BELOW, I HEREBY CERTIFY THAT THE ABOVE LISTED FIRMS HAVE BEEN UTILIZED BY OUR COMPANY IN THE AMOUNTS REPRESENTED ABOVE AND THAT THE INFORMATION CONTAINED HEREIN IS COMPLETE AND ACCURATE. .

____ ______________
Authorized Signature of Contractor Representative Date

CLACKAMAS COUNTY

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID BOND

Project Name: #2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction

We, Eagle Elsner, Inc., as "Principal,"
(Name of Principal)

and Western Surety Company, an South Dakota 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% of Bid---)

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. 2021-13) 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 18th day of March, 20 21.

Principal: Eagle Elsner, Inc.

By: Richard Eagle, Pres
Signature

PRESIDENT
Official Capacity

Attest: Mary J. Morrow
Corporation Secretary

Surety: Western Surety Company

By: Attorney-In-Fact

Gloria Bruning
Name

1201 SW 12th Ave., Suite 500
Address

Portland, OR 97205
City State Zip

503-224-2500 503-224-9830
Phone Fax

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Philip O Forker, Gloria Bruning, Vicki Mather, Brent Olson, Richard W Kowalski, Ray M Paiement, Joel Dietzman, Christopher A Reburn, J Patrick Dooney, Gail A Price, Individually

of Portland, OR, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 7th day of January, 2020.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota
County of Minnehaha } ss

On this 7th day of January, 2020, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
June 23, 2021

J. MOHR
NOTARY PUBLIC
SOUTH DAKOTA

J. Mohr, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 18th day of March, 2021.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID FORM

PROJECT: # 2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction
BID CLOSING: March 18, 2021, 2:00 PM, Pacific Time
BID OPENING: March 18, 2021, 2:05 PM, Pacific Time

FROM: EAGLE-ELSNER, INC.
Bidder's Name (must be full legal name, not ABN/DBA)

TO: Clackamas County
Procurement Division – Attention George Marlton, County Procurement Officer
2051 Kaen Road
Oregon City, OR 97045

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

X c. A corporation organized under the laws of the State of OREGON; or

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

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

One Million, Ten Thousand, One Hundred One Dollars and 01 Cent Dollars ($ 1,010,101.01)

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 2, 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 **Highway Construction S Central Point Rd and S New Era Rd Intersection Realignment Construction.**

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:

WESTERN SURETY .

(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 27112. 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, Policy No. 810540, and that Contractor shall submit Certificates of Insurance as required.

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

Project Executive:	CURTIS COOKSEY,	Cell Phone:	(971) 235-4586
Project Manager:	DAVE ELSNER,	Cell Phone:	(971) 235-4571
Job Superintendent:	DALE ZOUCHA,	Cell Phone:	(503) 985-9754
Project Engineer:	_____,	Cell Phone:	_____.

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: EAGLE-ELSNER, INC.

ADDRESS: P.O. BOX 23294
TIGARD, OR 97281

TELEPHONE NO: (503) 628-1137

EMAIL: CURTIS@EAGLE-ELSNER.COM

SIGNATURE 1) _____
Sole Individual

or 2) _____
Partner

or 3) Richard Eagle, Pres
Authorized Officer or Employee of Corporation

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

BID SCHEDULE #2021-13

S Central Point Rd and S New Era Rd Intersection Realignment

ITEM NO.	SPEC NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
MOBILIZATION AND EXTRA WORK AS AUTHORIZED						
1	00196	EXTRA WORK AS AUTHORIZED	LS	1	$40,000.00	$40,000.00
2	00210	MOBILIZATION	LS	1	47,009.51	47,009.51
TRAFFIC CONTROL						
3	00225	TEMPORARY WORK ZONE TRAFFIC CONTROL, COMPLETE	LS	1	20,000.00	20,000.00
4	00225	PORTABLE CHANGEABLE MESSAGE SIGNS	EACH	4	950.00	3800.00
EROSION CONTROL						
5	00280	EROSION CONTROL	LS	1	2000.00	2000.00
6	00280	INLET PROTECTION, TYPE 3	EACH	4	45.00	180.00
7	00280	CHECK DAM, TYPE 3	EACH	58	40.00	2320.00
8	00280	SEDIMENT BARRIER, TYPE 8	FOOT	1500	4.25	6375.00
9	00280	MATTING, TYPE E	SY	2700	4.25	11,475.00
10	00290	POLLUTION CONTROL PLAN	LS	1	1000.00	1000.00
ROADWORK						
11	00305	CONSTRUCTION SURVEY WORK	LS	1	31,000.00	31,000.00
12	00310	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1	38,000.00	38,000.00
13	00320	CLEARING AND GRUBBING	LS	1	47,000.00	47,000.00
14	00330	GENERAL EXCAVATION	LS	1	36,000.00	36,000.00
15	00330	STONE EMBANKMENT	TON	8,000	30.00	240,000.00
16	00331	12 INCH SUBGRADE STABILIZATION	SY	350	29.00	10,150.00
17	00350	GEOGRID, TYPE 2	SY	5,000	1.25	6250.00
18	00350	SUBGRADE GEOTEXTILE	SY	7,000	0.55	3850.00
19	00350	DRAINAGE GEOTEXTILE, TYPE 1	SY	550	3.55	1952.50
20	00350	RIPRAP GEOTEXTILE, TYPE 1	SY	5	30.00	150.00
21	00390	LOOSE RIPRAP, CLASS 50	CY	3	165.00	495.00
DRAINAGE AND SEWERS						
22	00415	MAIN LINE VIDEO INSPECTION	EACH	6	300.00	1800.00
23	00430	GRANULAR DRAIN BACKFILL MATERIAL	CY	120	73.00	8760.00
24	00430	8 INCH DRAIN PIPE	FT	50	49.00	2450.00
25	00445	12 INCH REINFORCED CONCRETE STORM SEWER PIPE, 5 TO 10 FT DEPTH	FT	305	80.00	24,400.00
26	00445	18 INCH REINFORCED CONCRETE STORM SEWER PIPE, 5 TO 10 FT DEPTH	FT	21	150.00	3150.00
27	00470	STORM CLEAN OUT	EACH	1	500.00	500.00
28	00470	CONCRETE INLETS, TYPE DITCH	EACH	4	2000.00	8000.00
29	00470	CONCRETE MONUMENT BOXES	EACH	10	350.00	3500.00
30	00490	CONNECTION TO EXISTING STRUCTURES	EACH	1	500.00	500.00
BASES						
31	00620	COLD PLANE PAVEMENT REMOVAL, 2 TO 4 INCHES DEEP	SY	300	10.00	3000.00
32	00640	AGGREGATE BASE AND SHOULDERS	TON	4,100	27.00	110,700.00
WEARING SURFACES						
33	00744	LEVEL 3, 1/2 INCH DENSE ACP MIXTURE @ 2" DEEP (Wearing Course)	TON	530	75.00	39,750.00
34	00744	LEVEL 3, 1/2 INCH DENSE ACP MIXTURE @ 5.5" DEEP (Base Course)	TON	1,570	70.00	109,900.00
PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						

BID SCHEDULE

S Central Point Rd and S New Era Rd Intersection Realignment

ITEM NO.	SPEC NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
35	00840	DELINEATORS, TYPE 2	EACH	20	50.00	1000.00
36	00860	BI-DIRECTIONAL YELLOW TYPE I MARKERS	EACH	65	7.00	455.00
37	00865	THERMOPLASTIC, EXTRUDED OR SPRAYED, SURFACE, NON-PROFILED	FT	5,300	1.15	6095.00
38	00867	TYPE B-HS PREFORMED FUSED THERMOPLASTIC FILM	SF	60	10.50	630.00
PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
39	00905	REMOVE AND REINSTALL EXISTING SIGNS	LS	1	1000.00	1000.00
40	00930	PERFORATED STEEL SQUARE TUBE ANCHOR SIGN SUPPORTS	LS	1	2200.00	2200.00
41	00930	TRIANGULAR BASE BREAKAWAY SIGN SUPPORTS	LS	1	1000.00	1000.00
42	00940	SIGNS, STANDARD SHEETING, EXTRUDED ALUMINUM	SF	75	30.00	2250.00
43	00990	FLASHING RED BEACON INSTALLATION, COMPLETE	LS	1	23,500.00	23,500.00
44	00990	FLASHING YELLOW BEACON INSTALLATION, COMPLETE	LS	1	10,000.00	10,000.00
RIGHT-OF-WAY DEVELOPMENT AND CONTROL						
45	01010	WATER QUALITY/FLOW CONTROL STRUCTURE, SDMH-1	LS	1	10,000.00	10,000.00
46	01011	FLOW CONTROL BASIN, B	LS	1	30,000.00	30,000.00
47	01012	WATER QUALITY SWALE, A	LS	1	18,000.00	18,000.00
48	01030	PERMANENT SEEDING, EROSION CONTROL MIX SEEDING	ACRE	0.52	3700.00	1924.00
49	01030	WATER QUALITY SEEDING, LOW GROW SEED MIX	ACRE	0.08	11,000.00	880.00
50	01040	TOPSOIL	CY	650	55.00	35,750.00

PROPOSED COST BID SCHEDULE 1,010,101.01
(Numerically)

PROPOSED COST BID SCHEDULE One Million, Ten Thousand, One Hundred One Dollars and One Cent
(Written in Words)

COMPANY NAME EAGLE-ELSNER, INC.

AUTHORIZED SIGNATURE Richard Eagle, Pres

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM
PROJECT: #2021-13 Highway Construction S Central Point Rd and S New Era Rd Intersection Realignment Construction.

BID OPENING: March 18, 2021, 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.

The Form may be mailed, hand-delivered or emailed to: Procurement@clackamas.us. It is the responsibility of Bidders to submit this Form and any additional sheets with the Project name clearly marked on the envelope or the subject line of the email.

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.	FOX EROSION CONTROL	68,821.50	LANDSCAPE
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: EAGLE-ELSNER, INC.

Bidder Signature: Richard Eagle, Pres Phone # (503) 628-1137

CLACKAMAS COUNTY

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PERFORMANCE BOND

Bond No.: 26478683
Solicitation: #2021-13
Project Name: South Central Point Road and South New Era Road Intersection Realignment Construction

Western Surety Company (Surety #1)	Bond Amount No. 1:	$ 1,010,101.01
(Surety #2)*	Bond Amount No. 2:*	$
* *If using multiple sureties*	Total Penal Sum of Bond:	$ 1,010,101.01

We, Eagle Elsner, Inc. as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) One Million Ten Thousand One Hundred One & 01/100---($1,010,101.01)(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 _____ day of _____, 2021.

PRINCIPAL: Eagle Elsner, Inc.

By: Richard Eagle, Pres
Signature

President
Official Capacity

Attest: Mary D Newland
Corporation Secretary

SURETY: Western Surety Company
[Add signatures for each if using multiple bonds]

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

Gloria Bruning
Name

Gloria Bruning
Signature

1201 SW 12th Ave., Suite 500
Address

Portland, OR 97205
City State Zip

503-224-2500 503-224-9830
Phone Fax

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Philip O Forker, Gloria Bruning, Vicki Mather, Brent Olson, Richard W Kowalski, Ray M Paiement, Joel Dietzman, Christopher A Reburn, J Patrick Dooney, Gail A Price, Individually

of Portland, OR, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 7th day of January, 2020.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota
County of Minnehaha } ss

On this 7th day of January, 2020, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
June 23, 2021

J. MOHR
NOTARY PUBLIC
SOUTH DAKOTA

J. Mohr, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this _____ day of _____, 2021.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PAYMENT BOND

Bond No.: 26478683
Solicitation: #2021-13
Project Name: South Central Point Road and South New Era Road
Intersection Realignment Construction

Western Surety Company (Surety #1)	Bond Amount No. 1:	$ 1,010,101.01
_____ (Surety #2)*	Bond Amount No. 2:*	$ _____
* *If using multiple sureties*	Total Penal Sum of Bond:	$ 1,010,101.01

We, Eagle Elsner, Inc., as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) One Million Ten Thousand One Hundred One & 01/100---($1,010,101.01) (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 _____ day of _____, 2021.

PRINCIPAL: Eagle Elsner, Inc.

By: Richard Eagle, Pres
Signature

President
Official Capacity

Attest: Mary Mercer
Corporation Secretary

SURETY: Western Surety Company
[Add signatures for each if using multiple bonds]

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

Gloria Bruning
Name

Gloria Bruning
Signature

1201 SW 12th Ave., Suite 500
Address

Portland, OR 97205
City State Zip

503-224-2500 503-224-9830
Phone Fax

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Philip O Forker, Gloria Bruning, Vicki Mather, Brent Olson, Richard W Kowalski, Ray M Paiement, Joel Dietzman, Christopher A Reburn, J Patrick Dooney, Gail A Price, Individually

of Portland, OR, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 7th day of January, 2020.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota
County of Minnehaha } ss

On this 7th day of January, 2020, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
June 23, 2021

J. MOHR
NOTARY PUBLIC
SOUTH DAKOTA

J. Mohr, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this _____ day of _____, 2021.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.

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

PROJECT: #2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction

Project Background:
This project will realign the northbound and southbound intersection approaches to eliminate the intersection skew. The roadway reconstruction consists of approximately 900 linear feet of construction and reconstruction along South Central Point Road and approximately 550 linear feet of reconstruction along South New Era Road. The majority of the work includes earthwork, 2,100 tons of asphalt paving, and storm sewer construction.

Road improvements will include excavation, embankment, storm water facilities, roadway paving, signs and striping, and flashing beacon installation at the intersection of S Central Point Road and S New Era Road.
Engineers Estimate: $1,270,000.00

Key Dates:
COMMENCEMENT DATE: Upon issuance of Notice to Proceed ("NTP")
On-site work no sooner than May 1, 2021 per special provisions 00180.40(b)
SUBSTANTIAL COMPLETION/2ND NOTE DATE: October 31, 2021
FINAL COMPLETION/3RD NOTE DATE: June 30, 2022

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

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

- SPECIAL PROVISIONS FOR HIGHWAY CONSTRUCTION- S CENTRAL POINT RDAND S NEW ERA RD INTERSECTION REALIGNMENT CONSTRUCTION, dated February, 2021
- S CENTRAL POINT RD AND S NEW ERA RD INTERSECTION REALIGNMENT Drawing Set, (96 pages).

SPECIAL PROVISIONS
FOR HIGHWAY CONSTRUCTION

DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT
CLACKAMAS COUNTY, OREGON

S CENTRAL POINT RD AND
S NEW ERA RD INTERSECTION
REALIGNMENT CONSTRUCTION

AGGREGATE BASES, ASPHALT CONCRETE PAVING AND OILING, EARTHWORK AND DRAINAGE, ELECTRICAL, LANDSCAPING, SIGNING AND STRIPING

FEBRUARY 2021

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Specifications for Proposed
S Central Point Rd and S New Era Rd
Intersection Realignment Construction

PROFESSIONAL OF RECORD CERTIFICATION(s):

	I certify that the Special Provision Sections listed below were prepared by me or under my supervision. Sections: All Sections.
Date Signed: 1/27/2021	

SPECIAL PROVISIONS

APPLICABLE SPECIFICATIONS

The Specification that is applicable to the Work on this Project is the 2018 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 (http://www.clackamas.us/code/documents/appendixc.pdf).

00110.10 Abbreviations

Add the following:

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

00110.20 Definitions

Add or modify definitions as follows:

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

Amendment – A contract modification for Additional Work, Changed Work, Extra Work, Field Directives, or other changes. An Amendment changes the contract

value, scope, and/or time. Amendments require formal approval by the Board of County 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, 2018 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 2018 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 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**.**

END OF SECTION

SECTION 00130 – AWARD AND EXECUTION OF CONTRACT

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

00130.00 Consideration of Bids - Delete third paragraph.

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

See Instructions to Bidders.

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

See Instructions to Bidders.

00130.30 Contract Booklet – Add the following:

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

- The "Oregon Standard Specifications for Construction", 2018 Edition, as published by the Oregon Department of Transportation (ODOT).
- “Oregon Standard Drawings” latest edition, as published by ODOT.
- Clackamas County Service District No. 1 "Surface Water Standard Specifications", latest edition.

00130.40 Contract Submittals - Delete and replace with the following:

See Instructions to Bidders.

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

See Instructions to Bidders.

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.
- 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.

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

- Hold a utility scheduling meeting and monthly utility coordination meetings (see also 00180.42);
- Maintain and re-establish utility location marks according to OAR 952-001-0090(2)(a). Coordinate re-establishment of the location marks with the associated Utility;
- Determine the exact location before excavating within the reasonable accuracy zone according to OAR 952-001-0090(2)(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(5), notify the Engineer and the Utility as soon as the Contractor discovers any previously unknown Utility conflicts or issues. Contrary to the OAR, stop excavating until directed by the

Engineer and allow the Utility a minimum of two weeks to relocate or resolve the previously unknown utility issues.

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

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

00150.50 Cooperation with Utilities - Add the following subsection:

(f) Utility Information:

1. (Portland General Electric – “Power Company ")
   (Sondra Lee, 503-463-6173, Sondra.Lee@pgn.com)

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

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.

Portland General Electric operates power facilities at multiple locations within the Project limits both parallel and perpendicular to the roadway centerline. Notify, in writing, at least 30 Calendar Days (4 weeks) before beginning excavation. Allow Portland General Electric 30 Calendar Days (4 weeks) to complete relocation (readjustment) work.

2. (Canby Telephone Association (DirectLink) – “Telephone Company")
   (Eric Kehler, eric.kehler@directlink.coop, 503-266-8223)

Notify, in writing, Canby Telephone Association (DirectLink) at least 30 Calendar Days (4 weeks) before beginning Work on the Project.

Notify, in writing, Canby Telephone Association (DirectLink) at least 30 Calendar Days (4 weeks) before beginning excavation and drainage within 10 feet of conduit and risers. Allow Canby Telephone 30 Calendar Days (4 weeks) to complete relocation (readjustment) work.

3. (CTLQL-CenturyLink - "Fiber Company")

(Scott Miller, scott.miller4@centurylink.com, 503-242-4144)

Notify, in writing, CenturyLink at least 30 Calendar Days (4 weeks) before beginning excavation and drainage activities within 10 feet of underground fiber and risers. Allow CenturyLink 30 Calendar Days (4 weeks) to complete relocation (readjustment) work.

4. (Wave Broadband - "Communication Company")
(Derek Anderson, danderson@wavebroadband.com)

Notify, in writing, Wave Broadband at least 30 Calendar Days (4 weeks) before beginning excavation and drainage activities within 10 feet of underground fiber and risers. Allow Wave Broadband 30 Calendar Days (4 weeks) to complete relocation (readjustment) work.

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.

00165.91 Fabrication Inspection Expense - In the paragraph that begins "Fabrication of certain items…", replace the sentence that begins "Therefore, each time that…" with the following sentence:

Therefore, each time that inspection by or on behalf of the Agency is necessary, payment to the Contractor will be reduced by an amount computed at the following rates:

In the paragraph that begins "This Subsection applies to all...", replace the first sentence, but not the bullet list, with the following sentence:

This Subsection applies to all fabricated items or manufactured Materials that are inspected by or on behalf of the Agency, which include, but are not limited to:

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 - Add the following two paragraphs after the paragraph that begins "In any litigation, the entire…":

The characterization of provisions of the Contract as material provisions or the failure to comply with certain provisions as a material breach of the Contract shall in no way be construed to mean that any other provisions of the Contract are not material or that failure to comply with any other provisions is not a material breach of the Contract.

All rights and remedies available to the Agency under applicable Laws are incorporated herein by reference and are cumulative with all rights and remedies under the Contract.

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.

00170.61(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	$1,000,000	$2,000,000
Commercial Automobile Liability	$1,000,000	(aggregate limit not required)

00170.70(c) Additional Insured - Add the following paragraph and bullets to the end of this subsection:

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

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.

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

The Contractor shall not begin On-Site Work before May 1, 2021, unless approved by the Engineer.

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)
Critical Time Periods	00180.44
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.

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

Road closure: One continuous closure of the intersection of S Central Point Rd and S New Era Rd of no more than 56 Calendar Days (8 weeks) shall occur during periods when lanes are not required to remain open, as outlined in Section 00220.40(e).

00180.50(h) Contract Time - Complete all Work to be done under the Contract, except for seeding establishment, before the earlier of 120 Calendar Days, or October 31, 2021.

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 $700 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).

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(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.

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 - Modify as follows:

(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.

00196.91 Extra Work Allowance – Add the following new section:

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

END OF SECTION

SECTION 00197 – PAYMENT FOR FORCE ACCOUNT WORK

Comply with Section 00197 of the Standard Specifications 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.

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.
- Before activating a modified traffic signal, revising lane usage, implementing new roadway geometry, or removing a "STOP" sign, protect traffic by installing "NEW TRAFFIC PATTERN AHEAD" (W23-2) signing according to 00225.02. Keep the signs in place for 30 Calendar Days after completing the modifications.

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

The Agency will allow a one time, up to 56 days (8 weeks) in duration, continuous 24-hour closure to the Worksite. The project plans include a Detour Plan for the Worksite closure. 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 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 00225.

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 $5,000 per day. If the Contractor exceeds the scheduled 56 days of closure the Contractor shall pay to the Agency, not as a penalty but as liquidated damages, $5,000 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.

00220.60(a)(1) Contractor Responsibility - In the paragraph that begins "Do the following at no additional…", add the following bullet to the end of the bullet list:

- During emulsified asphalt surface treatment operations, broom the surface being used by bicycles as soon as practicable to keep it free of all dirt, mud, gravel, and other harmful materials. The surface includes bike paths, bike lanes, roadway shoulders or the outside 6 feet of the roadway.

SECTION 00225 - WORK ZONE TRAFFIC CONTROL

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

00225.02(a) Temporary Signs - Add the following to the end of the bullet list:

- Install a 54-inch "TRUCKS LEAVING HIGHWAY XXXX FT" sign in advance of each entrance point to the work area at sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings. Install a 54-inch "TRUCKS ENTERING HIGHWAY XXXX FT" sign in advance of each exit point from the work area at sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings.

- Install "ROAD WORK AHEAD" (W20-1-48) signs with a 36 by 24-inch "FINES DOUBLE" (R2-6aP) rider on the S Central Point and S New Era Road, according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans except do not install the "FINES DOUBLE" rider on concrete barrier mounted signs.

- Install beyond each end of the Project, facing outgoing traffic, an "END ROAD WORK" (CG20-2A-24) sign a distance of (A ÷ 2) according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans.

- 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.

- Install a "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately 1,000 feet in advance of the intersection of S Central Point Road and S New Era Road, facing northbound, southbound, eastbound, and westbound incoming traffic.

- Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after opening traffic to the realigned intersection of S Central Point Road and S New Era Road.

00225.32(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.

SECTION 00280 - EROSION AND SEDIMENT CONTROL

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

00280.00 Scope - Add the following paragraph to the end of this subsection:

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

00280.06 Erosion and Sediment Control Manager - Delete this subsection.

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 within 24 hours.

SECTION 00290 – ENVIRONMENTAL PROTECTION

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

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

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

Notify the Engineer, in writing, a minimum of 10 calendar days prior to starting activities that could harm nesting birds. Avoid disturbing migratory bird nesting habitat (shrubs, trees, and structures) from March 1 to September 1 of each year. If avoidance is not possible, obtain approval from the Engineer before falling trees or clearing vegetation that could disturb migratory bird nesting habitat between March 1 and September 1.

Add the following subsection:

00290.36(c) Avoid Nesting - Comply with Migratory Bird Treaty Act (16 U.S.C. 703-712). Submit a migratory bird protection plan for review and approval at least 10 Calendar Days before the pre-construction conference. Include the following:

- Describe measures to avoid disturbance to migratory bird nesting habitat (vegetation, structures) from March 1 to September 1 of each year.
- Do not begin work until the migratory bird protection plan is approved.
- In the event the nesting birds or bats are encountered during construction, the Engineer may suspend the work according to 00180.70.

SECTION 00305 - CONSTRUCTION SURVEY WORK

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

Description

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.

Measurement

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

Payment

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.

SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

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

00310.44 Earthwork in Connection with Removal - Replace this subsection, except for the subsection number and title, with the following:

Excavation required to perform Removal of Structures and Obstructions will be considered Incidental to the removal Work, including removal of existing aggregate bases underneath existing paved surfaces.

The estimated quantity, as reflected in the construction profile sheets, for earthwork performed under this section is as follows:

Earthwork Incidental to Removal of Structures and Obstructions……1,825 CY

Backfill holes according to 00330.45. No separate payment will be made for this Work.

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 saved, as shown. Provide and place work zone fencing, from section 00225.12 of the QPL, around designated no work zones and critical root zones of marked trees, as directed. Do not begin construction activity or move equipment into existing landscaped or vegetated areas until the work zone fencing is in place to designate and protect no work and critical root zones.

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.

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.

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

00330.42(d) Stone Embankment – Add the following paragraphs to the end of this subsection:

Contractor shall construct Stone Embankment to an elevation 2 feet above proposed finish grade over the full width of the proposed roadway embankment of S Central Point Rd between station 17+50 and station 19+50. The stone embankment will act as a surcharge load. It is estimated that the primary consolidation will occur in 28 to 42 days, but the surcharge period will be established based on the engineer's evaluation of the collected settlement data. Primary consolidation shall be achieved prior to Aggregate Base and Shoulders and Asphalt Cement Pavement work.

Contractor shall install settlement plates in accordance with Typical Settlement Plate Detail, Figure X at maximum 40 feet spacing along the center line of the embankment of S Central Point Rd between station 17+50 and station 19+50. Contractor shall survey settlement plate and embankment surface elevations at least two times a week during the surcharge loading. Survey elevation information shall be provided to the County within three (3) days of collection. Settlement plate elevation survey shall be measured and recorded to 0.01-ft accuracy.

Furnish plywood settlement plates as shown, with a 2-in. threaded pipe flange bolted to the center to receive the first 5-foot section of 2-in. schedule 40 steel pipe (riser). Furnish additional 5-foot riser sections as needed.

Stone Embankment placed for surcharge load between station 17+50 and station 19+50 shall be re-used within project limits as shown and directed. Stone Embankment used for surcharge load that is re-used within projects limits shall only be paid for once.

00330.82 Embankment Basis Measurement - This paragraph is added to the end of this section:

No measurement will be made for the installation, protection, monitoring, and surveying of the settlement plates. Payment shall be incidental to the Stone Embankment work.

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.
- Excavation of existing roadway section is covered under Section 00310 Work.
- Excavation of Flow Control Basin B is covered under Section 01011 Work.

00330.93 Excavation Basis Payment – Replace bullet point (d) with the following:

Pay Item	Unit of Measurement
(d) General Excavation……	Lump Sum

The estimated quantity, as reflected in the construction profile sheets, for earthwork performed under this section is as follows:

General Excavation……..850 CY

Section 0330.94 Embankment Basis Payment - This paragraph is added at the end of this section:

No separate payment will be made for the installation, protection, monitoring, and surveying of the Settlement Plates. Payment shall be incidental to the Stone Embankment pay item.

SECTION 00331 - SUBGRADE STABILIZATION

Comply with Section 00331 of the Standard Specifications.

SECTION 00350 - GEOSYNTHETIC INSTALLATION

Comply with Section 00350 of the Standard Specifications.

SECTION 00390 - RIPRAP PROTECTION

Comply with Section 00390 of the Standard Specifications.

SECTION 00405 - TRENCH EXCAVATION, BEDDING, AND BACKFILL

Comply with Section 00405 of the Standard Specifications modified as follows:

00405.12 Bedding - Replace the bullet that begins "3/8" - 0 PCC Fine Aggregate…" with the following bullet:

- 3/8" - 0 PCC Fine Aggregate conforming to 02690.30(g).

00405.46(c)(2) Class A, B, C, or D Backfill - Replace the paragraph that begins "Compact the top 3 feet…" with the following paragraph:

Compact each layer of trench backfill material within the Roadway and Shoulders, and within a 2V:1H Slope line projected from each Subgrade Shoulder, to not less than 95 percent of maximum density. Compact all other trench backfill material to not less than 90 percent of maximum density.

SECTION 00415 - VIDEO PIPE INSPECTION

Comply with Section 00415 of the Standard Specifications.

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.

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

Comply with Section 00445 of the Standard Specifications.

SECTION 00470 - MANHOLES, CATCH BASINS, AND INLETS

Comply with Section 00470 of the Standard Specifications.

SECTION 00490 - WORK ON EXISTING SEWERS AND STRUCTURES

Comply with Section 00490 of the Standard Specifications modified as follows:

00490.10 Materials - Replace the "Precast Concrete Sections" line with the following line:

Precast Concrete Sections 02450

SECTION 00495 - TRENCH RESURFACING

Comply with Section 00495 of the Standard Specifications.

SECTION 00620 - COLD PLANE PAVEMENT REMOVAL

Comply with Section 00620 of the Standard Specifications modified as follows:

00620.43 Maintenance Under Traffic - Replace this subsection, except for the subsection number and title, with the following:

Traffic will be allowed on the cold planed surface up to 3 Calendar Days after removing the existing surface. Sweep and clean the cold planed surface before opening to traffic.

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

SECTION 00640 - AGGREGATE BASE AND SHOULDERS

Comply with Section 00640 of the Standard Specifications.

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 4.3 tons of Emulsified Asphalt in tack coat will be required on this Project.

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.

SECTION 00749 - MISCELLANEOUS ASPHALT CONCRETE STRUCTURES

Comply with Section 00749 of the Standard Specifications.

SECTION 00759 - MISCELLANEOUS PORTLAND CEMENT CONCRETE STRUCTURES

Comply with Section 00759 of the Standard Specifications.

SECTION 00840 - DELINEATORS AND MILEPOST MARKER POSTS

Comply with Section 00840 of the Standard Specifications.

SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS

Comply with Section 00850 of the Standard Specifications modified as follows:

00850.47(c) Retroreflectivity - Replace the sentence that begins "Except for paint applications…" with the following sentence:

Except for paint and colored lane marking applications, evaluate longitudinal and transverse marking retroreflectivity according to ODOT TM 777.

SECTION 00860 - LONGITUDINAL PAVEMENT MARKINGS - PAINT

Comply with Section 00860 of the Standard Specifications.

SECTION 00865 - LONGITUDINAL PAVEMENT MARKINGS - DURABLE

Comply with Section 0865 of the Standard Specifications.

SECTION 00867 - TRANSVERSE PAVEMENT MARKINGS - LEGENDS AND BARS

Comply with Section 00867 of the Standard Specifications.

SECTION 00905 - REMOVAL AND REINSTALLATION OF EXISTING SIGNS

Comply with Section 00905 of the Standard Specifications.

SECTION 00930 - METAL SIGN SUPPORTS

Comply with Section 00930 of the Standard Specifications modified as follows:

00930.10 Materials - Replace the paragraph that begins “Furnish structural steel materials…” with the following paragraph:

Furnish perforated steel square tube slip base sign supports and perforated steel square tube anchor sign supports from the QPL. Furnish other structural steel materials meeting the applicable portions of Section 02530, with weights and sizes as shown or specified.

00930.80 Measurement - Add the following to the end of this subsection:

The estimated quantities of structural steel are as follows:

Item	Estimated Quantity (Pound)
Minor Sign Supports	
Perforated Steel Square Tube Anchor Sign Supports	140
Triangular Base Breakaway Sign Supports	40

SECTION 00940 - SIGNS

Comply with Section 00940 of the Standard Specifications.

SECTION 00960 - COMMON PROVISIONS FOR ELECTRICAL SYSTEMS

Comply with Section 00960 of the Standard Specifications modified as follows:

00960.01 Regulations, Standards, and Codes - Replace the paragraph that begins "Wherever reference is made…" with the following paragraph:

Use the code, order, or standard in effect on the date the Project is advertised unless otherwise shown.

Replace the paragraph that begins "Do not begin installations…" with the following paragraph:

Safe wiring labels normally required by the Department of Consumer and Business Services, Building Codes Division will not be required for traffic management systems listed on the Red Sheets (see 00160.00) as allowed by ORS 479.540 and OAR 918-261-0037. The Red Sheets may be viewed on ODOT's web site.

00960.02 Equipment List and Drawings - Replace this subsection with the following subsection:

00960.02 Equipment List and Drawing Submittals - Within 30 Calendar Days after execution of the Contract, submit two copies of the Blue Sheets (see 00160.00) and two copies of the Green Sheets (see 00160.00) according to 00150.37 for all materials the Contractor proposes to install. Blue Sheets and Green Sheets will be made available to the Contractor by the Engineer.

Fill out the Blue Sheets and Green Sheets based on the Project requirements. Check off all pre-approved items to be used on the Project. When proposing write-in items, check off the box under "Write-in items" and follow the instructions. Use the current version of the Blue Sheets and Green Sheets that is in effect on the date of Advertisement.

Within 14 Calendar Days after receipt of submittals, the Engineer will review the submittals and designate them in writing as "approved", "approved as noted", or "returned for correction". Do not proceed with the Work before receiving written approval of the submittals from the Engineer.

Add the following subsection:

00960.03 Permits – Provide the Engineer with copies of all required electrical permits prior to performing any work.

00960.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Furnish Materials meeting the following requirements:

Commercial Grade Concrete	00440
Controlled Low Strength Materials	00442
Delineators	00840.10 and 00840.11
Metal Illumination and Traffic Signal Supports	00962
Selected General Backfill	00330.13
Selected Granular Backfill	00330.14
Steel Reinforcement	00530

Furnish electrical Materials that have been approved through the Blue Sheet and Green Sheet submittal process in 00960.02.

Anchor rods shall conform to 02560.30 and to the types and sizes shown.

Use commercially available 30 pound nonperforated asphalt-saturated felt where shown.

Use commercially available No. 10 - 0 sand when sand blanket is required.

Use commercially available UL listed insulating vinyl plastic tape where shown.

Use commercially available UL listed silicon bronze (or copper alloy) split bolt where shown.

Use commercially available galvanized steel weatherproof compression fittings where shown.

00960.40 General – Replace this subsection with the following subsection:

00960.40 Excavation:

Remove and replace sidewalks, curbs, paved surfaces, and other materials as needed. Replace and finish all surfaces to correspond with the existing surfaces. Restore all disturbed landscaping and underground systems to original condition.

Excavate trenches, foundations, and junction boxes to locations, Neat Lines, grades and Cross Sections as shown or as established or approved. Furnish, place, and remove any shoring required to prevent caving of walls.

Dispose of all excavated Materials according to 00290.20.

00960.41 Excavation - Replace this subsection with the following subsection:

00960.41 Horizontal Directional Drilling - Drilling shall not "hump" or deform the Pavement and shall be guided. Keep drilling pits at least 2 feet from the edge of Pavement. Do not use water to the extent that the Pavement might be undermined or Subgrade softened. Sand bedding and marking tape are not required with this method.

If jointed conduit is used, verify the joints have not separated by pulling a mandrel through the conduit after installation.

00960.42 Conduit - Replace this subsection, except for the subsection number and title, with the following:

(a) Cleaning New Conduit – Before cable and wire installation, clean all new conduit with cylindrical mandrel of the proper size for that conduit and blow out with compressed air. Mechanical pulling methods may be used for conduit cleaning.

(b) Cleaning Existing Conduit - Before installation of new cable(s) or wire(s) in an existing conduit, temporarily remove all existing cable(s) and wire(s). Clean existing conduit with cylindrical mandrel of the proper size for that conduit and blow out with compressed air. Mechanical pulling methods may be used for conduit cleaning. Stop work and notify the Engineer immediately if there are any difficulties cleaning the existing conduit. Reinstall existing cable(s) and wire(s) in existing conduit unless otherwise shown.

00960.43 Foundations – Replace this subsection, except for the subsection number and title, with the following:

Construct foundations for pedestals, posts, and cabinets according to Section 00440 and the applicable portions of 00540.48(a). Place concrete:

- Directly against the sides of the excavation in undisturbed or well-compacted material or place in forms.
- With a continuous pour.
- To the elevation shown or directed.
- With conduit ends and anchor rods held securely in proper vertical position, to proper height, using a manufacturer's recommended template until the concrete sets.

Maintain rebar clearances during concrete pour.

Make no adjustments of anchor rods after concrete has set.

Set forms square and true to line and grade. Construct forms of rigid materials that remain in position until removed.

Remove forms and place subsequent loading according to Table 00540-1.

Finish tops of foundations to Roadway, sidewalk or curb grade, or as directed.

Finish exposed concrete foundations to present a smooth, neat appearance. Fill all holes.

00960.44 Junction Boxes - Delete this subsection.

00960.45 Cable and Wire - Delete this subsection.

00960.46 Wiring Practices - Delete this subsection

00960.47 Wood Poles - Delete this subsection.

00960.48 Coating - Delete this subsection.

00960.49 Electrical Service - Delete this subsection.

00960.50 Grounding and Bonding - Replace this subsection, except for the subsection number and title, with the following:

(a) General - Make all ground rods, metal conduit, metal poles, grounding wire, metallic junction boxes, metallic junction box covers, and cabinets mechanically and electrically secure to form a continuous, effectively grounded and bonded system.

(b) Grounding/Bonding Wire - Use a THWN No. 6 AWG stranded copper grounding/bonding wire in conduit or as shown. Use an un-insulated No. 4 AWG stranded copper grounding/bonding wire outside of conduit or as shown.

(c) Ground Rods - Ground each above ground metallic Structure with a separate ground rod.

(1) Located in Junction Box - Install ground rod in a junction box if shown. Drive ground rods into the ground with the top of the ground rod 2 inches to 3 inches above the bottom of the junction box to allow for an accessible clamp.

(2) Located in Foundation - Install ground rod in a foundation if shown, with the ground rod 2 inches to 3 inches above the top of the foundation to allow for an accessible clamp.

(d) Services and Cabinets - Bond the neutral conductor, the control cabinets, and the metal base to the grounding electrode system.

(g) Nonmetallic Conduit - In all nonmetallic conduit, run a ground/bond wire continuously between all poles, pedestals, posts, and cabinets. Bond wires are not required in conduit that only contains circuits that operate at less than 25 volts.

(h) Metallic Junction Boxes and Lids - Bond metal junction boxes and lids to form a continuous effectively grounded and bonded system with metallic conduit, grounding wire, metal standards and controller cabinets. Leave enough slack in the bond wire connected to the lid to allow complete removal of the lid. Junction boxes only containing circuits that operate at less than 25 V do not need to be bonded.

Add the following subsection:

00960.60 Maintenance, Operation and Power Costs - The Agency will continue normal maintenance and operations of the existing systems including the furnishing of electrical energy. Do not use for construction purposes electrical energy billed to the Agency or other agencies.

00960.70 Electrical Energy - Replace this subsection with the following subsection:

00960.70 Service Cabinet and Electrical Energy - Install service cabinet and associated equipment early on to allow the Utility to schedule its Work before project completion. Have the service cabinet inspected by the Utility providing power. Arrange for the Utility to make the electrical hookup.

Add the following subsection:

00960.71 As-Built Plans - Upon completion of the installation, submit a red-lined copy of the original Plans noting all changes made. The information furnished shall include all modifications made and shall represent the material installed and in operation. It shall be sufficiently detailed to enable maintenance forces to replace or repair any part of the Project under routine or emergency maintenance by direct reference.

SECTION 00962 - METAL ILLUMINATION AND TRAFFIC SIGNAL SUPPORTS

Comply with Section 00962 of the Standard Specifications.

SECTION 00990 - TRAFFIC SIGNALS

Comply with Section 00990 of the Standard Specifications modified as follows:

00990.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

In addition to the requirements of Section 00960 and Section 00962, install traffic signals according to the following Specifications.

Add the following subsection:

00990.02 Electrical Materials - Submit all electrical materials the Contractor proposes to install according to 00960.02.

00990.10 Backer Rod and Loop Sealant - Replace this subsection with the following subsection:

00990.10 Materials - Furnish Materials meeting the following requirements:

Add the following subsection:

00990.11 Traffic Signal Control Devices - The traffic signal controllers and related Equipment shall conform to requirements of the current edition of the ODOT Standard Specification for Microcomputer Signal Controller and errata.

The most current published version of the ODOT Standard Specification for Microcomputer Signal Controller, including all published errata, on ODOT's Traffic Standards website (see 00110.05(e)) at the time of Advertisement is the version in effect for the Project.

Add the following subsection:

00990.30 Video/Radar Detector Manufacturer's Representative - Provide the services of a manufacturer's representative on-site within 1 week in advance of the anticipated signal completion date to set up devices with Agency electrical crew present.

00990.40 Cable and Wire : Delete this subsection.

00990.41 Cabinet : Replace this subsection with the following subsection:

00990.41 Inductive Loop Detectors:

(a) General - Do not begin saw cutting until the loop layout has been inspected by the Engineer.

Do not place wire in saw cuts until the cuts have been inspected by the Engineer.

(b) Saw Cut and Wire Installation - Saw cut in a manner that is the most practicable, direct line between loops and junction boxes.

Immediately after saw cutting and before the cuttings dry, thoroughly flush each cut with a high-pressure water stream. Before the cuts dry, blow cuts free of water, debris,

rock, and grit with compressed air. Slots may also be cleaned by means of a high-pressure water injection/vacuum extraction system. Remove rocks or other material that may be wedged in the cut. Remove and dispose of all cuttings according to 00290.20.

Dry cuts before placing wire.

After the saw cut is cleaned of debris, place the loop wire by pushing it into the slot with a blunt nonmetallic object. Use care to avoid damaging the insulation.

(c) Sealant - Install the sealant in slots according to the manufacturer's instructions. Furnish a copy of the manufacturer's specifications including application procedures. The Engineer may order a test run of any application method or material before filling saw cuts.

In order to prevent heat damage to the insulation, do not allow the temperature of the sealant to exceed 410 °F during application. Install hot-melt sealants in layers to prevent damage to wire insulation. Allow each layer to cool before the next layer is installed. Do not use water to accelerate cooling.

Sealants that crack or pull away from the saw cuts after curing will be rejected.

(d) Resistance and Continuity Testing - The resistance to ground of the loop and loop feeder combinations, shall be 500 MΩ or greater when checked at the following conditions:

- Before splicing and sealing - continuity test
- Before splicing after sealing - resistance test
- After splicing and sealing - resistance test

Furnish a report of the resistance and continuity results for each loop at each testing condition.

00990.42 Indication Equipment : Replace this subsection with the following subsection:

00990.42 Controller Cabinet Terminations:

(a) General - Terminate all field wiring to the terminal blocks physically attached to the controller cabinet

(b) Loop Feeder Cables – When terminating loop feeder cable inside the controller cabinet, do not remove the outside jacket and shield more than 6 inches from the end of the cable. Crimp lugs used for loop wire field terminals may be insulated or non-insulated. Terminate loop feeder shield drain wire to the cabinet input panel grounding bus nearest the feeder wire termination point.

00990.43 Traffic Signal Detection Devices : Replace this subsection with the following subsection:

00990.43 Traffic Control Signs - The type of sign and method of mounting will be as shown. Signs shall conform to the applicable portions of Section 00940.

00990.44 Traffic Control Signs - Replace this subsection with the following subsection:

00990.44 Illumination on Traffic Signal Poles - Install illumination and associated appurtenances on traffic signal poles as shown and according to applicable portions of Section 00970.

Add the following subsection:

00990.45 Signal Covers - Cover mounted vehicle signals and pedestrian signals at all times until the signal installation is ready for continuous operation.

00990.46 Fire Preemption – Replace this subsection with the following subsection:

00990.46 Pushbutton Covers - Cover mounted pushbuttons at all times until the pushbuttons are operational.

Add the following subsection:

00990.60 Cabinet Protection - Keep interiors of all cabinets clean and free of dust, dirt, moisture, and other foreign matter.

00990.70(a) Delivery of Control Equipment - Replace this subsection, except for the subsection number and title, with the following:

Provide all traffic control signal Equipment for the Project according to the cabinet print(s), including all associated manuals, diagrams, and other documents. The cabinet print(s) will be made available to the Contractor by the Engineer. Deliver all traffic signal control Equipment, including wiring diagrams and operation manuals, in one shipment. Partial shipments will not be accepted and will be returned to the Contractor at no additional cost to the Agency. Include the following information with the Equipment shipments:

- Contractor
- Location
- For controller cabinets, TSSU ID number
- Contract number
- Completed Green Sheets

Deliver the traffic signal control Equipment and information for testing to:

Oregon Department of Transportation
Traffic Systems Services Unit
2445 Liberty St. NE
Salem, Oregon 97303-6738

Add the following subsection:

00990.70(f) Control Equipment Installation - Add the following paragraph to the end of this subsection:

The Agency will be responsible for providing signal timing software and timing parameters.

00990.70(i) Interconnect System Testing - Replace the title of this subsection with "**Interconnect System Testing for Copper Twisted Pair**".

00990.80 Measurement - Add the following paragraph to the end of this subsection:

Signs and their attachment hardware shown on frangible base poles and perforated steel square tube slip base supports will be measured according to 00930.80 and 00940.80.

00990.90 Payment - Replace this subsection with the following:

00990.90 Payment – The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

(a)	Flashing Red Beacon Installation, Complete	Lump Sum
(b)	Flashing Yellow Beacon Installation, Complete	Lump Sum

Signs and their attachment hardware shown on frangible base poles and perforated steel square tube slip base supports will be paid for according to 00930.90 and 00940.90.

Item (a) includes all elements shown on the plans (except signs and their attachment hardware), including, but not limited to: conduits, junction boxes, wiring, poles, foundations, and concrete pads.
Item (b) includes all elements shown on the plans (except signs and their attachment hardware), including, but not limited to: poles, bases and foundations.

Replace the sentence beginning with “No separate or additional payment will…” with the following paragraph:

No separate or additional payment will be made for:

- Replacement of disturbed earthwork, Base and Surfacing
- Illumination and associated appurtenances shown on traffic signal poles.

SECTION 01010 - STORMWATER CONTROL, WATER QUALITY STRUCTURES

Section 01010, which is not a Standard Specification, is included for this Project by Special Provision.

Description

01010.00 Scope - This work consists of furnishing and installing a water quality Structure as shown.

01010.02 Definitions:

Water Quality Structure - An underground self-activating Structure with no moving mechanical parts or external power sources which removes pollutants from stormwater runoff and retains the pollutants in the Structure.

01010.03 Submittals - Furnish water quality Structures from the QPL.

Provide the following water quality Structures:

Drainage Facility Identification Number	Location (Station)	Stormwater Control Facility Treatment Category
SDMH-1	16+69.18	Sediment Pretreatment/Flow Control

Submit the following according to 00150.35:

- Unstamped Working Drawings that include the following information:
  - All design and construction details.
  - Structure plan view with dimensions.
  - Typical section with dimensions.
  - All appurtenances labeled.
  - Installation and pipe connection details.
- Manufacturer prepared product brochures.

Drainage Facility Identification Number	Location (Station)	Contributing Impervious/Drainage Area (Acres)	On-line or Off-line	Water Quality Design Flow Rate (cubic feet per second)	On-line Water Quality Structure Peak Flow Rate (cubic feet per second)
SDMH-1	16+69.18	21.97	On-line	0.13	9.10

Construction

01010.40 General - Construct water quality Structures according to the manufacturer's recommendations.

01010.41 Pipe connections - Place connecting pipe at the required alignment and grade. Set the connecting pipe through the full thickness of the wall and flush with the inner face of the wall. Ensure that pipe connections to the Structure are watertight.

Connect all pipes to water quality Structure according to the manufacturer's recommendations.

Maintenance

01010.70 Cleaning - Remove all accumulated sediment and debris before completing the facility.

Measurement

01010.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

01010.90 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/Flow Control Structure, SDMH-1".

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

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.

SECTION 01011 - STORMWATER CONTROL, FLOW CONTROL BASIN

Section 01011, which is not a Standard Specification, is included for this Project by Special Provision.

Description

01011.00 Scope - This work consists of furnishing and installing stormwater ponds as shown.

Materials

01011.10 Materials - Furnish material meeting the following requirements:

Erosion Control Matting, Type A..... 00280.14(e)
Concrete 00440
Riprap 00390.11
Riprap Geotextile, Woven, Type 1..... 02320
Storm Sewer Pipe 00445.11

01011.12 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 T 2. 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

01011.40 General - Construct storage facility as shown. Perform excavation and fine grading work only when the facility area is dry and only from the top of the pond area. Do not stockpile material in the facility area.

01011.41 Flow Control Basin - Scarify the subsoil area a minimum 12 inches deep. After scarification, place the water quality mixture in maximum 12 inch Lifts. Compact each Lift with a water filled landscape roller.

01011.42 Concrete Flow Control Structure – Construct concrete structures in accordance with the requirements of 00440.

01011.43 Riprap – Construct riprap and install riprap geotextile in accordance with 00390.

01011.44 Topsoil – Install topsoil in accordance with 01040.

Maintenance

01011.70 Cleaning - If a stormwater control facility is used for erosion and sediment control, remove all accumulated sediment and debris before completing the facility.

Measurement

01011.80 Measurement - No measurement of quantities will be made for Work performed under this Section. The estimated quantities of materials are:

Flow Control Basin B Quantities:

Item	Quantity
Excavation	675 Cu. Yd.
Erosion Control Matting, Type A	330 Sq. Yd.
Riprap Geotextile, Woven, Type 1	6.67 Sq. Yd.
Loose Riprap, Class 50	2.33 Cu. Yd.
Water Quality Mixture,	105 Cu. Yd.
Concrete Curb Structure (Flow Control)	1 Each

Payment

01011.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract lump sum amount for the items:

Pay Item	Unit of Measurement
(a) Flow Control Basin, B	Lump Sum

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

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.

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:

Erosion Control Matting, Type B	00280.14(e)
Riprap	00390.11
Riprap Geotextile, Woven, Type 1	02320
Storm Sewer Pipe	00445.11

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 T 2. 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. Scarify the subsoil area a minimum 12 inches deep. After scarification, place the water quality mixture in maximum 12 inch lifts. Compact each lift with a water filled landscape roller.

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.

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 Swale Quantities:

Item	Quantity
Excavation	490 Cu. Yd.
Erosion Control Matting, Type B	110 Sq. Yd.
Riprap Geotextile, Woven, Type 1	6.67 Sq. Yd.
Loose Riprap, Class 50	2.33 Cu. Yd.
Water Quality Mixture	35 Cu. Yd.

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, A".

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

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.

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

- **Turf Grass 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

01030.15 Mulch - Add the following paragraphs 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.

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

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

Landscape Planting shall conform to the standards established under Water Environment Services (WES).

All plant material delivered to the site shall meet the American Standard for Nursery Stock Standards.

Contractor shall obtain written approval for all plant material substitutions from the Landscape Architect prior to installation. Plant substitutions without prior written approval that do not comply with the drawings and specifications may be rejected by the Landscape Architect at no cost to the Owner. These items may be required to be replaced with plant materials that are in compliance with the drawings.

SECTION 01040 - PLANTING

Comply with Section 01040 of the Standard Specifications modified as follows:

01040.80(b) Topsoil and Wetland Topsoil - Replace the paragraph that begins "Topsoil and wetland Topsoil will be measured…" with the following paragraph:

Topsoil and wetland Topsoil will be measured on the volume basis at the time of placement. Trucking invoices may be used to determine volumes if the quantities are verifiable to the satisfaction of the Engineer.

01040.80(f) Mulch - Replace this subsection, except for the subsection number and title, with the following:

Mulch will be measured on the volume basis at the time of placement, or on the weight basis. Trucking invoices may be used to determine volumes if the quantities are verifiable to the satisfaction of the Engineer.

01040.90(d) Plant Materials - Replace the paragraph that begins “Partial payments for plant Materials will…” and the partial payment table with the following paragraph and table:

Partial payments for plant Materials will be made as follows:

At the time of the original planting 60%
After the first plant establishment inspection 10%

After the second plant establishment inspection..... 10%
After the third plant establishment inspection 10%
At completion of the establishment period 10%

SECTION 02001 - CONCRETE

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

02001.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

This Section includes the requirements for the properties, submittals, production, quality control and acceptance of portland cement concrete (concrete) for structural, precast prestressed, and paving applications.

02001.01 General - Delete this subsection.

02001.02 Abbreviations and Definitions - Replace this subsection, except for the subsection number and title, with the following:

ASTV - Actual Strength Test Value

f'_c - Minimum Specified Compressive Strength at 28 days

f'_{cr} - Required Average Compressive Strength

GGBFS - Ground Granulated Blast Furnace Slag

HPC - High Performance Concrete

HRWRA - High-Range Water-Reducing Admixture (super-plasticizer)

IC - Internally Cured

LWFA - Lightweight Fine Aggregate

PPCM - Precast prestressed concrete member

SCM - Supplementary Cementitious Materials

SSD - Saturated Surface-Dry

w/cm Ratio - Water-Cementitious Material Ratio

WRA - Water Reducing Admixture

Actual Strength Test Value - 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.

Cementitious Materials - Portland cement and supplementary cementitious materials.

High Performance Concrete - Concrete designed for enhanced durability and performance characteristics. High performance concrete is identified by the letters "HPC" in front of the concrete class designation (for example, HPC4500 - 1 1/2).

Internally Cured Concrete - Concrete designed to utilize lightweight fine aggregate to mitigate shrinkage.

Moderate Exposure - Elevations below 1,000 feet.

Pozzolans - Fly ash, silica fume, and metakaolin.

Severe Exposure - Elevations 1,000 feet and above.

Supplementary Cementitious Materials - Fly ash, silica fume, metakaolin, and ground granulated blast furnace slag.

02001.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Furnish Materials meeting the requirements of the following:

Aggregates	02690
Cement	02010
Chemical Admixtures	02040
Concrete Modifiers	02035
Supplementary Cementitious Materials	02030
Synthetic Fiber Reinforcing	02045
Water	02020

Add the following subsection:

02001.15 Concrete Mix Design - Submit current or new mix designs, prepared by a CCT, with the information listed in 02001.15(c), for each required class of concrete to the Engineer for review. Allow 21 Calendar Days for the review. Design mixes by the volumetric method in ACI 211.1 to achieve the properties of 02001.20 and 02001.30 when tested in accordance with 02001.15(b). Provide a design that will be workable, placeable and finishable given the specific conditions for the Project and Structure. Do not proceed with concrete placement until the Engineer has determined that the mix design complies with the Specifications. Review of concrete mix designs does not relieve the Contractor of the responsibility to provide concrete meeting the Specification and jobsite requirements.

(a) Current Mix Designs - Mix designs that meet the requirements for the specified class of concrete and are currently being used or have been used within the past 12 months on any project, public or private may be submitted for review. Provide individual tests results that comprise the average if more than one data point exists. For paving designs the flexural strength testing must be from within the last two years. For HPC designs the Length Change and Permeability tests must be from within the last two years.

(b) New Mix Designs - Make at least one trial batch for each concrete mix design. Notify the Engineer at least 48 hours before making each trial batch. The Engineer may witness preparation and testing. Prepare and test trial batches using the same materials, at the same proportions, and having the same plastic properties of concrete that will be used in the Project. Simulate haul time, batching sequence and mixing

conditions to ensure the trial batch is representative of the mixture that will be delivered to the Project. Furnish all Materials, Equipment, testing and Work required for designing the mixes at no additional cost to the Agency.

(1) Trial Batch Plastic Properties - For each trial batch, test according to the following test methods:

Test	Test Method
Sampling Fresh Concrete	WAQTC TM 2
Concrete Temperature	AASHTO T 309
Slump	AASHTO T 119 [1]
Air Content	AASHTO T 152
Density	AASHTO T 121
Yield	AASHTO T 121
Molding Concrete Specimens	AASHTO T 23 or R 39 [2]
Water Cement Ratio	[3]

[1] For drilled shaft concrete test the slump retention by subsequent tests at half-hour intervals for the duration of the estimated drilled shaft placement, including temporary casing extraction. Report in table or graphical format.
[2] Cast cylinders in single use plastic molds
[3] Use ODOT's Field Operating Procedure for AASHTO T 121 in the MFTP

(2) Trial Batch Hardened Properties - When applicable, test properties according to the following test methods:

Test	Test Method
Compressive Strength	AASHTO T 22
Flexural Strength	AASHTO T 97
Length Change	ASTM C157
Permeability	AASHTO T 277

a. Compressive Strength Tests - For each trial batch, cast and cure at least three test cylinders according to AASHTO T 23 or AASHTO R 39, in 6 inch by 12 inch or 4 inch by 8 inch single use plastic molds. The use of unbonded caps according to ASTM C1231 is permitted. Test at 28 days according to AASHTO T 22.

b. Flexural Strength Tests - For each paving concrete trial batch, cast and cure at least three flexural beams according to AASHTO T 23 or AASHTO R 39. Test flexural beams at 28 days according to AASHTO T 97.

c. Length Change Tests - For all HPC mix designs, except for precast bridge rail elements, make at least three specimens from the trial batch for length change testing. Sample prisms shall have a square, 4 inch by 4 inch cross section. Wet cure the samples until they have reached an age of 28 days, including the period in the molds. Following the wet cure, air store and measure samples according to ASTM C157, Section 11.1.2 for 28 days. Report length change results at total specimen age of 56 days.

d. Permeability Tests - For alternate HPC mix designs, make at least three specimens from the trial batch for permeability testing. Prepare, cure, dry and test according to AASHTO T 277. Report permeability in coulombs at 90 days.

(c) Required Submittals for Mix Designs - Submit the following information for each concrete mix design:

(1) Supplier's Information - Provide the supplier's unique mix design identification number and batch plant location.

(2) Mix Design Constituent Proportions:

- Weight per cubic yard (pounds per cubic yard) of cement, SCM, fine Aggregates and coarse Aggregates (SSD), mix water, concrete modifiers, and chemical admixtures
- Absolute volumes of cement, SCM(s), fine Aggregates and coarse Aggregates (SSD), mix water, air content, concrete modifiers, and chemical admixtures
- Dosage rates for chemical admixtures (ounces per cubic yard)
- w/cm Ratio including all chemical admixtures

(3) Aggregates - Identify the Aggregate source by the ODOT source number. Report current values of the following:

- Bulk specific gravities (SSD)
- Fine Aggregate absorptions
- Coarse Aggregate absorptions
- Dry-rodded density of coarse Aggregates
- Average stockpile gradations
- Fineness modulus of sand used in the mix design calculations

(4) Cement - For each cement used, provide the following:

- Manufacturer
- Brand name
- Type
- Source or location plant
- QPL product number

(5) SCM - For each SCM used, provide the following:

- Manufacturer
- Brand name
- Source
- Class

- QPL product number

(6) Concrete Modifiers - For each concrete modifier used, provide the following:

- Manufacturer
- Brand name
- QPL product number

(7) Admixtures - For each admixture used, provide the following:

- Manufacturer
- Brand name
- Design dosage rate
- QPL product number

(8) Synthetic Fiber Reinforcing - For each synthetic fiber reinforcing used, provide the following:

- Manufacturer
- Brand name
- Design dosage rate
- QPL product number

(9) Water - Identify the source of water to be used and provide a certificate of compliance certifying that the water meets the requirements of 02020.10.

(10) Plastic Concrete Tests - Report the temperature, slump, density, air content, yield, and w/cm Ratio of the trial batch or the average of these values for the cylinder sets presented for evaluation of a current mix design.

For drilled shaft concrete, report the following additional information:

- The total time estimate from initial batching through drilled shaft placement, including haul time, placing concrete, and temporary casing extraction.
- Initial slump test results and subsequent results at 30-minute intervals, verifying a minimum slump of 4 inches is maintained for the total time estimated for drilled shaft placement, including temporary casing extraction. Report data in a table or graph format.

(11) Compressive Strength Test Results - Report the individual test results and the ASTV of cylinders from the trial batch for new mix designs. For current designs, provide the individual tests and the average of the cylinder sets presented for evaluation.

(12) Strength Analysis - Provide an analysis, showing all calculations, demonstrating that the mix design meets the requirements of 02001.20(a)(1).

(13) HPC Test Results - For all HPC except precast bridge rail elements, report the length change according to 02001.15(b)(2)(c).

For alternate HPC designs only, report the permeability according to 02001.15(b)(2)(d).

(14) Quality Control Personnel - Provide the name and certification number of the CCT who prepared the mix design, the QCT who performed the plastic concrete tests and cast the test cylinders, the CSTT who tested the cylinders, and the ODOT certification number of the laboratory where the cylinders were tested.

02001.20 Concrete Properties, Tolerances, and Limits - Replace the paragraph that begins “Provide concrete that is a workable…” with the following paragraph:

Provide concrete that is workable, placeable, uniform in composition and consistency, and having the following properties:

02001.20(a) Strength - Replace this subsection, except for the subsection number and title, with the following:

Provide concrete meeting the required Classes shown in the Contract Documents. The class of concrete designates the minimum required compressive strength, f'_c at 28 days.

Table 02001-1

Concrete Strength and Water/Cementitious Material (w/cm) Ratio		
Type of Concrete	**Strength f'_c (psi)**	**Maximum w/cm Ratio**
Structural	3300	0.50
	3300 (Seal)	0.45
	4000	0.48
	4000 (Drilled Shaft	
	HPC4500	0.40
	HPC(IC)4500	
	5000 +	
Paving	4000	0.44
PPCM’s (with cast-in-place decks and no entrained air)	5000	0.48
	5500	0.44
	6000 +	0.42

(1) Required Average Compressive Strength (*f*'cr) - Except for PPCM designs, provide calculations demonstrating compliance with ACI 301 section 4.2.3.3 using the ASTV from either field results or trial batch cylinders,

(2) Flexural Strength - Provide paving concrete mix designs with a minimum of 600 psi at 28 Days.

02001.20(b) Air Entrainment - Replace Table 02001-2 with the following:

Table 02001-2

Air Entrainment		
Nominal Maximum Aggregate Size, inch.	**Moderate Exposure (Percent)**	**Severe Exposure (Percent)**
3/8	6.0	7.5
1/2	5.5	7.0
3/4	5.0	6.0
1	4.5	6.0
1 1/2	4.5	5.5

02001.20(c) Slump - Replace this subsection, except for the subsection number and title, with the following:

Provide concrete at the appropriate slump shown in Table 02001-3. Take corrective action to maintain a consistent slump at the point of discharge from the delivery vehicle.

Table 02001-3

Concrete Slump	
Condition	**Slump**
Concrete without WRA	4" max.
Concrete with WRA	5" max.
Concrete with HRWRA	6" ± 2"
Precast Prestressed Concrete with HRWRA	10" max.
Seal Concrete	8" ± 2"
Drilled Shaft Concrete	8 1/2" ± 1 1/2" [1]

[1] Maintain a minimum slump of 4 inches throughout drilled shaft placement, including temporary casing extraction.

Add the following subsection:

02001.20(e) Durability - For HPC designs, except designs for precast bridge rail elements, the following additional requirements apply:

Test	Test Method	Acceptance Value
Length Change	ASTM C157	-0.045%
Permeability	AASHTO T 277	1,000 Coulombs (max.) at 90 days [1]

[1] Only required for alternate HPC designs. See 02001.30(b)(2).

02001.30 Concrete Mix Design - Replace this subsection with the following subsection:

02001.30 Concrete Constituents:

(a) Portland Cement - Use Type I or II cement for structural or paving concrete. Use Type III cement for precast prestressed concrete.

(b) Supplementary Cementitious Materials - SCM may be used separately or in combinations up to the specified maximum percentage by mass according to the following:

(1) General Limits - SCM may be used separately or in combination as shown:

Separate SCM	Maximum
Fly Ash + Other Pozzolans	30%
GGBFS	50%
Silica Fume	5%

Combined SCM	Maximum
Fly Ash + Other Pozzolans + GGBFS + Silica Fume	50%*
Fly Ash + Other Pozzolans + Silica Fume	30%*

* Fly ash + other pozzolans shall constitute no more than 25% and silica fume shall constitute no more than 5% of the total weight of cementitious materials.

When silica fume is added to truck mixed concrete, mix the batch a minimum of 100 revolutions at the mixing speed specified by the manufacturer before leaving the batch plant.

(2) HPC Cementitious Composition - Provide HPC with one of the following:

- Cementitious material with 66 percent portland cement, 30 percent fly ash or GGBFS, and 4 percent silica fume.
- Cement with SCM proportioned according to 02001.30(b)(1) and with trial batches performed to demonstrate that the proposed alternate mix design provides a maximum of 1,000 coulombs at 90 days when tested according to AASTHO T 277.

(c) Blended Hydraulic Cement - Blended hydraulic cement may be used subject to the limits of 02001.30(b) and 02010.20.

(d) Chemical Admixtures - Use chemical admixtures according to the manufacturer's recommendations. Use WRA in all seal concrete and in Class 5000 concrete or greater. Use HRWRA in all HPC.

Use a hydration stabilizer from the QPL in all concrete for bridge decks. Use an appropriate amount to extend the initial set time of the concrete by 90 minutes.

(e) Aggregate - If the nominal maximum size of the coarse Aggregate is not included as a part of the class of concrete, or shown on the Plans, any size from 1 1/2-inch to 3/8-inch nominal maximum size Aggregate may be used according to ACI guidelines except:

- Use 1 1/2 inch nominal maximum size Aggregates in bridge deck concrete.
- Use 1 1/2 inch nominal maximum size Aggregates in paving concrete unless otherwise indicated.
- Use 3/8 inch nominal maximum size Aggregates in drilled shafts unless otherwise indicated.

(1) HPC Coarse Aggregate Content - Proportion all HPC for a minimum coarse Aggregate absolute solid volume according to Table 02001-4:

Table 02001-4

Absolute Solid Volume	
Maximum Nominal Aggregate Size	**Cu. Yd. (Aggregate) / Cu. Yd. (Concrete)**
3/8"	0.36
1/2"	0.38
3/4"	0.40
1"	0.42
1 1/2"	0.44

Two or more Aggregate products or sources meeting Specifications may be blended to improve concrete properties. Blending non-specification Aggregate Materials, except for gradation, with specification Materials is not allowed.

(f) Synthetic Fiber Reinforcing for Concrete - Use synthetic fiber reinforcing from the QPL and according to Section 02045 in all high performance concrete. Use

synthetic fiber reinforcing according to the manufacturer's recommendations at the rate designated on the QPL. Fiber packaging is not allowed in the mixed concrete.

02001.31 Concrete Constituents - Delete this subsection.

02001.32 New Mix Designs - Delete this subsection.

02001.33 Required Over Design Strength (f'_{cr}) for New Mix Designs - Delete this subsection.

02001.34(a) Length Change Tests - Delete this subsection.

02001.34(b) Permeability Tests – Delete this subsection.

02001.35 Required Submittals for Mix Designs - Delete this subsection.

02001.37 Trial Batch Costs – Delete this subsection.

02001.40 Concrete Production - Replace this subsection, except for the subsection number and title, with the following:

Produce concrete according to the following sections of ASTM C94, Standard Specification for Ready-Mixed Concrete:

ASTM Section	ASTM Title
9.	Measuring Materials
10.	Batching Plant
11.	Mixers and Agitators
12.	Mixing and Delivery[1]

[1] When haul time or placement conditions warrant exceeding the time of discharge, submit a detailed breakdown of the estimated time needed from batching to discharge of a load along with the measures that will be taken to ensure slump, temperature and uniformity will be maintained. This request must be submitted in advance and may establish a new time limit at the Engineers discretion.

(a) Delivery Tickets - Send a concrete delivery ticket with each load of concrete supplied to the Project. Each delivery ticket shall include the following information:

- Concrete supplier's name, address and telephone number
- Address and telephone number of batch plant if different from above
- Date and time the concrete batch was produced
- ODOT mix design number
- Size of load batched
- Weights or volumes of constituents batched in the load
- Amount of water that can be added at the job site
- Amount of water actually added at the job site

(b) Adjusting Concrete Proportions - Replace this subsection, except for the subsection number and title, with the following:

After a mix design has been reviewed and accepted, submit any proposed adjustments to concrete proportions for review. Significant changes to the mix design, as determined by the Engineer, may require verification of performance by trial batch according to 02001.32. Significant changes include, but are not limited to the following:

- Decreases in cementitious material content.
- Changes in cement source.
- Increases in SCM quantity replacing cement.
- Changes in SCM source.
- Substitution of aggregates from a different source.
- Admixture product changes.
- Large admixture dosage changes, excluding seasonal adjustments for air entraining agents and Type A or D water reducers (± 25 oz/cubic yard).

02001.50 Quality Control Personnel - Replace this subsection with the following subsection:

02001.50 Quality Control - Provide quality control according to Section 00165 and the following:

- Sample and test according to the MFTP.
- Provide certified technicians to sample and test the mix for temperature, air content, slump, water-cementitious ratio, density and yield, from the first load of each placement, whenever there is a visible change in the slump of the concrete, and when a set of cylinders is obtained.
- If the results of any test are outside of the specification limits, stop placement of the load. Correct the load or, if the load cannot be corrected, do not incorporate it into the Work. Test subsequent loads before any further concrete placement. Correct subsequent loads if any of the tests are still outside the specification limits. Return to the specified test frequency when the test results from two consecutive loads are shown to meet the specification limits.
- The Contractor shall designate a person responsible for accepting and rejecting concrete onsite.

Certified Technician duties:

(a) Certified Aggregate Technician (CAgT) -

- Sample and test Aggregates.
- Sample and test each stockpiled size according to the test procedures and at the frequencies shown in the Field Tested Materials Acceptance Guide section of the MFTP.
- Record and evaluate test results according to Section 00165.
- Provide Stat-Spec results to the Engineer.

- Notify the CCT whenever a fine aggregate fineness modulus varies by more than ± 0.20 from the mix design it is to be used in.
- Test the fine and coarse aggregates for total moisture content according to AASHTO T 255.

(b) Quality Control Technician (QCT) -

- Attend pre-placement meetings for bridge deck pours and paving.
- Be at the concrete placement site when concrete placement is in progress.
- Have a copy of the mix design on site and available during concrete placement.
- Obtain and check each batch ticket upon arrival of the concrete at the jobsite for the correct mix design.
- Sample the concrete and test for ambient air temperature, plastic concrete temperature, slump, air content, density, w/cm Ratio and yield at the frequencies required by and according to the tests listed in the MFTP, after concrete mixture proportions are adjusted in the field, and at such times as requested by the Engineer.
- Notify the Contractor and the Engineer immediately when the concrete is not in compliance with the Specifications.
- Be in direct contact with the CCT by telephone, radio or other means to convey information.
- Notify the CCT of loads rejected and the reason for rejection.
- Notify the CCT immediately whenever the w/cm Ratio varies from the mix design target by more than ± 0.03.
- Notify the CCT immediately whenever the air content varies from the mix design target by more than ± 1.5 percent.
- Notify the CCT immediately whenever the slump varies from the allowable limits of Table 02001-3.
- Notify the CCT immediately whenever the density of the plastic concrete varies from the mix design target by more than ± 3.0 pounds per cubic foot.

(c) Concrete Control Technician (CCT) - Prepare new concrete mix designs.

- Notify the Engineer 48 hours prior to trial batching.
- Control the quality of concrete during production.
- Submit proposed adjustments of the mix design, in writing, to the Engineer for approval by the middle of the following work shift.
- Ensure approved adjustments are implemented prior to proceeding with production.
- Before batching is started and when there is a significant change in the slump of the concrete ensure moisture contents of the coarse and fine aggregate are verified by the CAgT. Make necessary adjustments to maintain consistent concrete properties. Provide moisture content test results to the Engineer upon request.
- Monitor concrete properties and compressive strength tests throughout the duration of the Project.

- Make adjustments to loads that fail to meet the air content or slump criteria of these Specifications prior to the 90-minute time limit. Adjustments shall comply with the provisions of ASTM C94.
- Make adjustments to maintain a satisfactory over-design f'_{cr}.
- Perform an analysis and verify the accuracy of coarse and fine aggregate moistures whenever the w/cm Ratio varies from the mix design target by more than ± 0.03.
- Perform an analysis and make necessary adjustments whenever the unit weight of the plastic concrete varies from the mix design by more than ± 3.0 pounds per cubic foot.
- Perform an analysis whenever the fineness modulus of the fine aggregate varies by more than ± 0.20 from the established mix design. If necessary to maintain proper workability, ability to pump or ability to finish, make an adjustment to the coarse/fine aggregate ratio and submit to the Engineer by the middle of the following work shift.

02001.60 Delivery Tickets – Replace this subsection with the following subsection:

02001.60 Acceptance of Concrete - Acceptance of concrete will be according to Section 00165 and the following:

(a) Aggregate - Acceptance of aggregate will be according to 02690.12.

(b) Plastic Concrete - Acceptance of plastic concrete will be based on tests performed by the Contractor's QCT, according to the tolerances and limits of 02001.20, when discharged within the time allotted in 02001.40.

(c) Hardened Concrete - Cast and cure test specimens according to AASHTO T 23 in 6 inch x 12 inch or 4 inch x 8 inch, single-use plastic molds and test at 28 days according to AASHTO T 22.

(1) General - For all classes of concrete, acceptance of hardened concrete will be based on an analysis of compressive strength tests of cylinders cast by the QCT. Test cylinders at an Agency certified laboratory.

(2) Acceptance - Hardened concrete with an ASTV meeting or exceeding the specified design strength, f'_c will be accepted for strength. If the ASTV is less than f'_c but at least 85 percent of f'_c, the Engineer may review the results to determine if the concrete represented by the cylinders is suitable for the intended purpose. Remove concrete that has an ASTV less than 85 percent of f'_c unless otherwise authorized, in writing, by the Engineer. If the concrete is removed, the cost of removal, replacement and all related Work is the Contractor's responsibility. If the Engineer determines that the concrete is suitable for the intended purpose, the concrete may be allowed to remain in place, subject to a price adjustment according to 00150.25. If an ASTV falls below f'_c, the Contractor may submit a written plan outlining a proposed alternate method of evaluating compressive strength. Submit the plan for review by the Engineer within 3 days of the test. Provide evidence that a reasonable f'_{cr} (over-design) was maintained and that there is credible evidence (besides low strength) which warrants consideration of this option. The Engineer

may allow an alternate method of acceptance if the compressive strength test results are determined to be suspect from definable external factors.

SECTION 02040 – CHEMICAL ADMIXTURES

Comply with Section 02040 of the Standard Specifications modified as follows:

02040.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Furnish admixtures from the QPL.

SECTION 02050 – CURING MATERIALS

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

02050.10 Liquid Compounds - Delete 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.

Delete the paragraph that begins “Before using liquid compounds, submit…”.

02050.20 Polyethylene Films - Delete the paragraph that begins “Furnish clear or white…“ with the following paragraph:

Furnish clear or white polyethylene films for curing concrete meeting the requirements of ASTM C171.

SECTION 02510 - REINFORCEMENT

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

02510.10 Deformed Bar Reinforcement - Replace this subsection, except for the subsection number and title, with the following:

Furnish deformed bar reinforcement from the QPL and conforming to the requirements of ASTM A 706, AASHTO M31 (ASTM A615), or AASHTO M334 (ASTM A1035 CS). Unless otherwise specified or shown, all reinforcing bars shall be Grade 60.

02510.20 Mechanical Splices - Replace this subsection, except for the subsection number and title, with the following:

Furnish mechanical splices from the QPL. Where bars of different sizes or strengths are connected, the governing strength shall be the strength of the smaller or weaker bar.

- Type 1 Mechanical Splices - Furnish Type 1 Mechanical Splices that develop at least 125 percent of the specified minimum yield strength of the reinforcing bars. Type 1 Mechanical Splices are not allowed for column bars.

- Type 2 Mechanical Splices - Furnish Type 2 Mechanical Splices that develop at least 125 percent of the specified minimum yield strength of the reinforcing bars and 100 percent of the specified tensile strength of the reinforcing bars.
- Total slip displacement - Measure displacement after loading in tension to 30.0 ksi and relaxing to 3.0 ksi. The displacement for bars up to No. 14 shall not exceed 0.01 inches. The displacement for No. 18 bar shall not exceed 0.03 inches.

02510.25 Headed Bar Reinforcement - Replace this subsection, except for the subsection number and title, with the following:

Furnish Class HA headed steel bar from the QPL for concrete reinforcement. The headed steel bar shall develop the specified minimum tensile strength of the reinforcing bars, according to ASTM A970. Ferrous-filler coupling sleeves and welded headed steel bars are not allowed for concrete reinforcement.

SECTION 02530 - STRUCTURAL STEEL

Comply with Section 02530 of the Standard Specifications modified as follows:

02530.70 Galvanizing - Replace the paragraph that begins "Steel that will be finished by hot-dip galvanizing…" with the following paragraph:

Steel that will be finished by hot-dip galvanizing for use as sign bridges, illumination poles, traffic signal poles, sign supports, bridge rail and items designated on the Plans as "Galvanize - Control Silicon" shall have controlled silicon content. The silicon content shall be in either of the ranges 0 - 0.06 percent or 0.13 - 0.25 percent. Before galvanizing, submit mill test certificates verifying silicon content to the Engineer and the galvanizer.

SECTION 02560 - FASTENERS

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

02560.10(b) Nuts– Replace this subsection, except for the subsection number and title, with following:

Nuts for carbon steel bolts shall conform to the requirements of the following, or equivalent:

Plain (Noncoated) Bolts:

- 1/4" - 1 1/2" - ASTM A563, Grade A, hex
- Over 1 1/2" - 4" - ASTM A563, Grade A, heavy hex

Galvanized Bolts:

- All - ASTM A563, Grade A, C, D, or DH, heavy hex

02560.20(a) Bolts – Replace this subsection, except for the subsection number and title, with following:

High-strength bolts used in noncoated weathering steel connections shall be Type 3. High-strength bolts shall conform to the requirements of the following:

Heavy Hex Head:

- ASTM F3125, Grade A325

Twist-Off:

- ASTM F3125, Grade F1852

02560.20(b) Nuts – Replace this subsection, except for the subsection number and title, with following:

Nuts for high-strength bolts shall conform to the requirements of the following, or equivalent:

Type 1 Plain (Noncoated) Bolts:

- All - Heavy hex ASTM A563, Grade C, D, or DH

Type 1 Galvanized Bolts:

- All - Heavy hex ASTM A563, Grade DH

Type 3 Bolts:

- All - Heavy hex ASTM A563, Grade C3 or DH3

02560.20(f) Lock-Pin and Collar Fasteners - Delete this subsection.

02560.30(c) Nuts – Replace this subsection, except for the subsection number and title, with following:

Nuts for tie rods, anchor bolts, and anchor rods shall conform to the requirements of the following, or equivalent:

Plain Steel Tie Rods, Anchor Bolts, and Anchor Rods:

- All - Heavy hex ASTM A563, Grade A

Galvanized Steel Tie Rods, Anchor Bolts, and Anchor Rods:

- All - Heavy hex ASTM A563, Grade A, C, D, or DH

Plain Or Galvanized High-Strength Tie Rods, Anchor Bolts, or Anchor Rods:

- All - Heavy hex ASTM A563, Grade DH

02560.40 Galvanizing and Coating - Replace this subsection with the following subsection:

02560.40 Galvanizing and Coating:

(a) High Strength Fasteners - When specified, hot-dip galvanize Grade A325 fasteners or mechanically deposit zinc to Grade F1852 fasteners according to ASTM F3125.

(b) Tie Rods, Anchor Bolts, Anchor Rods and Carbon Fasteners - Hot-dip galvanize, tie rods, anchor bolts, anchor rods, nuts, washers and carbon fasteners according to ASTM F2329 as appropriate to the product.

Overtap nuts for galvanized fasteners, galvanized tie rods, galvanized anchor bolts, and galvanized anchor rods according to ASTM A563.

Measure the zinc thickness on the wrench flats or top of bolt head of galvanized bolts and on the wrench flats of galvanized nuts.

(c) Direct Tension Indicators – When specified, apply mechanically deposited zinc according to ASTM F959.

(d) Repair of Hot-Dip Galvanizing - Repair damaged hot-dip galvanizing according to ASTM A780. Minimum zinc content for Method A2 is 94 percent on the dry film.

02560.60(b) Other Test Requirements - In the paragraph that begins "Wedge test all bolts according…" replace the words "AASHTO M 164 (ASTM A325)" with the words "ASTM F3125, Grade A325 or Grade F1852".

02560.70 Lubricating Fasteners - Replace this subsection, except for the subsection number and title, with following:

Furnish all galvanized and coated fasteners with a factory applied commercial water-soluble wax that contains a visible dye of a color that contrasts with the color of galvanizing or coating. Black fasteners shall be "oily" to the touch when installed.

Field lubricate galvanized bolts in tapped holes, galvanized anchor rods, and galvanized tie rods with a lubricant from the QPL. Apply lubricant to threads and to bearing surfaces that will turn during installation.

Protect fasteners from dirt and moisture at the Project site.

Retest heavy hex head fasteners that do not pass the field rotational capacity test. Clean and relubricate heavy hex head fasteners with a lubricant from the QPL prior to retesting.

Relubrication of Twist-Off fasteners is not permitted.

SECTION 02690 - PCC AGGREGATES

Replace Section 02690 of the Standard Specifications with the following Section 02690:

SECTION 02690 - PCC AGGREGATES

Description

02690.00 Scope - This Section includes the requirements for coarse and fine aggregates for portland cement concrete.

02690.01 Definitions:

Coating - Foreign or deleterious substances found adhering to the aggregate particles.

Detrimental Materials - Materials that adversely affect concrete, including but not limited to clay, shale, mica, silt, bark, alkali, sticks, organic matter, soft and flaky particles.

Nominal Maximum Size Of Aggregate - One sieve larger than the first sieve that retains more than 10 percent of the material using an agency specified set of sieves based on cumulative percent retained. Where large gaps in specification sieves exist, intermediate sieves may be inserted to determine nominal maximum size.

Materials

02690.10 Materials - PCC Aggregates shall consist of natural or crushed rock that is hard, strong, durable and free from adherent coatings or other detrimental materials.

Produce, handle and store the aggregates in a way that will maintain passing material properties and avoid introducing deleterious materials or segregation prior to its use in portland cement concrete.

02690.11 Alternate Grading - The Contractor may request approval to produce coarse and fine aggregates in sizes other than those stated in 02690.20 and 02690.30. The request shall be in writing, and shall state the proposed target value and specified tolerances for each of the individual sieve sizes of the materials the Contractor proposes to produce.

02690.12 Acceptance of Aggregate - Acceptance of aggregate will be according to Section 00165 and based on the Contractor's quality control testing, if verified, according to Section 00165.

(a) Aggregate Gradation - A stockpile contains specification aggregate gradation when the quality level for each sieve size calculated according to 00165.40 is equal to or greater than the quality level indicated in Table 00165-2 for a PF of 1.00. Each required sample represents a sublot. When the quality level indicated in Table 00165-2 yields a PF of less than 1.00 for any constituent, the material is non-specification.

(b) Non-specification Aggregate Gradation - Stockpiled aggregates that contain non-specification aggregate gradation will be rejected by the Engineer unless non specification material is removed from the stockpile. Do not add additional material to the stockpile until enough non-specification material is removed so that the quality level

for each constituent is equal to or greater than the quality level in Table 00165-2 for a 1.00 PF.

Reprocessing of non-conforming material and the testing required for acceptance will be at no additional cost to the Agency. Acceptance of reprocessed material will be based on passing test results or accepted visually by the Engineer.

02690.20 Coarse Aggregate:

(a) Harmful Substances - Harmful substances shall not exceed the following limits:

Test	Test Method ODOT	Test Method AASHTO	Percent (by Weight)
Lightweight Pieces	–	T 113	1.0
Material passing No. 200 sieve	–	T 11	1.0
Wood Particles	TM 225	–	0.05

(b) Soundness - Coarse aggregates for concrete shall be tested for soundness using sodium sulfate salt, according to AASHTO T 104. The weighted percentage loss shall not exceed 12 percent by weight.

(c) Durability - Coarse aggregates shall meet the following durability requirements:

Test	Test Method ODOT	Test Method AASHTO	Requirements
Abrasion	–	T 96	30.0% Max.
Oregon Air Aggregate Degradation:			
Passing No. 20 sieve	TM 208	–	30.0% Max.
Sediment Height	TM 208	–	3.0" Max.

(d) PCC Paving Aggregate - In addition to requirements above, comply with the following:

(1) Fracture - Provide aggregate with at least two fractured faces on at least 50 percent of the particles retained on the 3/8 inch, 1/2 inch, 3/4 inch, 1 inch, and 1 1/2 inch sieves, as determined by AASHTO T 335.

(2) Elongated Pieces - Provide aggregate with elongated pieces not exceeding 10 percent by weight of the material retained on the No. 4 sieve when tested according to ODOT TM 229 with the proportional caliper device set at a ratio of 5:1.

(e) Grading and Separation by Sizes for Prestressed Concrete - Sampling shall be according to AASHTO T 2 and sieve analysis shall be determined according to AASHTO T 27 and AASHTO T 11. PCC coarse aggregate shall conform to grading and separated sizes as follows:

(1) Where indicated in Table 02690-1, the coarse aggregate shall be separated into two sizes and each separated size shall be measured into the batch in the quantity determined by the mix design.

For each of the indicated maximum sizes of coarse aggregates, the separated sizes shall be as indicated in Table 02690-2:

Table 02690-1

Maximum Nominal Size of Aggregates	Separated Sizes
1"	1" - No. 4
3/4"	3/4" - No. 4
3/4"	3/4" - 1/2" and 1/2" - No. 4
3/4"	3/4" - 3/8" and 3/8" - No. 4

(2) The grading of each of the specified separated sizes of coarse aggregate shall conform to the following:

Table 02690-2

	Separated Sizes					
Sieve Size	**1" - No. 4**	**3/4"- No. 4**	**3/4"- 1/2"**	**3/4"- 3/8"**	**1/2"- No. 4**	**3/8"- No. 4**
	Percent Passing (by Weight)					
1 1/2"	100	–	–	–	–	–
1"	90 - 100	100	100	100	–	–
3/4"	50 - 80	90 - 100	85 - 100	85 - 100	100	100
1/2"	–	–	0 - 15	–	85 - 100	–
3/8"	15 - 40	20 - 50	–	0 - 15	35 - 65	85 - 100
No. 4	0 - 10	0 - 10	–	–	0 - 15	0 - 15
No. 200	*	*	*	*	*	*

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

(f) Grading and Separation by Sizes for Other Concrete - Sampling shall be according to AASHTO T 2. Sieve analysis shall be according to AASHTO T 27 and AASHTO T 11. Provide aggregates meeting the gradation requirements of Tables 02690-3 and 02690-4 for structural concrete. Provide a CAgT to perform sampling and testing when required.

Table 02690-3

	Gradation of Coarse Aggregates			
Sieve Size	**Combined* Sizes 1 1/2" - No. 4**	**Separated Sizes 1 1/2" - 3/4"**	**Separated Sizes 1" - No. 4**	**Separated Sizes 3/4" - 1/2"**
	Percent Passing (by Weight)			
2"	100	100	–	–
1 1/2"	90 - 100	90 - 100	100	–
1"	70 - 89	20 - 55	90 - 100	100

3/4"	35 - 70	0 - 15	–	85 - 100
1/2"	–	–	25 - 60	0 - 15
3/8"	10 - 30	0 - 5	–	–
No. 4	0 - 5	–	0 - 10	–
No. 8	–	–	0 - 5	–
No. 200	**	**	**	**

* For 1 1/2 inch coarse aggregate use two or more separated sizes which when combined shall meet the gradation limits for 1 1/2" - No. 4

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

Table 02690-4

Gradation of Coarse Aggregates

Sieve Size	Separated Sizes 3/4" - 3/8"	Separated or Combined Sizes 3/4" - No. 4	Separated Sizes 1/2" - No. 4	Separated Sizes 3/8" - No. 8
	Percent Passing (by Weight)			
1"	100	100	–	–
3/4"	90 - 100	90 - 100	100	–
1/2"	20 - 55	–	90 - 100	100
3/8"	0 - 15	20 - 55	40 - 70	85 - 100
No. 4	0 - 5	0 - 10	0 - 15	10 - 30
No. 8	–	0 - 5	0 - 5	0 - 10
No. 16	–	–	–	0 - 5
No. 200	*	*	*	*

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

02690.30 Fine Aggregates:

(a) Different Sources - Do not mix fine aggregates from different sources of supply, or store in the same pile. Do not use alternately in the same class of mix, without prior approval.

(b) Harmful Substances - The amount of harmful substances shall not exceed the following limits:

Test	Test Method (AASHTO)	Percent (by Weight)
Lightweight Pieces	T 113	2.0%
Material passing No. 200 sieve	T 11	3.0%

(c) Soundness - Fine aggregate shall be tested for soundness using sodium sulfate salt, according to AASHTO T 104. The weighted percentage loss shall not exceed 10 percent by weight.

(d) Organic Impurities - All fine aggregate shall meet the requirements of AASHTO M 6 for organic impurities.

(e) Sand Equivalent - Fine aggregate shall be tested according to AASHTO T 176 and shall have a sand equivalent of not less than 75.

(f) Sand for Mortar - Sand for mortar shall conform to the requirements of this Section.

(g) Grading - Sampling shall be according to AASHTO T 2. Sieve analysis shall be determined according to AASHTO T 27 and AASHTO T 11. Provide aggregates meeting the gradation requirements of Table 02690-5 for structural concrete. Provide a CAgT to perform sampling and testing when required.

Table 02690-5

Gradation of Fine Aggregate*

Sieve Size	Percent Passing (by Weight)
3/8"	100
No. 4	90 - 100
No. 8	70 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	5 - 30
No. 100	0 - 10
No. 200	**

* Determine the fineness modulus according to AASHTO T 27 and AASHTO T 11. Maintain the fine aggregate fineness modulus within plus or minus 0.20 from the fineness modulus used in the Contractor's mix design. Fine aggregates in which the fineness modulus varies by more than 0.20 from the mix design target shall not be incorporated until an assessment is done to determine whether an adjustment in the aggregate proportions is necessary. Proportion changes must be performed by a CCT according to the provisions of ACI 211. Submit analysis of FM and mix design adjustments to the Engineer for approval.

** See 02690.30(b). Do not evaluate material passing No. 200 sieve according to 0165.40.

SECTION 02910 - SIGN MATERIALS

Comply with Section 02910 of the Standard Specifications.

SECTION 02920 - COMMON ELECTRICAL MATERIALS

Comply with Section 02920 of the Standard Specifications modified as follows:

02920.11Nonmetallic Conduit – Replace this section with the following:

Use heavy wall, extruded, rigid polyvinyl chloride (PVC) conforming to UL 651, Schedule 80 Rigid PVC Conduit as shown.

SECTION 02925 - TRAFFIC SIGNAL MATERIALS

Comply with Section 02925 of the Standard Specifications modified as follows:

Add the following subsection:

02925.40(a) Power Service Cabinet - Service cabinets shall be the following or an approved equal:

Fouch Drwg #0600-0074-00 (NEMA 3-R Metered Base Mount Service Cabinet Clackamas County).

Add the following subsection:

02925.46 Fire Preemption Equipment - Fire Preemption systems for installation at traffic signals shall be as follows:

Fire Preemption system shall be GTT Opticom. See plan set for additional details. The following components make up the fire preemption system.

(a) Fire Preemption Phase Selector (P/N: Opticom 762/764) - Interface device for installation in the cabinet.

(b) Fire Preemption Detector Unit (P/N: Opticom 721/722) - Field detector for fire preemption system.

(b) Fire Preemption Detector Feeder Cable (P/N: Opticom 138) – For installation between the cabinet and the field detector at the location shown in the plan set.

02925.66 Pedestrian Push Buttons and Mount: - Replace Section 02925.66 with the following:

02925.66 Pedestrian Push Buttons and Mount: - Pedestrian pushbuttons for installation at traffic signals shall be as follows:

Pedestrian push button system shall be a Polara iNavigator 3-Wire (iN3) Push Button Station (P/N: iN3-3-T-N-0-B) or approved equal. See the plan set for additional details. The following components make up the push button system:

(a) Push Button Station (P/N: iN3 PBS) - The main body with pushbutton for installation on the signal or pedestrian pole using 3-Wire system.

(b) Ped Head Control Unit (P/N: iPHCU3W) - Interface device for installation in pedestrian signal head. One per Push Button Station.

(c) Pedestrian Push Button Decal - The pedestrian push button sign shall be a Polara option T (Hi-Intensity Retroreflective MUTCD R10-3e) 9”x15” sign.

(d) Interconnect Cables (iN3-CABLE-X) - Pre-cut lengths (12’, 25’, or 50’) of interconnect cable from Push Button Station to Ped Head Control Unit.

(e) iNav Bluetooth Dongle (iN-DGL) - Bluetooth dongle to communicate from personal computer with Polar iN3 Push Button Station.

02925.70 – Solar/AC Flashing Beacon Assembly shall be the following:

For red flashing beacons – Carmanah R247-G, Single red 12 inch LED beacon, 80 W photovoltaic solar panel, and 12V 100 Ahr battery.

For yellow flashing beacons – Carmanah R247-E, integrated engine and single yellow 12-inch beacon, post-top mounted with 13 W photovoltaic solar panel, and 12 V 14 Ahr battery.

CLACKAMAS COUNTY
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

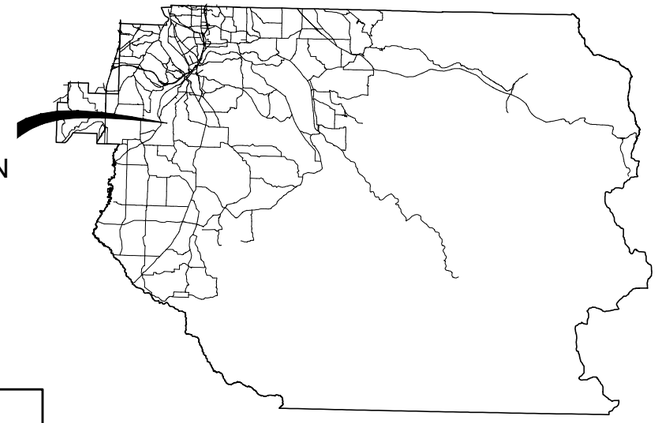
S CENTRAL POINT RD AND S NEW ERA RD INTERSECTION REALIGNMENT

AGGREGATE BASES, ASPHALT PAVING, EARTHWORK AND DRAINAGE, ELECTRICAL, LANDSCAPING, SIGNING AND STRIPING

CLACKAMAS COUNTY OREGON

SUMMER 2021

PROJECT LOCATION

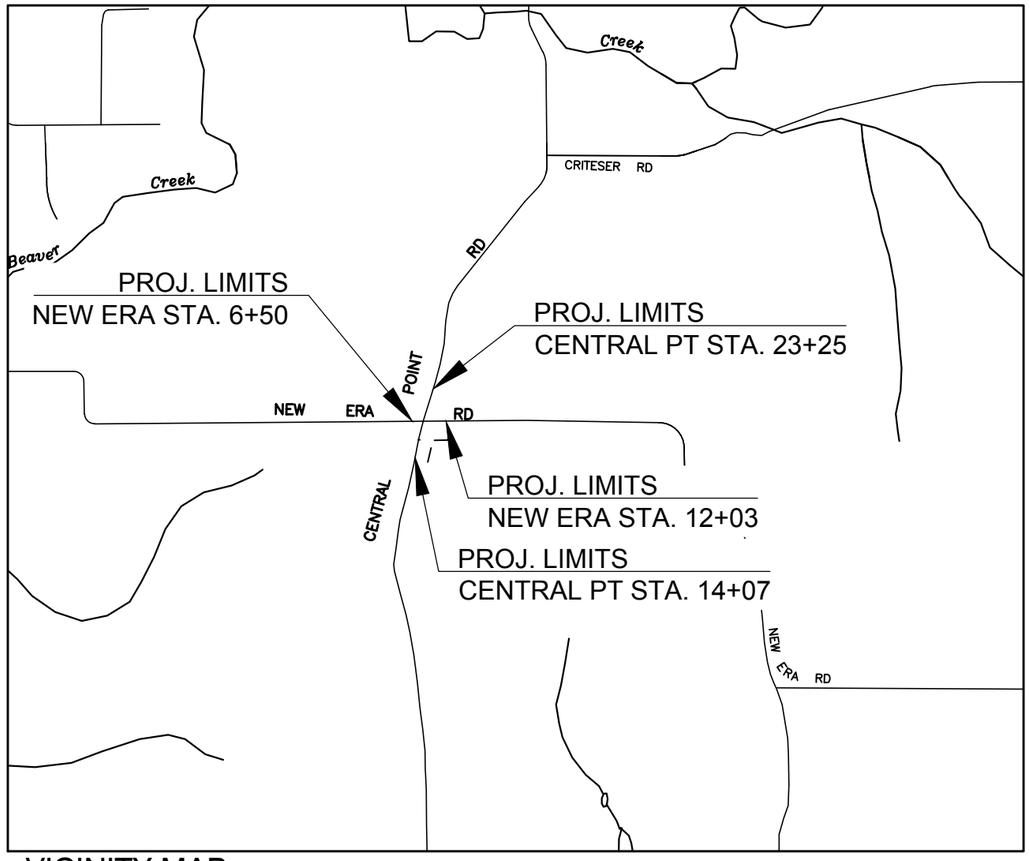


INDEX OF SHEETS	
1	TITLE SHEET
1A	LEGEND
1B	STD DWG'S & ABBREVIATIONS
1C	PROJECT SHEET LAYOUT
2A Thru 2A-4	TYPICAL SECTIONS
2B	CONSTRUCTION DETAILS
2C THRU 2C-6	ROADWAY SECTIONS
2D THRU 2D-6	EROSION CONTROL PLANS
2E THRU 2E-3	DETOUR PLANS
2G-1 THRU 2G-3	STORMWATER QUALITY PLAN & PROFILE
2G-4	STORMWATER QUALITY DETAILS
2G-5	STORMWATER PLANTING PLAN
3A THRU 8B	CONSTRUCTION NOTES, PLAN & PROFILE
SS-1 THRU SS-5	PERMANENT SIGNING & STRIPING PLANS
SS-6 & SS-7	PERMANENT SIGNING DETAILS

VERTICAL DATUM & BASIS OF BEARINGS

VERTICAL DATUM: NAVD 88
GEODETIC DATUM: NORTH AMERICAN DATUM OF 1983 (2011) EPOC 2010
SYSTEM: OREGON COORDINATE REFERENCE SYSTEM
ZONE: PORTLAND
PROJECTION: LAMBERT CONFORMAL CONIC PROJECTION

LATITUDE OF GRID ORIGIN: 45°30'00" N
LONGITUDE OF GIRD ORIGIN: 122°45'00" W
FALSE NORTHING: 50,000.00 m
FALSE EASTING: 100,000.00 m (32808.40 INTERNATIONAL FOOT)



VICINITY MAP
NOT TO SCALE

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 From The Center.

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE

N

T. 3S, R. 1E SEC. 24

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

TITLE SHEET
S CENTRAL POINT RD AND S NEW ERA RD INTERSECTION REALIGNMENT
DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DAN JOHNSON
DIRECTOR

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 1

SYMBOLS

EXISTING	PROPOSED	
MAIL BOX		
TELEPHONE RISER		
TELEPHONE MANHOLE		
UNIDENTIFIED UTILITY VAULT		
TELEPHONE VAULT		
POWER VAULT		
UTILITY POLE, GUY ANCHOR		
GB 2/GB-1 CATCH BASIN/CURB INLET		
DRAINAGE MANHOLE		
SANITARY MANHOLE		
GAS METER		
GAS VALVE		
FIRE HYDRANT		
WATER METER		
WATER VALVE		

EXISTING	PROPOSED	
DETECTOR LOOP		
JUNCTION BOX		
SIGNAL CONTROLLER		
SIGNAL HEAD		
VIDEO DETECTION		
SIGNAL POLE BASE		
STREET LITE 2		
STREET LITE 1		
PUSHBUTTON PED POLE		
SINGLE SUPPORT SIGN		
RAILROAD CROSSING SIGNAL		
RAILROAD SIGNAL CONTROLLER		
RAILROAD CROSSING GATE		
TREE AND/OR STUMP REMOVAL		
PRESERVE AND PROTECT EXTG. TREE		

VEGETATION

	PLANT/BUSH
	EVERGREEN TREE
	DECIDUOUS TREE

LINETYPES

EXISTING	PROPOSED	
		AUDIBLE WARNING (CURB RAMP)
		CONCRETE SURFACE
		COLD PLANE PAVEMENT REMOVAL
		OBLITERATE EXTG. ROADWAY SURFACE
		EDGE OF UNPAVED SURFACE
		EDGE OF PAVED SURFACE
		FENCE LINE
		GUARDRAIL
		SHOULDER
		EASEMENT LINE
		CENTERLINE
		ROAD RIGHT OF WAY
		CITY BOUNDARY
		COUNTY BOUNDARY
		DLC BOUNDARY WIDTH
		STORM PIPE
		DITCH LINE
W		PUBLIC WATER LINE
SS		SANITARY SEWER LINE
FO		FIBER OPTIC LINE
T		UNDERGROUND TELEPHONE LINE
UP		UNDERGROUND POWER LINE
OP		OVERHEAD POWER LINE
CATV		CABLE TELEVISION LINE
G		GAS LINE
HG		HIGH PRESSURE GAS
		SIGNAL CONDUIT
	C	DAYLIGHT CUT LINE
	F	DAYLIGHT FILL LINE

REGISTERED PROFESSIONAL ENGINEER
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OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
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LEGEND

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

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CHECKED BY: DTD

REVISIONS

Sheet No. 1A

CLACKAMAS COUNTY STANDARD DETAIL REFERENCE

M150	MONUMENT BOX GREATER THAN 35 MPH
T100	STREET NAME SIGNS & DETAILS
T130	STREET NAME SIGNS & DETAILS (CONTINUED)
T150	SIGN MOUNTING AND ATTACHMENTS
T250	SIGN INSTALLATIONS

WATER ENVIRONMENT SERVICES STANDARD DETAIL REFERENCE

SWM ST-4.0	STORM - CLEAN OUT

ODOT STANDARD DWG. REFERENCE

RD300	TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS
RD318	SLOPED ENDS FOR CONCRETE PIPE
RD319	MISCELLANEOUS CULVERT DETAILS
RD335	STANDARD STORM SEWER MANHOLE
RD336	STANDARD MANHOLE DETAILS
RD339	PIPE TO STRUCTURE CONNECTIONS
RD342	SHALLOW MANHOLES
RD344	STANDARD MANHOLE BASE SECTION
RD345	PIPE TO MANHOLE CONNECTIONS
RD356	MANHOLE COVERS AND FRAMES
RD365	FRAMES & GRATES FOR CONCRETE INLETS
RD370	DITCH INLET TYPE D
RD610	ASPHALT CONCRETE PAVEMENT (ACP) DETAILS
RD615	ASPHALT CONCRETE PAVEMENT (ACP) DETAILS
RD1005	CHECK DAMS TYPE 1, 3 AND 4
RD1010	INLET PROTECTION TYPE 2, 3, 6, 7, 10 AND 11
RD1032	SEDIMENT BARRIER TYPE 8
TM457	VEHICLE, PEDESTRIAN SIGNAL AND PUSHBUTTON MOUNTING OPTION DETAILS
TM471	TRENCHING & CONDUIT INSTALLATION
TM472	TRAFFIC SIGNAL JUNCTION BOXES / HAND HOLES
TM500	PAVEMENT MARKING STANDARD DETAIL BLOCKS
TM502	PAVEMENT MARKING STANDARD DETAIL BLOCKS
TM503	PAVEMENT MARKING STANDARD DETAIL BLOCKS
TM530	INTERSECTION PAVEMENT MARKINGS (CROSSWALK, STOP BAR & BIKE LANE STENCIL)
TM570	TRAFFIC DELINEATORS
TM800	TABLES, ABRUPT EDGE, AND PCMS DETAILS
TM810	TEMPORARY PAVEMENT MARKINGS
TM820	TEMPORARY BARRICADES
TM821	TEMPORARY SIGN SUPPORTS
TM822	TEMPORARY SIGN SUPPORTS
TM840	CLOSURE DETAILS
TM841	INTERSECTION WORK ZONE DETAILS
TM850	2-LANE, 2-WAY ROADWAYS
DET2101	SLIVER FILL BENCHING DETAIL
DET4241	SQUARE TUBE SIGN SUPPORT W/ TRIANGULAR BASE BREAKAWAY

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	I.D.	INSIDE DIAMETER	STA .	STATION
APPR.	APPROACH	IE	INVERT ELEV	ST	STREET
CFS	CUBIC FEET PER SECOND	INV.	INVERT	STRM	STORM
C/L	CENTERLINE	LF	LINEAR FEET	SY	SQUARE YARD
CLACK.	CLACKAMAS	LT	LEFT	T(1-3)	TOWNSHIP
CO.	COUNTY	MAX.	MAXIMUM	TCE	TEMPORARY CONSTRUCTION EASEMENT
COMP	COMPACTED	MH	MANHOLE		
CONC.	CONCRETE	MIN.	MINIMUM	TEMP	TEMPORARY
CONST	CONSTRUCT	N	NORTH	TYP	TYPICAL
CONT'D	CONTINUED	N.T.S.	NOT TO SCALE	USPS	UNITED STATES POSTAL SERVICE
DIA	DIAMETER	ODOT	OREGON DEPARTMENT OF TRANSPORTATION		
DWG	DRAWING			VERT	VERTICAL
DWY	DRIVEWAY	PCC	PORTLAND CEMENT CONCRETE	W	WEST
E	EAST			WQ	WATER QUALITY
EA	EACH	PROJ.	PROJECT		
ELEV	ELEVATION	PROP.	PROPOSED		
EOP	EDGE OF PAVEMENT	RD	ROAD		
EXTG	EXISTING	RT	RIGHT		
FL	FLOW LINE	R/W, ROW	RIGHT OF WAY		
FT	FEET	S	SOUTH		
G V	GAS VALVE	SEC.	SECTION		
HT	HEIGHT	SQ FT , SF	SQUARE FEET		
HORIZ	HORIZONTAL	STD	STANDARD		

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STD DWG'S & ABBREVIATIONS

S CENTRAL POINT RD AND S NEW ERA RD INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

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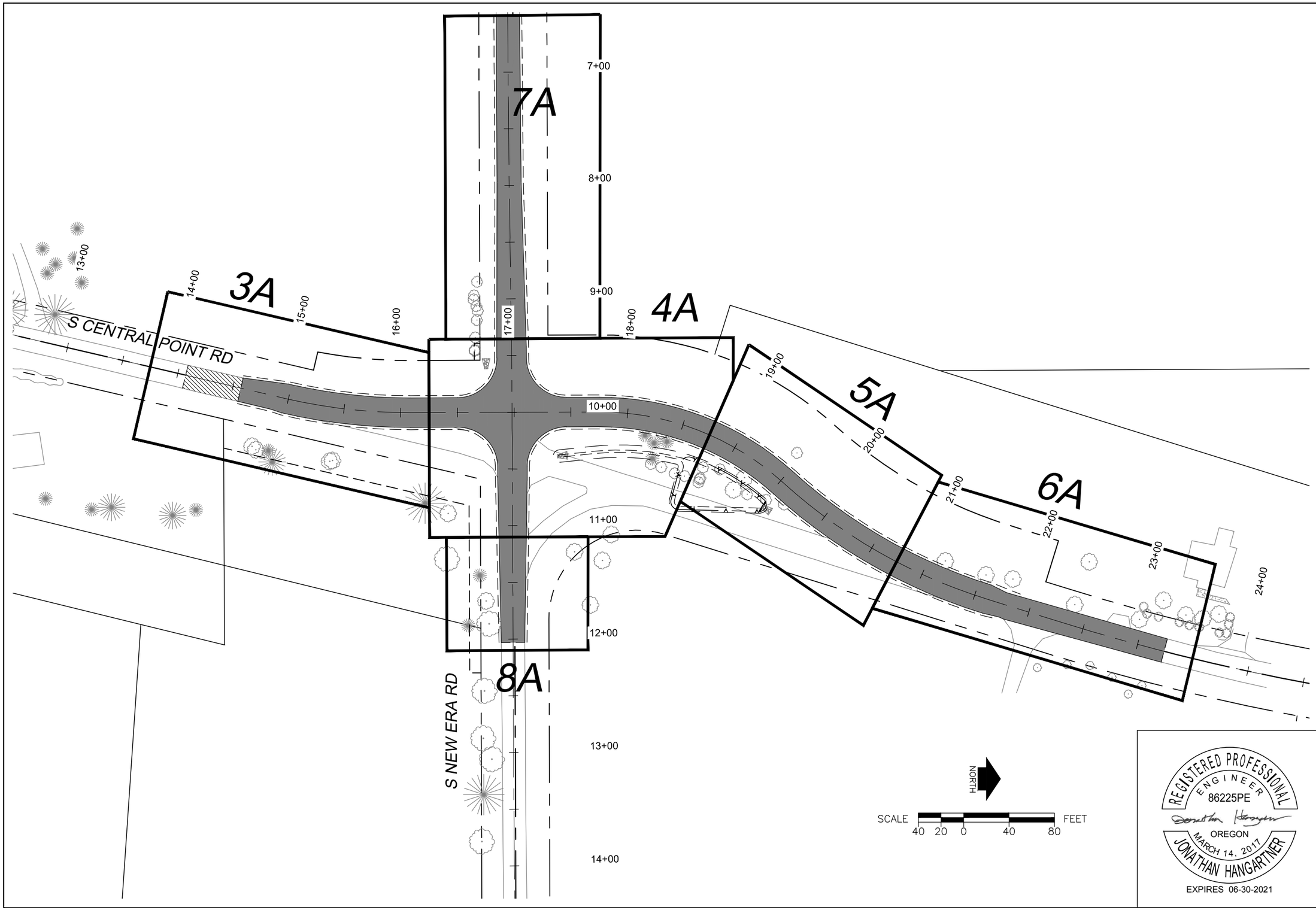
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 1B



PROJECT SHEET LAYOUT

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
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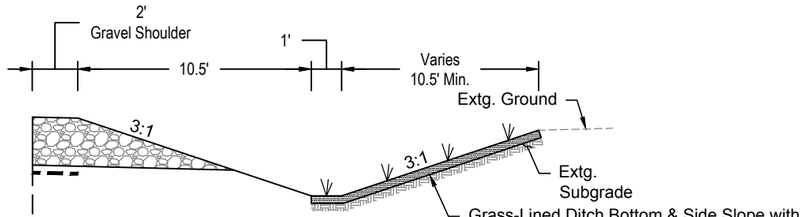
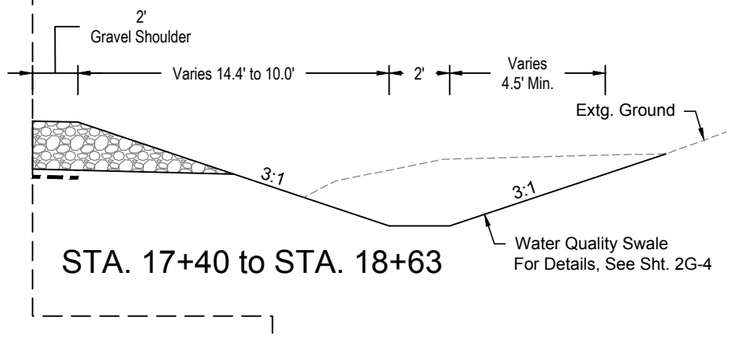
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

REVISIONS

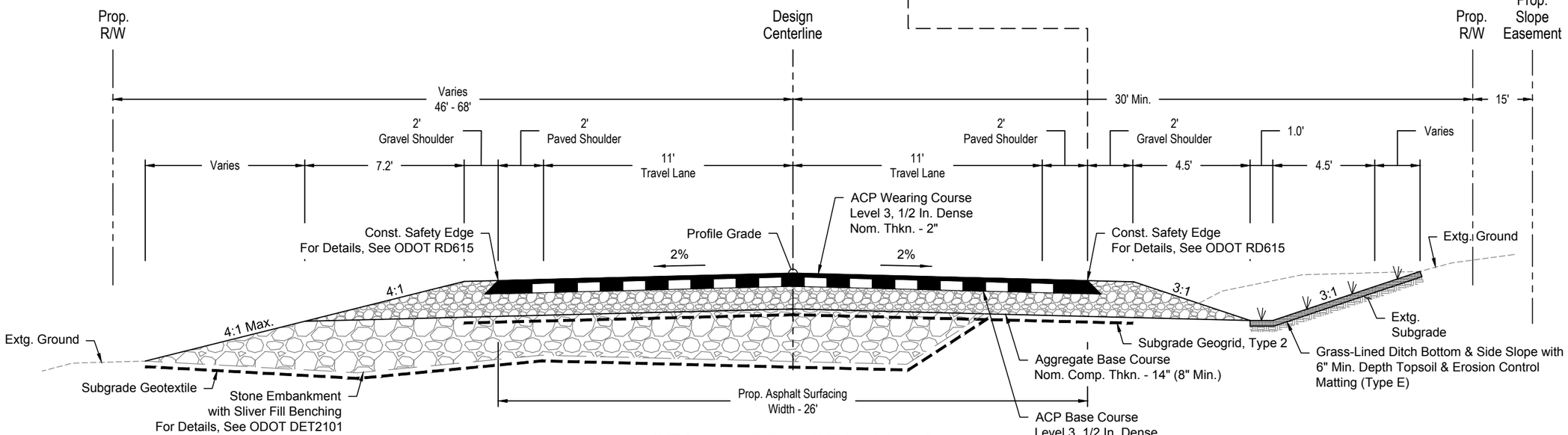
Sheet No. 1C



STA. 19+61 to STA. 20+48



STA. 17+40 to STA. 18+63



STA. 14+57 to STA. 16+53
STA. 17+44 to STA. 23+25

S CENTRAL POINT ROAD

(Not To Scale)

Note:
1. *All Dimensions Shown in Feet Unless Otherwise Noted.*
2. *Side Slopes Are Shown As Horiz. To Vert.*

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

TYPICAL SECTIONS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
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150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

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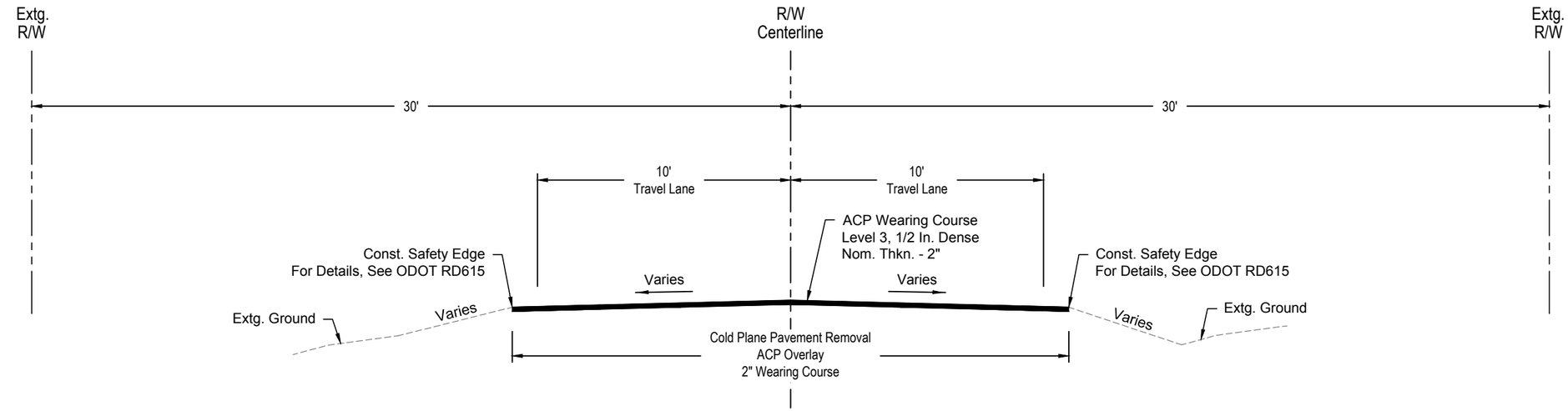
REVISIONS

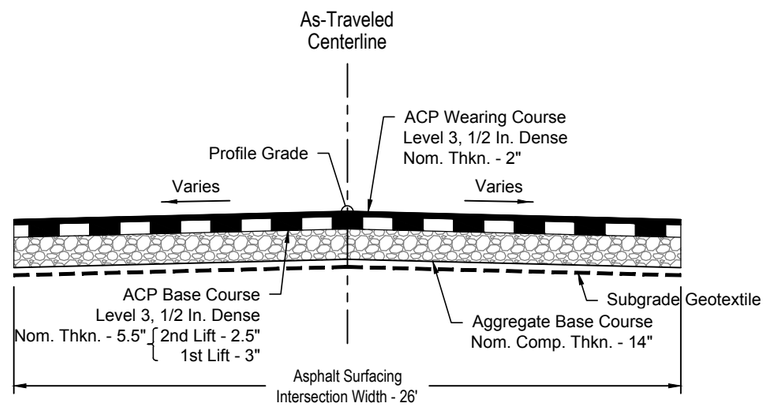
Sheet No. 2A



STA. 14+07 to STA. 14+57

S CENTRAL POINT ROAD

(Not To Scale)



STA. 16+53 to STA. 17+44

S CENTRAL POINT ROAD

STA. 9+52 to STA. 10+48

S NEW ERA ROAD

(Not To Scale)

Note:
1. *All Dimensions Shown in Feet Unless Otherwise Noted.*
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REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

TYPICAL SECTIONS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

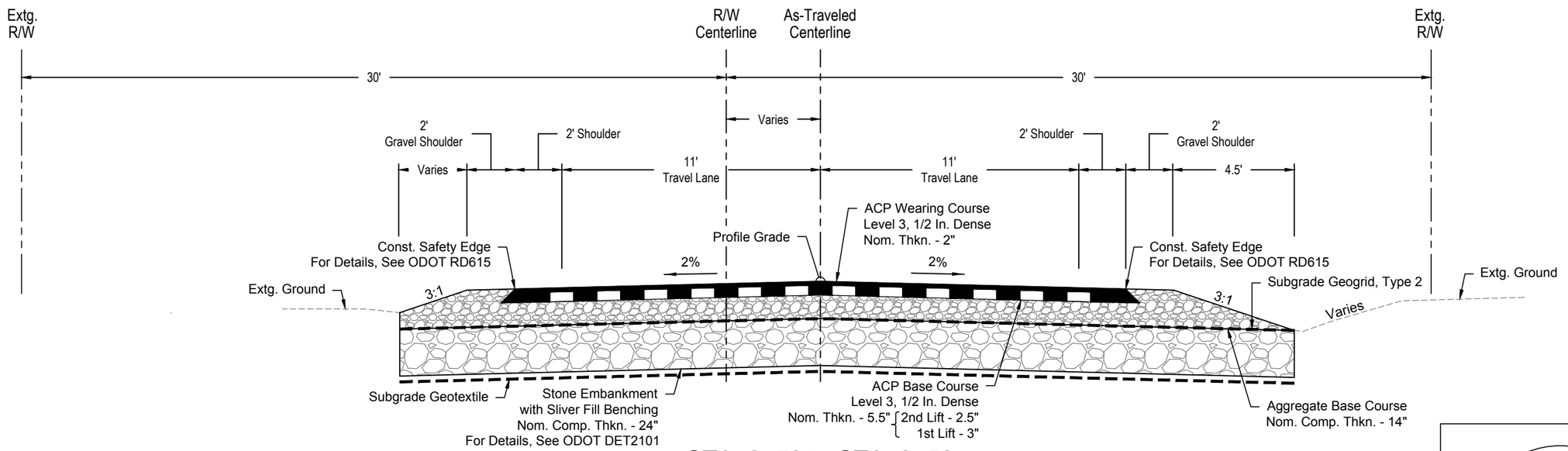
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 2A-2



STA. 6+50 to STA. 8+50

S NEW ERA ROAD

(Not To Scale)

Note:

1. *All Dimensions Shown in Feet Unless Otherwise Noted.*
2. *Side Slopes Are Shown As Horiz. To Vert.*

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

REVISIONS

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CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

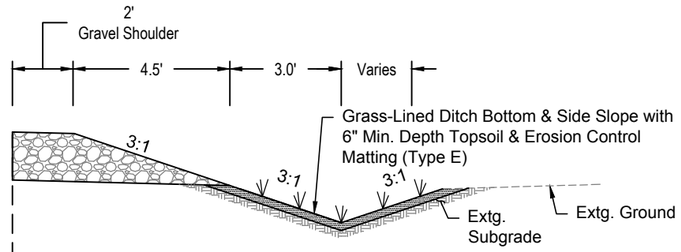
CLACKAMAS COUNTY
DAN JOHNSON
DIRECTOR

TYPICAL SECTIONS

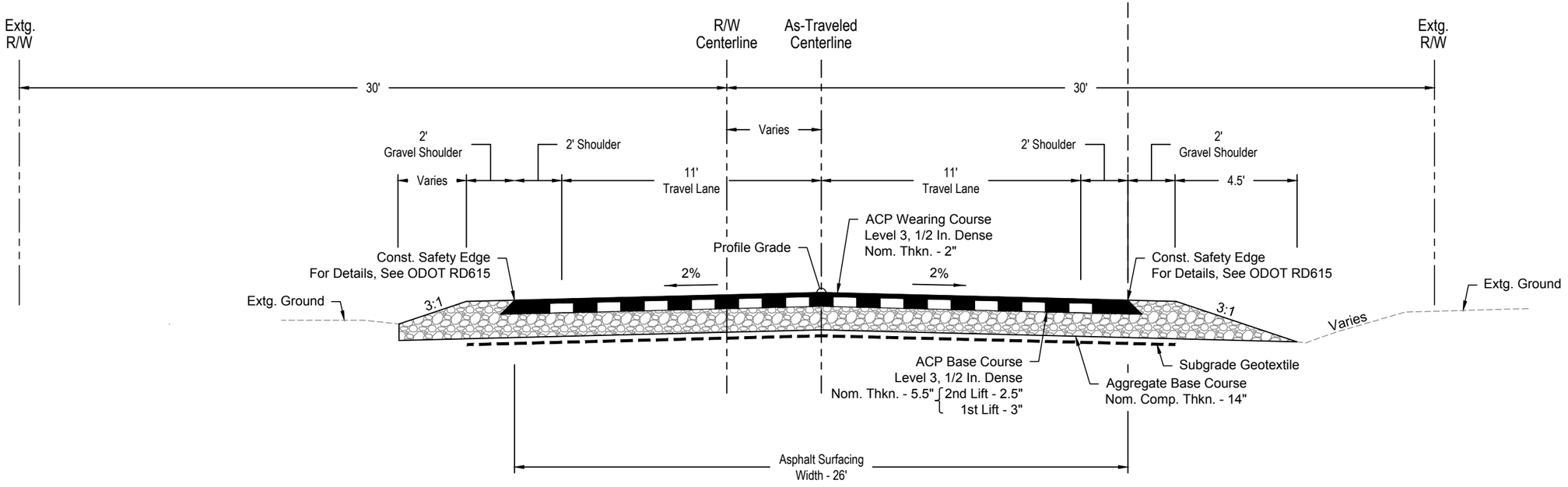
S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

Sheet No. 2A-3



STA. 10+48 to STA. 12+03



STA. 8+50 to STA. 9+52
STA. 10+48 to STA. 12+03

S NEW ERA ROAD

(Not To Scale)

Note:
1. *All Dimensions Shown in Feet Unless Otherwise Noted.*
2. *Side Slopes Are Shown As Horiz. To Vert.*

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

TYPICAL SECTIONS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

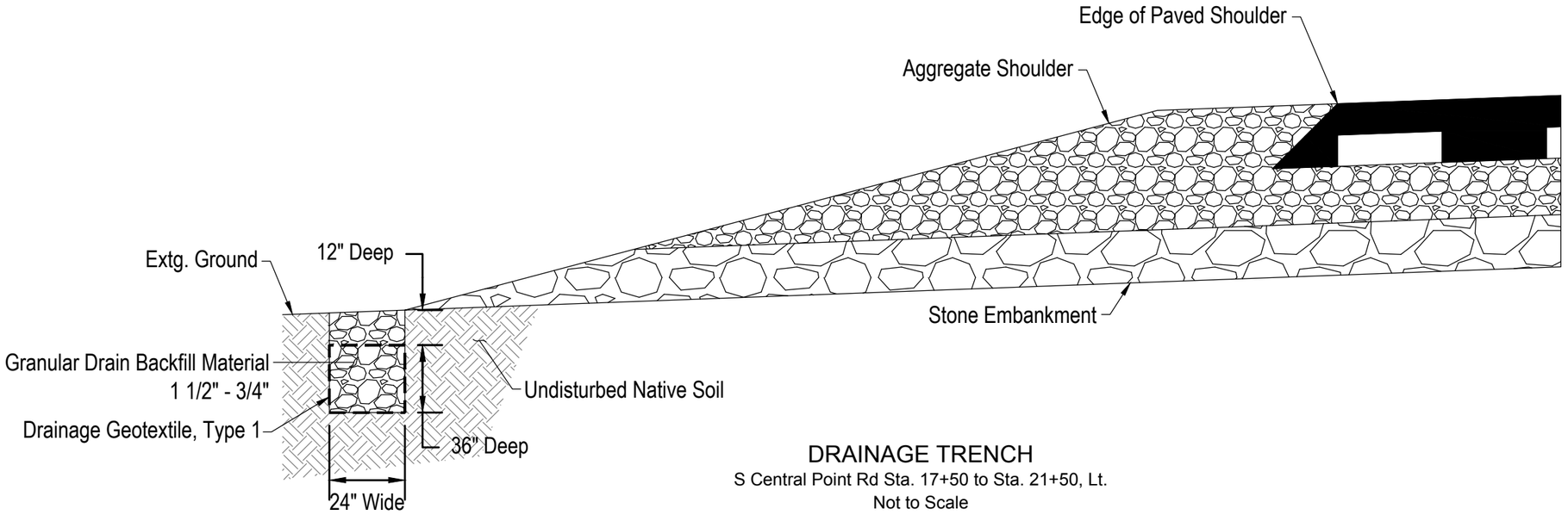
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 2A-4



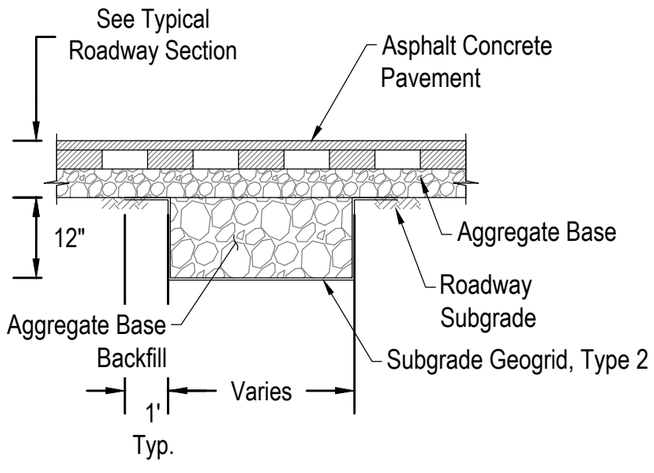
DRAINAGE TRENCH

S Central Point Rd Sta. 17+50 to Sta. 21+50, Lt.

Not to Scale

NOTES:

1. Construct Native Material, Full Width and Depth of Drainage Trench, Check Dams At Start and End of Drainage Trench and at 50' Spacing.



12 INCH SUBGRADE STABILIZATION

Not to Scale

NOTE:

1. Locate As Directed By The Engineer.

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
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EXPIRES 06-30-2021

CONSTRUCTION DETAILS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
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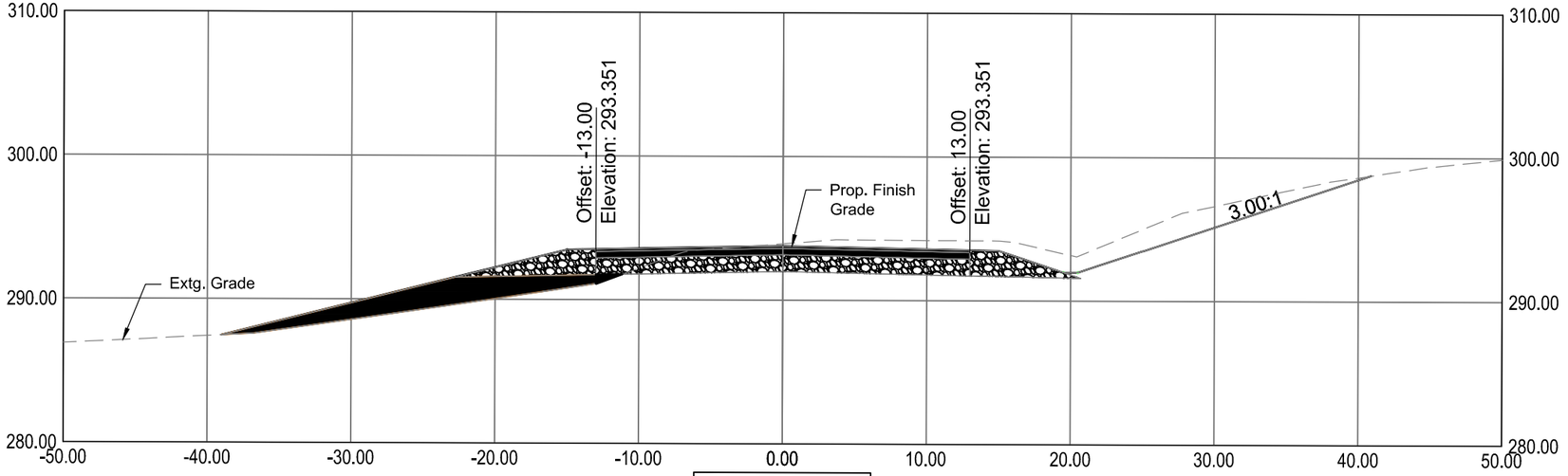
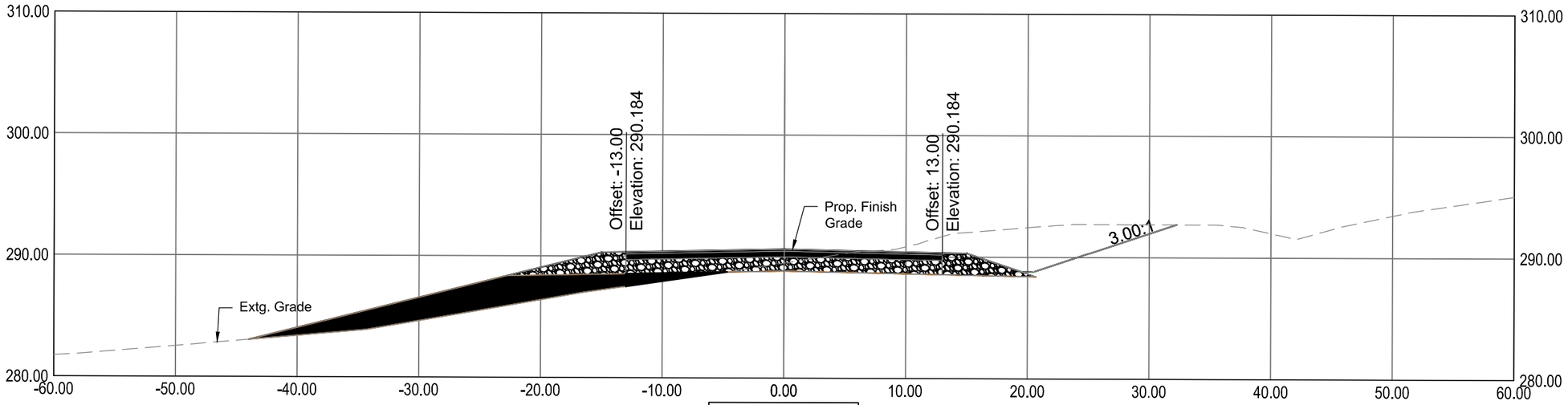
REVISIONS

Sheet No. 2B



15+50.00



16+50.00

A.C. Pavement

Aggregate Base

Stone Embankment
Per ODOT DET2101

S Central Point Rd

Horiz: 1" = 10'

Vert: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

ROADWAY SECTIONS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
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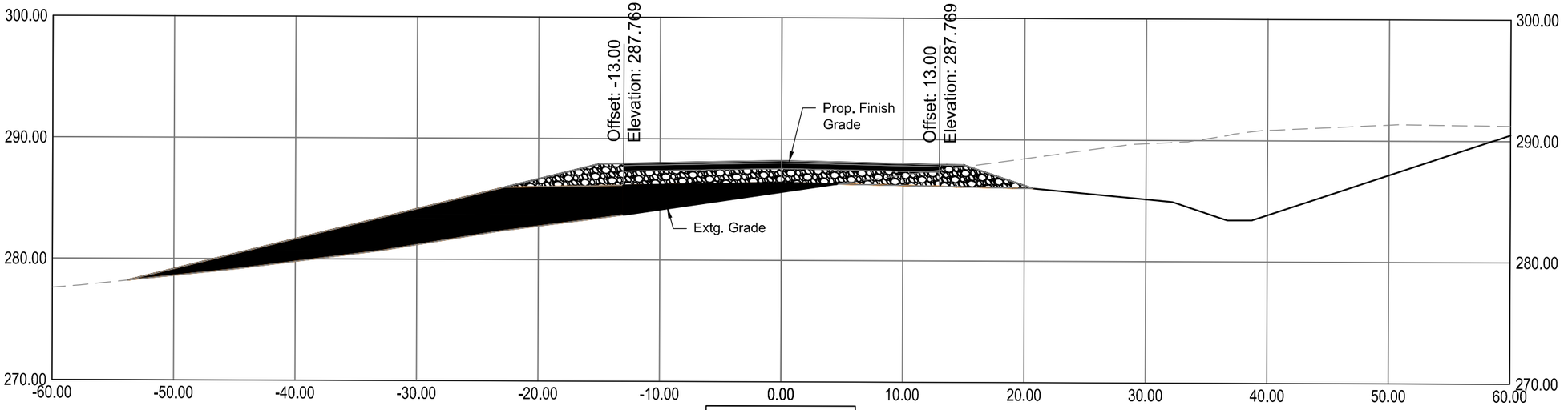
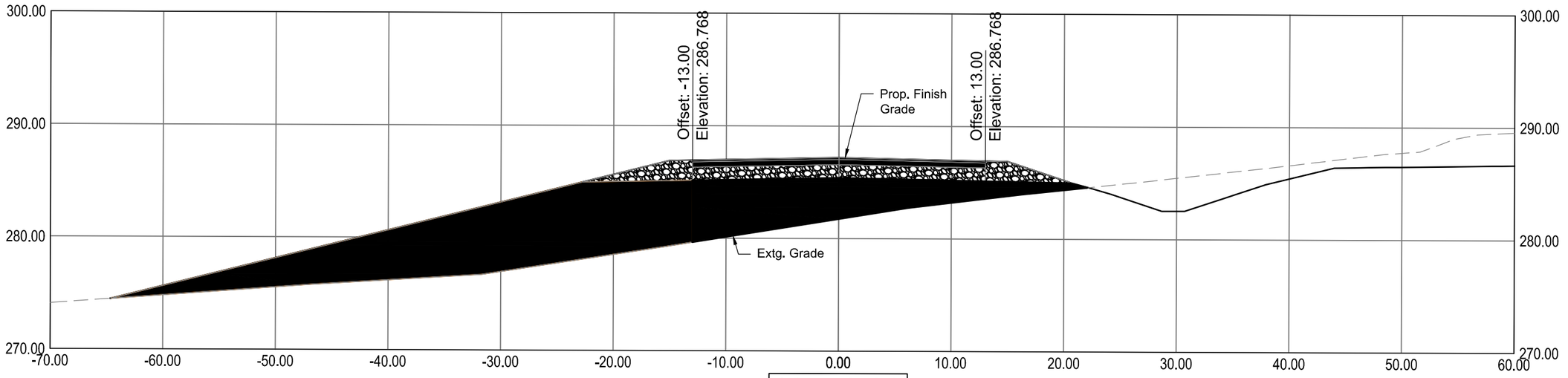
REVISIONS

Sheet No. 2C



17+50.00



18+50.00

A.C. Pavement

Aggregate Base

Stone Embankment
Per ODOT DET2101

S Central Point Rd
Horiz: 1" = 10'
Vert: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

ROADWAY SECTIONS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

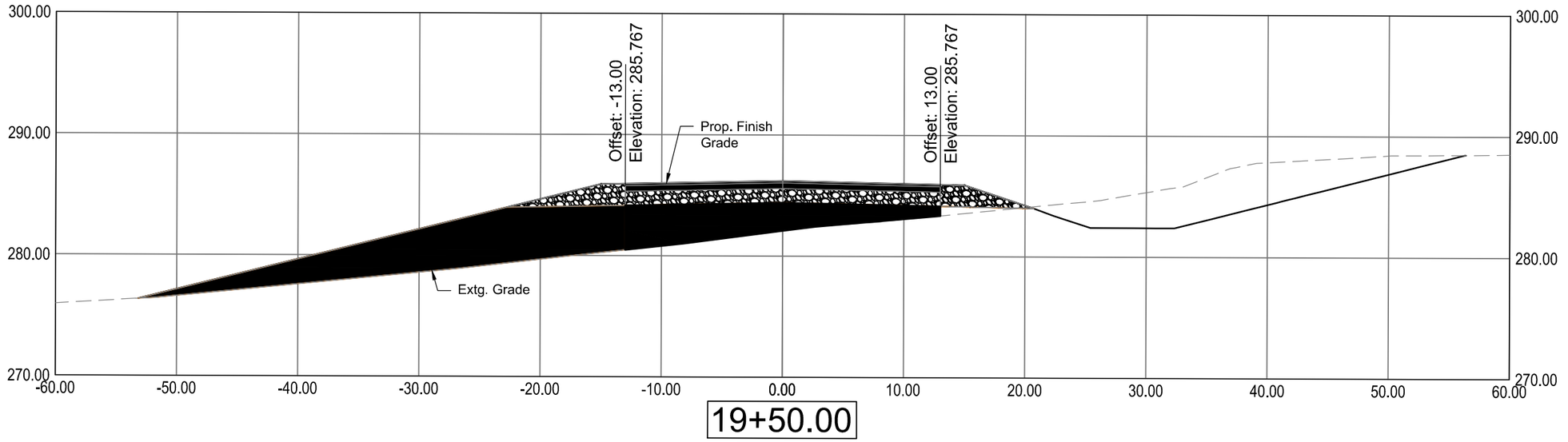
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY
DIRECTOR
DAN JOHNSON

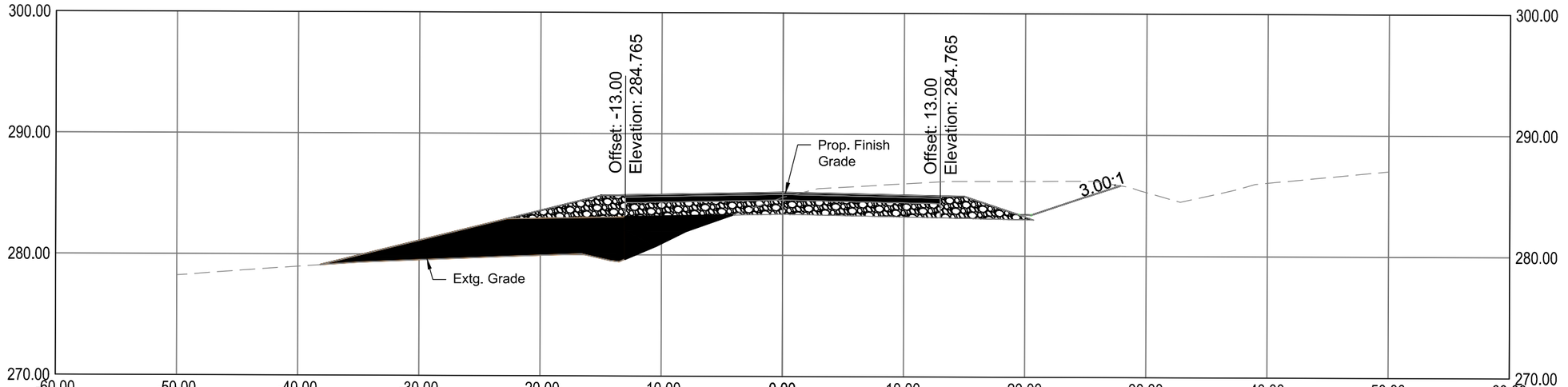
DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 2C-2



19+50.00



20+50.00

A.C. Pavement

Aggregate Base

Stone Embankment
Per ODOT DET2101

S Central Point Rd

Horiz: 1" = 10'

Vert: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
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OREGON
MARCH 14, 2017
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EXPIRES 06-30-2021

ROADWAY SECTIONS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
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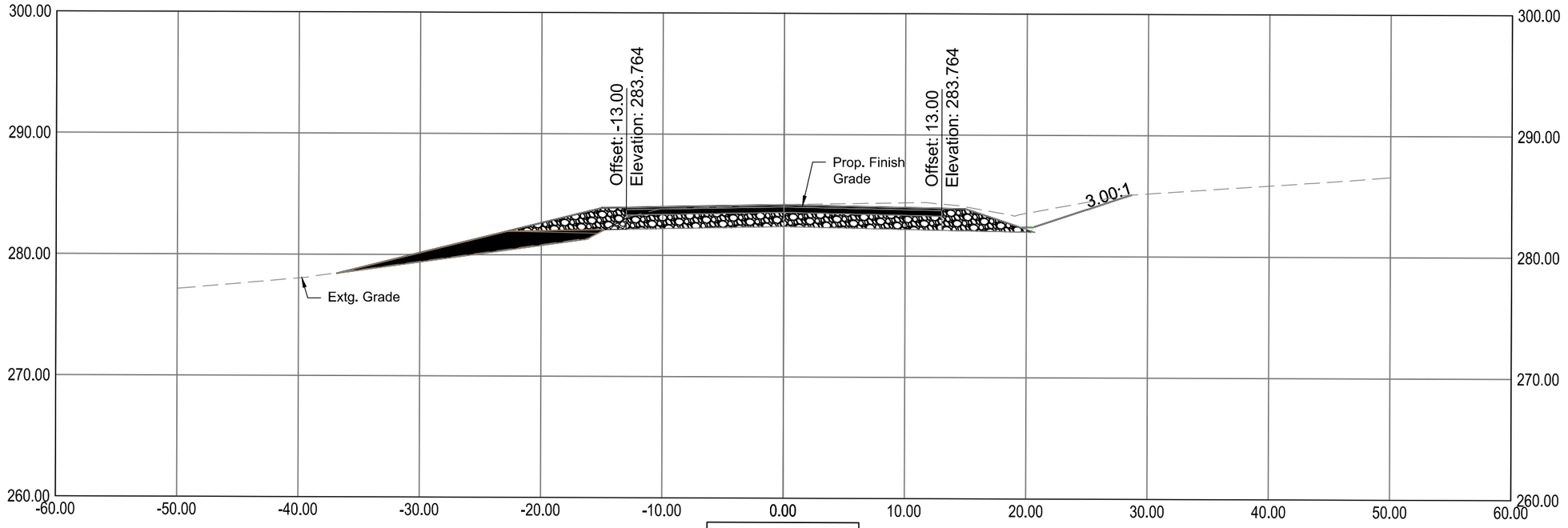
REVISIONS

Sheet No. 2C-3



A.C. Pavement

Aggregate Base

Stone Embankment
Per ODOT DET2101

S Central Point Rd

Horiz: 1" = 10'

Vert: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
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OREGON
MARCH 14, 2017
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ROADWAY SECTIONS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

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CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

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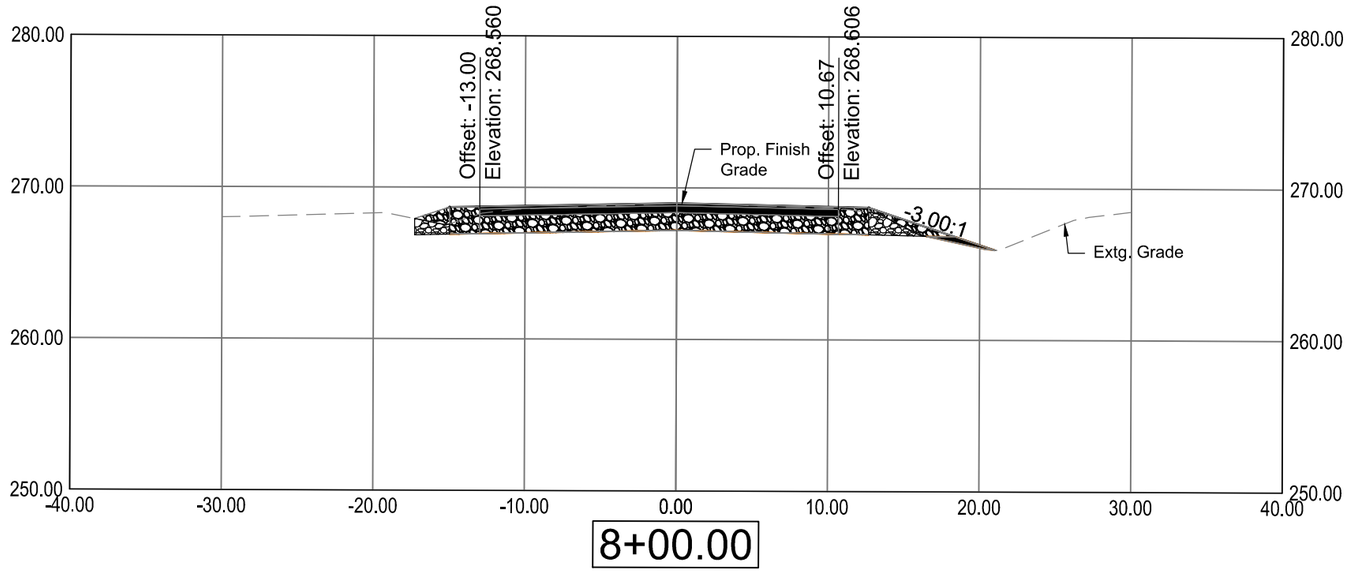
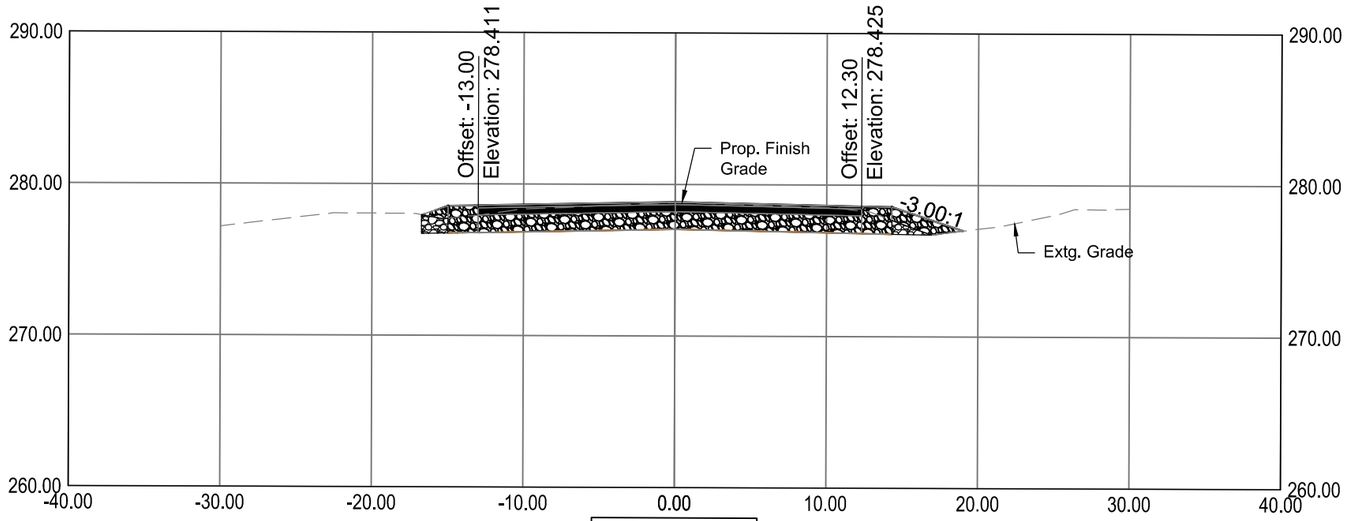
REVISIONS

Sheet No. 2C-4



8+00.00



9+00.00

A.C. Pavement

Aggregate Base

Stone Embankment
Per ODOT DET2101

S New Era Rd

Horiz: 1" = 10'

Vert: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

ROADWAY SECTIONS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

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CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DAN JOHNSON, DIRECTOR

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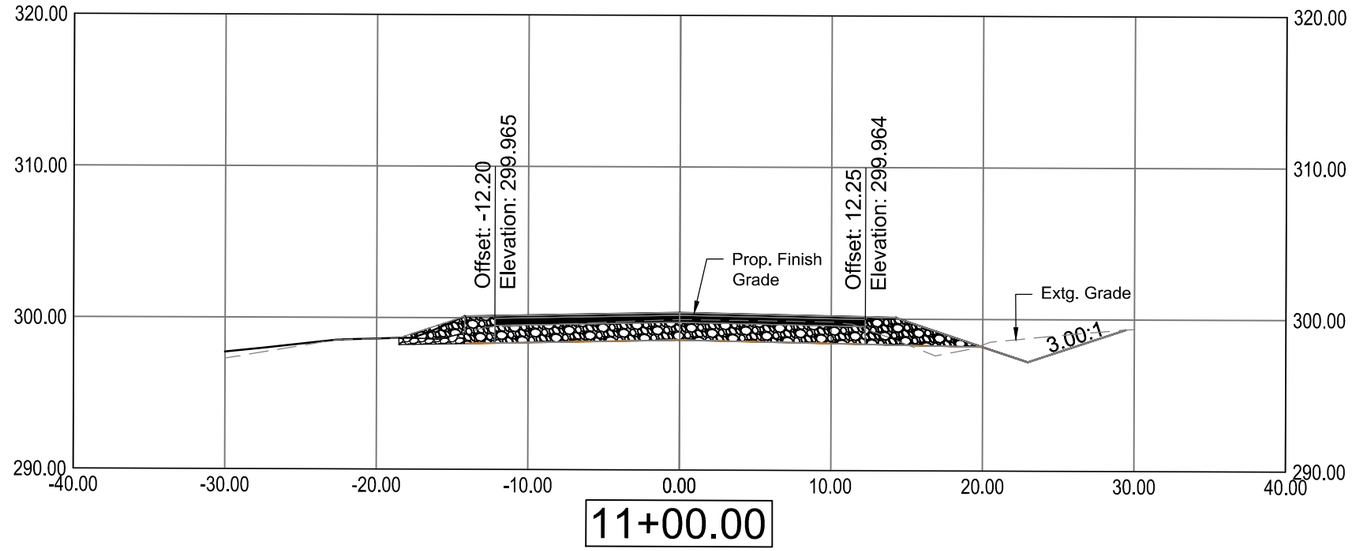
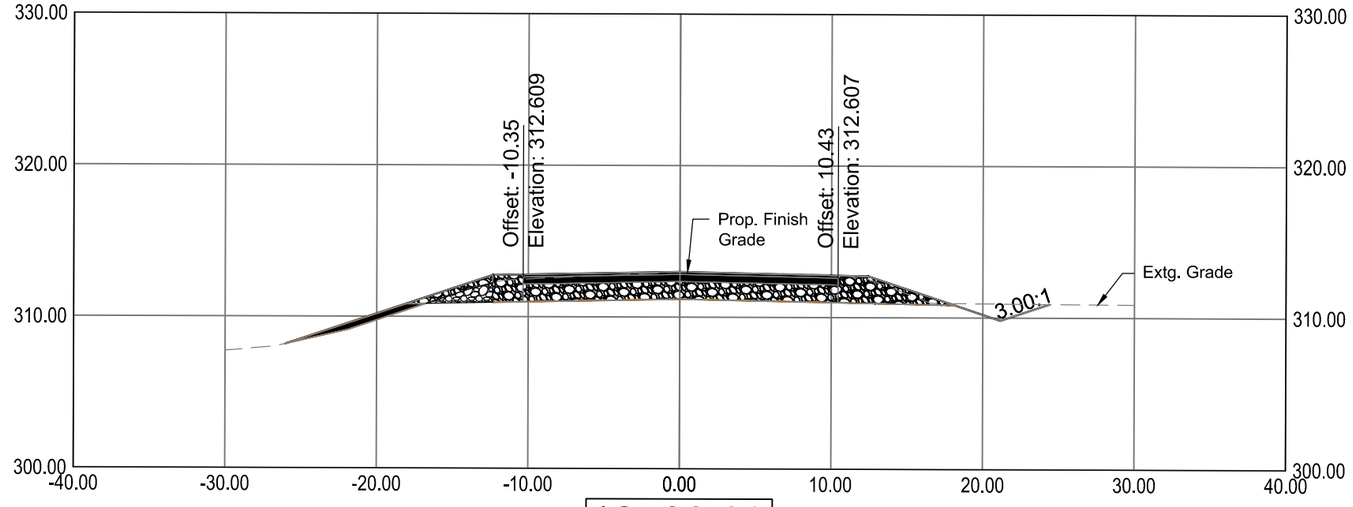
REVISIONS

Sheet No. 2C-5



11+00.00



12+00.00

A.C. Pavement

Aggregate Base

Stone Embankment
Per ODOT DET2101

S New Era Rd
Horiz: 1" = 10'
Vert: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

ROADWAY SECTIONS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
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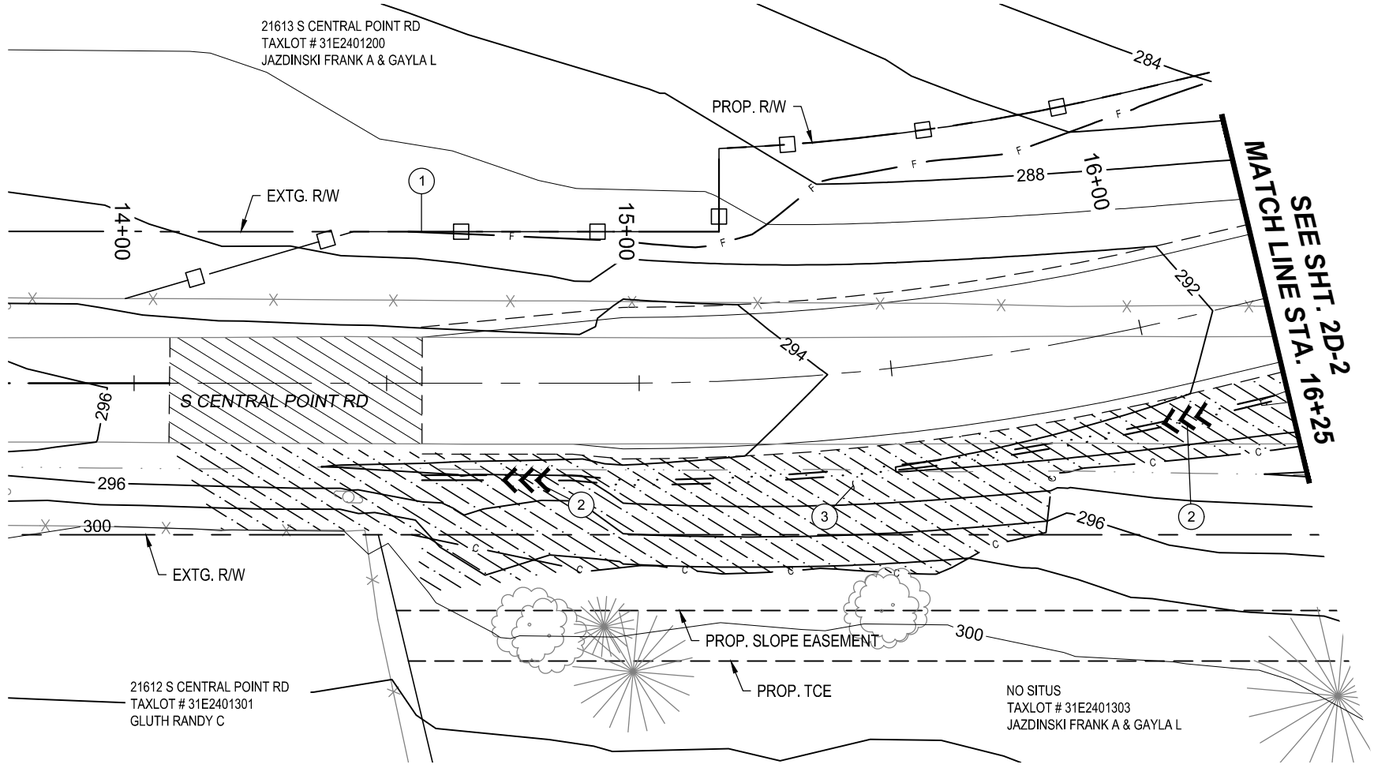
REVISIONS

Sheet No. 2C-6



EROSION CONTROL NOTES

1. Install Sediment Barrier, Type 8 - 240 L.F.
   For Details, See ODOT RD1032
2. Install Check Dam, Type 3 - 4 Ea.
   Width = 8', H = 12"
   For Details, See ODOT RD1005
3. Install EC Mix Seeding,
   6" Min. Depth Topsoil, and
   Erosion Control Matting, Type E
   As Directed by County

EROSION CONTROL LEGEND

Extg. Prop.

- Inlet Protection, Type 3
- Sediment Barrier, Type 8
- Check Dam (Type 3)
- EC Mix Seed, Topsoil, and EC Matting

NORTH

SCALE 15 7.5 0 15 30 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

EROSION CONTROL PLANS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
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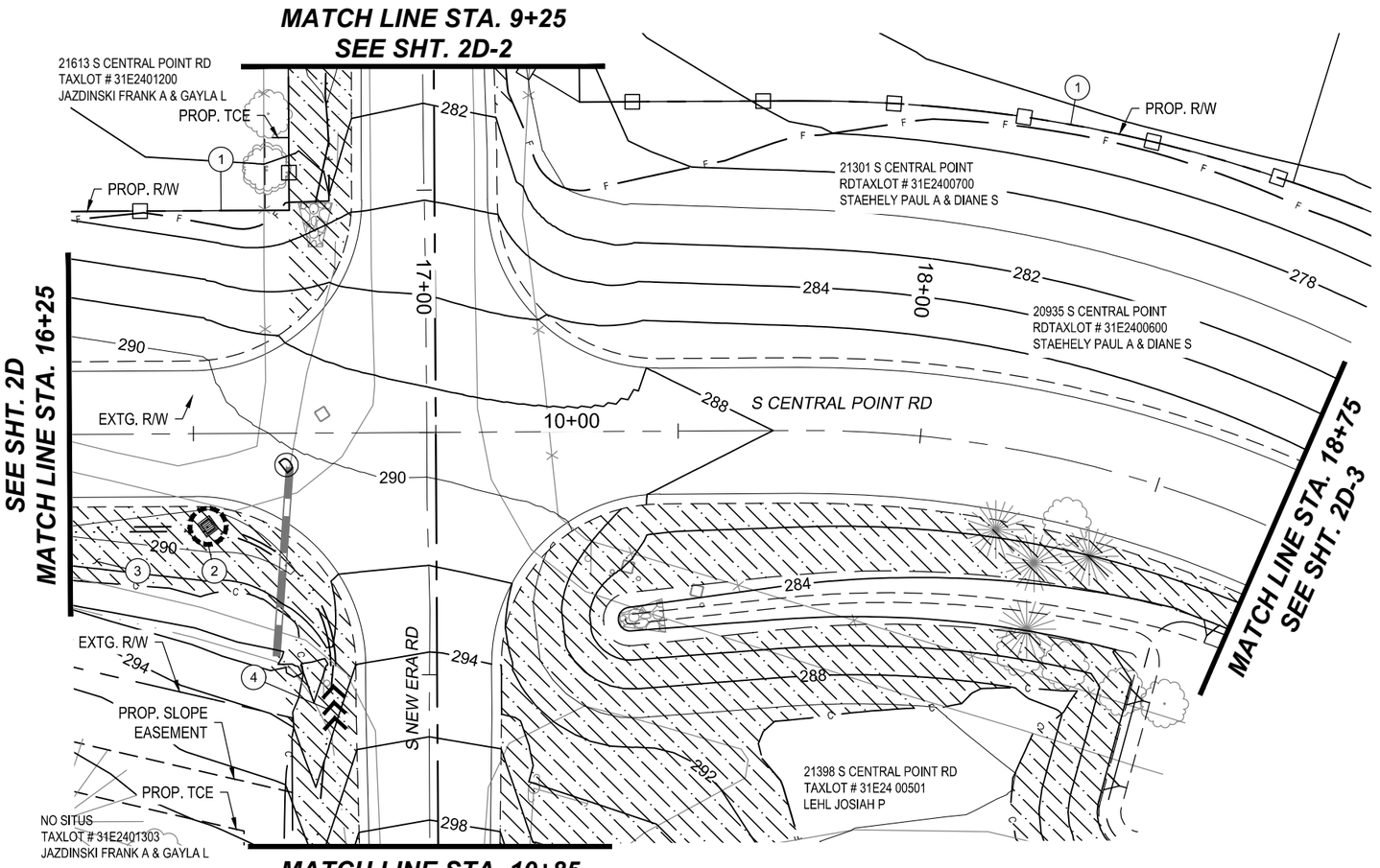
REVISIONS

Sheet No. 2D



EROSION CONTROL NOTES

1. Install Sediment Barrier, Type 8 - 50 L.F.
   For Details, See ODOT RD1032
2. Install Inlet Protection, Type 3 - 1 Ea.
   For Details, See ODOT RD1010
3. Install EC Mix Seeding,
   6" Min. Depth Topsoil, and
   Erosion Control Matting, Type E
   As Directed by County
4. Install Check Dam, Type 3 - 6 Ea.
   Width = 8', H = 18"
   For Details, See ODOT RD1005

EROSION CONTROL LEGEND

Extg. Prop.

Inlet Protection, Type 3

Sediment Barrier, Type 8

Check Dam (Type 3)

EC Mix Seed, Topsoil, and EC Matting

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

EROSION CONTROL PLANS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

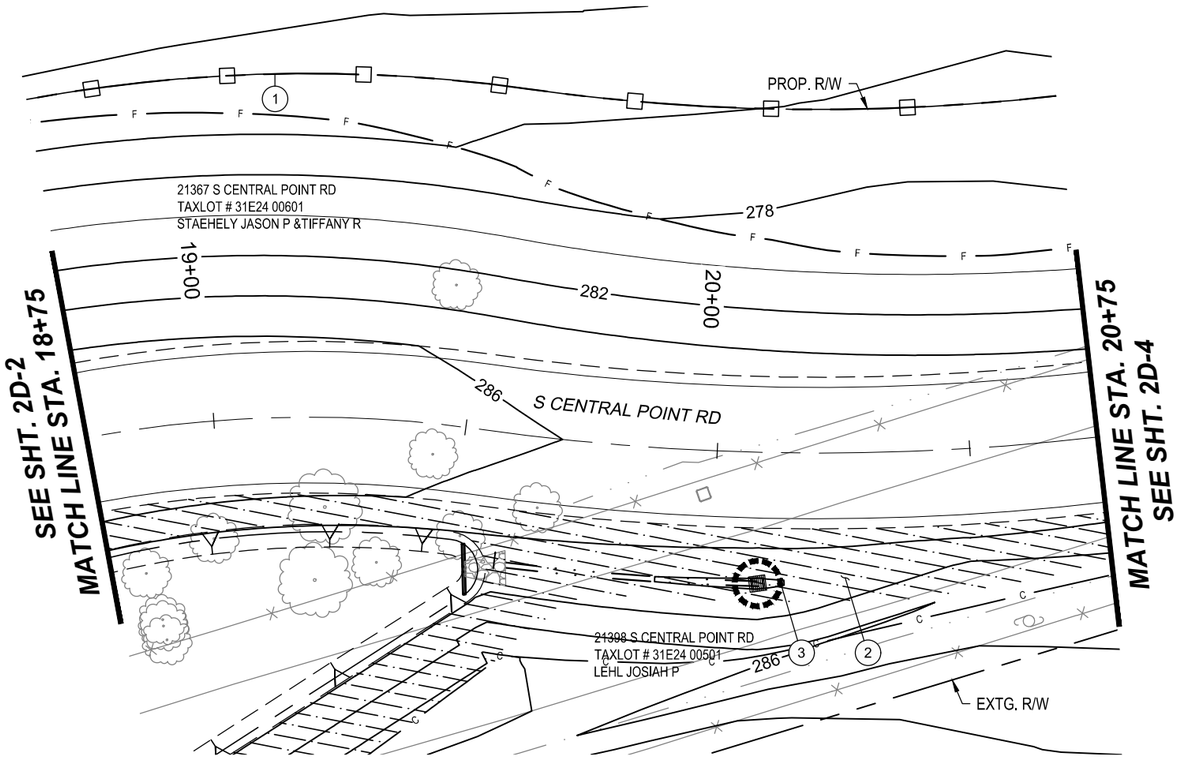
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY
DAN JOHNSON
DIRECTOR

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 2D-2



EROSION CONTROL NOTES

1. Install Sediment Barrier, Type 8 - 215 L.F.
   For Details, See ODOT RD1032
2. Install EC Mix Seeding,
   6" Min. Depth Topsoil, and
   Erosion Control Matting, Type E
   As Directed by County
3. Install Inlet Protection, Type 3 - 1 Ea.
   For Details, See ODOT RD1010

EROSION CONTROL LEGEND

Extg. Prop.

- Inlet Protection, Type 3
- Sediment Barrier, Type 8
- Check Dam (Type 3)
- EC Mix Seed, Topsoil, and EC Matting

NORTH

SCALE 15 7.5 0 15 30 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

EROSION CONTROL PLANS

S CENTRAL POINT RD AND S NEW ERA RD
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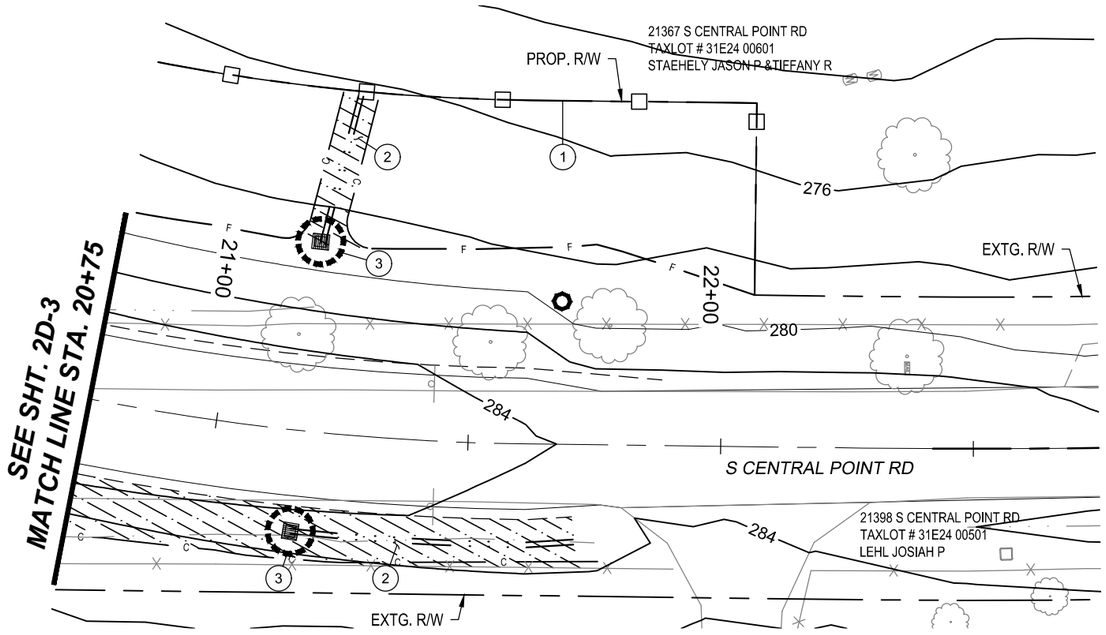
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

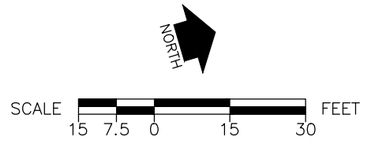
DAN JOHNSON, DIRECTOR

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 2D-3





EROSION CONTROL NOTES

1. Install Sediment Barrier, Type 8 - 220 L.F.
   For Details, See ODOT RD1032
2. Install EC Mix Seeding,
   6" Min. Depth Topsoil, and
   Erosion Control Matting, Type E
   As Directed by County
3. Install Inlet Protection, Type 3 - 2 Ea.
   For Details, See ODOT RD1010

EROSION CONTROL LEGEND

Extg.	Prop.	
		Inlet Protection, Type 3
		Sediment Barrier, Type 8
		Check Dam (Type 3)
		EC Mix Seed, Topsoil, and EC Matting

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

EROSION CONTROL PLANS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

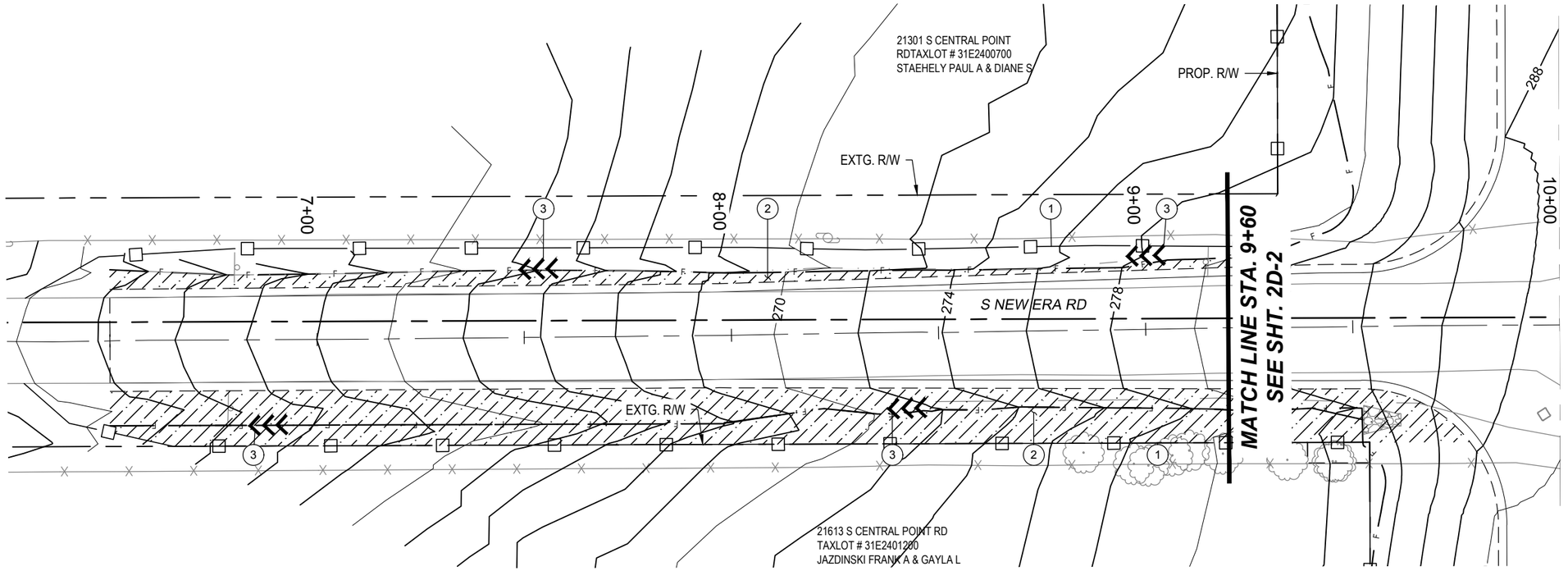
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 2D-4



EROSION CONTROL NOTES

1. Install Sediment Barrier, Type 8 - 700 L.F.
   For Details, See ODOT RD1032
2. Install EC Mix Seeding,
   6" Min. Depth Topsoil, and
   Erosion Control Matting, Type E
   As Directed by County
3. Install Check Dam, Type 3 - 40 Ea.
   Width = 8', H = 18"
   For Details, See ODOT RD1005

EROSION CONTROL LEGEND

Extg. Prop.

- Inlet Protection, Type 3
- Sediment Barrier, Type 8
- Check Dam (Type 3)
- EC Mix Seed, Topsoil, and EC Matting

NORTH

SCALE 15 7.5 0 15 30 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

EROSION CONTROL PLANS

S CENTRAL POINT RD AND S NEW ERA RD
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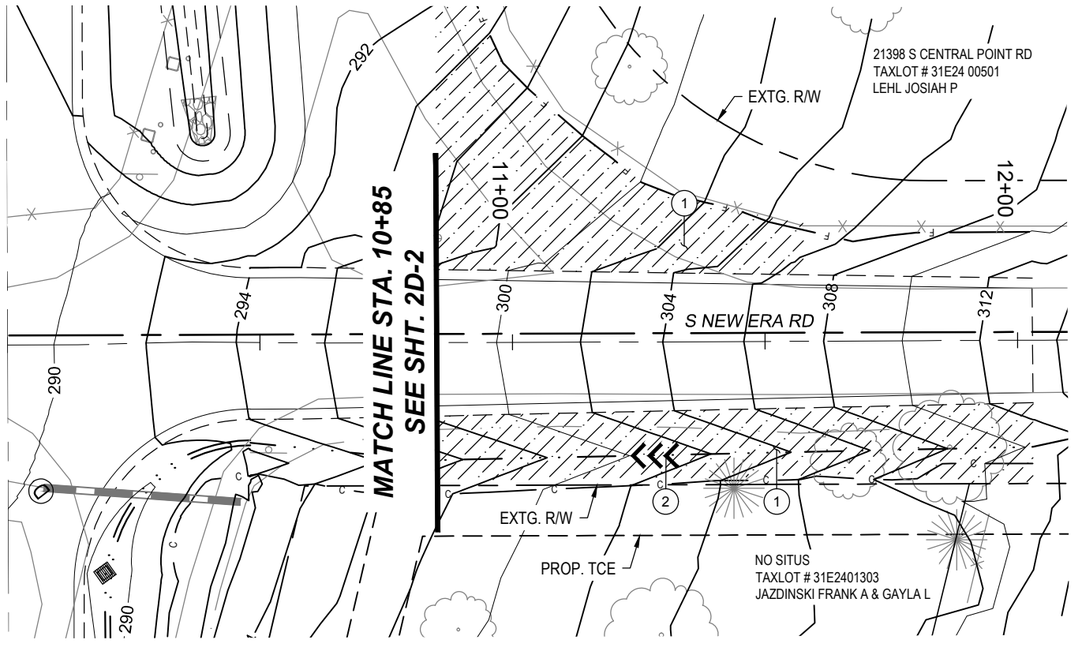
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DAN JOHNSON — DIRECTOR

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 2D-5



EROSION CONTROL NOTES

1. Install EC Mix Seeding, 6" Min. Depth Topsoil, and Erosion Control Matting, Type E As Directed by County
2. Install Check Dam, Type 3 - 8 Ea. Width = 8', H = 12" For Details, See ODOT RD1005

EROSION CONTROL LEGEND

Extg. Prop.

- Inlet Protection, Type 3
- Sediment Barrier, Type 8
- Check Dam (Type 3)
- EC Mix Seed, Topsoil, and EC Matting

NORTH

SCALE 15 7.5 0 15 30 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

EROSION CONTROL PLANS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

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CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY | DAN JOHNSON DIRECTOR

DESIGNED BY: JH | DRAFTED BY: JH | CHECKED BY: DTD

REVISIONS

Sheet No. 2D-6

TEMPORARY SIGN ON POST

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

TEMPORARY SIGN ON TYPE III BARRICADE

* 500' +/- SIGN SPACING

WILLAMETTE RIVER

WARNER PARROT RD

OREGON CITY

PARTLOW RD

CENTRAL POINT RD

SOUTH END RD

OR 99E

CRITESER RD

1500' +/- FROM INTERSECTION

LELAND RD

OR213

NEW ERA RD

1500' +/-

2700' +/-

2200' +/-

3500' +/-

SEE SHT. 2E-2 FOR INTERSECTION DETAIL

CENTRAL POINT RD

PENMAN RD

NEW ERA RD

LELAND RD

HAINES RD

OR 99E

CANBY

BREMER RD

CARUS RD

CARUS RD

OR213

TOWNSHIP RD

SPANGLER RD

DETOUR PLANS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY

DIRECTOR

DAN JOHNSON

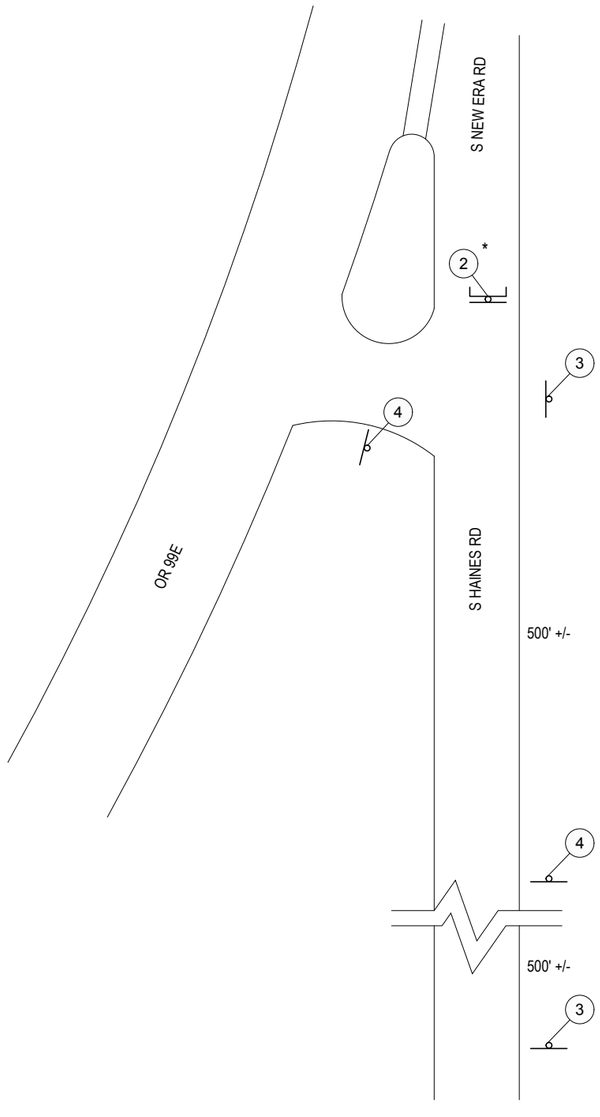
DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

REVISIONS

Sheet No. 2E

OR 99E @
S. NEW ERA RD. / S. HAINES RD
INTERSECTION DETAIL



* POINT OF CLOSURE
(LOCAL TRAFFIC ONLY)

TEMPORARY SIGN ON POST

TEMPORARY SIGN ON
TYPE III BARRICADE

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

DETOUR PLANS

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CLACKAMAS COUNTY
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DIRECTOR
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DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 2E-2

DETOUR
S. CENTRAL POINT RD.
S. NEW ERA RD.
(56-Day Maximum)

60x30

(1)

1 Week Prior To Closure

60x30
R11-4

(2)

Mount on
Type III Barricade

60x30

(3)

1 Week Prior To Closure

48x48
W20-3

(4)

Note:
Signs 1 And 3 Shall Be Orange, Type 1 Sheeting
With Black Lettering (Former Spec. 2910 Type "O").

1 Week Prior To Closure

CENTRAL POINT RD CLOSED	MMM DD TO MMM DD

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

2 Reqd.

(5)

During Closure

ROAD CLOSED X MILE	USE ALT ROUTE

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

(5)

1 Week Prior To Closure

NEW ERA RD CLOSED	MMM DD TO MMM DD

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

2 Reqd.

(6)

During Closure

ROAD CLOSED X MILE	USE ALT ROUTE

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

(6)

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

DETOUR PLANS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY

DIRECTOR

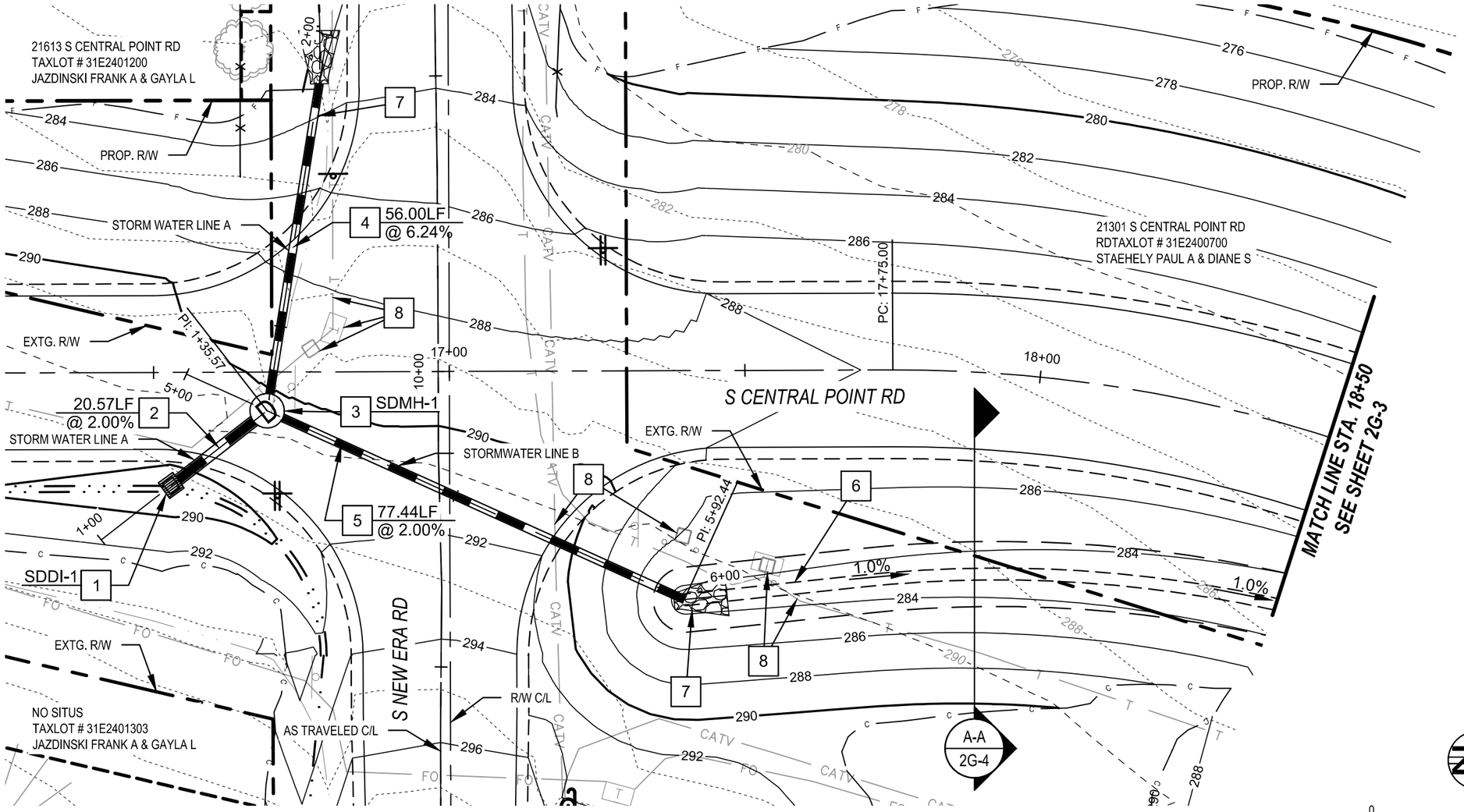
DAN JOHNSON

DESIGNED BY: JH | DRAFTED BY: JH | CHECKED BY: DTD

REVISIONS

NO.	DATE:	
1	4/16/2020	ADDENDUM #3

Sheet No. 2E-3



STORMWATER CONSTRUCTION NOTES

1. CENTRAL POINT RD = STA. 16+52.90', 19.12' RT.
   CONSTRUCT DITCH INLET, TYPE D.
   SEE ODOT STD. DWG. RD370.
   SEE PROFILE, PAGE 2G-2.

2. INSTALL 18" DIAM. RCP STORM PIPE.
   I.E. IN = 285.88'
   I.E. OUT = 285.47'
   SEE PROFILE, PAGE 2G-2

3. CENTRAL POINT RD = STA. 16+69.18', 6.54' RT.
   CONSTRUCT 60" DIAMETER SHALLOW FLOW CONTROL MANHOLE.
   SEE ODOT STD. DETAIL DET1308.
   SEE ODOT STD. DWG. RD342.
   SEE PROFILE, PAGE 2G-2.

4. INSTALL 12" DIAM. RCP STORM PIPE.
   I.E. IN = 285.57'
   I.E. OUT = 282.08'
   SEE PROFILE, PAGE 2G-2

5. INSTALL 12" DIAM. RCP STORM PIPE.
   I.E. IN = 285.07'
   I.E. OUT = 283.52'
   SEE PROFILE. PAGE 2G-2

6. CENTRAL POINT RD = STA. 17+39.61' TO 18+63.17' RT.
   CONSTRUCT WATER QUALITY SWALE.
   1.0 % LONGITUDINAL SLOPE.
   INSTALL TYPE B MATTING.
   FOR DETAILS, SEE SHEET 2G-4.

7. CONSTRUCT ODOT CLASS 50 RIPRAP OUTFALL PROTECTION, 1.5' THICK.
   FOR DETAIL, SEE SHEET 2G-4.

8. RELOCATE EXTG. UTILITY.
   (BY OTHERS)

PLAN
1"=20'

0 20 40
10 30

SCALE: 1"=20'

REGISTERED PROFESSIONAL ENGINEER
88691PE
Russell Montgomery
OREGON
MAY 22, 2014
RUSSELL PATRICK MONTGOMERY
RENEWS: 12/31/2020

STORMWATER QUALITY PLAN

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2020 | PROJECT NO.: CI-22254

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: MAW
CHECKED BY: CJ

REVISIONS
NO. DATE:

Sheet No.
2G-1

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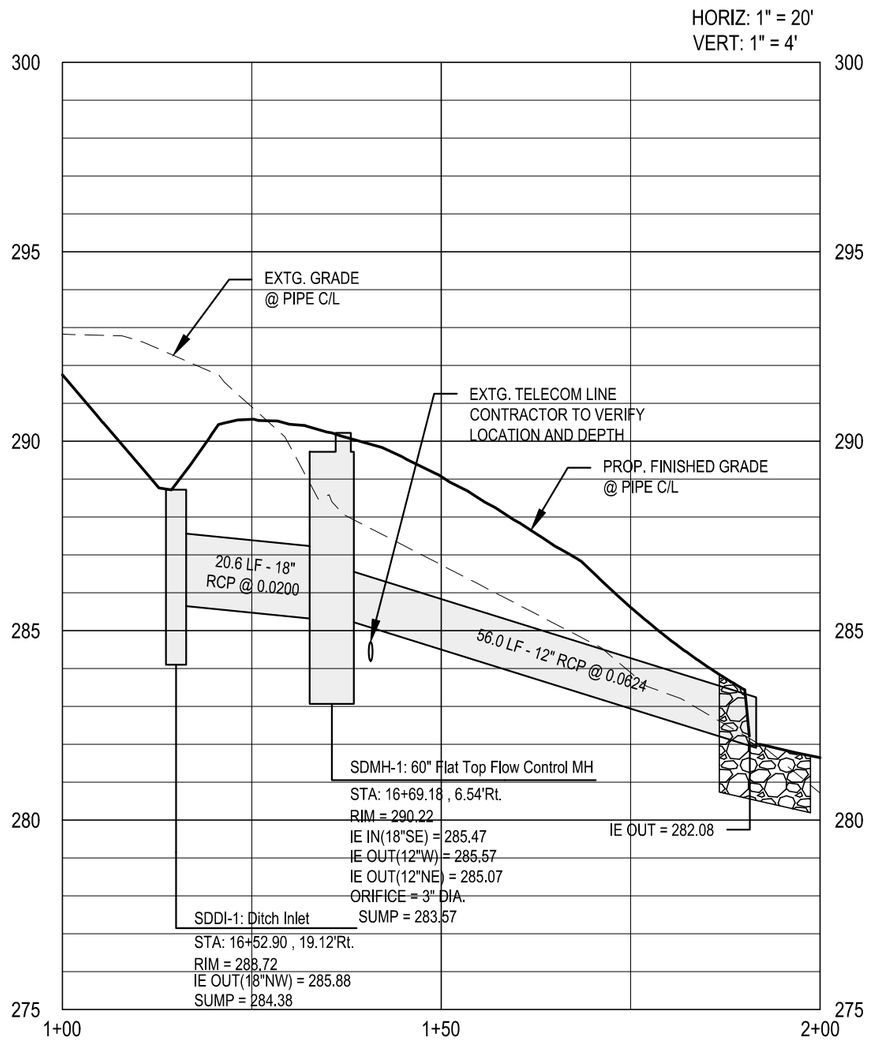
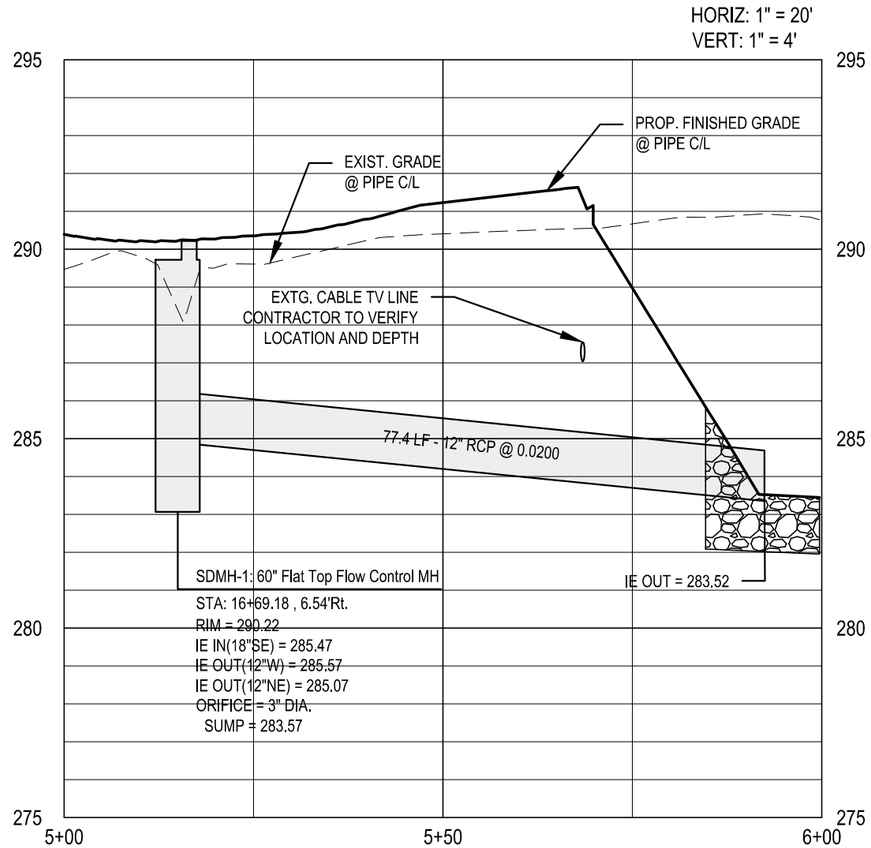
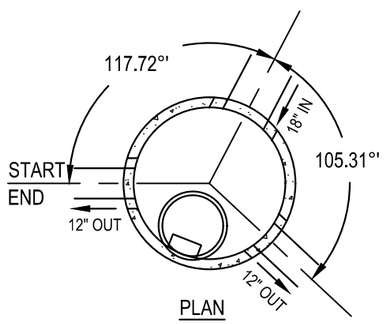
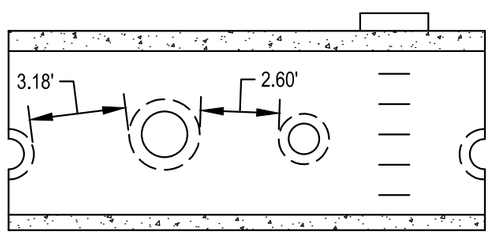


STORMWATER LINE A PROFILE



STORMWATER LINE B PROFILE





MANHOLE ROLL-OUT (SDMH-1) DETAIL

SCALE: 1" = 5'

REGISTERED PROFESSIONAL ENGINEER
88691PE
OREGON
MAY 22, 2014
RUSSELL PATRICK MONTGOMERY
RENEWS: 12/31/2020

STORMWATER QUALITY PROFILE

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2020 | PROJECT NO.: CI-22254

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DIRECTOR
DAN JOHNSON

DESIGNED BY: RPM
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REVISIONS

NO.	DATE:

Sheet No.
2G-2

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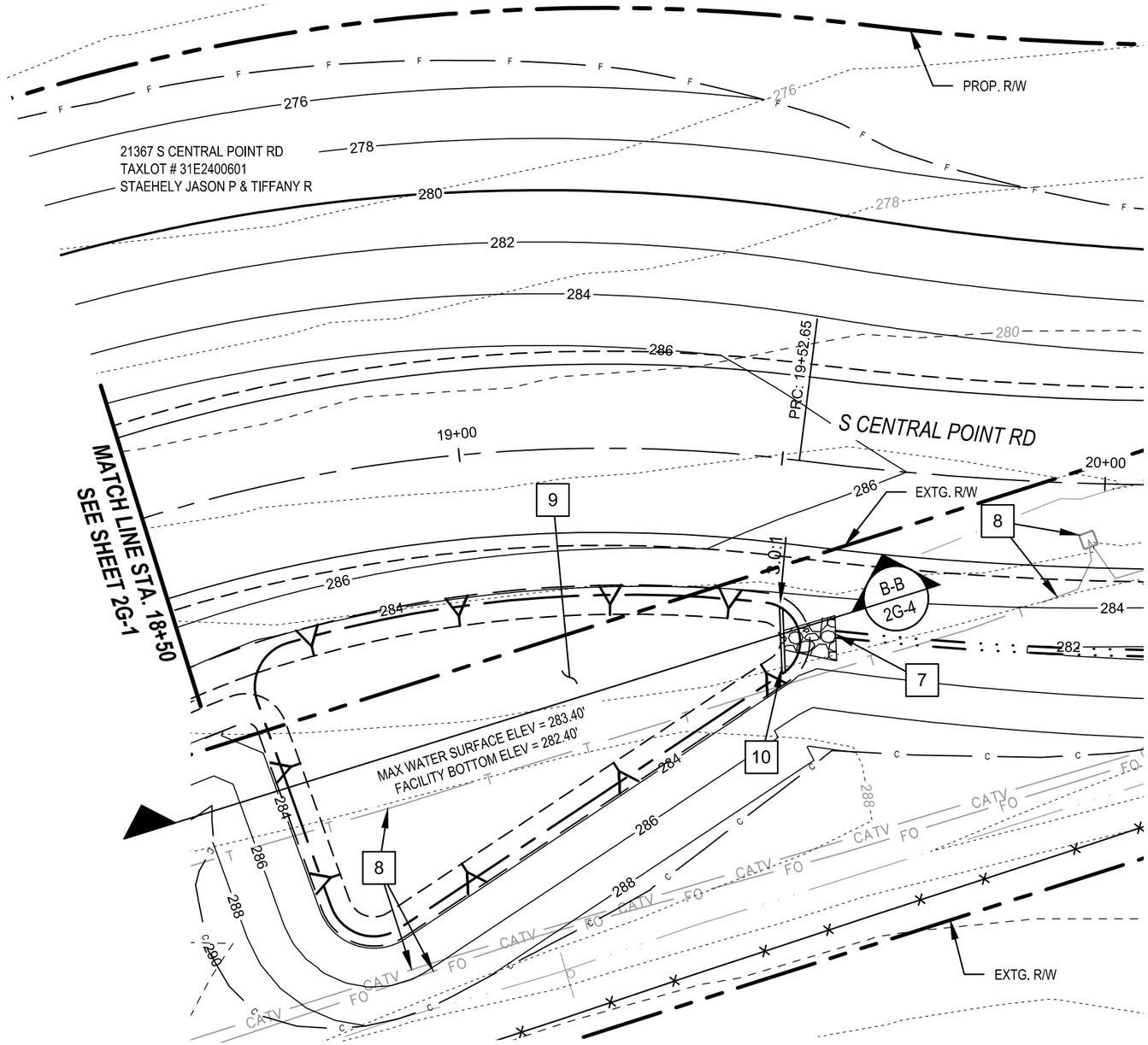

STORMWATER CONSTRUCTION NOTES

7 CONSTRUCT ODOT CLASS 50 RIPRAP OUTFALL PROTECTION, 1.5' THICK. FOR DETAIL, SEE SHEET 2G-4.

8 RELOCATE EXTG. UTILITY. (BY OTHERS)

9 CENTRAL POINT RD = STA. 18+60.20' TO STA. 19+57.02' RT. CONSTRUCT FLOW CONTROL BASIN. BOTTOM ELEVATION = 282.40' INSTALL TYPE A MATTING. FOR DETAILS, SEE SHEET 2G-4.

10 CENTRAL POINT RD = STA. 19+52.99', 27.17' RT. CONSTRUCT CONCRETE FLOW CONTROL STRUCTURE. FOR DETAILS, SEE SHEET 2G-4.

PLAN
1"=20'

0 10 20 30 40

SCALE: 1"=20'

REGISTERED PROFESSIONAL ENGINEER
88691PE
OREGON
MAY 22, 2014
RUSSELL PATRICK MONTGOMERY
RENEWS: 12/31/2020

STORMWATER QUALITY PLAN

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2020 | PROJECT NO.: CI-22254

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DAN JOHNSON

DESIGNED BY: RPM
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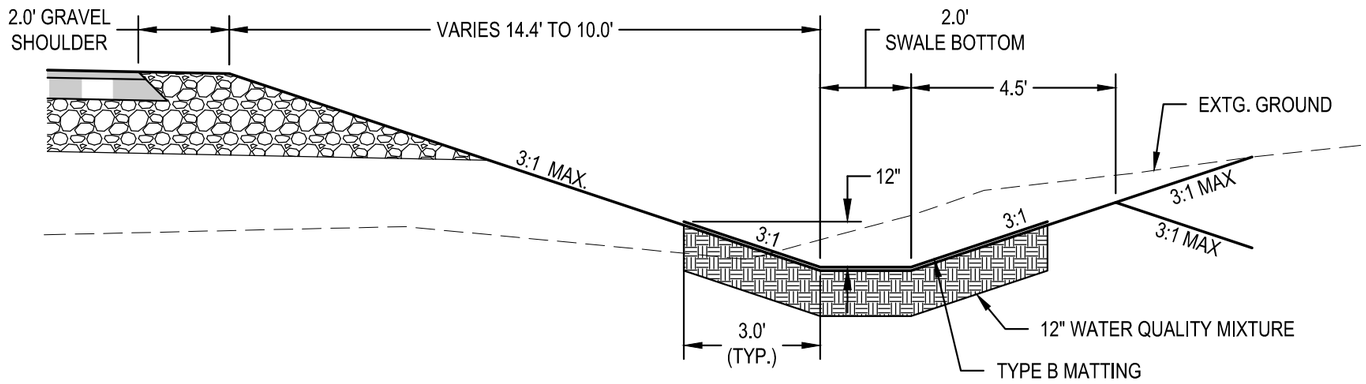
CHECKED BY: CJ

REVISIONS

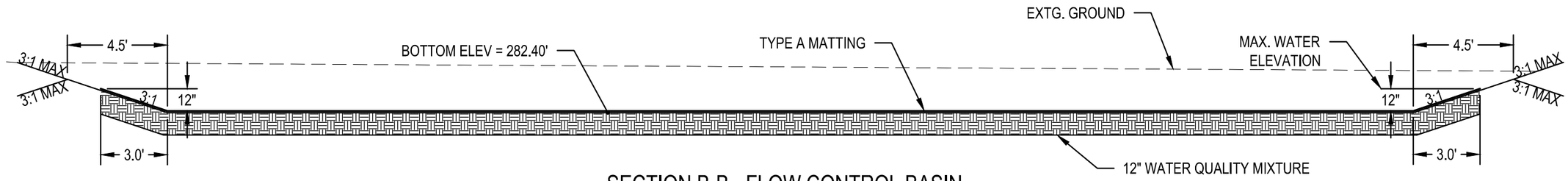
NO.	DATE:

Sheet No.
2G-3



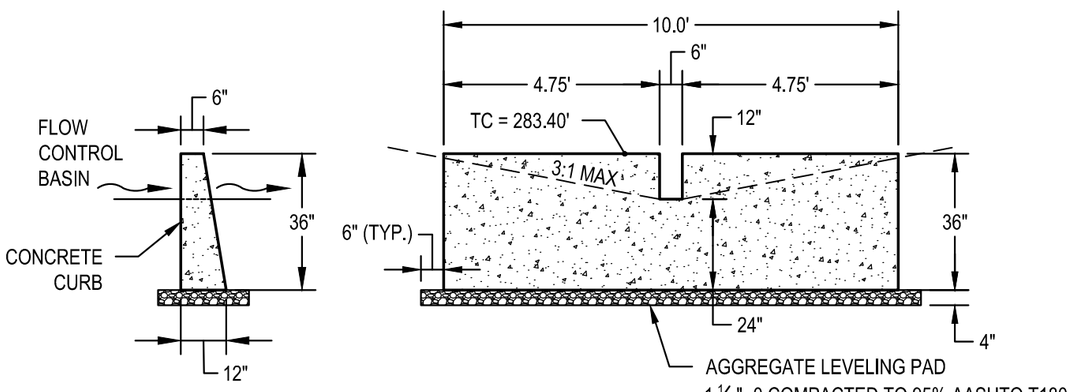
SECTION A-A - WATER QUALITY SWALE

SCALE: NTS



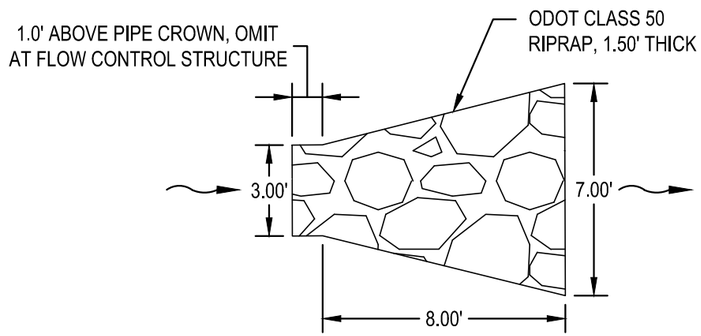
SECTION B-B - FLOW CONTROL BASIN

SCALE: NTS



1 CONCRETE FLOW CONTROL STRUCTURE

SCALE: NTS



2 RIPRAP OUTFALL PROTECTION

SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER
88691PE
OREGON
MAY 22, 2014
RUSSELL PATRICK MONTGOMERY
RENEWS: 12/31/2020

STORMWATER QUALITY DETAILS

S CENTRAL POINT RD AND S NEW ERA RD INTERSECTION REALIGNMENT

DATE: FEBRUARY 2020 | PROJECT NO.: CI-22254

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DIRECTOR
DAN JOHNSON

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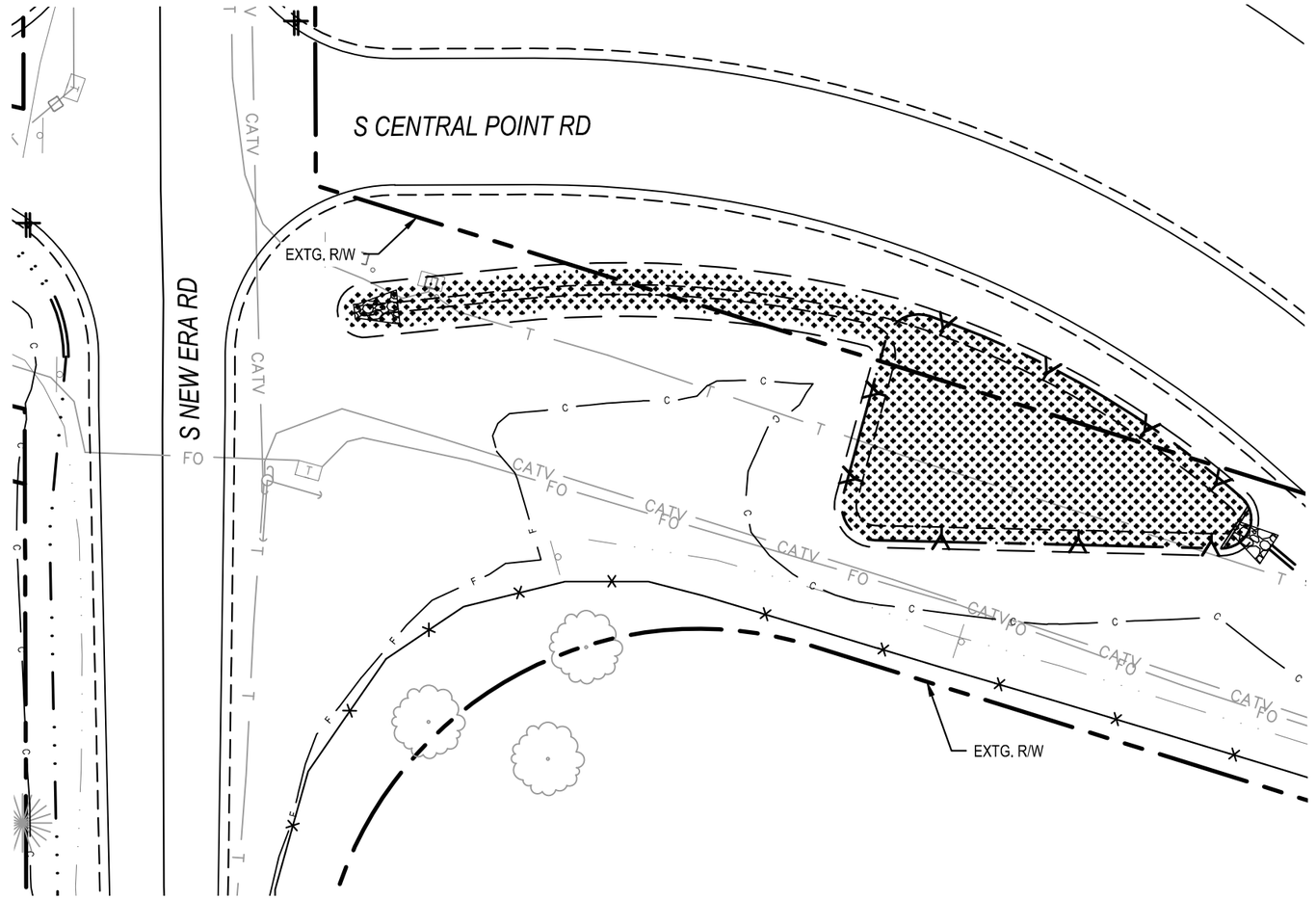
CHECKED BY: CJ

REVISIONS

NO.	DATE:

Sheet No. 2G-4



LANDSCAPE PLANT MATERIAL SCHEDULE

STORMWATER FACILITY GRASS MIXES

ITEM		SIZE	QTY.	COMMENTS
	LOW GROW SEED MIX	SEED 120 LBS. / ACRE 3 LBS. / 1,000 SF	3,550 SF 12 LBS.	DWARF TALL FESCUE 40% DWARF PERENIAL RYE 30% CREEPING RED FESCUE 25% COLONIAL BENT GRASS 5%

PLAN
1"=30'

0 30 60
15 45

SCALE: 1"=30'

REGISTERED
LA759
BECKY F. STRICKLER
OREGON
11/18/11
LANDSCAPE ARCHITECT
RENEWS 11/30/20

STORMWATER PLANTING PLAN

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2020 | PROJECT NO.: CI-22254

Cardno
PORTLAND
6720 SW MACADAM AVE, STE 200, PORTLAND, OR
97219 TEL.: (503) 419 - 2500 FAX: (503) 419 - 2600
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CLACKAMAS COUNTY
DIRECTOR
DAN JOHNSON

DESIGNED BY: BFS
DRAFTED BY: MAW
CHECKED BY: CJ

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NO.	DATE:

Sheet No.
2G-5

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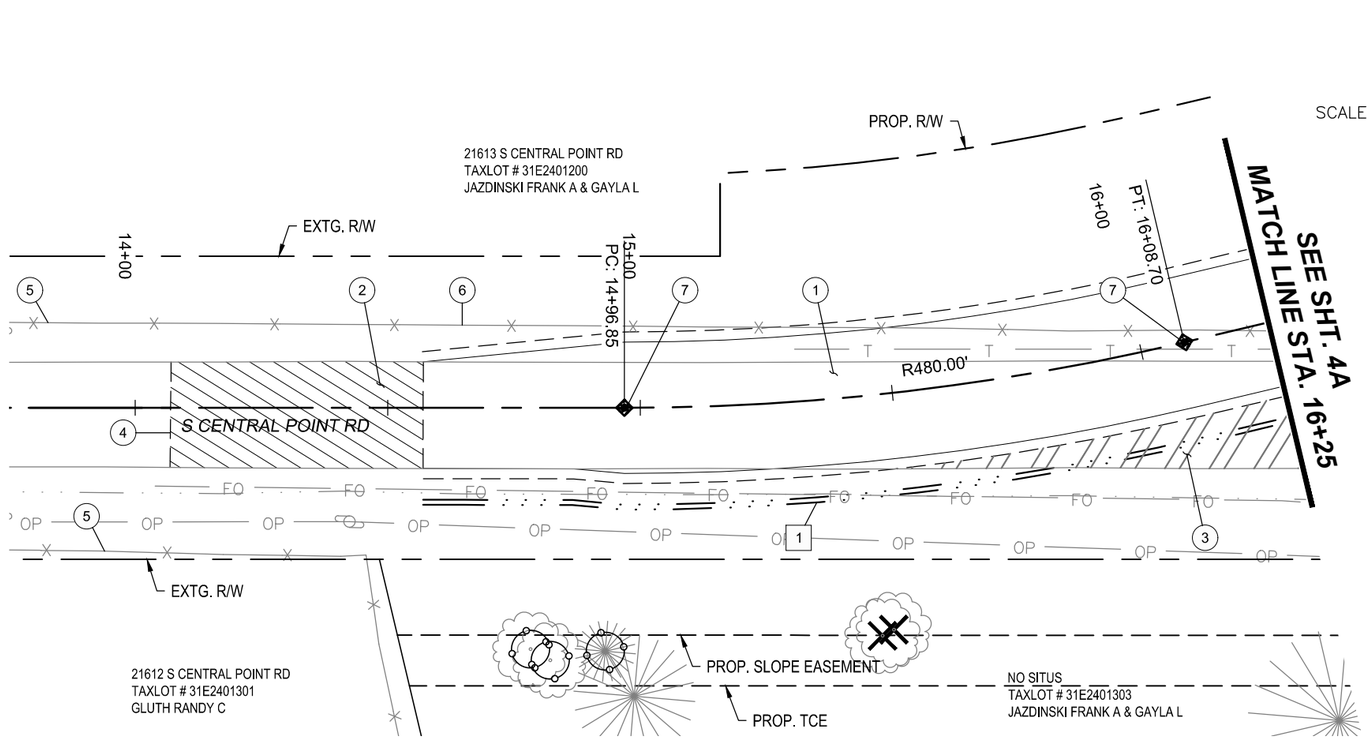


STREET CONSTRUCTION NOTES

1. Sta. 14+57 to Sta. 16+25
   Roadway Construction
   For Details, See Shts. 2A Thru 2A-4
2. Sta. 14+07 to Sta. 14+57
   2" To 4" Deep
   Cold Plane Pavement Removal
   2" ACP Wearing Course Overlay
   For Details, See Sht. 2A-2
3. Obliterate Extg. Roadway Surface
   (Incidental to Removal of
   Structures & Obstructions)
   Haul Obliterated Surface Offsite
   Material Becomes Property of Contractor
   Upon Removal
   Do Not Incorporate Scarified Material
   Into the Embankment

STREET CONSTRUCTION NOTES CONT'D

4. Sawcut & Match Extg. Pavement
   For Details, See ODOT RD610
5. Sta. 13+75 to Sta. 13+94, Lt.
   Sta. 13+75 to Sta. 14+45, Rt.
   Preserve and Protect Extg. Fence
6. Sta. 13+94 to Sta. 16+25, Lt.
   Relocate Extg. Fence
   (By Property Owner)
7. Install Concrete Monument Box
   For Details, See Clack. Co. M150
   County To Provide Monument Box

STORM WATER CONSTRUCTION NOTES

1. Sta. 14+57 to Sta. 16+25, Rt.
   Const. Drainage Ditch
   For Details, See Shts. 2A Thru 2A-4

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

CONSTRUCTION NOTES & PLAN

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

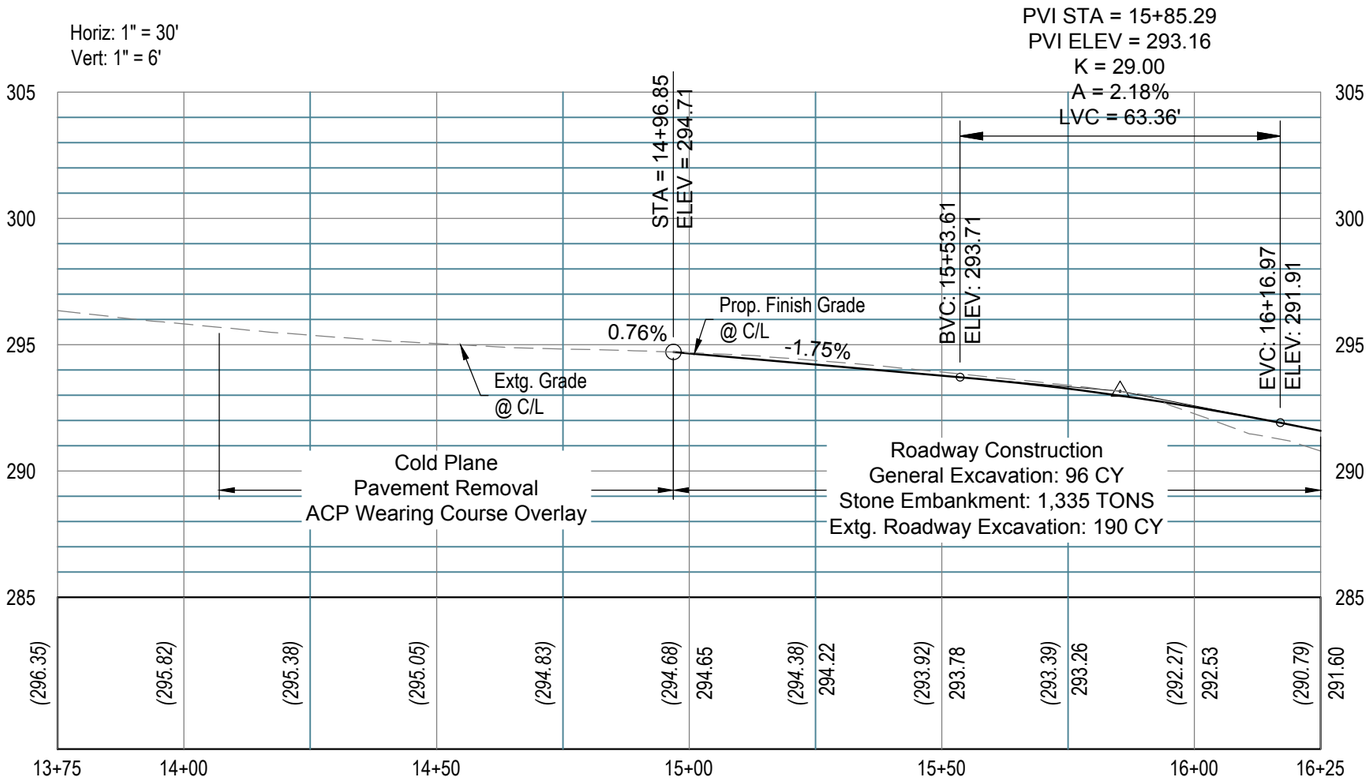
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 3A



S CENTRAL POINT RD (PROPOSED)

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

CONSTRUCTION PROFILE

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

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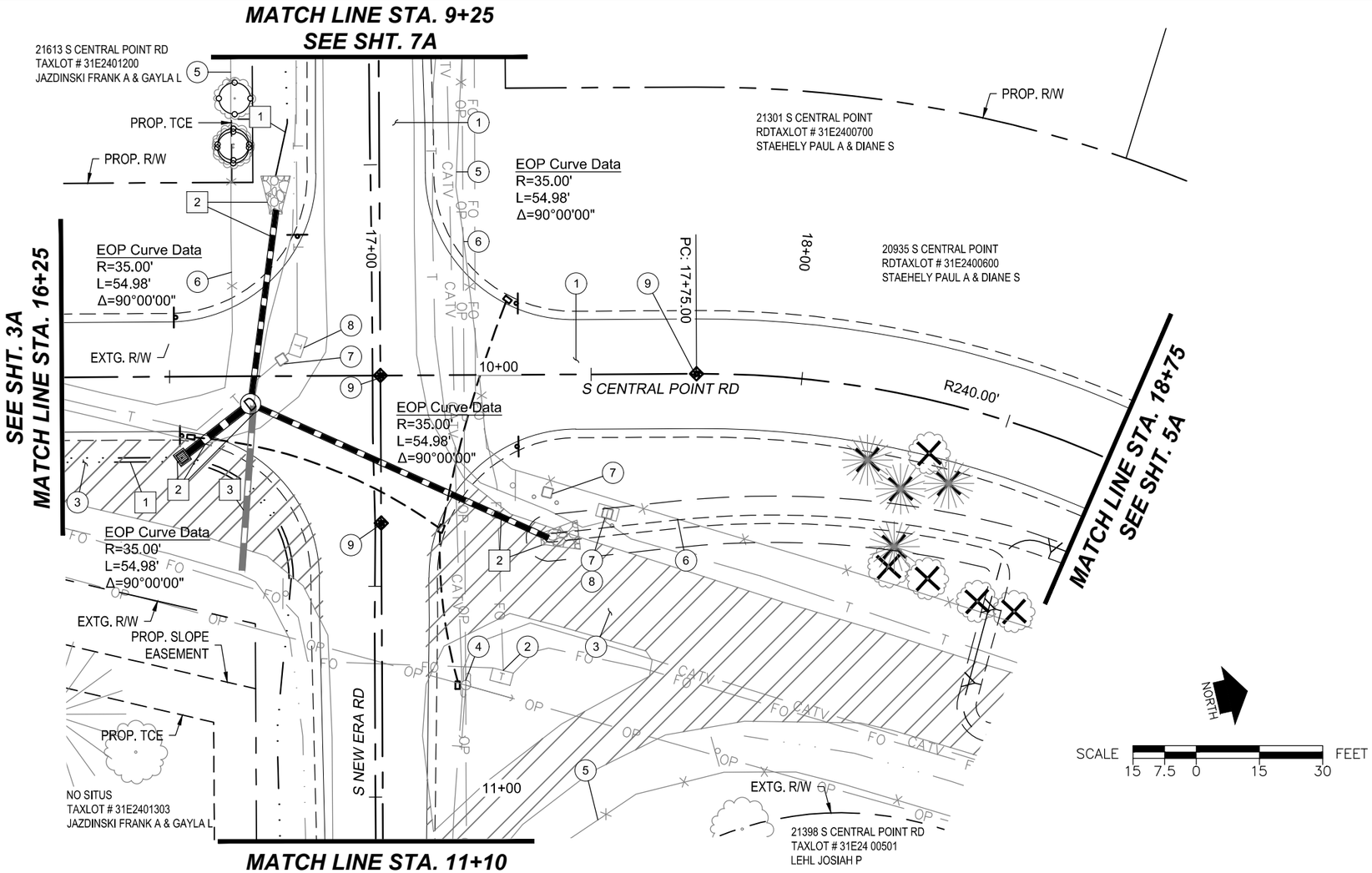
REVISIONS

Sheet No. 3B



STREET CONSTRUCTION NOTES

1. Central Point Rd - Sta. 16+25 to Sta. 18+75
   New Era Rd - Sta. 9+35 to Sta. 11+10
   Roadway Construction
   For Details, See Shts. 2A Thru 2A-4
2. Preserve and Protect
   Extg. Utility Vault
3. Obliterate Extg. Roadway Surface
   (Incidental to Removal of
   Structures & Obstructions)
   Haul Obliterated Surface Offsite
   Material Becomes Property of Contractor
   Upon Removal
   Do Not Incorporate Scarified Material
   Into the Embankment
4. Preserve and Protect
   Extg. Utility Pole & Guy Wire

STREET CONSTRUCTION NOTES CONT'D

6. Central Point Rd - Sta. 16+25 to Sta. 16+65, Rt.
   Central Point Rd - Sta. 17+23 to Sta. 18+75, Rt.
   New Era Rd - Sta. 9+45 to Sta. 10+07, Lt.
   New Era Rd - Sta. 9+45 to Sta. 10+07, Rt.
   Relocate Extg. Fence (By Property Owner)
7. Relocate Extg. Utility Riser
   (By Others)
8. Relocate Extg. Utility Vault
   (By Others)
9. Install Concrete Monument Box
   For Details, See Clack. Co. M150
   County To Provide Monument Box

STORM WATER CONSTRUCTION NOTES

1. Central Point Rd - Sta. 16+25 to Sta. 16+79, Rt.
   New Era Rd - Sta. 9+35 to Sta. 11+10, Rt.
   Const. Drainage Ditch
   For Details, See Shts. 2A Thru 2A-4
2. Const. Storm Facilities
   For Details, See Shts. 2G-1 Thru 2G-5
3. Remove Extg. Storm Pipe

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

CONSTRUCTION NOTES & PLAN

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

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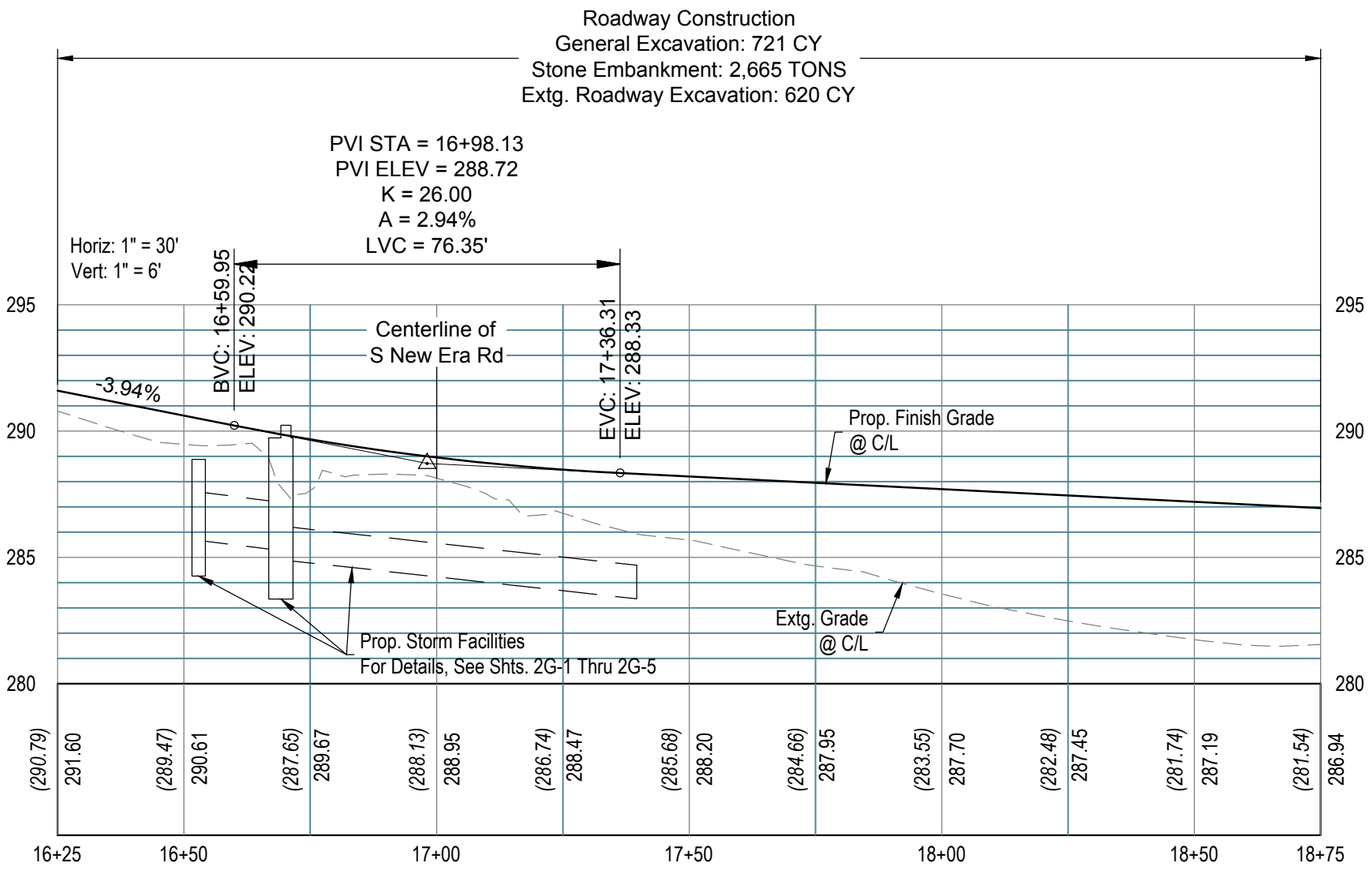
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 4A



S CENTRAL POINT RD (PROPOSED)

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

CONSTRUCTION PROFILE

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

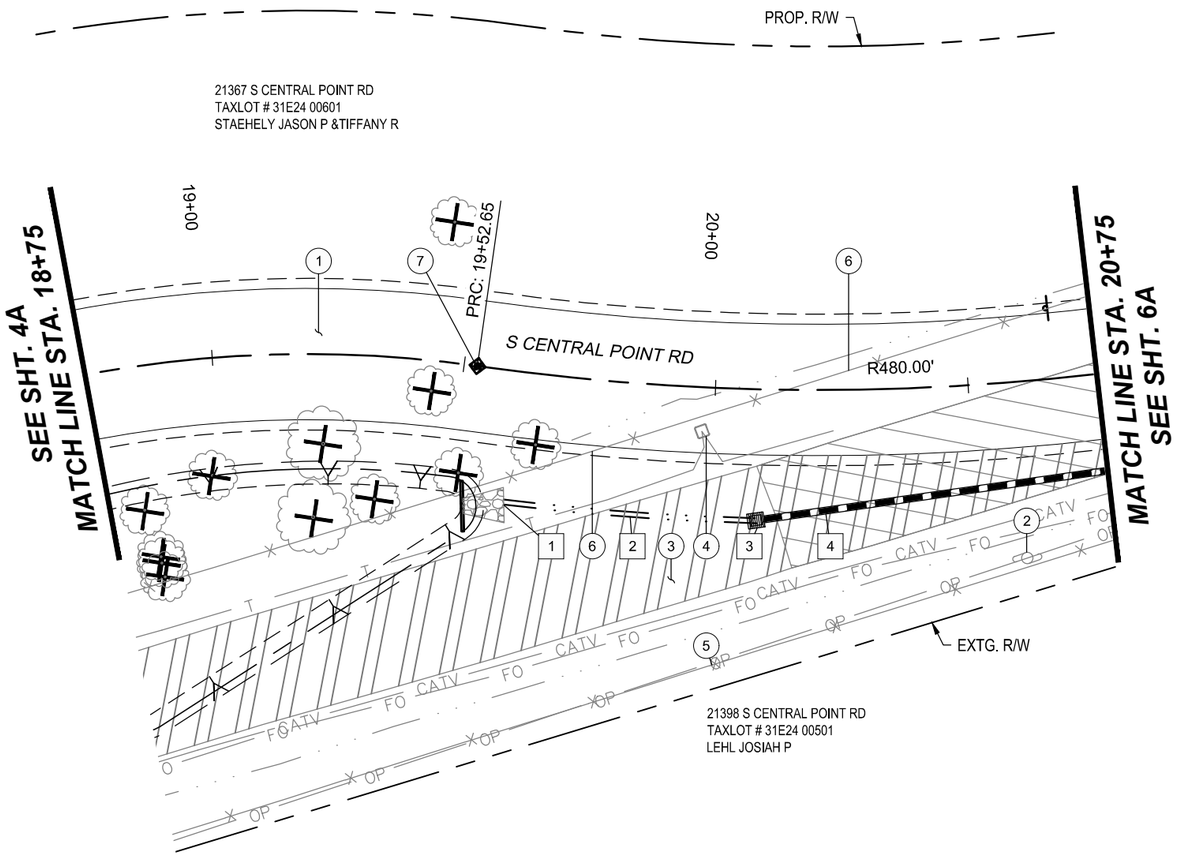
CLACKAMAS COUNTY

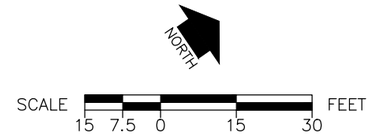
DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 4B





STREET CONSTRUCTION NOTES

1. Sta. 18+75 to Sta. 20+75
   Roadway Construction
   For Details, See Shts. 2A Thru 2A-4
2. Preserve and Protect
   Extg. Utility Pole & Guy Wire
3. Obliterate Extg. Roadway Surface
   (Incidental to Removal of
   Structures & Obstructions)
   Haul Obliterated Surface Offsite
   Material Becomes Property of Contractor
   Upon Removal
   Do Not Incorporate Scarified Material
   Into the Embankment
4. Relocate Extg. Utility Riser
   (By Others)

STREET CONSTRUCTION NOTES CONT'D

5. Sta. 18+75 to Sta. 20+75
   Preserve and Protect Extg. Fence
6. Sta. 18+75 to Sta. 20+75
   Relocate Extg. Fence
   (By Property Owner)
7. Install Concrete Monument Box
   For Details, See Clack. Co. M150
   County To Provide Monument Box

STORM WATER CONSTRUCTION NOTES

1. Const. Storm Facilities
   For Details, See Shts. 2G-1 Thru 2G-5
2. Sta. 19+61 to Sta. 20+09, Rt.
   Const. Drainage Ditch
   For Details, See Shts. 2A Thru 2A-4
3. Const. Ditch Inlet
   For Details, See ODOT RD370
   See Profile, Page 5B
4. Install 12" Diam. RCP Storm Pipe
   See Profile, Page 5B

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

CONSTRUCTION NOTES & PLAN

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

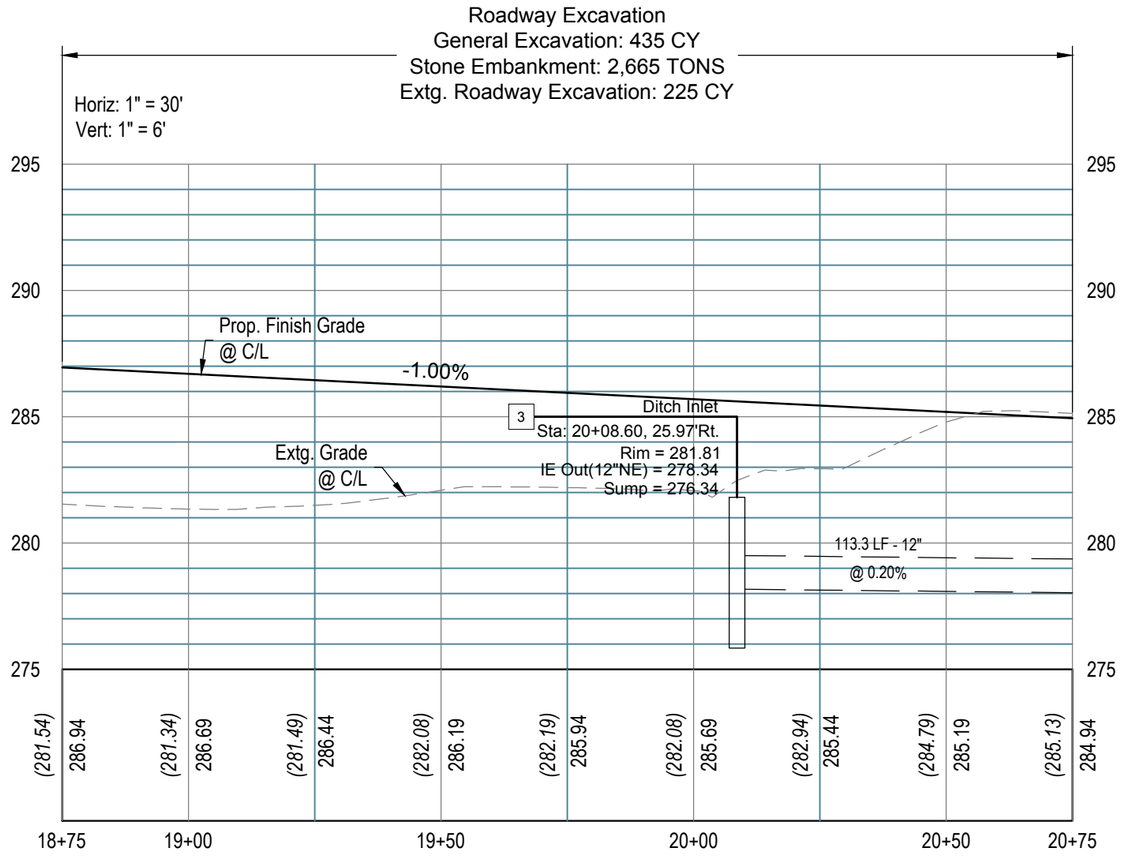
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY | DAN JOHNSON | DIRECTOR

DESIGNED BY: JH | DRAFTED BY: JH | CHECKED BY: DTD

REVISIONS

Sheet No. 5A



S CENTRAL POINT RD (PROPOSED)

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

CONSTRUCTION PROFILE

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

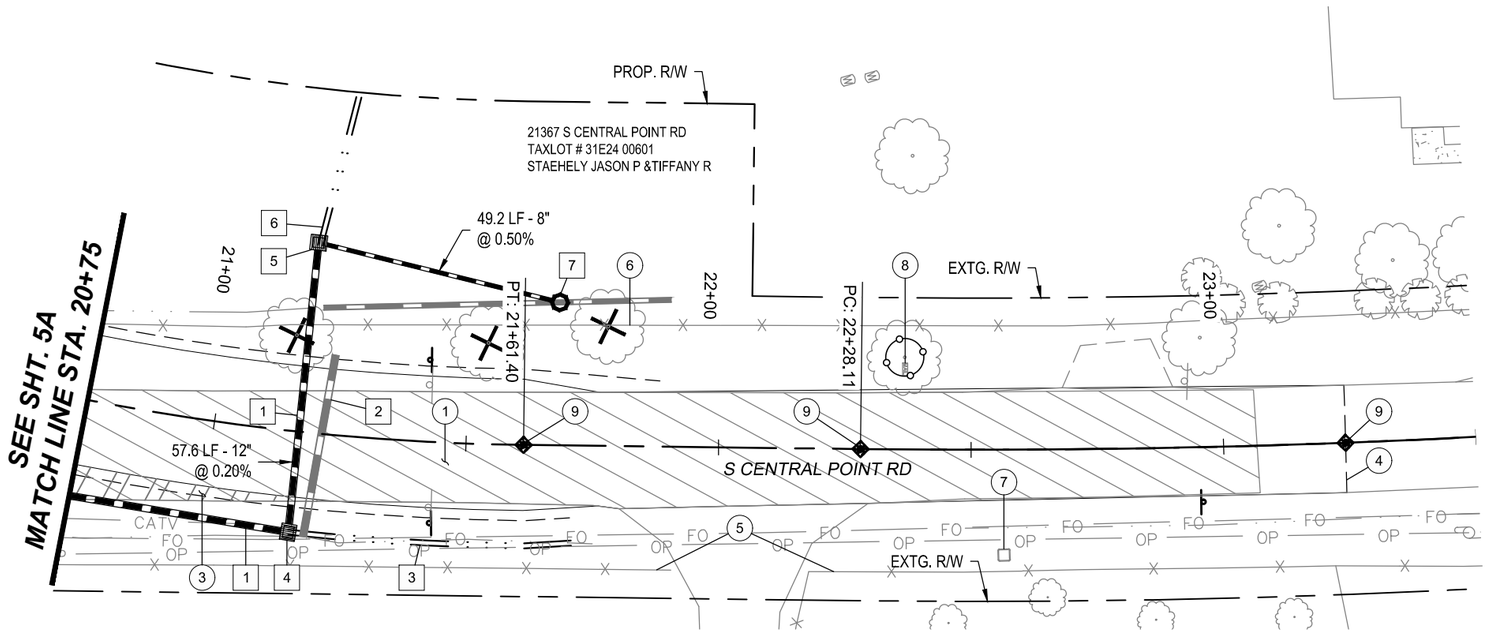
CLACKAMAS COUNTY

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 5B



STREET CONSTRUCTION NOTES

1. Sta. 20+75 to Sta. 23+25
   Roadway Construction
   For Details, See Shts. 2A Thru 2A-4
2. Note Not Used
3. Obliterate Extg. Roadway Surface
   (Incidental to Removal of
   Structures & Obstructions)
   Haul Obliterated Surface Offsite
   Material Becomes Property of Contractor
   Upon Removal
   Do Not Incorporate Scarified Material
   Into the Embankment
4. Sawcut & Match Extg. Pavement
   For Details, See ODOT RD610

STREET CONSTRUCTION NOTES CONT'D

5. Sta. 20+75 to Sta. 22+75, Rt.
   Preserve and Protect Extg. Fence
6. Sta. 20+75 to Sta. 22+75, Lt.
   Relocate Extg. Fence
   (By Property Owner)
7. Preserve and Protect
   Extg. Utility Riser
8. Preserve and Protect
   Extg. Mailbox
9. Install Concrete Monument Box
   For Details, See Clack. Co. M150
   County To Provide Monument Box

STORM WATER CONSTRUCTION NOTES

1. Install 12" Diam. RCP Storm Pipe
   See Profile, Page 6B
2. Remove Ext. Storm Pipe
3. Sta. 21+17 to Sta. 21+71, Rt.
   Const. Drainage Ditch
   For Details, See Shts. 2A Thru 2A-4
4. Const. Ditch Inlet
   For Details, See ODOT RD370
   See Profile, Page 6B
5. Const. Ditch Inlet
   Lid and Grate to Match 4:1 Slope
   For Details, See ODOT RD370
   See Profile, Page 6B
6. Const. 1-ft Deep Drainage Ditch - 35 LF
   1-ft Wide Bottom with 3:1 Side Slopes
7. Const. Storm Clean Out
   For Details, See SWM ST-4.0
   Connect to Extg. 8" Perforated Pipe

NORTH

SCALE 15 7.5 0 15 30 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

CONSTRUCTION NOTES & PLAN

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

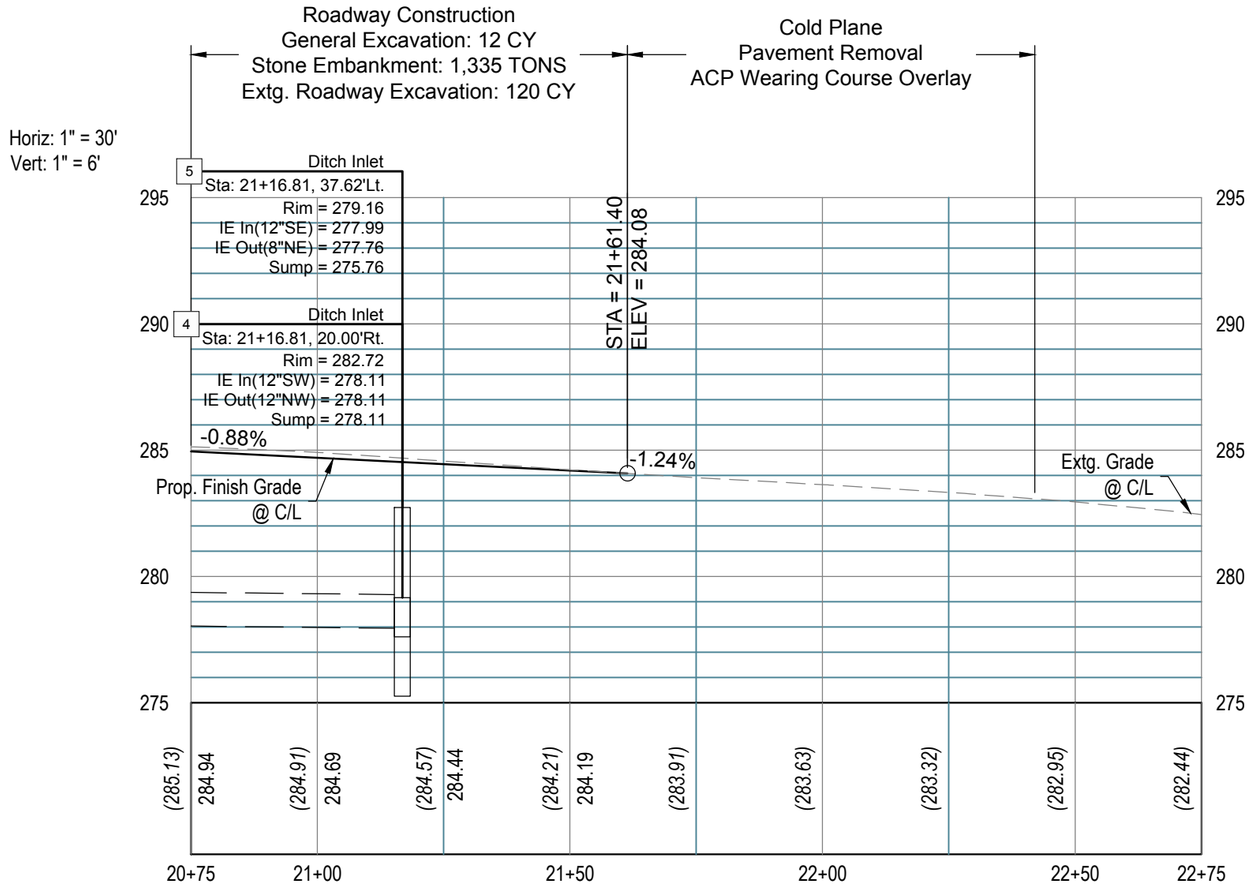
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DAN JOHNSON
DIRECTOR

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 6A



S CENTRAL POINT RD (PROPOSED)

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

CONSTRUCTION PROFILE

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

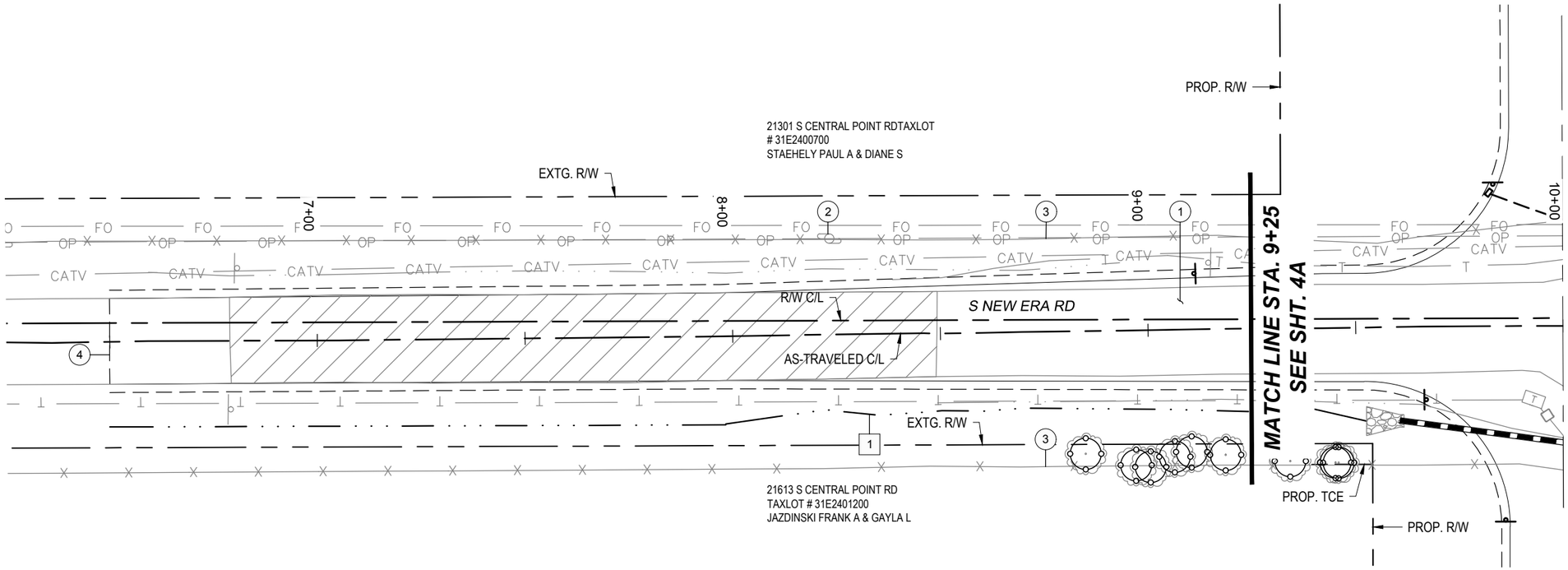
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. 6B



STREET CONSTRUCTION NOTES

1. Sta. 6+50 to Sta. 9+35
   Roadway Construction
   For Details, See Shts. 2A Thru 2A-4
2. Preserve and Protect
   Extg. Utility Pole & Guy Wire
3. Sta. 6+50 to Sta. 9+35, Lt.
   Sta. 6+50 to Sta. 9+35, Rt.
   Preserve and Protect Extg. Fence
4. Sawcut & Match Extg. Pavement
   For Details, See ODOT RD610

STORM WATER CONSTRUCTION NOTES

1. Sta. 6+50 to Sta. 9+35, Rt.
   Const. Drainage Ditch
   For Details, See Shts. 2A Thru 2A-4

NORTH

SCALE 15 7.5 0 15 30 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
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CONSTRUCTION NOTES & PLAN

S CENTRAL POINT RD AND S NEW ERA RD
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150 BEAVERCREEK ROAD
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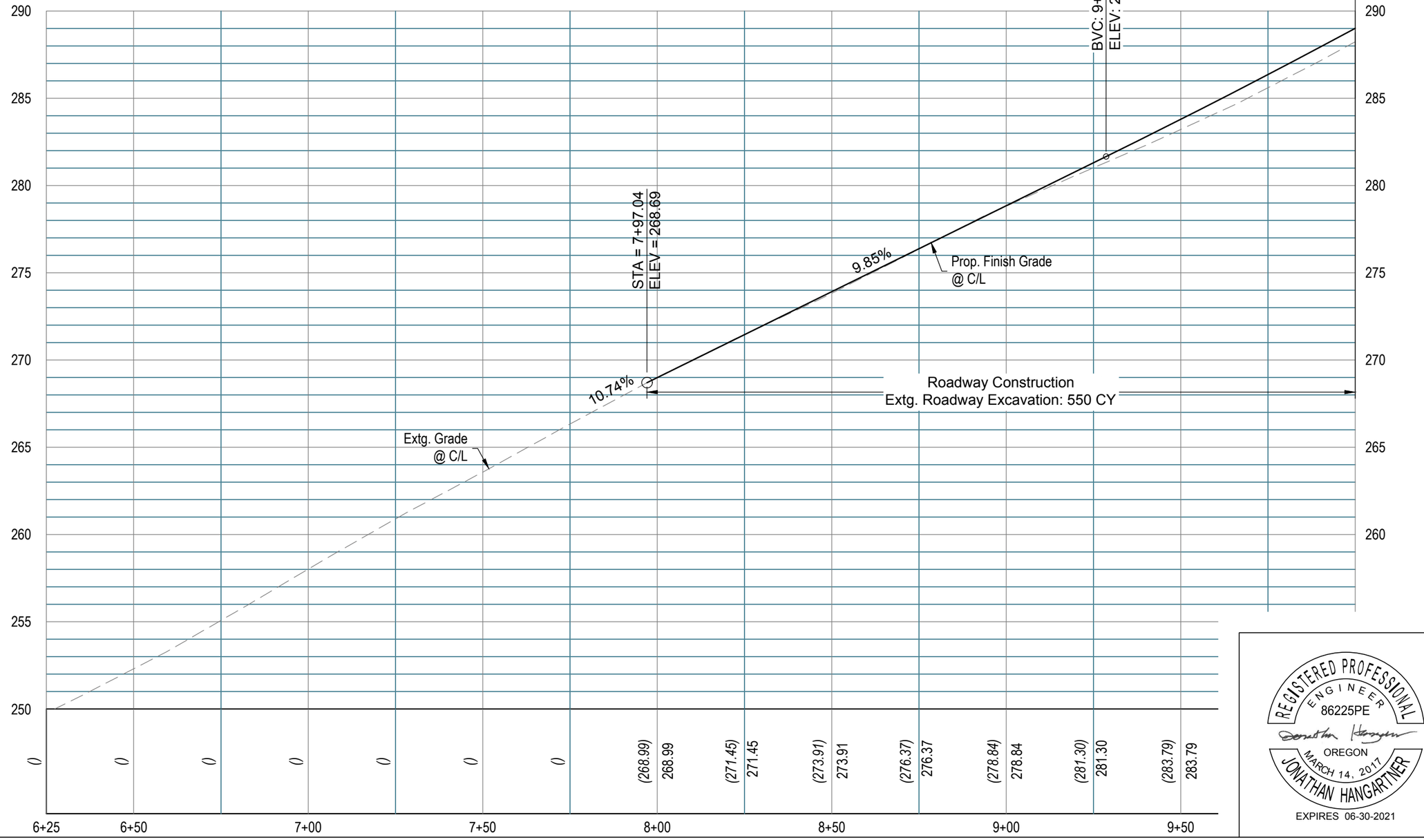
Sheet No. 7A

LOW POINT STA = 9+28.59
LOW POINT ELEV = 281.65
PVI STA = 10+57.62
PVI ELEV = 294.36
K = 80.00
A = 3.23%
LVC = 258.07'

Centerline of
S Central Point Rd

Horiz: 1" = 30'
Vert: 1" = 6'

S NEW ERA RD



REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

CONSTRUCTION PROFILE

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

DESIGNED BY: JH
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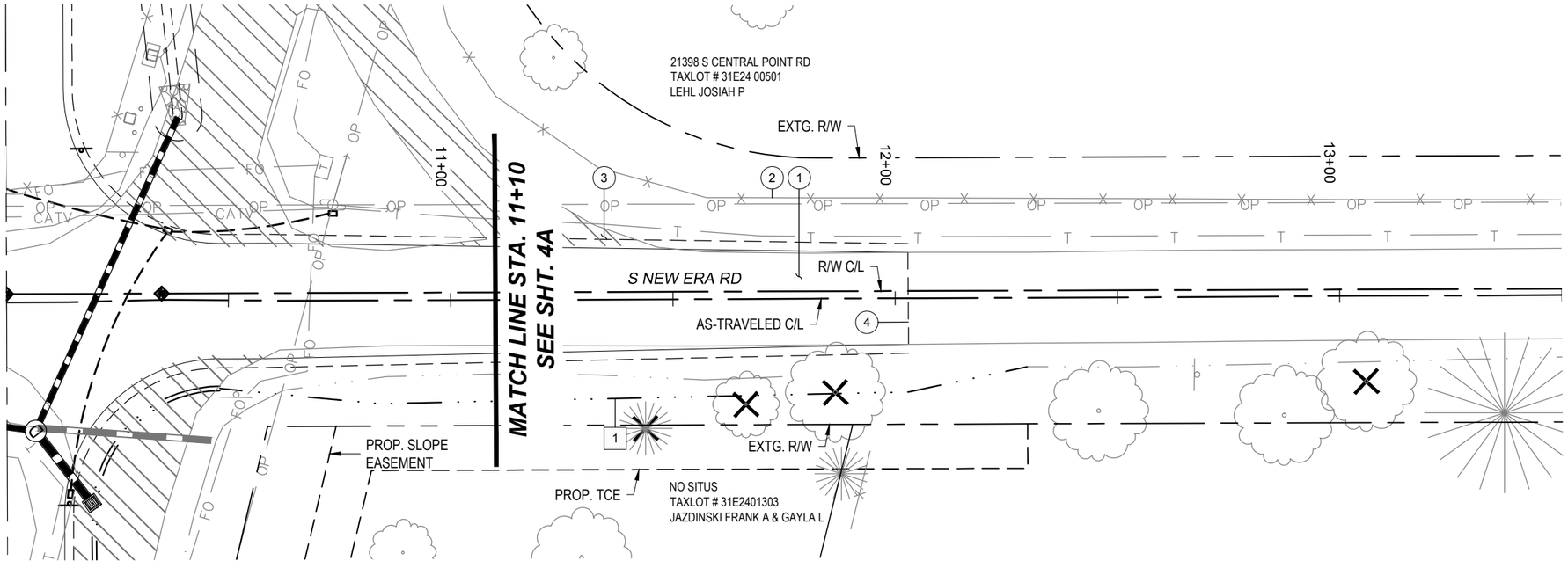
REVISIONS

Sheet No. 7B



STREET CONSTRUCTION NOTES

(1) Sta. 11+10 to Sta. 12+03
Roadway Construction
For Details, See Shts. 2A Thru 2A-4

(2) Sta. 11+10 to Sta. 12+03, Lt.
Preserve and Protect Extg. Fence

(3) Obliterate Extg. Roadway Surface
(Incidental to Removal of
Structures & Obstructions)
Haul Obliterated Surface Offsite
Material Becomes Property of Contractor
Upon Removal
Do Not Incorporate Scarified Material
Into the Embankment

(4) Sawcut & Match Extg. Pavement
For Details, See ODOT RD610

STORM WATER CONSTRUCTION NOTES

[1] Sta. 11+10 to Sta. 12+03, Rt.
Const. Drainage Ditch
For Details, See Shts. 2A Thru 2A-4

NORTH

SCALE 15 7.5 0 15 30 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

CONSTRUCTION NOTES & PLAN

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
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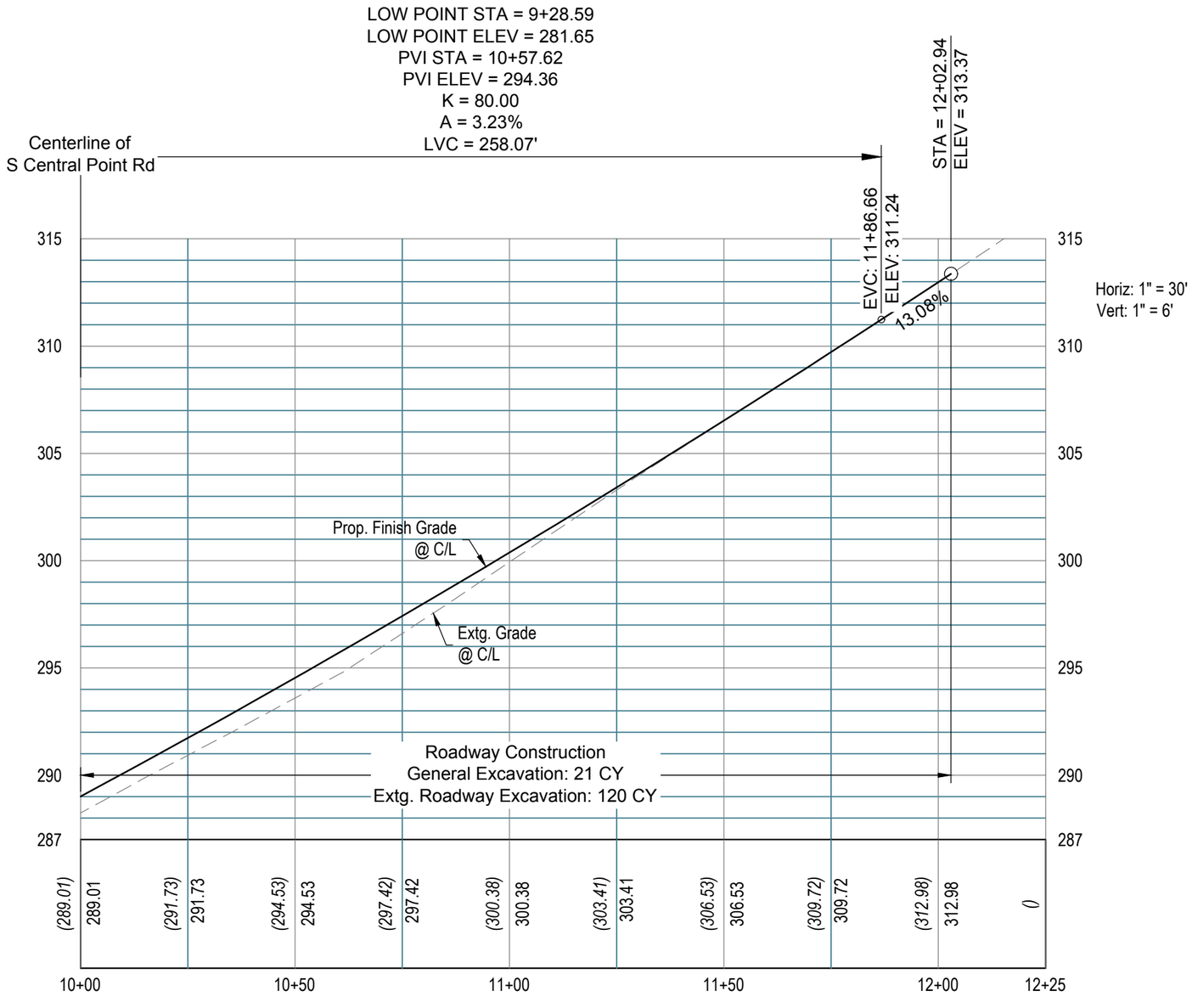
CHECKED BY: DTD

REVISIONS

Sheet No. 8A



S NEW ERA RD

CONSTRUCTION PROFILE

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
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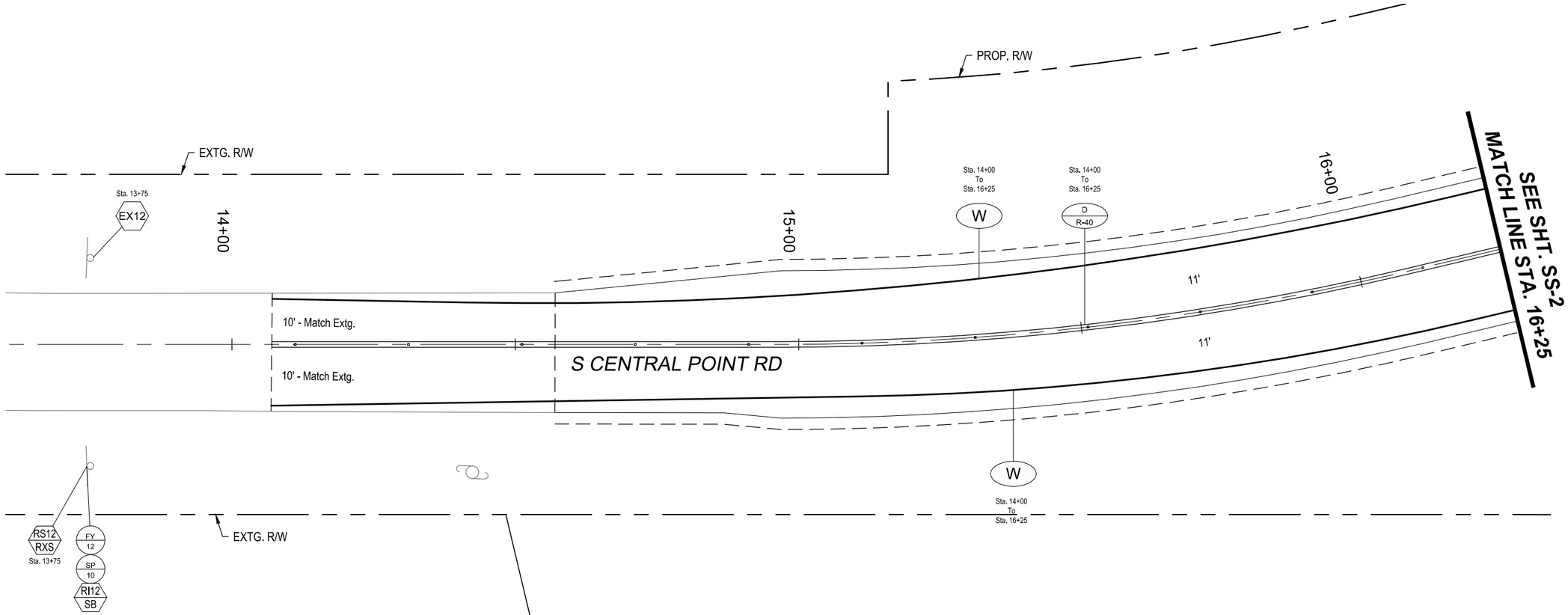
CHECKED BY: DTD

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

Sheet No. 8B



SIGN SUPPORT LEGEND

W	WOOD
S	PERFORATED STEEL SQUARE TUBE ANCHOR SIGN SUPPORTS
SB	2 ½" PERFORATED STEEL SQUARE TUBE SIGN SUPPORT WITH TRIANGULAR BASE BREAKAWAY CONSTRUCTED ACCORDING TO ODOT DET4241

SIGNING LEGEND

RSN / RXM	REMOVE AND SAVE EXISTING SIGN (N) REMOVE SIGN SUPPORT (M)
RIN / M	REINSTALL EXISTING SIGN (N) ON NEW SIGN SUPPORT (M)
RXN / M	REMOVE EXISTING SIGN (N) AND SIGN SUPPORT (M)
N / M	INSTALL NEW SIGN (N) ON NEW SIGN SUPPORT (M)
EXN	MAINTAIN AND PROTECT EXISTING SIGN (N) AND SUPPORT

STRIPING LEGEND

W	INSTALL 4" WHITE LINE FOR DETAILS, SEE ODOT TM500
D / R-40	INSTALL DOUBLE NO-PASS POSITION GUIDE REFLECTORS (BI-DIRECTIONAL RECESSED) WITH TWO 4" YELLOW LINES FOR DETAILS, SEE ODOT TM502

NOTES:

SEE SHTS. SS-6 & SS-7 FOR SIGNING DETAILS.

SIGNALS AND POLES LEGEND

FY / S	INSTALL (S=SIZE) INCH FLASHING YELLOW BEACON
SP / W	INSTALL (W=WATT) POST MOUNT SOLAR PANEL

NORTH

SCALE 10 5 0 10 20 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

PERMANENT SIGNING & STRIPING

S CENTRAL POINT RD AND S NEW ERA RD
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CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

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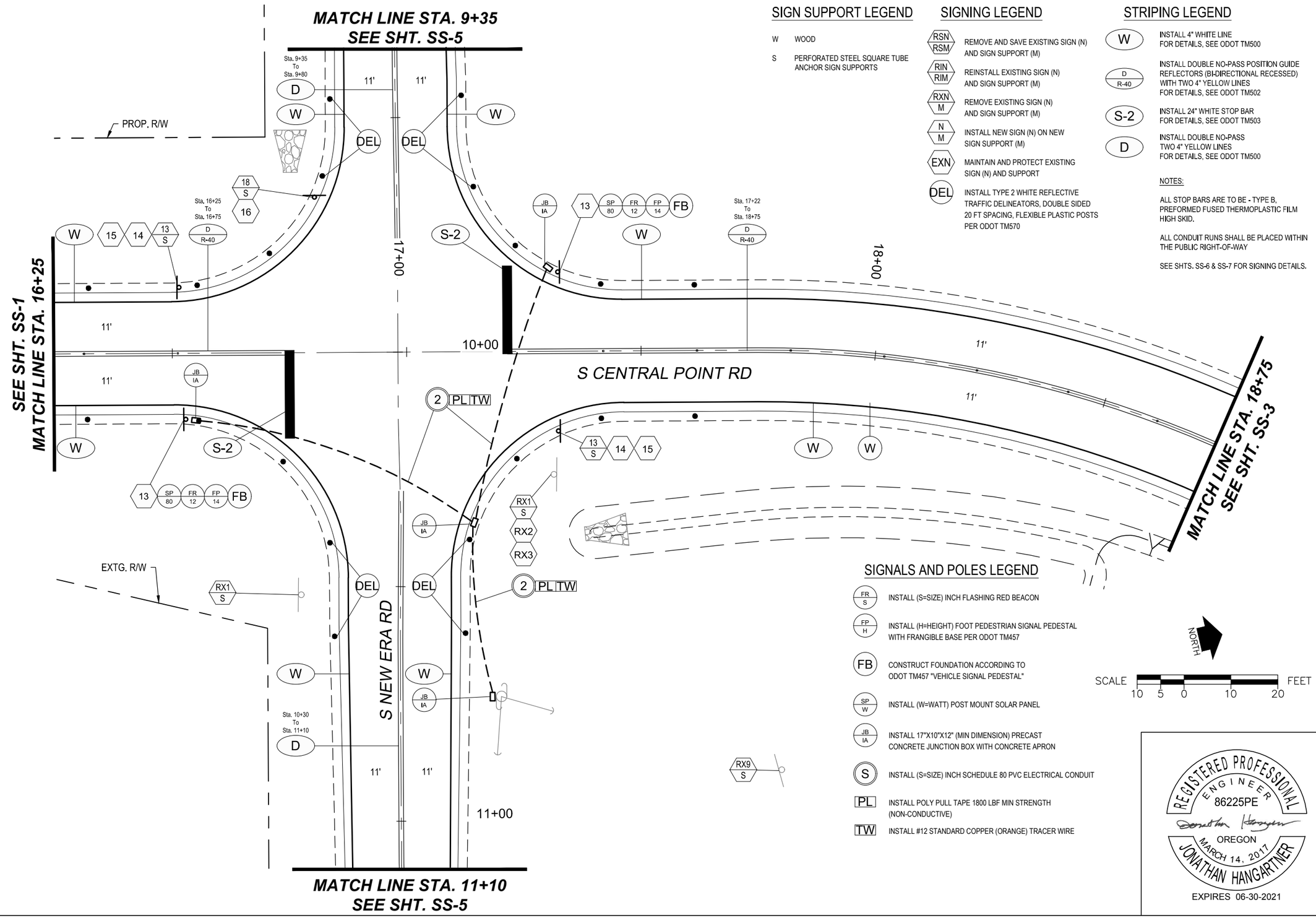
REVISIONS

Sheet No. SS-1



SIGN SUPPORT LEGEND

W WOOD

S PERFORATED STEEL SQUARE TUBE ANCHOR SIGN SUPPORTS

SIGNING LEGEND

RSN / RSM — REMOVE AND SAVE EXISTING SIGN (N) AND SIGN SUPPORT (M)

RIN / RIM — REINSTALL EXISTING SIGN (N) AND SIGN SUPPORT (M)

RXN / M — REMOVE EXISTING SIGN (N) AND SIGN SUPPORT (M)

N / M — INSTALL NEW SIGN (N) ON NEW SIGN SUPPORT (M)

EXN — MAINTAIN AND PROTECT EXISTING SIGN (N) AND SUPPORT

DEL — INSTALL TYPE 2 WHITE REFLECTIVE TRAFFIC DELINEATORS, DOUBLE SIDED 20 FT SPACING, FLEXIBLE PLASTIC POSTS PER ODOT TM570

STRIPING LEGEND

W — INSTALL 4" WHITE LINE FOR DETAILS, SEE ODOT TM500

D / R-40 — INSTALL DOUBLE NO-PASS POSITION GUIDE REFLECTORS (BI-DIRECTIONAL RECESSED) WITH TWO 4" YELLOW LINES FOR DETAILS, SEE ODOT TM502

S-2 — INSTALL 24" WHITE STOP BAR FOR DETAILS, SEE ODOT TM503

D — INSTALL DOUBLE NO-PASS TWO 4" YELLOW LINES FOR DETAILS, SEE ODOT TM500

NOTES:

ALL STOP BARS ARE TO BE - TYPE B, PREFORMED FUSED THERMOPLASTIC FILM HIGH SKID.

ALL CONDUIT RUNS SHALL BE PLACED WITHIN THE PUBLIC RIGHT-OF-WAY

SEE SHTS. SS-6 & SS-7 FOR SIGNING DETAILS.

SIGNALS AND POLES LEGEND

FR / S — INSTALL (S=SIZE) INCH FLASHING RED BEACON

FP / H — INSTALL (H=HEIGHT) FOOT PEDESTRIAN SIGNAL PEDESTAL WITH FRANGIBLE BASE PER ODOT TM457

FB — CONSTRUCT FOUNDATION ACCORDING TO ODOT TM457 "VEHICLE SIGNAL PEDESTAL"

SP / W — INSTALL (W=WATT) POST MOUNT SOLAR PANEL

JB / IA — INSTALL 17"X10"X12" (MIN DIMENSION) PRECAST CONCRETE JUNCTION BOX WITH CONCRETE APRON

S — INSTALL (S=SIZE) INCH SCHEDULE 80 PVC ELECTRICAL CONDUIT

PL — INSTALL POLY PULL TAPE 1800 LBF MIN STRENGTH (NON-CONDUCTIVE)

TW — INSTALL #12 STANDARD COPPER (ORANGE) TRACER WIRE

NORTH

SCALE 10 5 0 10 20 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

PERMANENT SIGNING & STRIPING

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

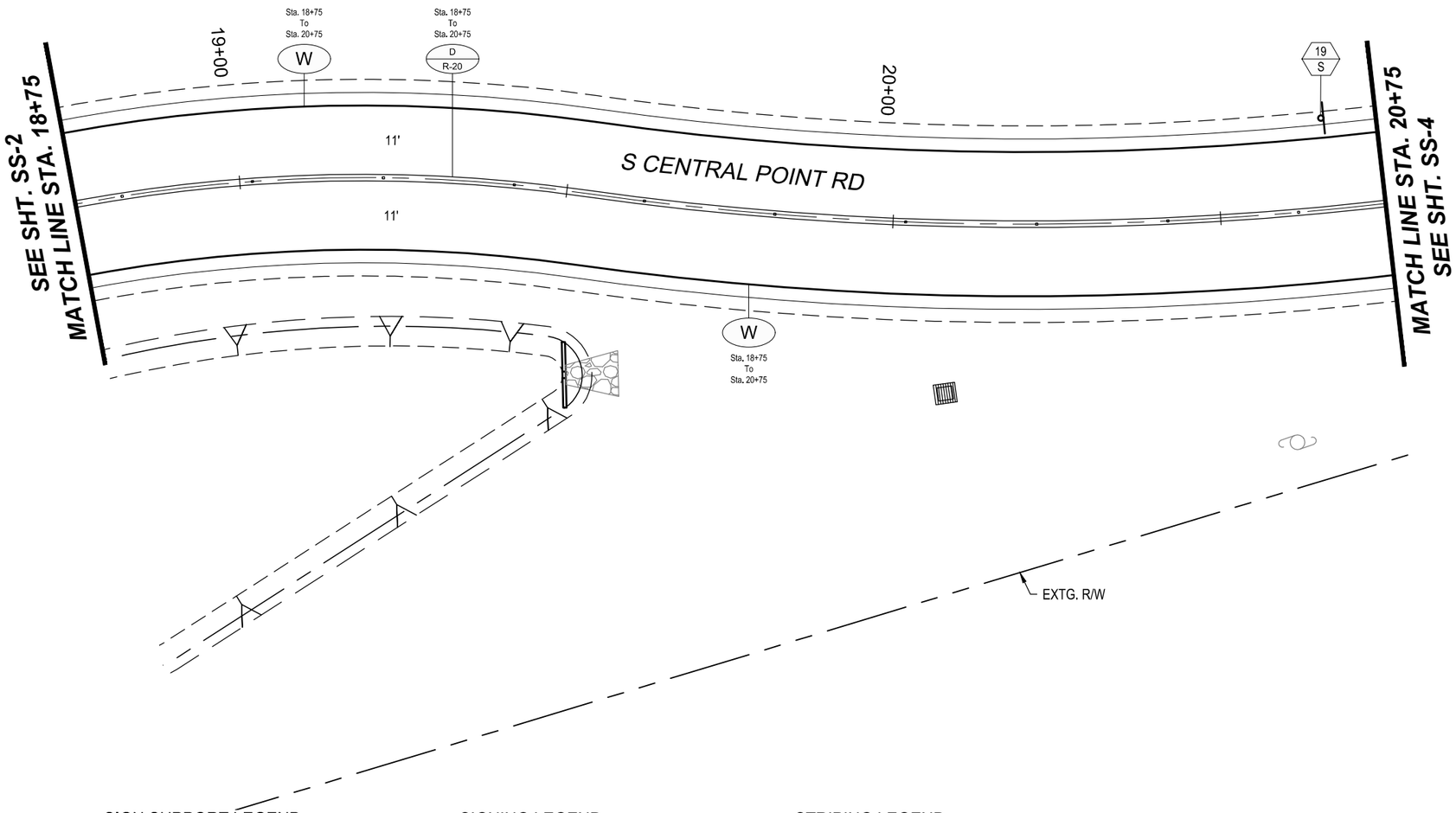
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. SS-2



SIGN SUPPORT LEGEND

W	WOOD
S	PERFORATED STEEL SQUARE TUBE ANCHOR SIGN SUPPORTS

SIGNING LEGEND

RSN / RSM	REMOVE AND SAVE EXISTING SIGN (N) AND SIGN SUPPORT (M)
RIN / RIM	REINSTALL EXISTING SIGN (N) AND SIGN SUPPORT (M)
RXN / M	REMOVE EXISTING SIGN (N) AND SIGN SUPPORT (M)
N / M	INSTALL NEW SIGN (N) ON NEW SIGN SUPPORT (M)
EXN	MAINTAIN AND PROTECT EXISTING SIGN (N) AND SUPPORT

STRIPING LEGEND

W	INSTALL 4" WHITE LINE FOR DETAILS, SEE ODOT TM500
D / R-40	INSTALL DOUBLE NO-PASS POSITION GUIDE REFLECTORS (BI-DIRECTIONAL RECESSED) WITH TWO 4" YELLOW LINES FOR DETAILS, SEE ODOT TM502

NOTES:

SEE SHTS. SS-6 & SS-7 FOR SIGNING DETAILS.

NORTH

SCALE 10 5 0 10 20 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

PERMANENT SIGNING & STRIPING

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

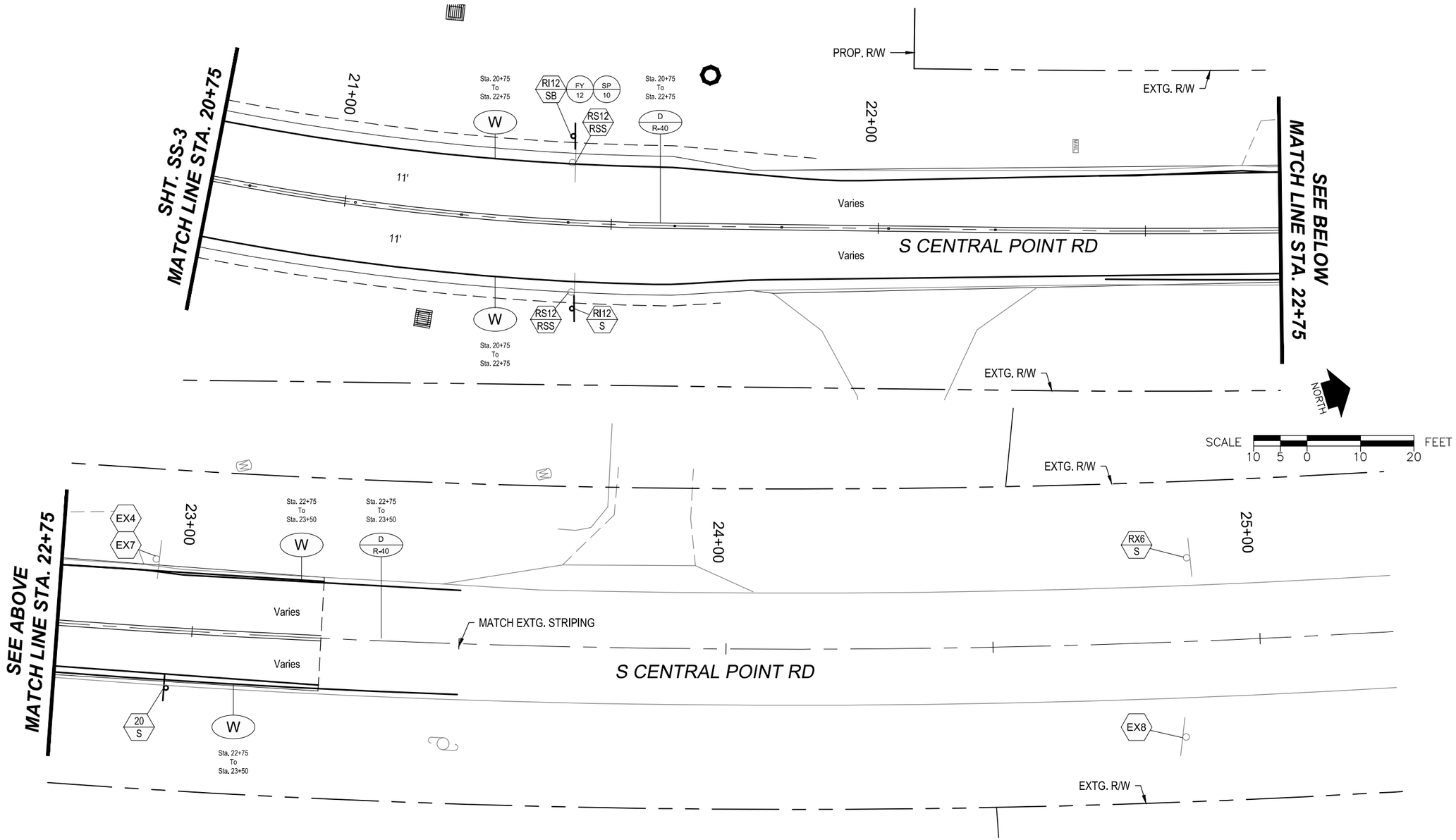
CLACKAMAS COUNTY

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. SS-3



SIGN SUPPORT LEGEND

W	WOOD
S	PERFORATED STEEL SQUARE TUBE ANCHOR SIGN SUPPORTS
SB	2 1/2" PERFORATED STEEL SQUARE TUBE SIGN SUPPORT WITH TRIANGULAR BASE BREAKAWAY CONSTRUCTED ACCORDING TO ODOT DET4241

SIGNING LEGEND

RSN / RSM	REMOVE AND SAVE EXISTING SIGN (N) AND SIGN SUPPORT (M)
RIN / RIM	REINSTALL EXISTING SIGN (N) AND SIGN SUPPORT (M)
RXN / M	REMOVE EXISTING SIGN (N) AND SIGN SUPPORT (M)
N / M	INSTALL NEW SIGN (N) ON NEW SIGN SUPPORT (M)
EXN	MAINTAIN AND PROTECT EXISTING SIGN (N) AND SUPPORT
RIN / M	REINSTALL EXISTING SIGN (N) ON NEW SIGN SUPPORT (M)

STRIPING LEGEND

W	INSTALL 4" WHITE LINE FOR DETAILS, SEE ODOT TM500
D / R-40	INSTALL DOUBLE NO-PASS POSITION GUIDE REFLECTORS (BI-DIRECTIONAL RECESSED) WITH TWO 4" YELLOW LINES FOR DETAILS, SEE ODOT TM502

NOTES:

SEE SHTS. SS-6 & SS-7 FOR SIGNING DETAILS.

SIGNALS AND POLES LEGEND

FY / S	INSTALL (S=SIZE) INCH FLASHING YELLOW BEACON
SP / W	INSTALL (W=WATT) POST MOUNT SOLAR PANEL

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

PERMANENT SIGNING & STRIPING

S CENTRAL POINT RD AND S NEW ERA RD
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CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR
DAN JOHNSON

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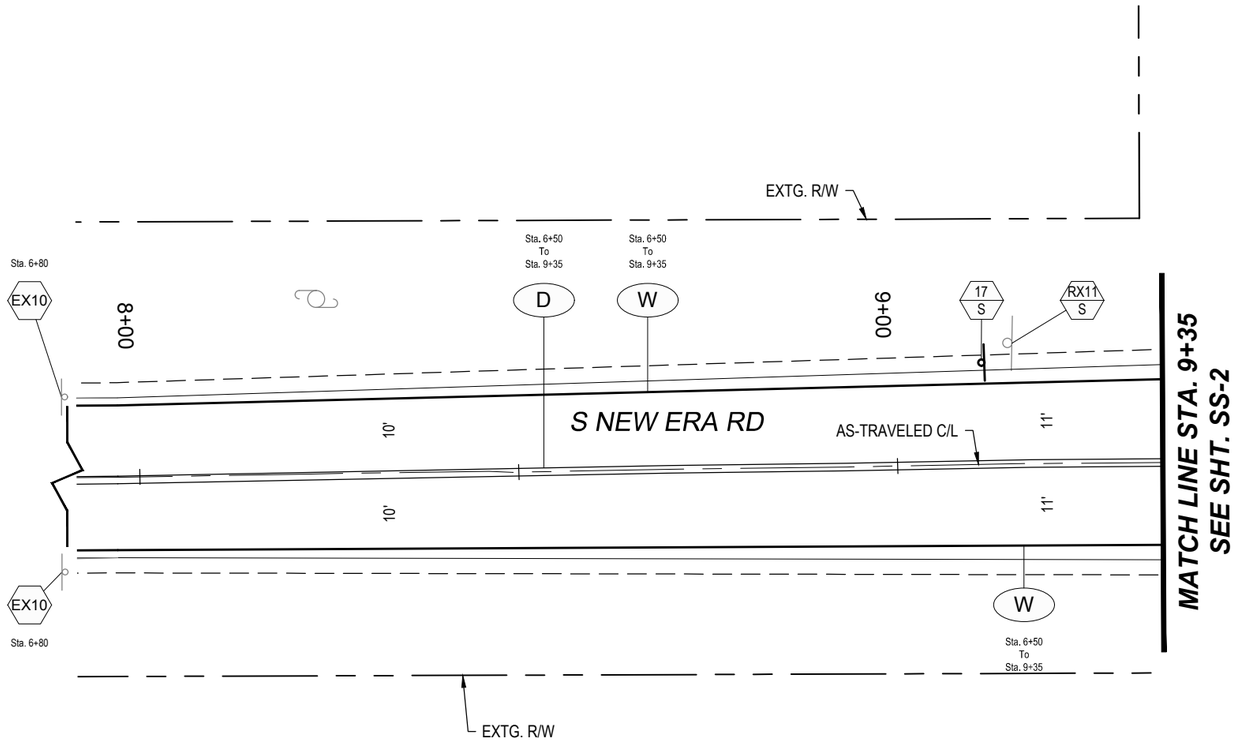
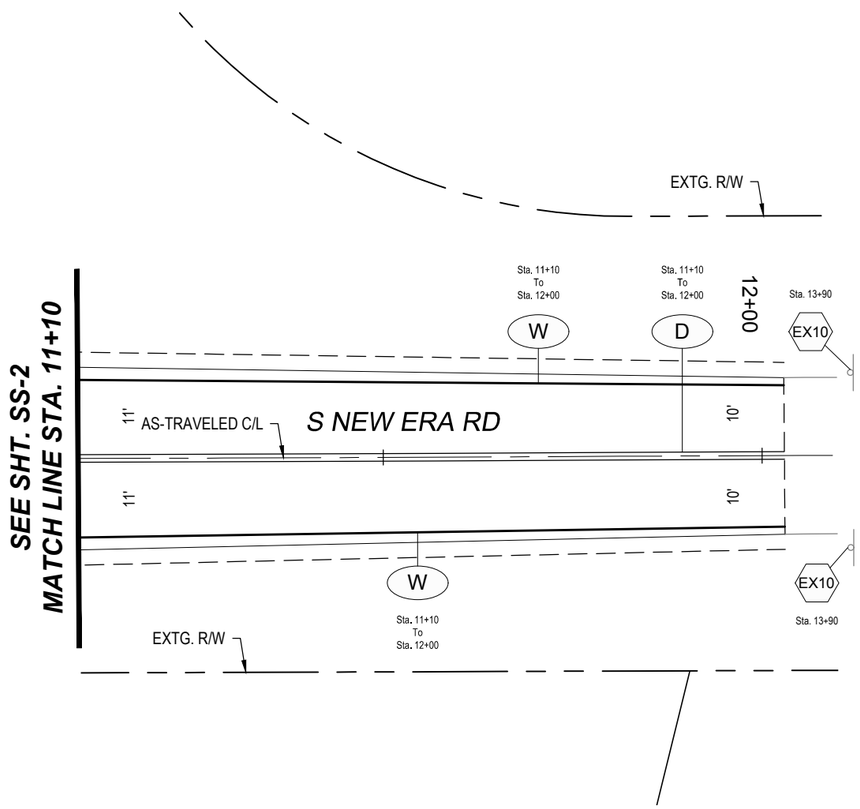
REVISIONS

Sheet No. SS-4





SIGN SUPPORT LEGEND

W	WOOD
S	PERFORATED STEEL SQUARE TUBE ANCHOR SIGN SUPPORTS

SIGNING LEGEND

RSN / RSM	REMOVE AND SAVE EXISTING SIGN (N) AND SIGN SUPPORT (M)
RIN / RIM	REINSTALL EXISTING SIGN (N) AND SIGN SUPPORT (M)
RXN / M	REMOVE EXISTING SIGN (N) AND SIGN SUPPORT (M)
N / M	INSTALL NEW SIGN (N) ON NEW SIGN SUPPORT (M)
EXN	MAINTAIN AND PROTECT EXISTING SIGN (N) AND SUPPORT

STRIPING LEGEND

W	INSTALL 4" WHITE LINE FOR DETAILS, SEE ODOT TM500
D	INSTALL DOUBLE NO-PASS TWO 4" YELLOW LINES FOR DETAILS, SEE ODOT TM500

NOTES:

SEE SHTS. SS-6 & SS-7 FOR SIGNING DETAILS.

NORTH

SCALE 10 5 0 10 20 FEET

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

PERMANENT SIGNING & STRIPING

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

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CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY | DAN JOHNSON, DIRECTOR

DESIGNED BY: JH | DRAFTED BY: JH | CHECKED BY: DTD

REVISIONS

Sheet No. SS-5

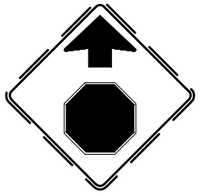
SIGN 1

SIGN 2

SIGN 3

SIGN 4

SIGN 5



SIGN 6

SIGN 7

SIGN 8

SIGN 9

SIGN 10

LEGEND:

EXISTING SIGN

SIGN 11

SIGN 12

PERMANENT SIGNING DETAILS

S CENTRAL POINT RD AND S NEW ERA RD
INTERSECTION REALIGNMENT

DATE: FEBRUARY 2021 | PROJECT NO.: CI-22254

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DIRECTOR

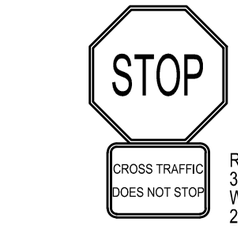
DAN JOHNSON

DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

Sheet No. SS-6



R1-1
36x36
W4-4P
24x12
SIGN

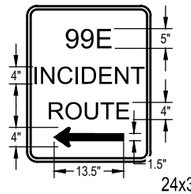
13

D3-1
60x12
SIGN

14

D3-1
48x12
SIGN

15



24x30
SIGN

16

W11-1
30x30
SIGN

W16-1P
24x18
SIGN

17

D1-1
54x12
SIGN

18

24x24
SIGN

19

R2-1
30x36
SIGN

20

LEGEND:

PROPOSED SIGN

REGISTERED PROFESSIONAL ENGINEER
86225PE
OREGON
MARCH 14, 2017
JONATHAN HANGARTNER
EXPIRES 06-30-2021

PERMANENT SIGNING DETAILS

S CENTRAL POINT RD AND S NEW ERA RD
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CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
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DAN JOHNSON

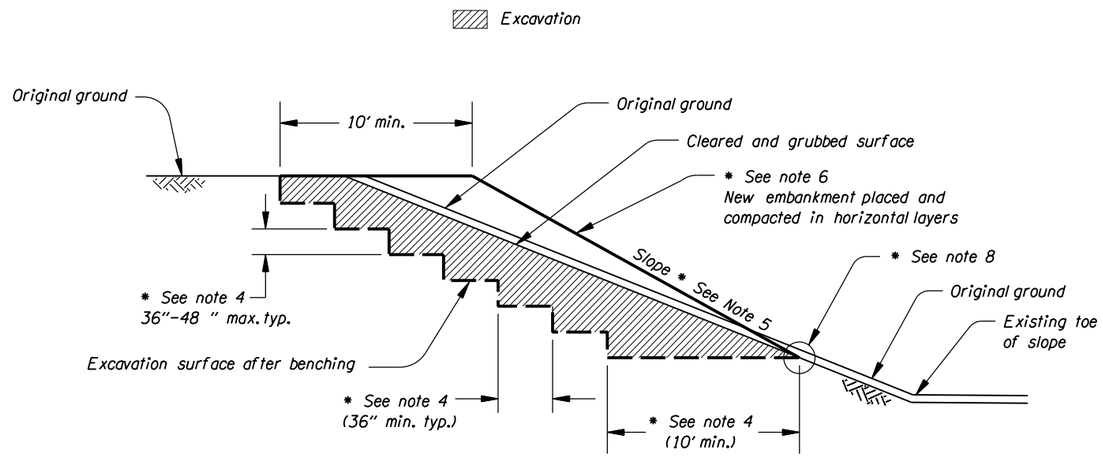
DESIGNED BY: JH
DRAFTED BY: JH
CHECKED BY: DTD

REVISIONS

Sheet No. SS-7

SLIVER FILL BENCHING DETAIL

(Not to scale: Diagrammatic only)



Sliver fill general notes:

1. *Construct benches on slopes steeper than 1:5 (v:h) to provide positive bond with existing ground.*

2. *Benching work is incidental to embankment construction.*

** Sliver fill notes to designers:*

3. *Geotechnical Engineer shall evaluate embankment, slope and overall stability. foundation bearing capacity and settlement.*

4. *Final bench and keyway dimensions to be determined by geotechnical engineer.*

5. *Maximum finish slope inclinations to be determined by the geotechnical engineer.*

6. *Embankment (fill) material to be determined by the geotechnical engineer.*

7. *This detail may require removal of part of existing paved roadway.*

8. *This detail applies to embankments which toe out at a height greater than 5' above the existing toe of slope. Use Standard Embankment Construction detail (DET 2100) for embankments which toe out 5' or less above the existing toe of slope.*

OREGON DEPARTMENT OF TRANSPORTATION
TECHNICAL SERVICES
DETAILS

SLIVER FILL
BENCHING DETAIL

DETAIL NO.
DET2101

DET2101 10-07-2009

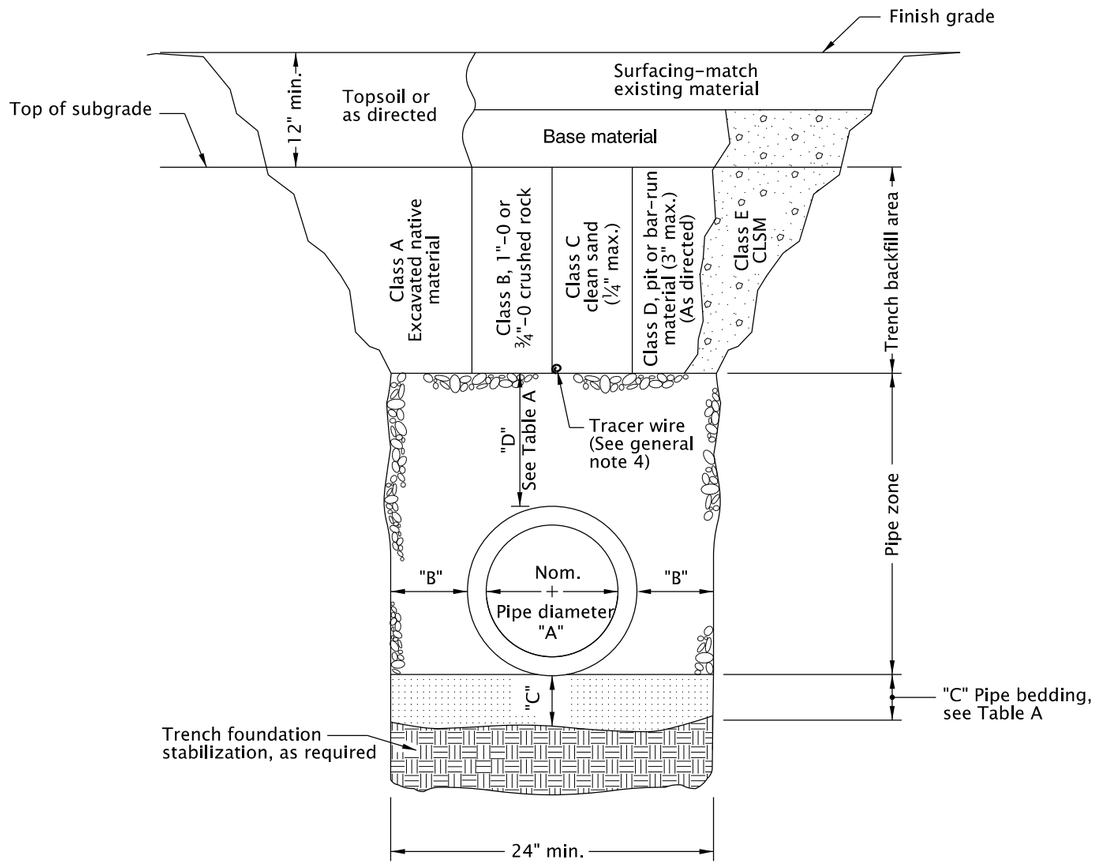
DET 2101

rd300.dgn 25-JUL-2017

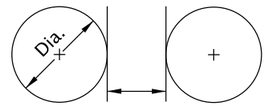
TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14

For pipes over 72" diameter, see general note 3.



MULTIPLE INSTALLATIONS



DIAMETER	MIN. SPACE BETWEEN PIPES
Up to 48"	24"
48" to 72"	One half (½) dia. of pipe

GENERAL NOTES FOR ALL DETAILS:

1. Surfacing of paved areas shall comply with street cut Std. Dwg. RD302.
2. For pipe installation in embankment areas where the trench method will not be used and the pipe is ≥ 36" diameter, increase dimension "B" to nominal pipe diameter.
3. Pipes over 72" diameter are structures, and are not applicable to this drawing.
4. See Std. Dwg. RD336 for tracer wire details (When required).

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JUL-2014

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

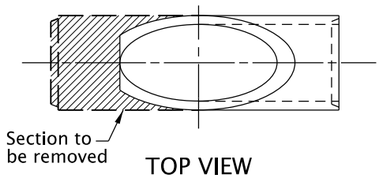
TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS

2018

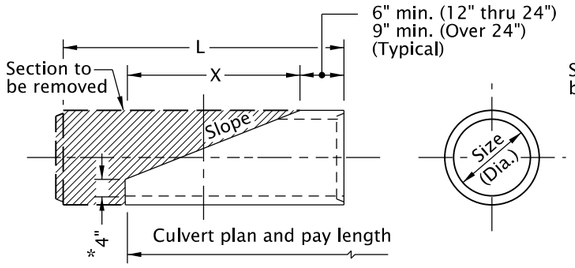
DATE	REVISION DESCRIPTION

RD300

CASE 1
SINGLE PIPE LENGTH



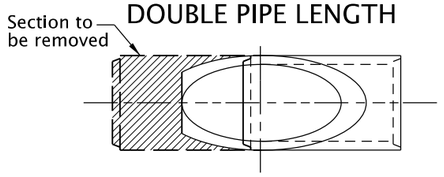
TOP VIEW



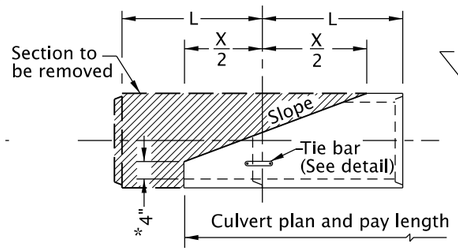
SIDE VIEW

END VIEW
(CASE 1)

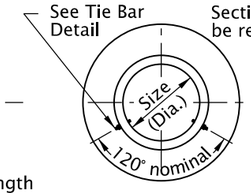
CASE 2
DOUBLE PIPE LENGTH



TOP VIEW

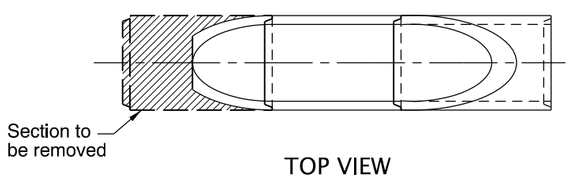


SIDE VIEW

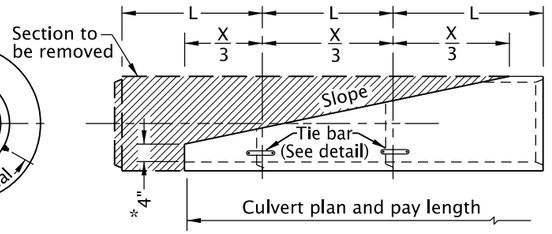


END VIEW
(CASE 2 & 3)

CASE 3
TRIPLE PIPE LENGTH



TOP VIEW



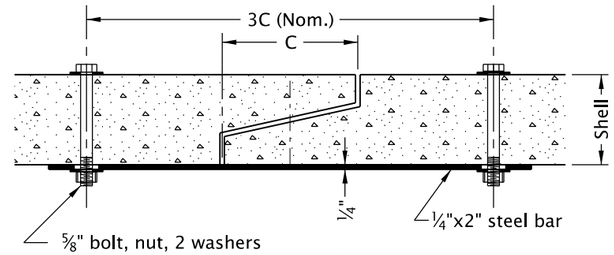
SIDE VIEW

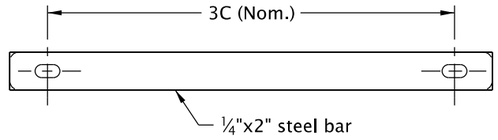
* 0 when used with paved end slope.

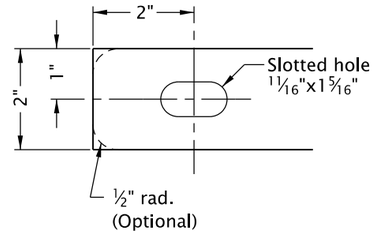
NOTE:
Sloped ends shall be made from minimum Class III concrete pipe.
"X" Values shown are for vertical dimension at bottom of sloped end = 0.

TABLE A

SIZE (Diameter)	SLOPE																				SIZE (Diameter)
	1:1.5			1:2			1:2.5			1:3			1:4				1:6				
	X	CASE 1 L (Min.)	CASE 2 L (Min.)	X	CASE 1 L (Min.)	CASE 2 L (Min.)	X	CASE 1 L (Min.)	CASE 2 L (Min.)	X	CASE 1 L (Min.)	CASE 2 L (Min.)	X	CASE 1 L (Min.)	CASE 2 L (Min.)	CASE 3 L (Min.)	X	CASE 1 L (Min.)	CASE 2 L (Min.)	CASE 3 L (Min.)	
DIMENSION IN INCHES																					
12	18	36	36	24	36	36	30	48	36	36	72	36	48	72	36		72	90	48		12
15	22.5	36	36	30	48	36	37.5	72	36	45	72	36	60	72	36		90		72		15
18	27	48	36	36	48	36	45	72	36	54	72	36	72	90	48		108		72		18
21	31.5	48	36	42	72	36	52.5	72	36	63	90	48	84		72		126		90		21
24	36	48	36	48	72	36	60	90	48	72	90	48	96		72		144		90		24
27	40.5	72	36	54	72	36	67.5	90	48	81		72	108		72		162			72	27
30	45	72	36	60	90	48	75		48	90		72	120		90		180			72	30
33	49.5	72	36	66	90	48	82.5		72	99		72	132		90		198			90	33
36	54	72	36	72	90	48	90		72	108		72	144		90		216			90	36
42	63	90	48	84		72	105		72	126		90	168			72	252			90	42
48	72	90	48	96		72	120		90	144		90	192			90	288				48
54	81		72	108		72	135		90				216			90	324				54







NOTES:

1. All bolts, nuts and washers to be galvanized.
2. Tie bar to be galvanized after fabrication.
3. "C" is tongue length.
4. Install 2 tie bars at each joint (See end view, Case 2 & 3).

TIE BAR DETAIL

GENERAL NOTES FOR ALL DETAILS:

1. For dimensions indicated by letter, see Table A.
2. Open ends of pipes normally require a site specific design, and may require special treament (Slope ends, culvert embankment protection, paved end slopes, safety end sections, or other measures). See special details or Standard Drawings as called for on plans.
3. See Std. Dwg. RD317 for culvert embankment protection and riprap pads (When reqd.).

CALC. BOOK NO. N/A

BASELINE REPORT DATE 15-JAN-2016

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

SLOPED ENDS FOR CONCRETE PIPE

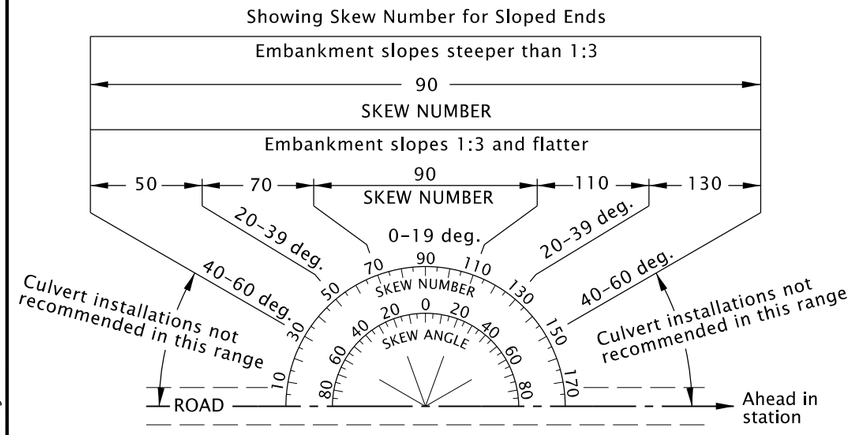
2018

DATE	REVISION DESCRIPTION

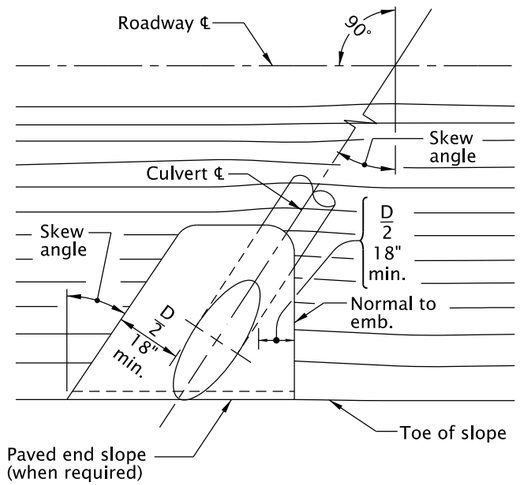
rd318.dgn 25-JUL-2017

RD318

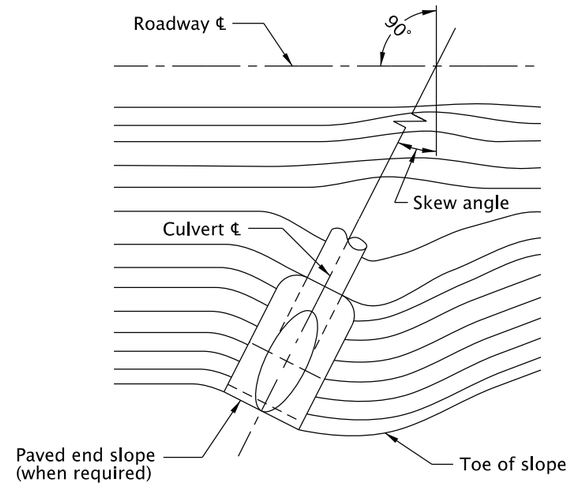
Effective Date: December 1, 2019 - May 31, 2020



SKEW DIAGRAM



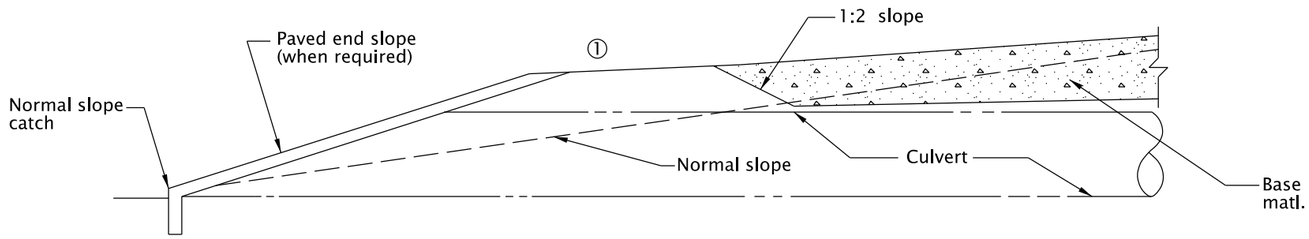
TYPICAL SKEW PLAN



(Where shown on plans)
Contour embankment slope to match paved end slope

ALTERNATE SKEW PLAN

① Modification when nature of installation would result in an adverse slope from subgrade to top of the paved end slope.



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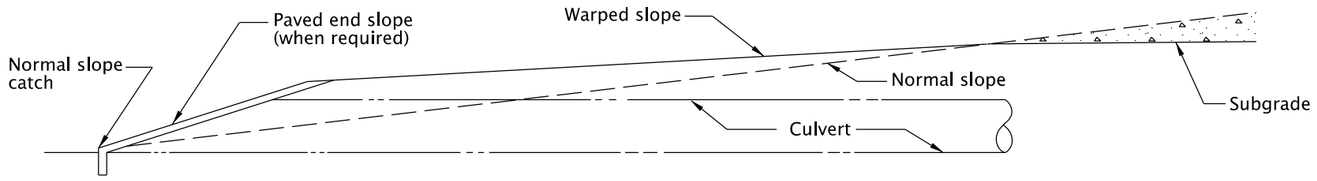


EMBANKMENT SLOPE WARPING DETAILS
(Warp 100' each side of culvert)

GENERAL NOTES:

1. All embankment slopes to be warped where required to provide end projections as shown.
2. Open ends of pipes normally require a site specific design, and may require special treatment (Sloped ends, culvert embankment protection, paved end slopes, safety end sections, or other measures).
   See special details or Standard Drawings as called for on plans.
3. See Std. Dwg. RD317 for culvert embankment protection and riprap pads (When reqd.).

CALC. BOOK NO. N/A

BASELINE REPORT DATE 15-JAN-2016

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

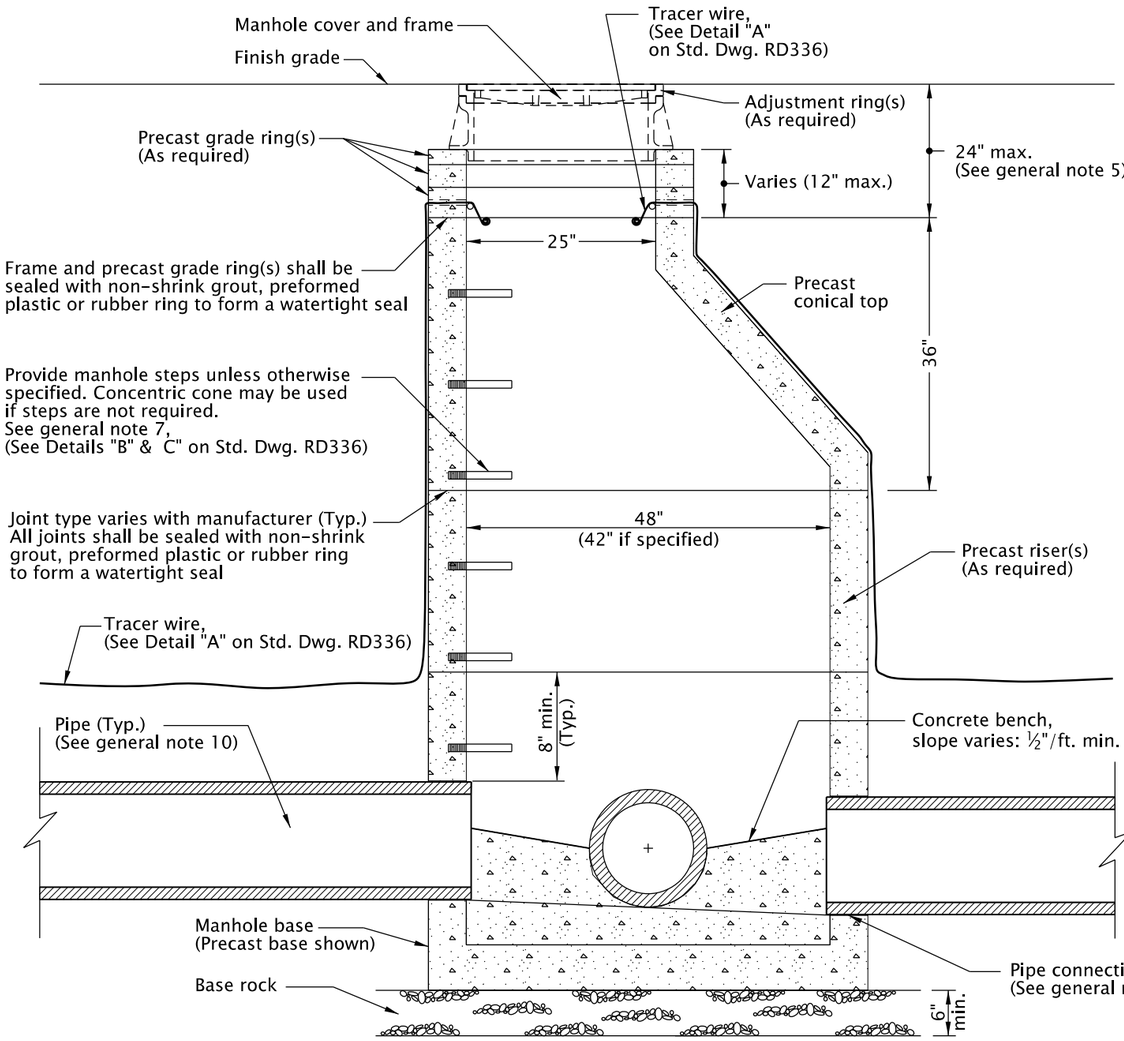
MISCELLANEOUS CULVERT DETAILS

2018

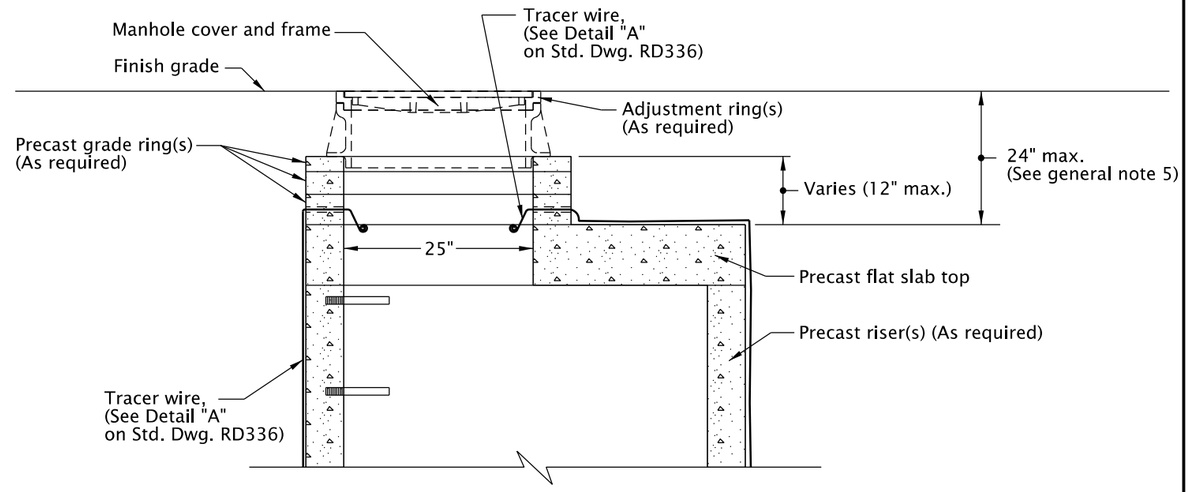
DATE	REVISION DESCRIPTION

RD319

rd319.dgn 25-JUL-2017



MANHOLE WITH PRECAST CONICAL TOP



MANHOLE WITH PRECAST FLAT SLAB TOP

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
7. See Std. Dwg. RD336 for manhole steps.
8. See Std. Dwg. RD336 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

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

BASELINE REPORT DATE 21-JUN-2019

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

OREGON STANDARD DRAWINGS

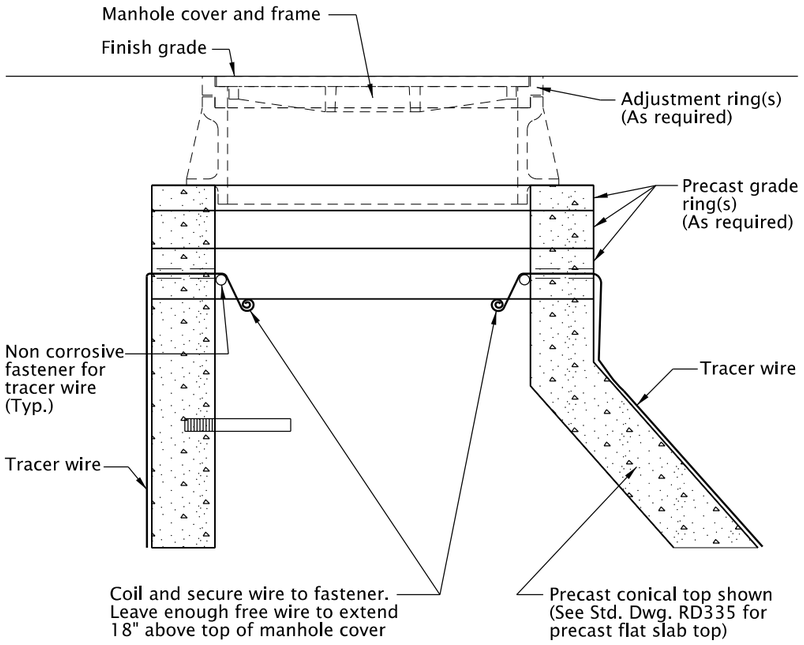
STANDARD STORM SEWER MANHOLE

2018

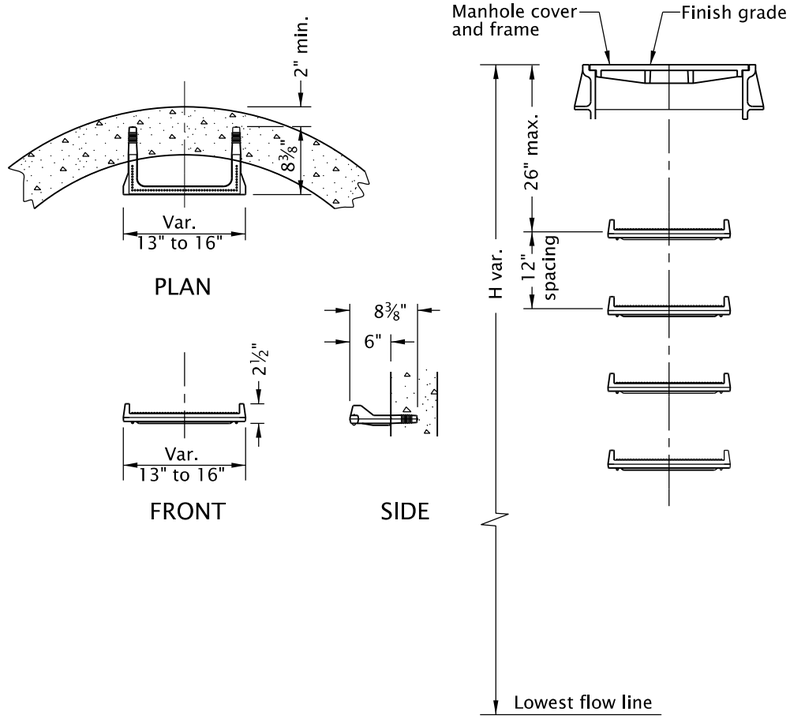
DATE	REVISION DESCRIPTION
01-2019	REVISED NOTE
06-2019	ADDED DETAIL TITLES

rd335.dgn 21-JUN-2019

RD335

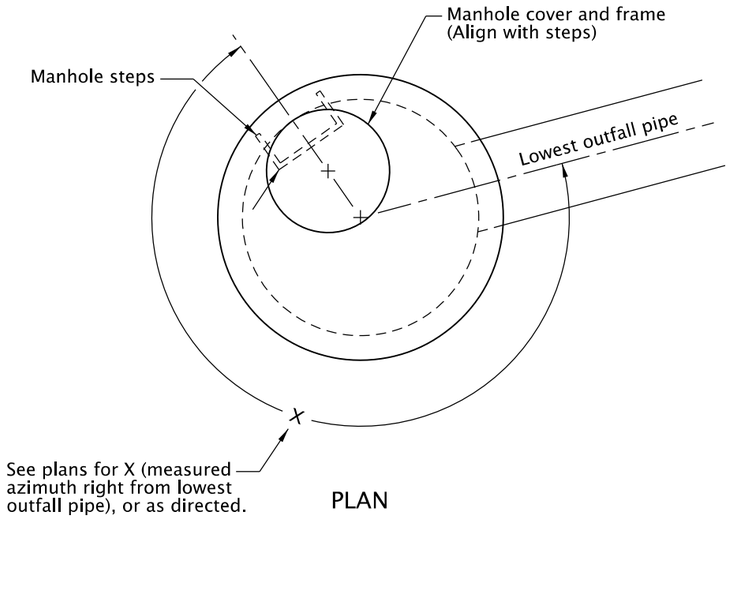


DETAIL "A"
TRACER WIRE
(See general note 6)



See ODOT's QPL for acceptable alternate manhole steps.
NOTE: No conflict with pipe align with available shelf.

DETAIL "B"
MANHOLE STEPS
(See general note 7)



DETAIL "C"
PRECAST CONICAL TOP
OR
PRECAST FLAT SLAB TOP
AND MANHOLE STEPS ORIENTATION
(See general note 7)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate. Place tracer wire directly over pipe centerline and on top of the pipe zone material.
7. Steps shall conform to requirements of ASTM C478. When H=42" or less omit steps. See Detail "C" for alignment of steps, and manhole cover and frame.
8. See Std. Dwg. RD335 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. See project plans for details not shown.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 16-JAN-2019

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

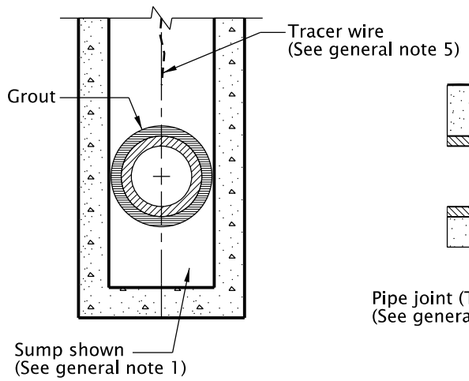
STANDARD MANHOLE DETAILS

2018

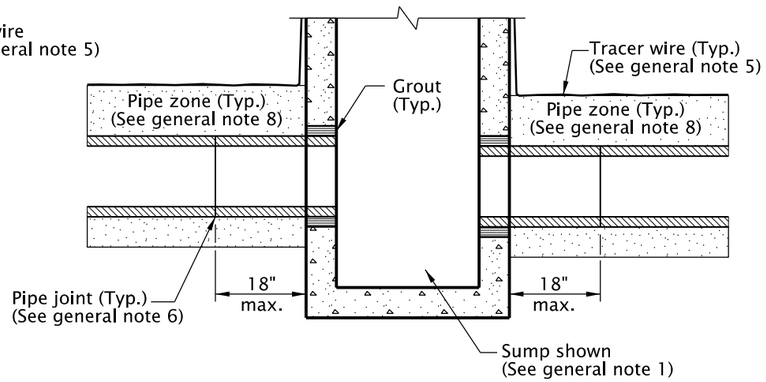
DATE	REVISION DESCRIPTION
01-2019	REVISED NOTES

rd336.dgn 16-JAN-2018

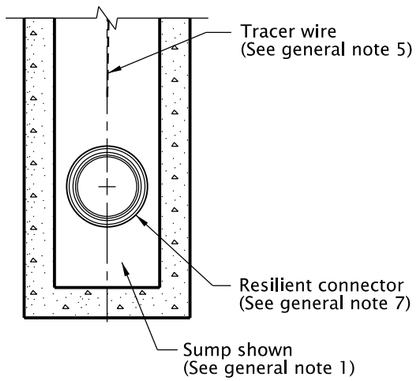
RD336



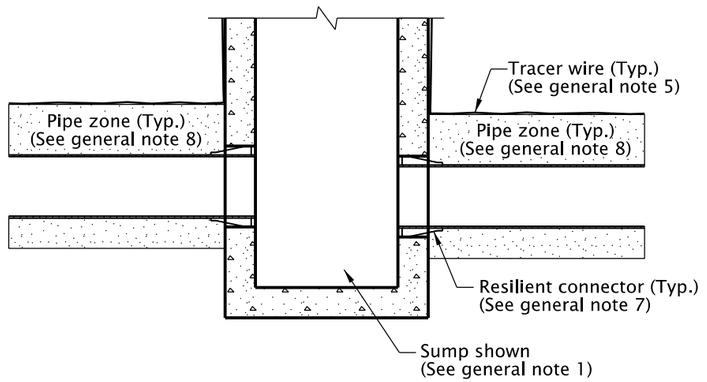
SECTION B–B



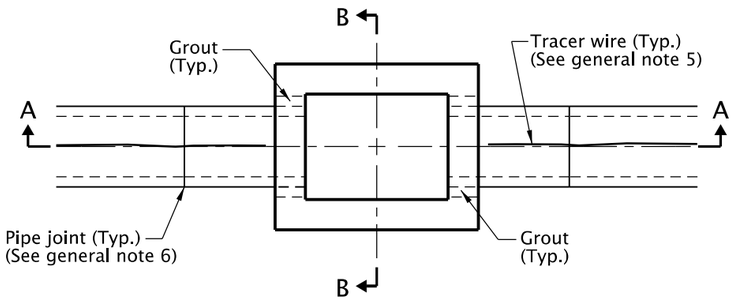
SECTION A–A



SECTION B–B

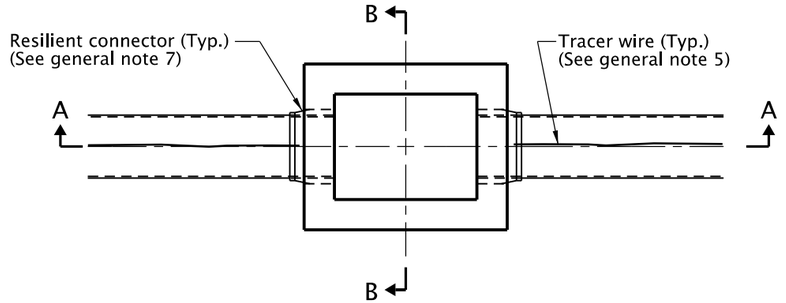


SECTION A–A



PLAN

CONNECTION OF RIGID PIPE TO STRUCTURE



PLAN

CONNECTION OF FLEXIBLE PIPE TO STRUCTURE

GENERAL NOTES FOR ALL DETAILS:

1. See Std. Dwgs. RD364, RD365, and RD366 for inlet details not shown.
2. See appropriate standard drawings or special project details for other similar structures.
3. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
4. Max. pipe diameter varies with pipe material.
5. All connecting pipes shall have a tracer wire, or approved alternate.
   See Std. Dwg. RD336 for tracer wire details.
6. When rigid pipe is used, the connecting pipe shall have a flexible, gasketted and unrestrained joint within 18" of manhole wall. Joint type varies with manufacturer.
7. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
8. Pipe zone varies, see Std. Dwg. RD300.

CALC. BOOK NO. N/A

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.

BASELINE REPORT DATE 14-JUL-2014

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

OREGON STANDARD DRAWINGS

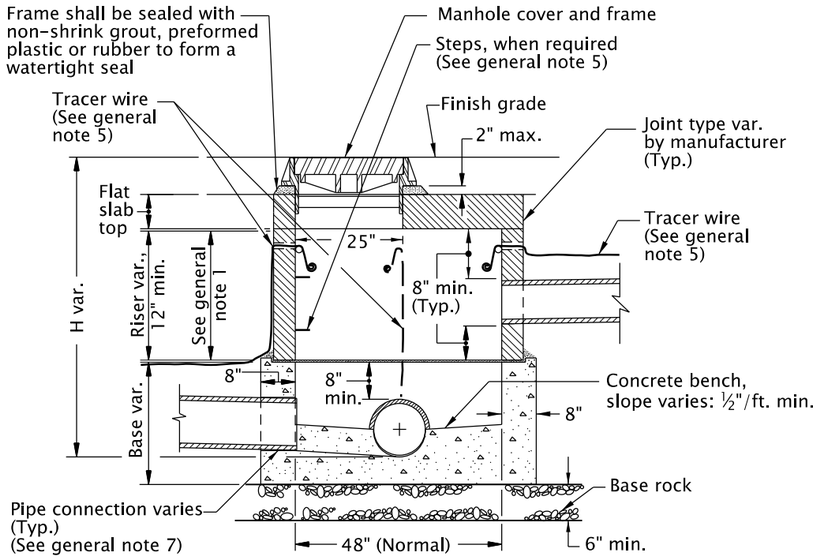
PIPE TO STRUCTURE CONNECTIONS

2018

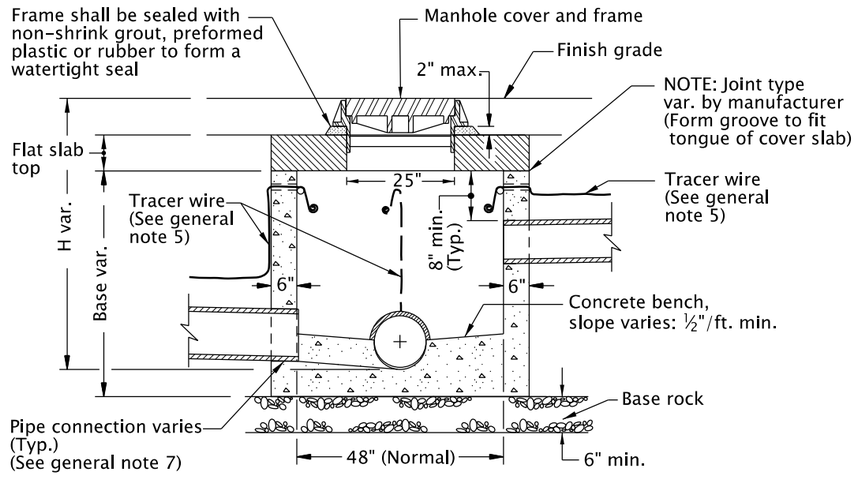
DATE	REVISION DESCRIPTION

RD339

rd339.dgn 25-JUL-2017



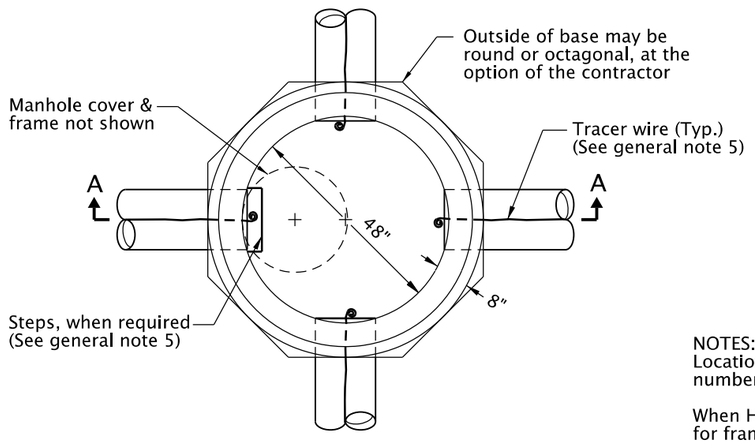
SECTION A–A
(Base, Riser & Flat Slab Top)



SECTION B–B
(Base & Flat Slab Top)

LEGEND
(See general note 3)

- Cast-in-Place concrete
- Precast concrete
- 1: 2 cement mortar
- Sewer pipe

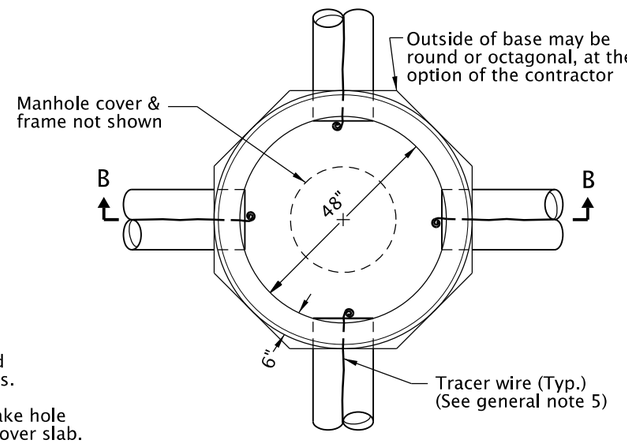


TOP VIEW
(Base, Riser & Flat Slab Top)

NOTES:
Location, elevation, and number of pipe(s) varies.

When H=42" or less make hole for frame in center of cover slab.

When H=42" or less omit steps.



TOP VIEW
(Base & Flat Slab Top)

GENERAL NOTES FOR ALL DETAILS:

1. Minimum length if laterals or connections are inserted: outside diameter of pipe + 17".
2. Use Section B–B when length of riser becomes less than minimum shown.
3. Base may be precast or cast-in-place.
4. All precast products shall conform to the requirements of ASTM C478.
5. See Std. Dwg. RD336 for details not shown.
6. See Std. Dwg. RD344 for manhole base section.
7. See Std. Dwg. RD345 for pipe to manhole connections.
8. See Std. Dwg. RD356 for manhole covers and frames.
9. All concrete shall be commercial grade concrete.
10. Max. pipe diameter varies with pipe material.
11. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 21-JUL-2015

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

SHALLOW MANHOLES

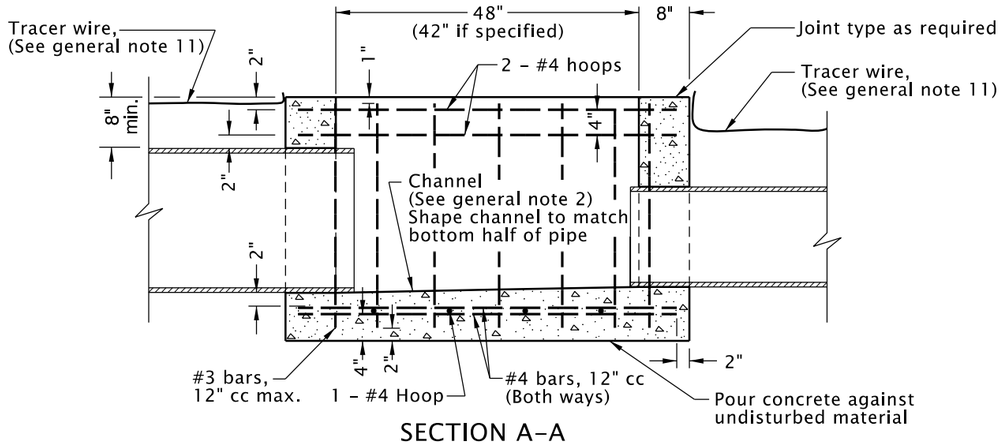
2018

DATE	REVISION DESCRIPTION

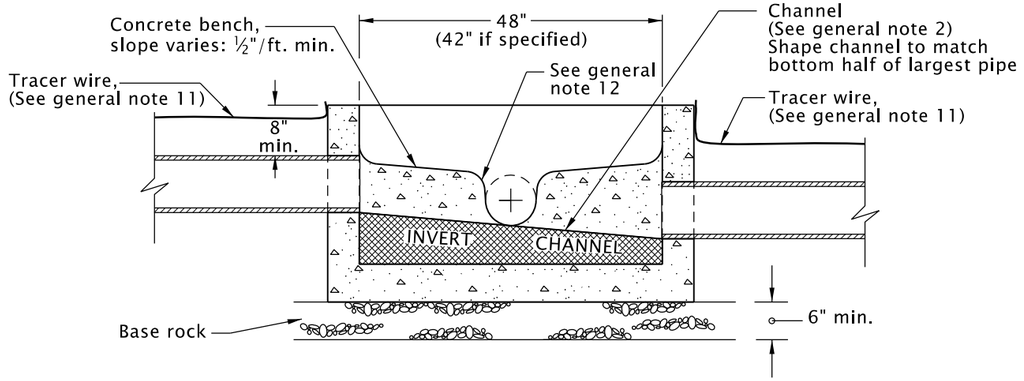
rd342.dgn 25-JUL-2017

RD342

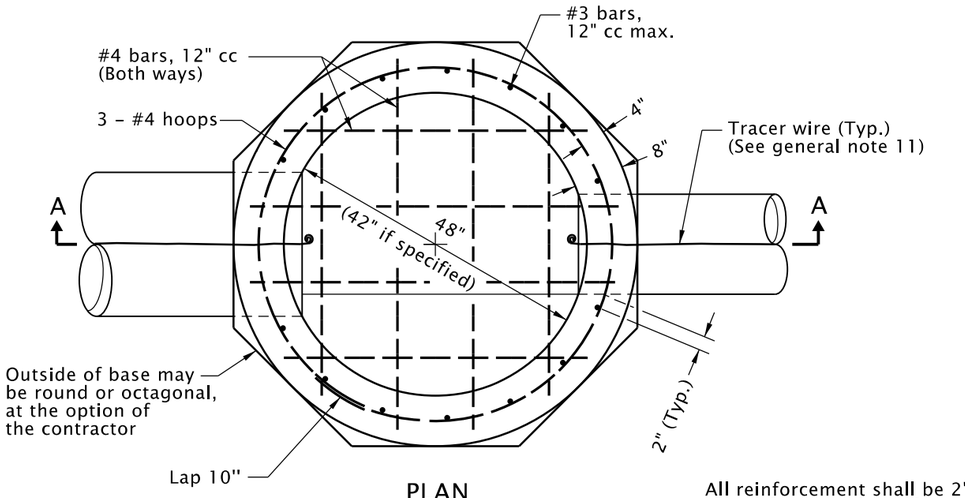
Effective Date: December 1, 2019 - May 31, 2020



SECTION A-A



SECTION B-B

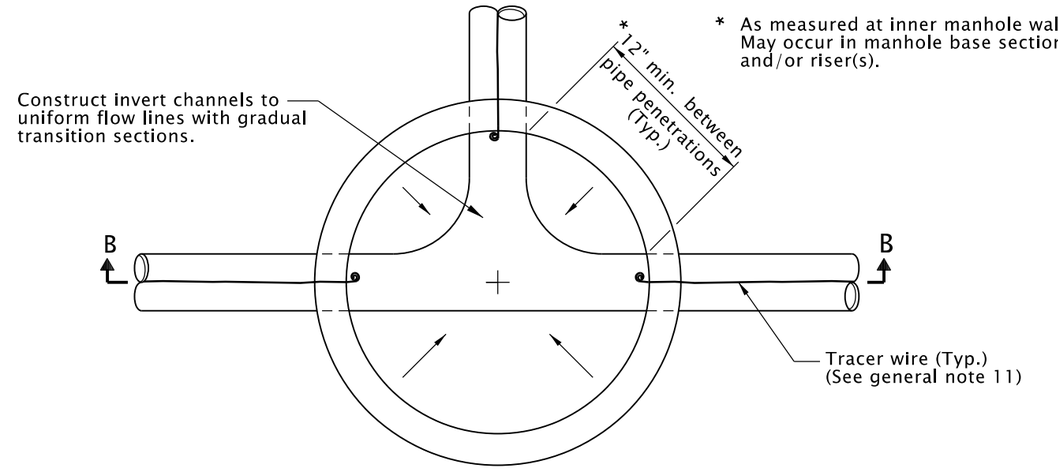


PLAN

All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.

CAST IN PLACE MANHOLE BASE

(For invert channel details, see precast option at right)



* As measured at inner manhole wall. May occur in manhole base section and/or riser(s).

PLAN

PRECAST MANHOLE BASE

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be commercial grade concrete.
2. Channels shall be constructed to provide smooth slopes and radii to outlet pipe.
3. Bases may be precast or cast in place.
4. Max. pipe diameter varies with pipe material.
5. Use on 42" and 48" diameter manhole.
6. Extend pipe into manhole and grout smooth. Pipe(s) may extend 2" max. beyond the interior manhole wall.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All precast products shall conform to the requirements of ASTM C478.
9. See Std. Dwg. RD345 for pipe to manhole connections.
10. See Std. Dwg. RD336 for manhole steps details.
11. See Std. Dwg. RD336 for tracer wire details.
12. At spring line of pipe, extend channel up to crown line on 12:1 batter.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JUL-2014

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

STANDARD MANHOLE BASE SECTION

2018

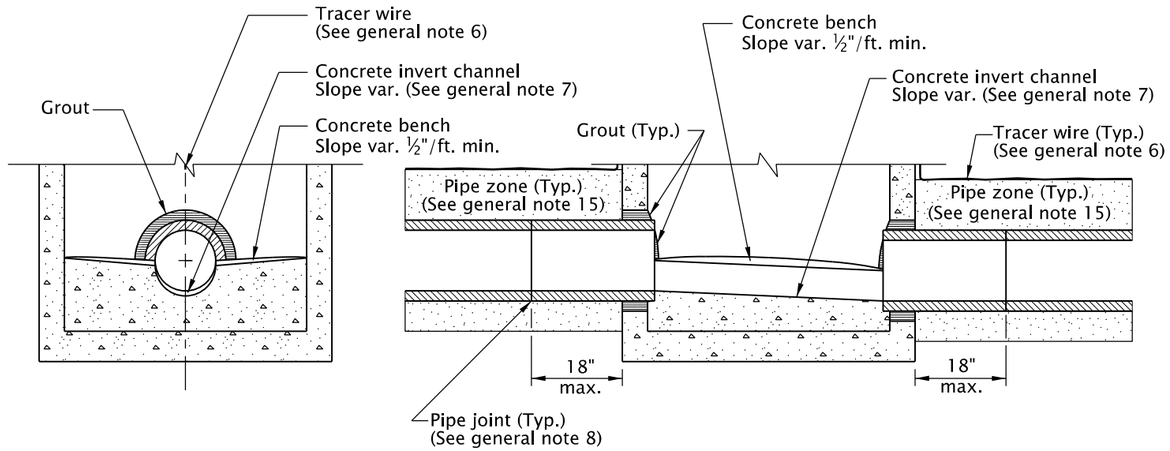
DATE	REVISION DESCRIPTION

RD344

Effective Date: December 1, 2019 - May 31, 2020

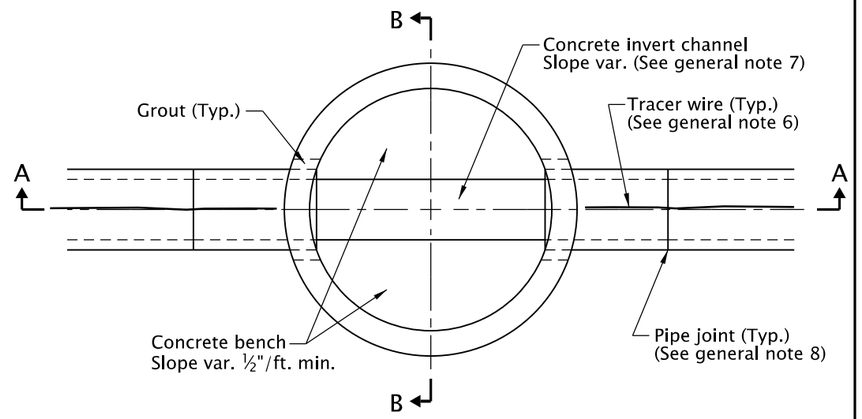
RD344

rd344.dgn 25-JUL-2017



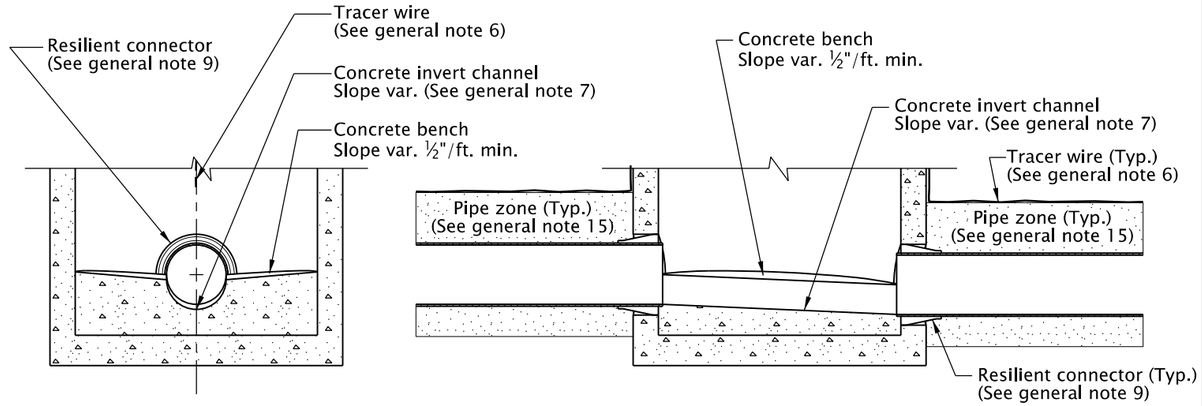
SECTION B–B

SECTION A–A



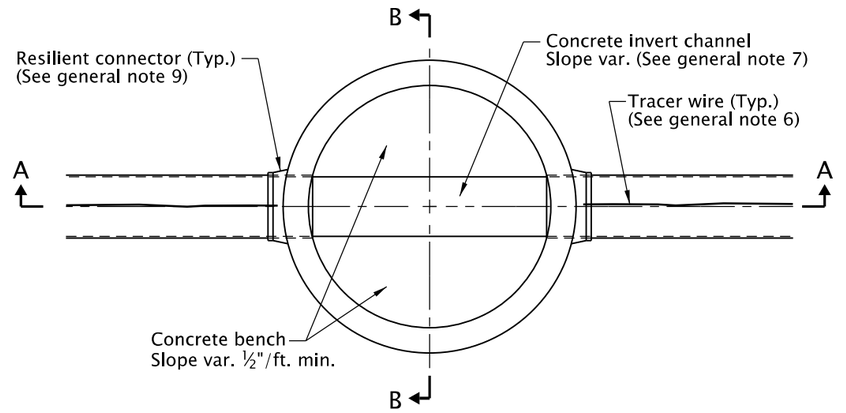
PLAN

CONNECTION OF RIGID PIPE TO MANHOLE



SECTION B–B

SECTION A–A



PLAN

CONNECTION OF FLEXIBLE PIPE TO MANHOLE

GENERAL NOTES FOR ALL DETAILS:

1. All precast sections shall conform to requirements of ASTM C478.
2. Manhole base sections may be precast or cast-in-place.
3. All concrete shall be commercial grade concrete.
4. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
5. Max. pipe diameter varies with pipe material.
6. All connecting pipes shall have a tracer wire, or approved alternate. See Std. Dwg. RD336 for tracer wire details.
7. Invert channels shall be constructed to provide smooth slopes and radii to outlet pipe.
8. When rigid pipe is used, the connecting pipe shall have a flexible, gasketted and unrestrained joint within 18" of manhole wall. Joint type varies with manufacturer.
9. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
10. See Std. Dwgs. RD335, RD336, and RD338 for details not shown.
11. See Std. Dwg. RD336 for manhole steps details.
12. See Std. Dwg. RD342 for shallow manholes.
13. See Std. Dwg. RD344 for manhole base section.
14. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
15. Pipe zone varies, see Std. Dwg. RD300.

CALC. BOOK NO. N/A

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.

BASELINE REPORT DATE 14-JUL-2014

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

OREGON STANDARD DRAWINGS

PIPE TO MANHOLE CONNECTIONS

2018

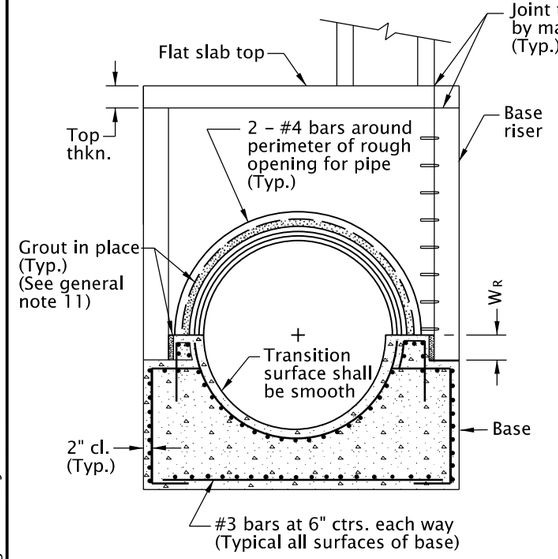
DATE	REVISION DESCRIPTION

Effective Date: December 1, 2019 - May 31, 2020

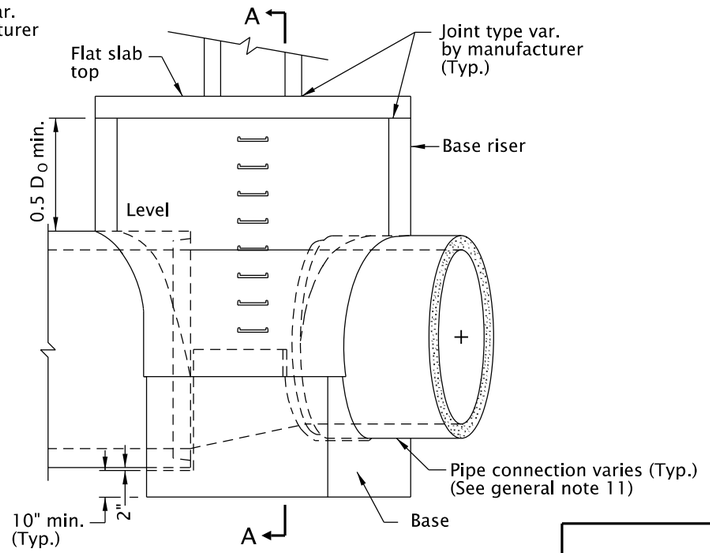
RD345

rd345.dgn 25-JUL-2017

RD345



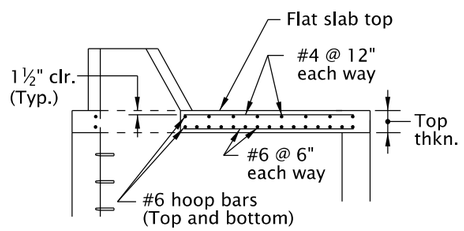
SECTION A-A



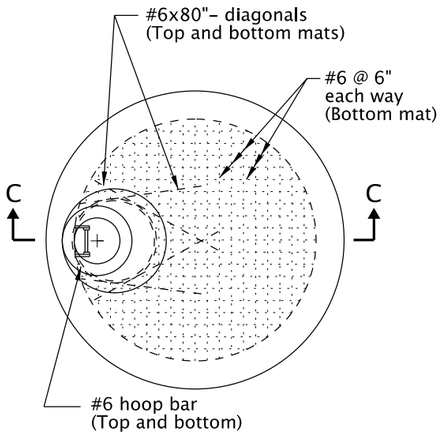
MANHOLE BASE ELEVATION

Dia. of largest pipe in manhole (Inch)	* ⊖ max when $D_I = D_O$	* Base Riser D_R (Inch)	* Base Riser W_R (Inch)	* Base Riser Top Thkn. (Inch)	Base X_O $X_I = X_O$ when $D_I = D_O$ (Feet)	Base X_I when $D_I < D_O$ $D_I = (D_O - 6")$ (Feet)	Base X_I when $D_I < D_O$ $D_I = (D_O - 12")$ (Feet)	Base X_I when $D_I < D_O$ $D_I = (D_O - 18")$ (Feet)
30"	75°	60"	6"	10"	2.42	2.63	2.75	2.89
36"	67°	72"	7"	10"	2.75	2.97	3.15	3.29
42"	60°	72"	7"	10"	2.75	2.97	3.15	3.29
48"	54°	84"	8"	10"	3.02	3.27	3.48	3.66
54"	49°	84"	8"	10"	3.02	3.27	3.48	3.66
60"	45°	96"	9"	12"	3.25	3.54	3.78	3.99
66"	42°	96"	9"	12"	3.25	3.54	3.78	3.99
72"	39°	108"	10"	12"	3.48	3.79	4.06	4.29
78"	36°	108"	10"	12"	3.48	3.79	4.06	4.29
84"	34°	120"	11"	12"	3.69	4.03	4.32	4.57
90"	32°	120"	11"	12"	3.69	4.03	4.32	4.57
96"	30°	126"	11½"	12"	3.79	4.15	4.45	4.71

* A special design using a larger Base Riser diameter D_R may be required to obtain specified 12" min. dimension when ⊖ angle exceeds ⊖ max.



SECTION C-C



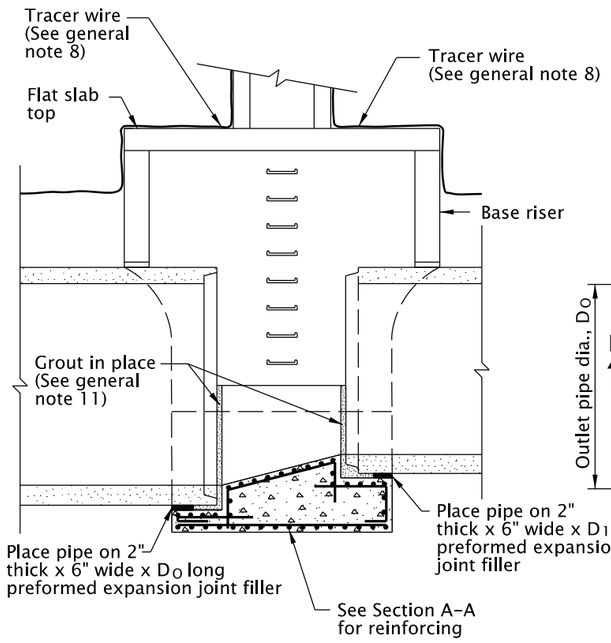
MANHOLE FLAT SLAB TOP PLAN
(Bottom reinf. mat shown)
(Manhole I.D. >4', <10' 6")

GENERAL NOTES FOR ALL DETAILS:

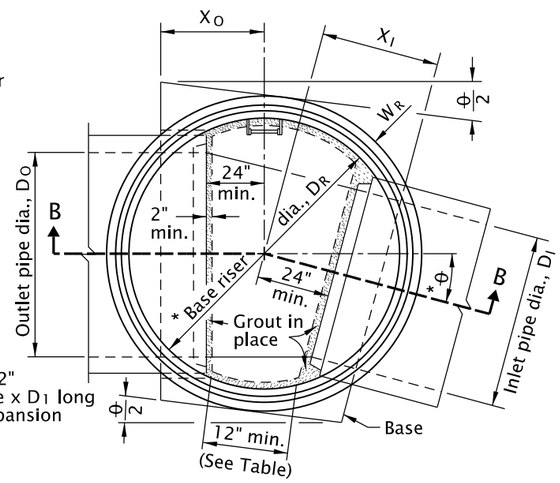
1. All concrete shall be Class 4000. All precast products shall conform to requirements of ASTM C478.
2. All reinforcing steel shall conform to ASTM Specification A706 or AASHTO M31 (ASTM A615), Grade 60. The following splice lengths shall be used (unless shown otherwise):

Bar Size	4	5	6
Uncoated	16"	20"	24"

3. All reinforcement shall be placed 2" clear of the nearest face of the concrete unless shown otherwise.
4. Eccentric reducing cones or eccentric reducing flat slabs designed in accordance with AASHTO M199 shall be placed on top of the base riser as required by the contract plans. Eccentric reducing flat slabs shall be designed to support a load of 120 lb/ft in addition to the dead load of the slab, the risers above the slab, and the earth overburden above the slab.
5. Base riser to be pre-cast unless otherwise shown on the plans.
6. Cast-in-Place concrete, shown thus:
7. See Std. Dwg. RD336 for manhole steps details, and flat slab top orientation.
8. See Std. Dwg. RD336 for tracer wire details.
9. See Std. Dwg. RD336 for manhole steps.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD345 for pipe to manhole connections.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.



DEVELOPED SECTION B-B
ALONG PIPE CENTERLINE



MANHOLE BASE PLAN

CALC. BOOK NO. N/A

BASELINE REPORT 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

LARGE PRECAST MANHOLE

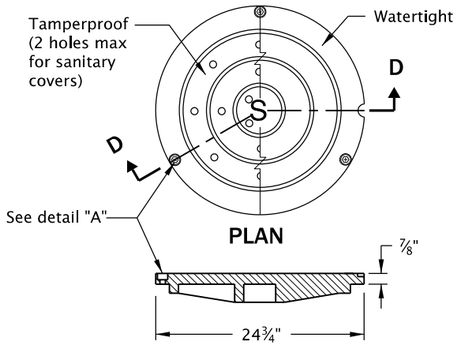
2018

DATE	REVISION DESCRIPTION

rd346.dgn 25-JUL-2017

RD346

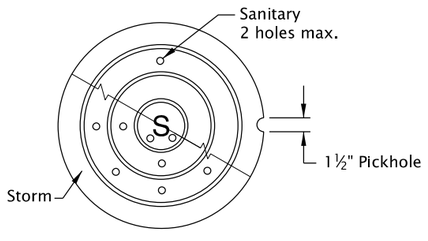
Effective Date: December 1, 2019 - May 31, 2020



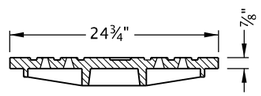
SECTION D-D

CAST IRON TAMPERPROOF & WATERTIGHT COVER

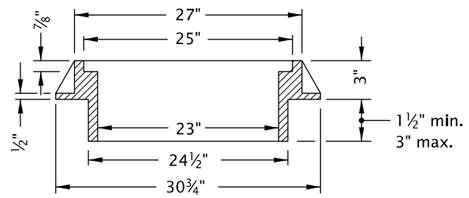
(Frames available in standard or suburban pattern)



COVER PLAN



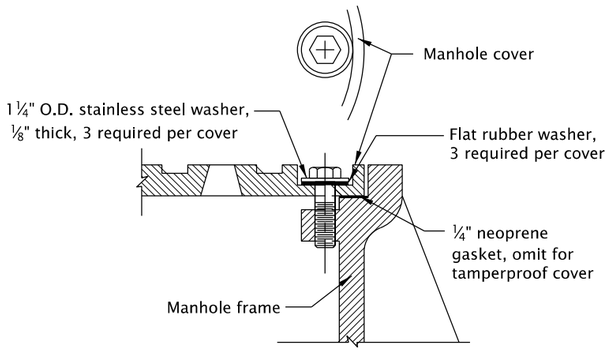
COVER SECTION



FRAME SECTION

CAST IRON SUBURBAN MANHOLE COVER & FRAME

For use on local streets only, as specified

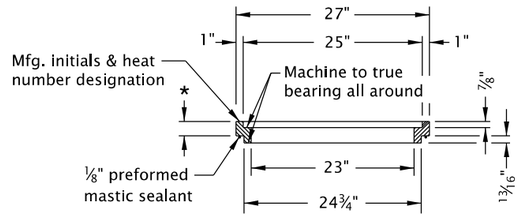


NOTE:
3 required, equally spaced, ½"x1½" pentagonal or hexagonal head, bronze or stainless steel. Install frame so that one bolt boss is located over the manhole steps (See general note 8).

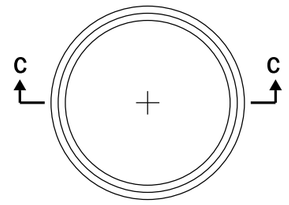
BOLT-DOWN (FOR TAMPERPROOF AND WATERTIGHT)

DETAIL "A"

* Std. depths 1½", 2", 2½" & 3"
Matl. to be grey cast iron ASTM A 48, Class 35B. Tolerance on non-machined surfaces to be |0.06", see general note 6



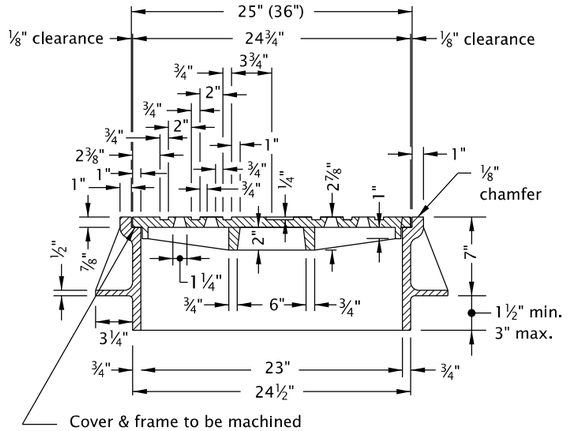
SECTION C-C



PLAN

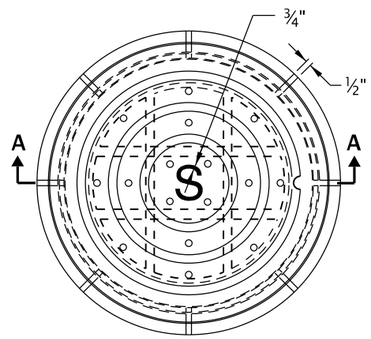
MANHOLE ADJUSTMENT RING

For use with Standard Manhole Frame



SECTION A-A

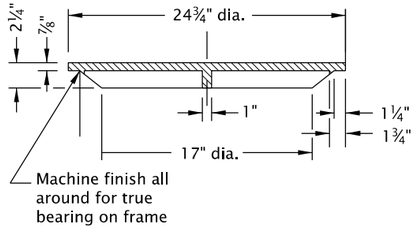
36" min. diameter cover is required for manholes with depths of 20' or greater. (See general note 4)



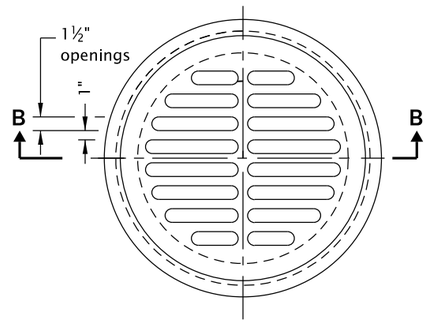
NOTE:
Coat outside of frame with asphalt, where frame is to be placed in conc. pvmt., conc. gutter, or walk.

PLAN

STANDARD MANHOLE COVER & FRAME



SECTION B-B



For use with Standard Manhole Frame
(See general note 7)

PLAN

STANDARD MANHOLE GRATE

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Tamperproof covers required on sanitary or storm drain manhole where located in pedestrian ways or easement areas. Covers for sanitary manholes shall have 2 holes maximum.
2. Watertight covers required if located where cover may be submerged (no holes).
3. Covers and frames shall be stamped with manufacturer's initials, heat number and point of origin.
4. See Std. Dwg. RD336 for manhole steps.
5. See Std. Dwg. RD360 for manhole frame adjustment.
6. See ODOT's QPL for alternate manhole adjustment rings.
7. Manhole grate allowed only in locations not subject to bicycle or pedestrian use.
8. See ODOT's QPL for alternate bolt-down products.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 21-JUN-2019

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

MANHOLE COVERS AND FRAMES

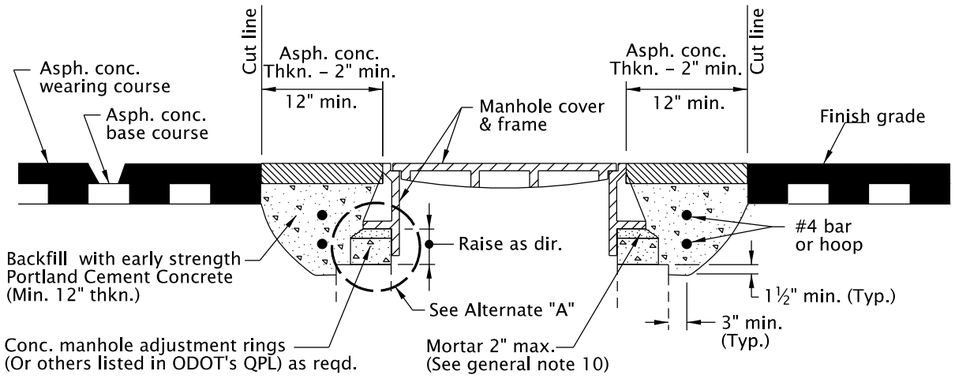
2018

DATE	REVISION DESCRIPTION
06-2019	REVISED DETAIL & NOTES

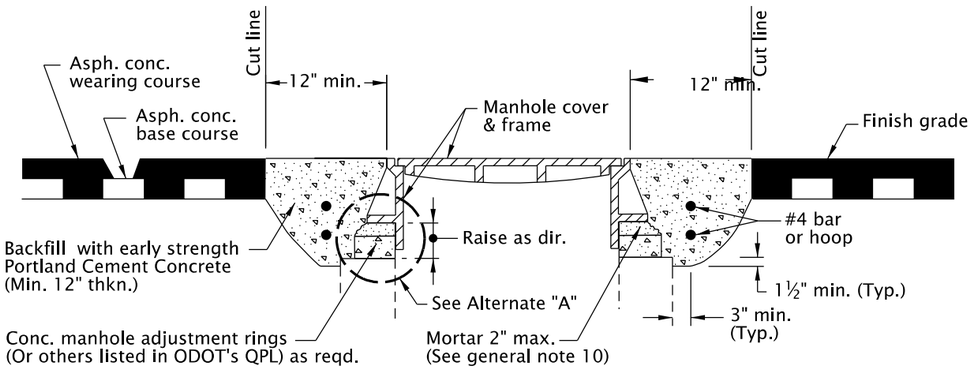
RD356

Effective Date: December 1, 2019 - May 31, 2020

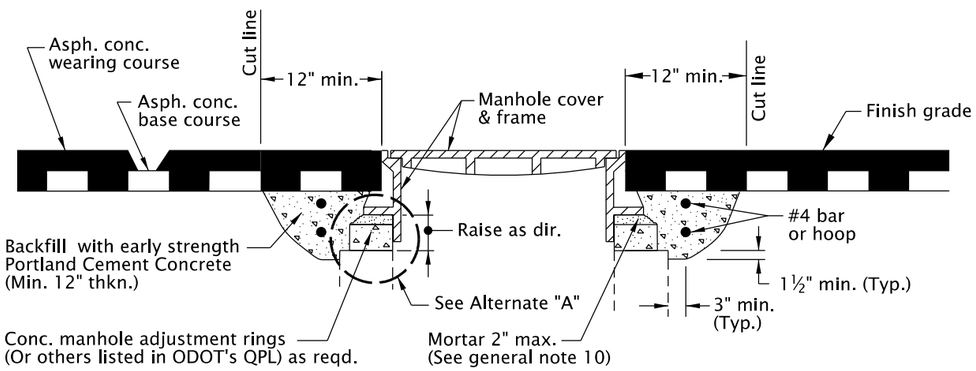
rd356.dgn 21-JUN-2019



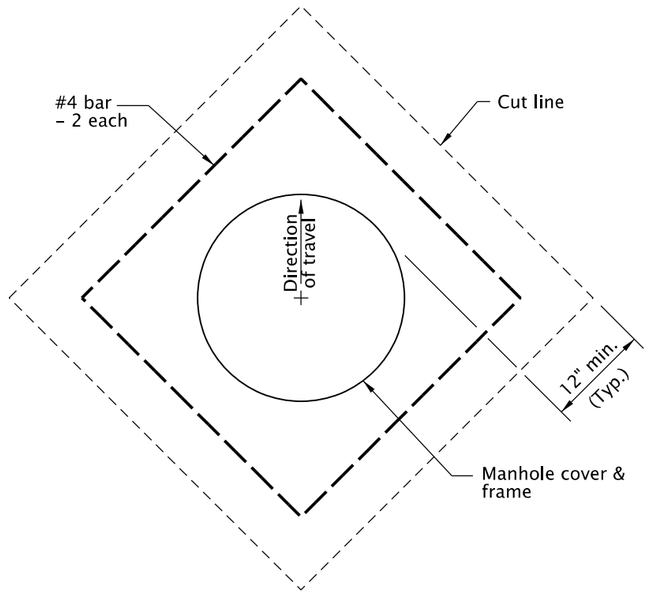
METHOD "A"



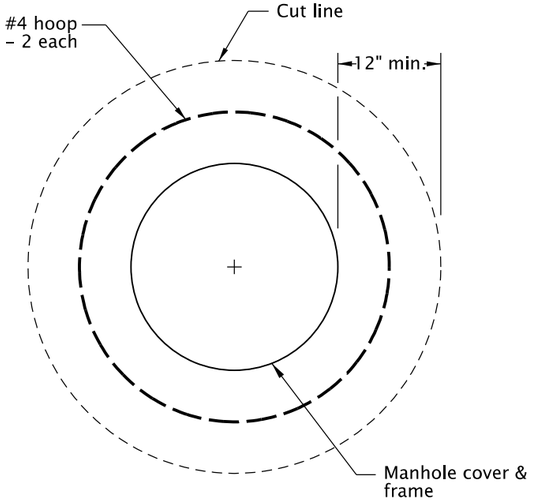
METHOD "B"



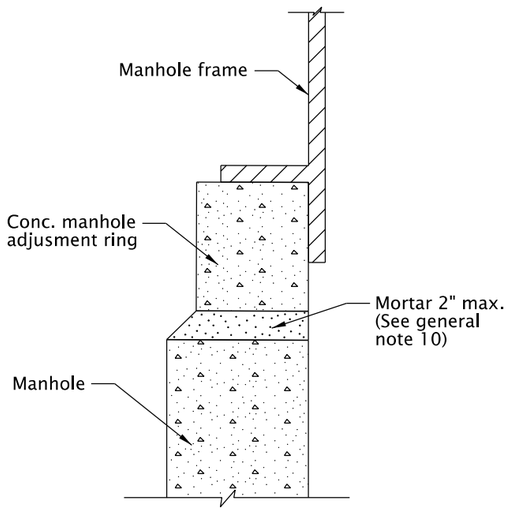
METHOD "C"



PLAN
SQUARE CUT



PLAN
CIRCULAR CUT



ALTERNATE "A"

GENERAL NOTES FOR ALL DETAILS:

1. Cover manhole with building paper and const. asph. conc. base course and wearing courses.
2. Saw cut square or circular excavation around manhole 12" min. from manhole frame.
3. Raise manhole cover and frame to finish grade by installing conc. manhole adjustment rings and leveling mortar, as shown.
4. Backfill with early strength Portland Cement Concrete. All concrete shall be commercial grade concrete.
5. Protect from traffic loading until conc. has cured to 3000 psi.
6. Apply tack coat to edges of existing pavement before installing patch.
7. Finish joint with asphalt seal and sand.
8. See Std. Dwg. RD336 for manhole steps details.
9. See appropriate manhole standard drawings for details not shown.
10. Use epoxy for synthetic grade rings.
11. See Std. Dwg. RD336 for tracer wire details.
12. See Std. Dwg. RD356 for manhole covers and frames.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 21-JUL-2015

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

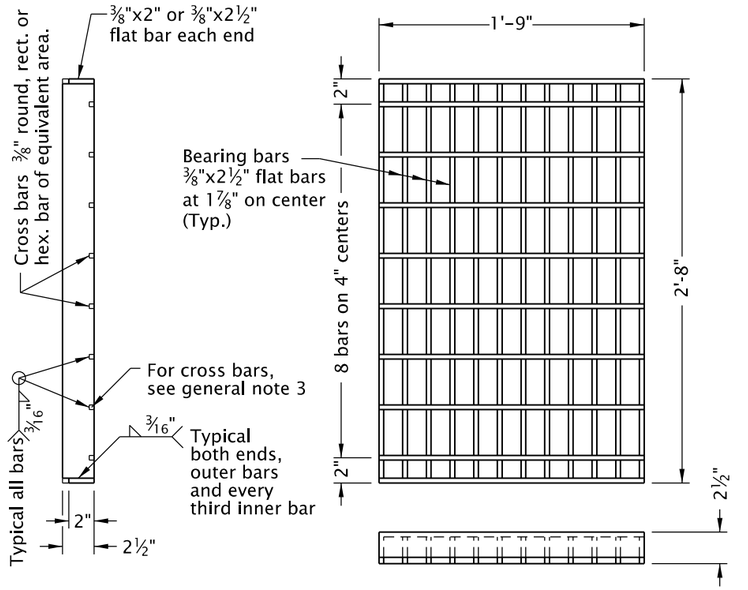
MANHOLE FRAME ADJUSTMENT

2018

DATE	REVISION DESCRIPTION

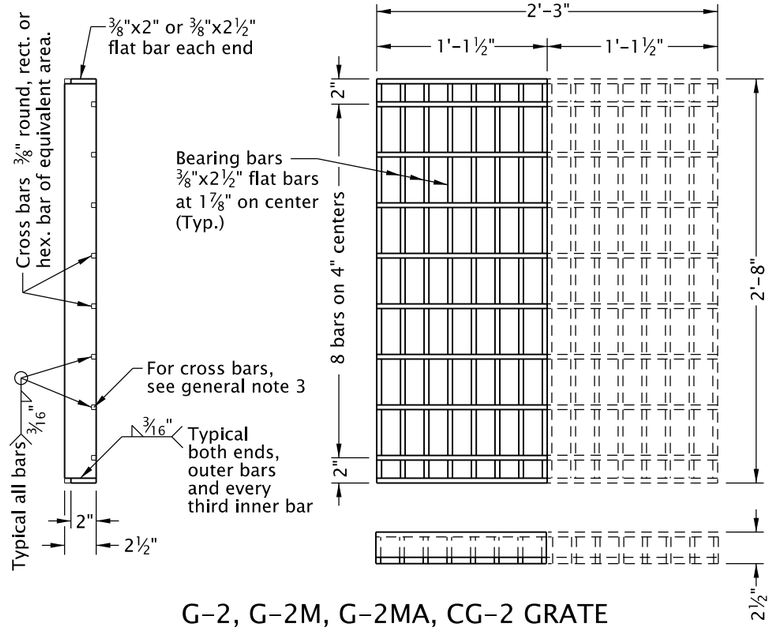
rd360.dgn 25-JUL-2017

RD360



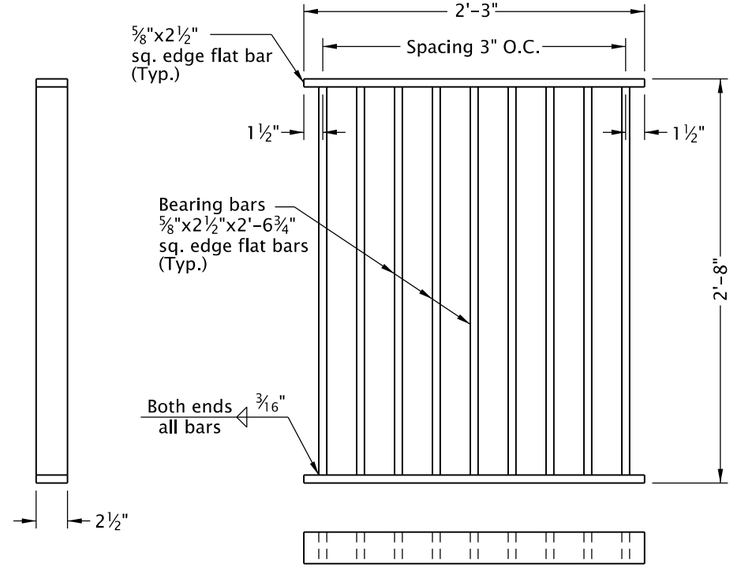
G-1, CG-1 GRATE (TYPE 2)

(Bicycle-safe)



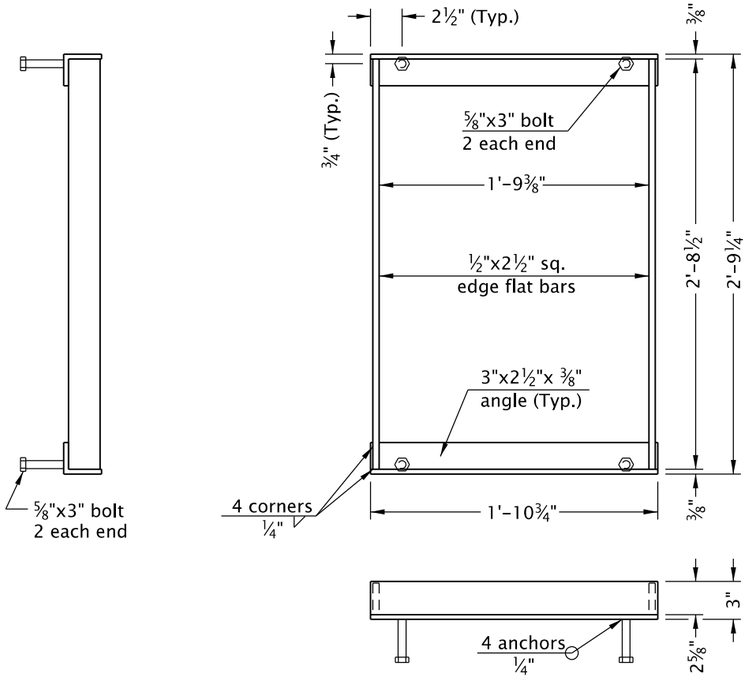
G-2, G-2M, G-2MA, CG-2 GRATE (TYPE 2)

(Bicycle-safe)
(2 grates required per inlet, as shown)

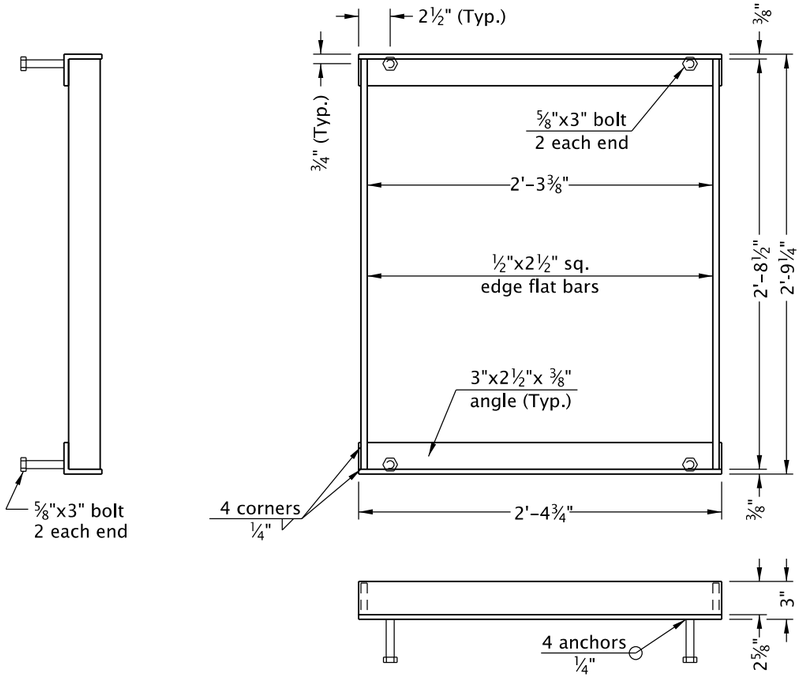


G-2, G-2M, G-2MA, CG-2 GRATE (TYPE 1)

(See general note 2)



G-1, CG-1 FRAME



G-2, G-2M, G-2MA, CG-2 FRAME

GENERAL NOTES FOR ALL DETAILS:

1. For inlet details, see appropriate inlet standard drawing(s).
2. Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.
3. ⅜" cross bars shall be flush with the top of grate surface and may be fillet welded, resistance welded or electroforged to bearing bars.
4. Hot dip galvanize after fabrication.
5. Cast iron grate and frame are acceptable alternates. See ODOT's QPL.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JUL-2014

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

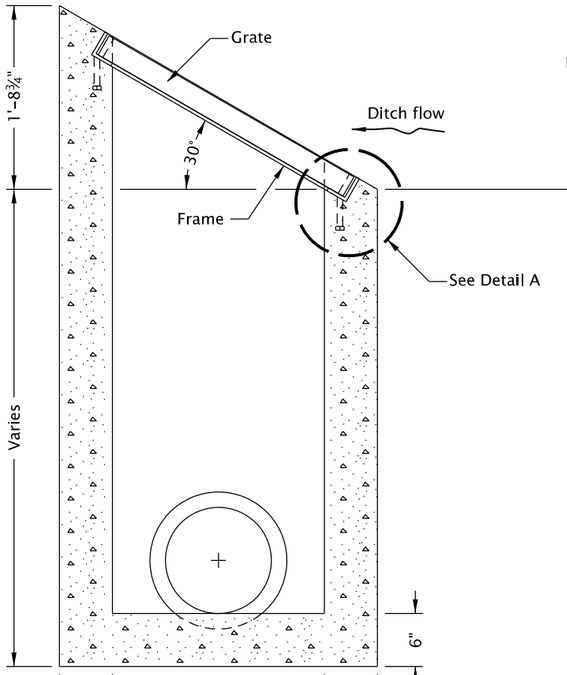
FRAMES & GRATES FOR CONCRETE INLETS

2018

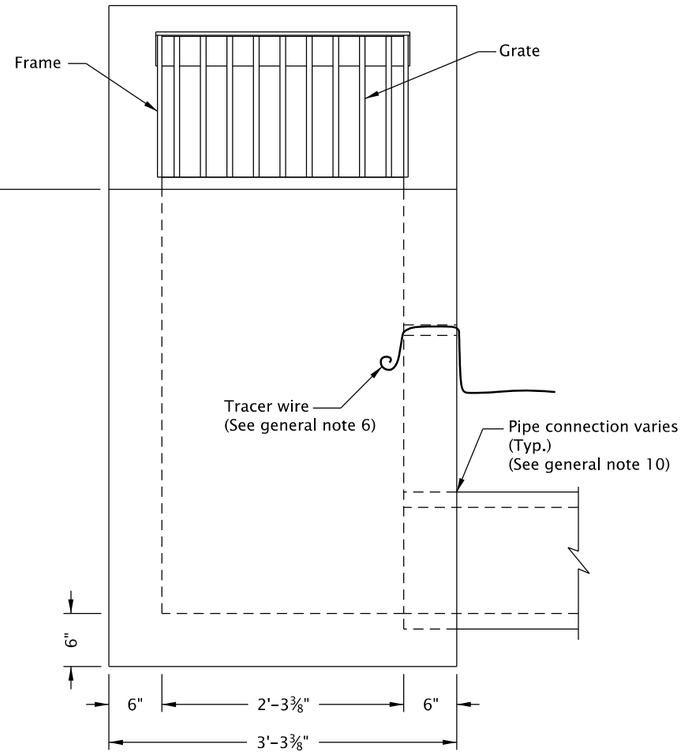
DATE	REVISION DESCRIPTION

rd365.dgn 25-JUL-2017

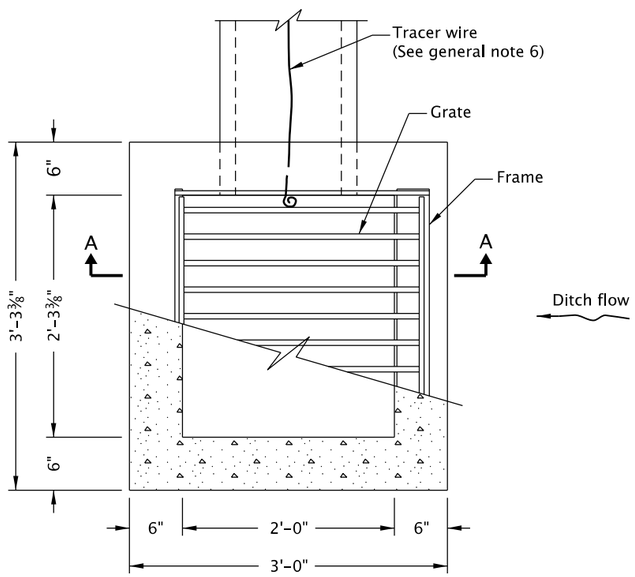
RD365



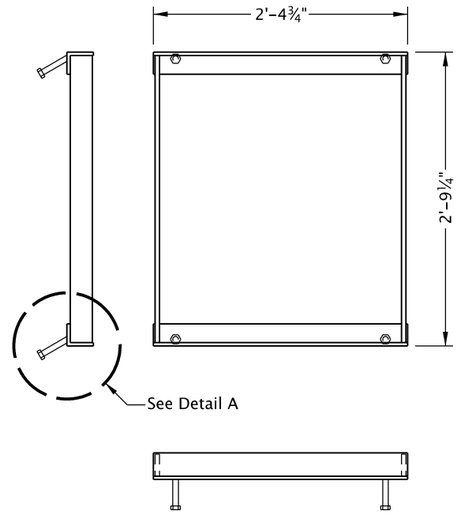
SECTION A - A



ELEVATION

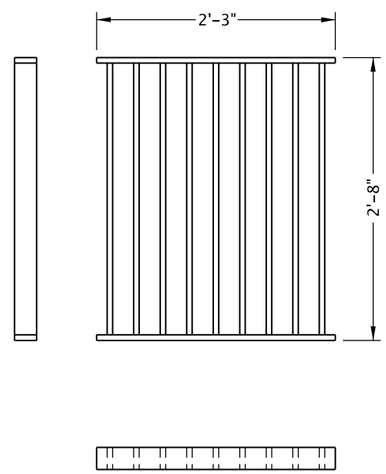


PLAN



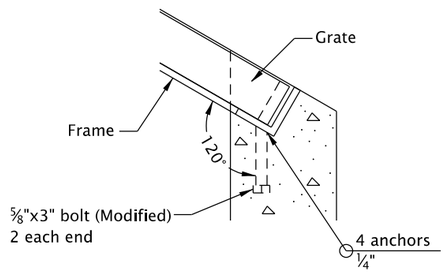
G-2 FRAME

(See general note 2)



G-2 GRATE (TYPE 1)

(See general note 2)



DETAIL A

(Anchor bolt modication, see general note 2)

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be commercial grade concrete.
2. For frame & grate details not shown, see Std. Dwg. RD365.
   Modify anchor bolt attachment to frame as shown in Detail A.
   G-2 (Type 2) grates may be used if approved by the engineer.
3. Catch basin, frame, and grates shall meet H20 loading.
4. Provide sump only when shown on plans, and allowed by jurisdiction. For sump details, see Std. Dwg. RD364.
5. ⅝" cross bars shall be flush with the grate surface and may be fillet welded, resistance welded or electroforged to bearing bars.
6. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
7. Max. pipe diameter varies with pipe material.
8. Do not use in locations where inlet can be struck by an errant vehicle, or provide shielding of inlet.
9. Inlet base may be cast-in-place or precast. Where precast inlet base is used as an alternate, a 4" compacted leveling bed of sand or ¼"-0 crushed aggregate shall be provided.
   All precast inlets shall conform to requirements of ASTM C913.
10. See Std. Dwg. RD339 for pipe to structure connections.
11. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 21-JUL-2015

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

DITCH INLET TYPE D

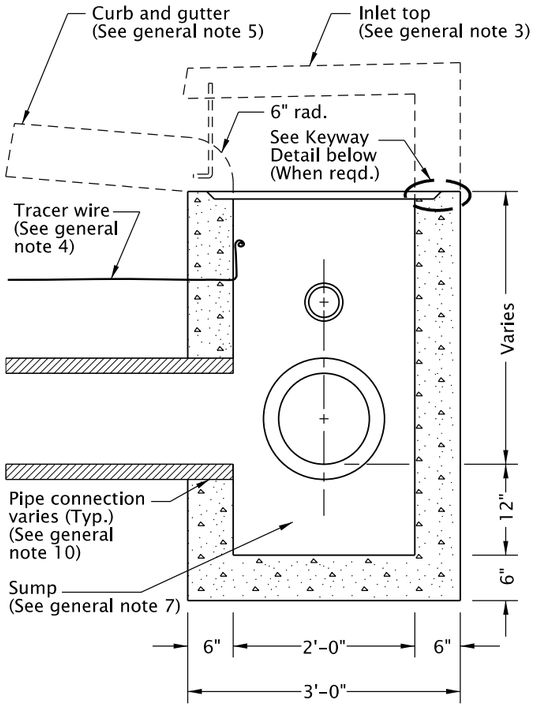
2018

DATE	REVISION DESCRIPTION

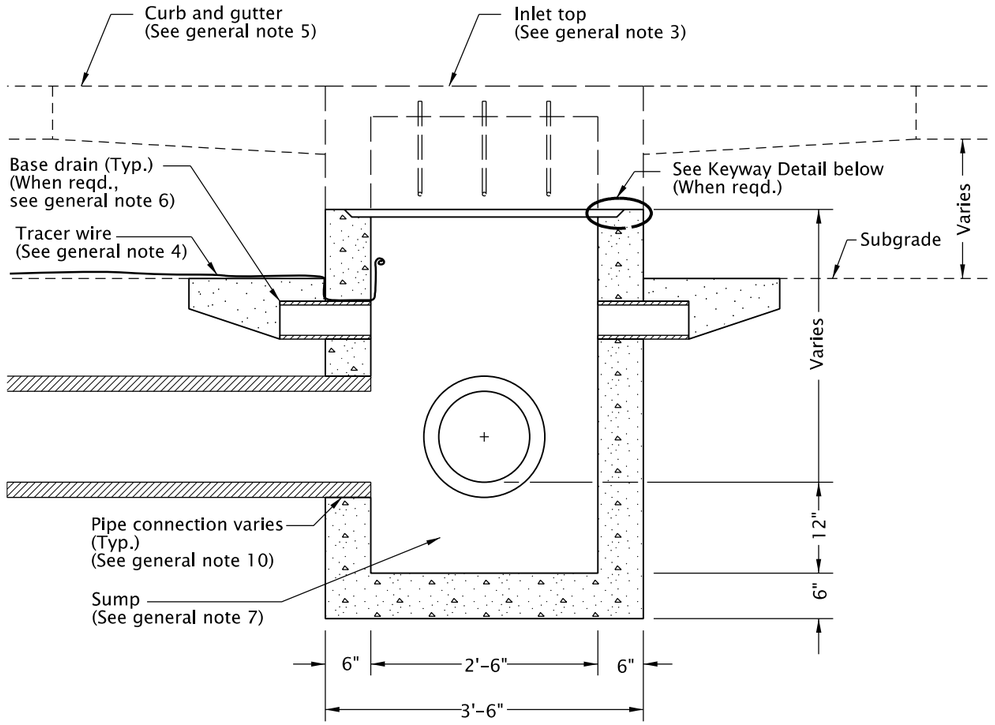
rd370.dgn 25-JUL-2017

RD370

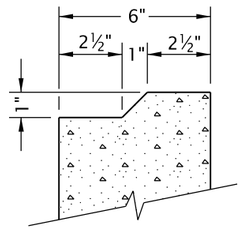
Effective Date: December 1, 2019 - May 31, 2020



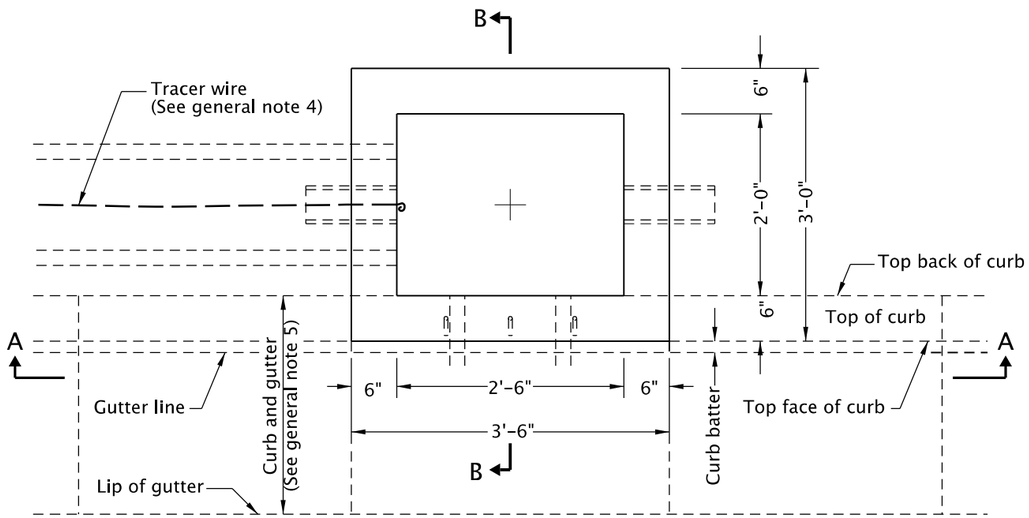
SECTION B - B



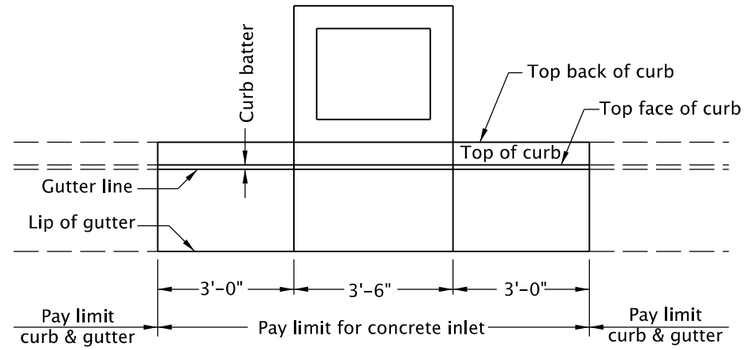
SECTION A - A



KEYWAY DETAIL



PLAN



PLAN

PAY LIMIT

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be commercial grade concrete.
2. Inlet base may be cast-in-place or precast. Where precast inlet base is used as an alternate, a 4" compacted leveling bed of sand or ¼"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
3. See Std. Dwgs. RD372 & RD373 for inlet top details.
4. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
5. See Std. Dwgs. RD700 & RD701 for curb and gutter details.
6. See Std. Dwg. RD364 for base drain details.
7. Provide sump only where shown on plans, and allowed by jurisdiction. For sump details, see Std. Dwg. RD364.
8. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
9. Max. pipe diameter varies with pipe material.
10. See Std. Dwg. RD339 for pipe to structure connections.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 21-JUL-2015

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

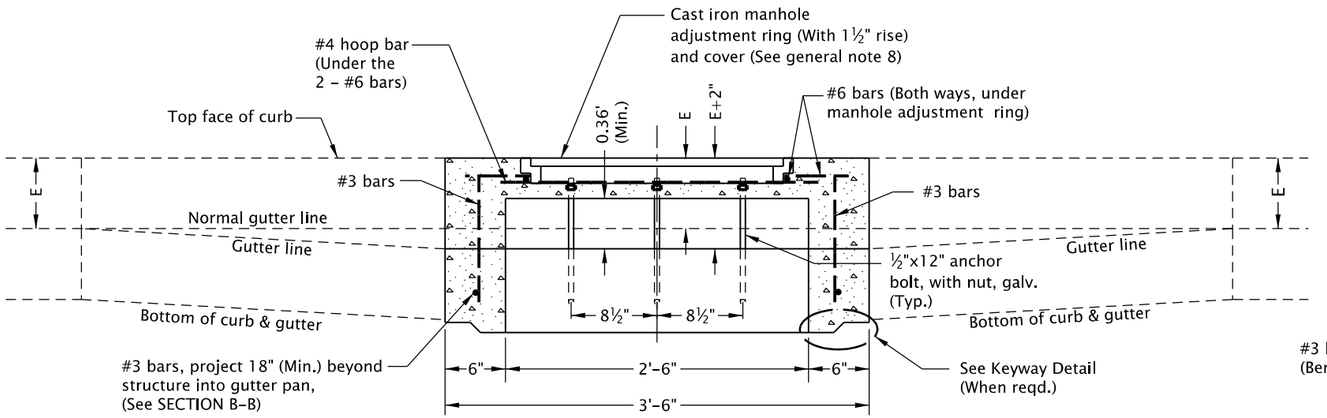
CONCRETE INLET BASE TYPE CG-3

2018

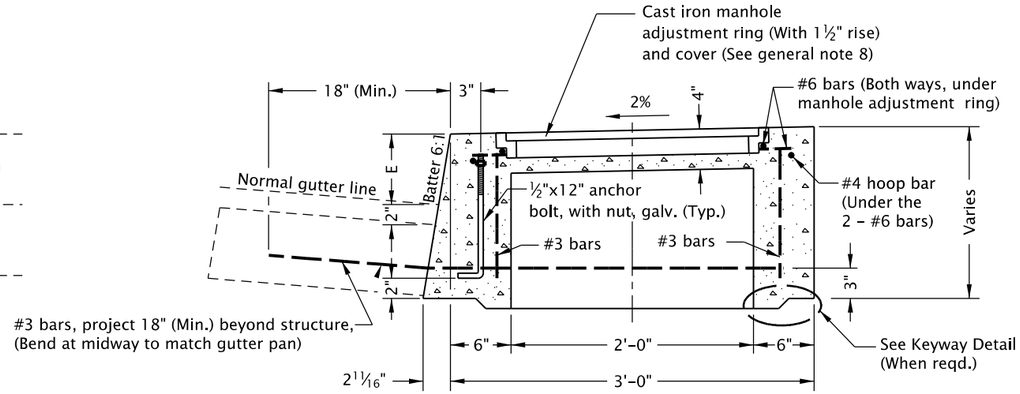
DATE	REVISION DESCRIPTION

RD371

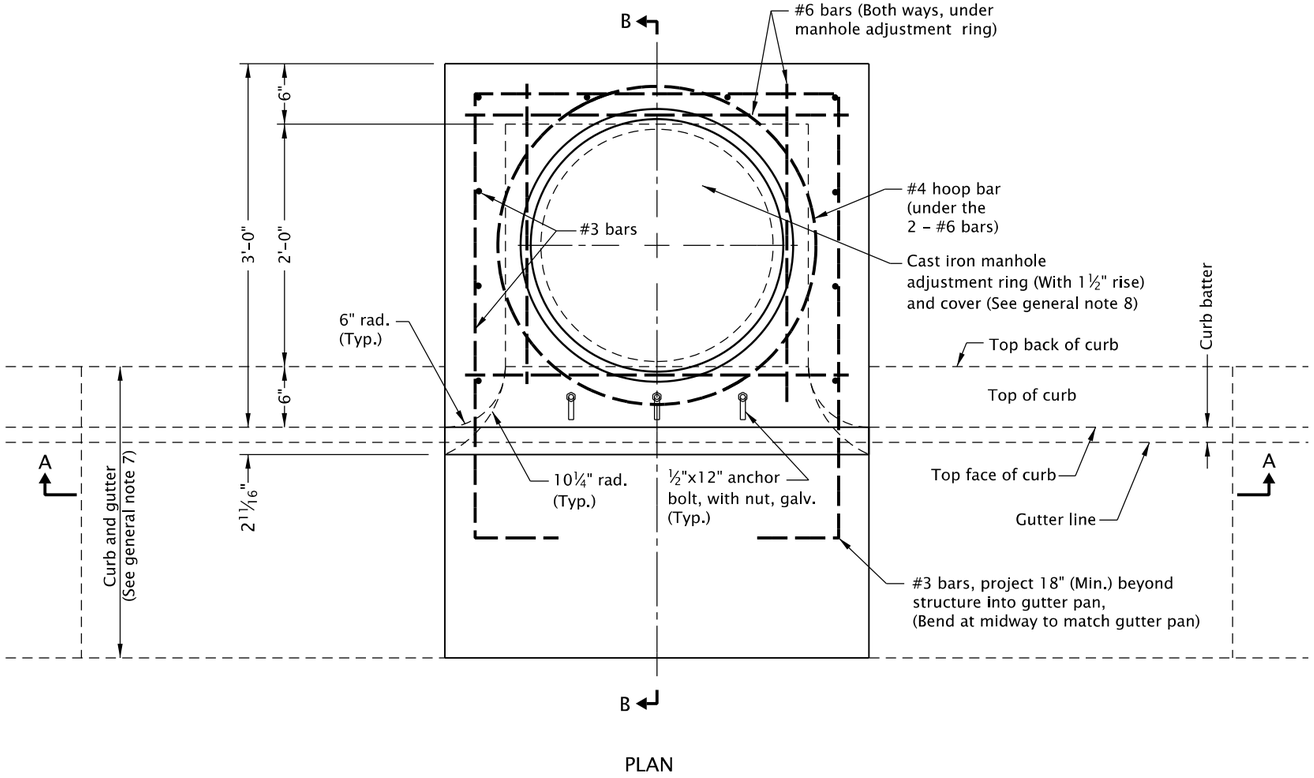
rd371.dgn 25-JUL-2017



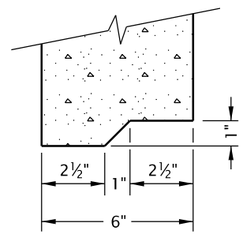
SECTION A – A



SECTION B – B



PLAN



KEYWAY DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Inlet top may be cast-in-place or precast. All precast inlets shall conform to requirements of ASTM C913.
3. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.
4. Vary anchor bolt length and reinforcing bar placement as required by curb exposure E (see note 7 below).
5. See Std. Dwg. RD371 for inlet base details.
6. See Std. Dwg. RD371 for inlet pay limit.
7. See Std. Dwgs. RD700 & RD701 for curb and gutter details.
8. See Std. Dwg. RD356 for cast iron manhole adjustment ring and cover.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 16-JAN-2019

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

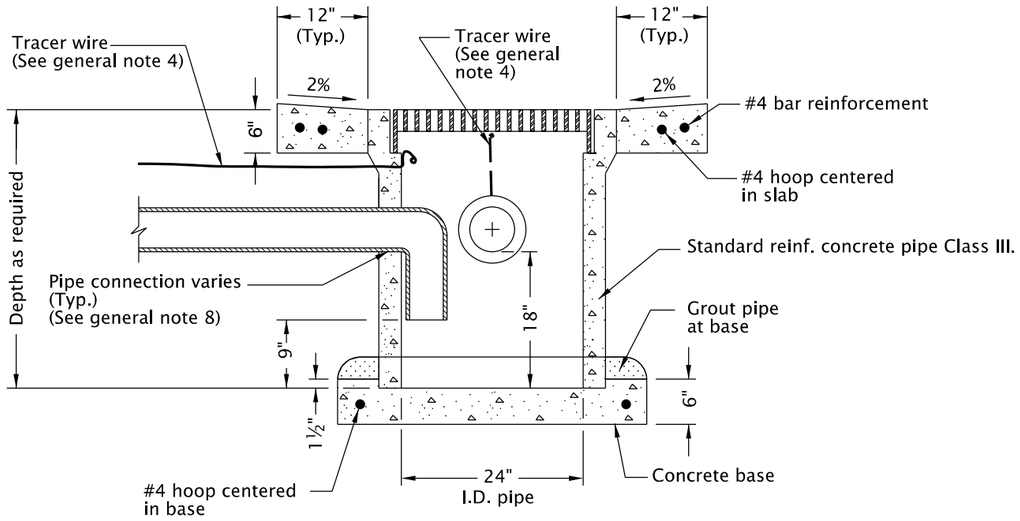
CONCRETE INLET TOP, OPTION 1 TYPE CG-3

2018

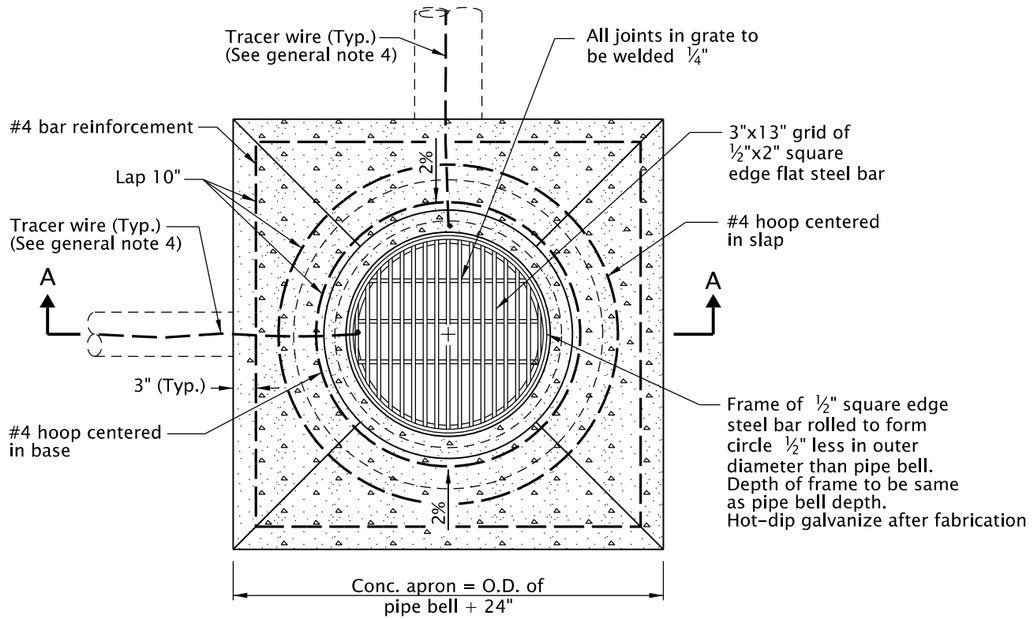
DATE	REVISION DESCRIPTION
01-2019	REVISED DETAILS & NOTES

rd372.dgn 16-JAN-2019

RD372



SECTION A-A



PLAN

GENERAL NOTES FOR ALL DETAILS:

1. Grates shall be bicycle-safe.

2. Precast concrete inlets may be used when specified or approved. All precast inlets shall conform to requirements of ASTM C913.

3. Anchor vertical leg of inlet pipe if not a glued joint.

4. See Std. Dwg. RD336 for tracer wire details.

5. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.

6. Max. connecting pipe diameter varies with pipe material.

7. All concrete shall be commercial grade concrete.

8. See Std. Dwg. RD339 for pipe to structure connections.

9. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JUL-2014

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

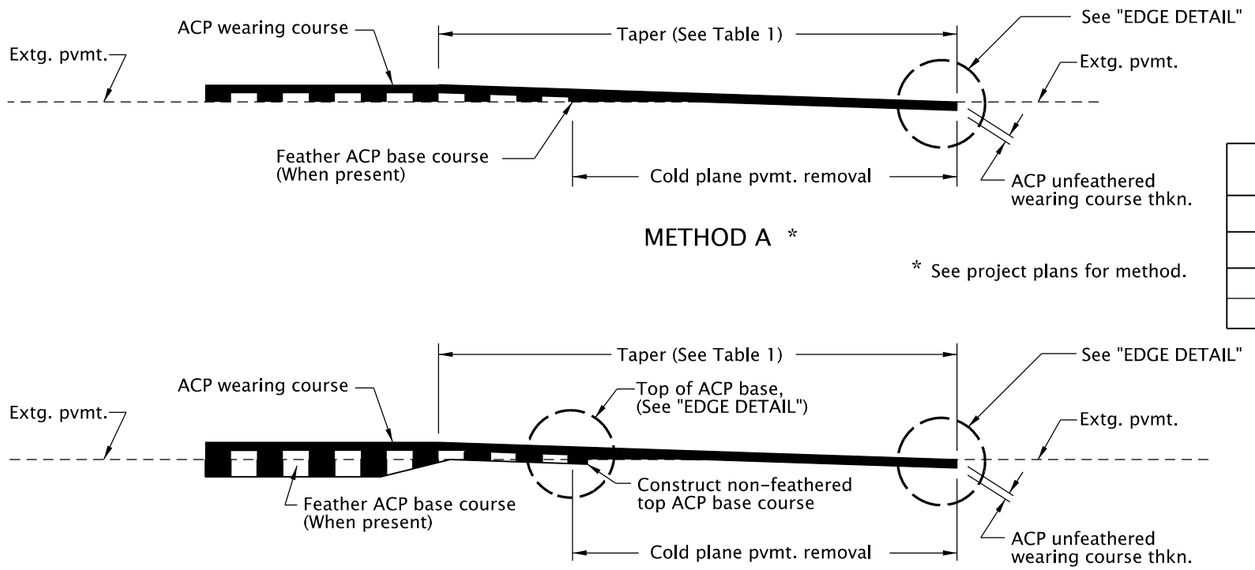
AREA DRAINAGE BASIN OR FIELD INLET

2018

DATE	REVISION DESCRIPTION

rd374.dgn 25-JUL-2017

RD374



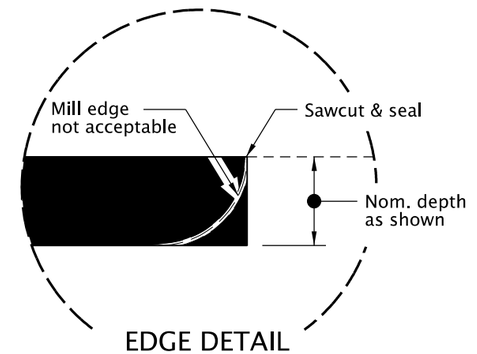
METHOD A *

* See project plans for method.

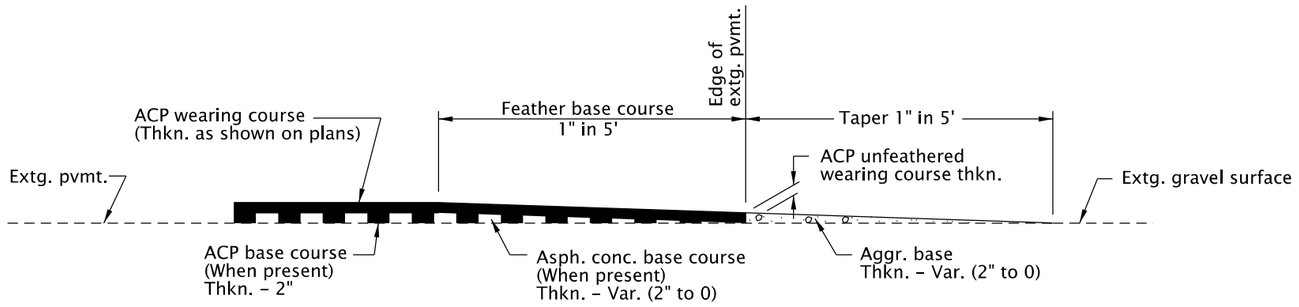
TABLE 1	
TAPER LENGTHS	
Posted Speed	Taper Length
< 45 mph	1" per 50'
≥ 45 mph	1" per 100'

METHOD B *

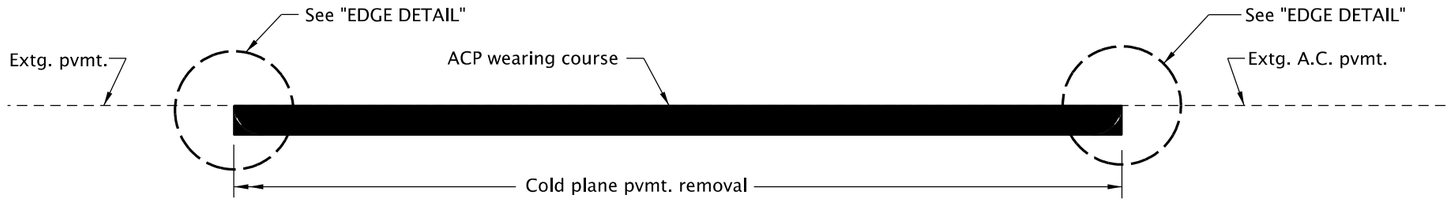
ACP PAVEMENT MATCH AT PROJECT ENDS OR BRIDGE ENDS WHEN NOT OVERLAYING THE BRIDGE



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

BASELINE REPORT 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

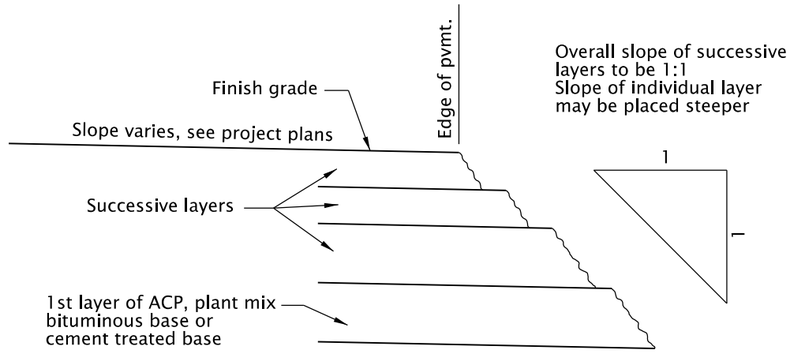
2018

DATE	REVISION DESCRIPTION

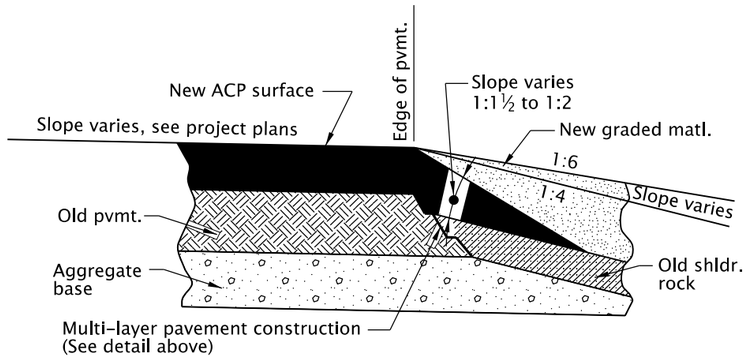
Effective Date: December 1, 2019 - May 31, 2020

RD610

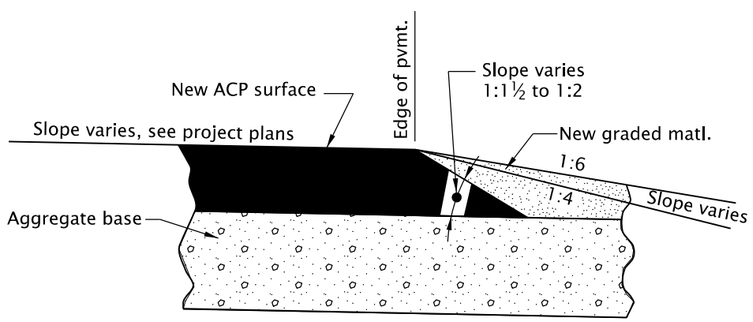
rd610.dgn 25-JUL-2017



MULTI-LAYER PAVEMENT CONSTRUCTION



SAFETY EDGE
(RECONSTRUCTION INCLUDING MILL & INLAY)



SAFETY EDGE (NEW CONSTRUCTION)

CALC. BOOK NO. N/A

BASELINE REPORT 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

2018

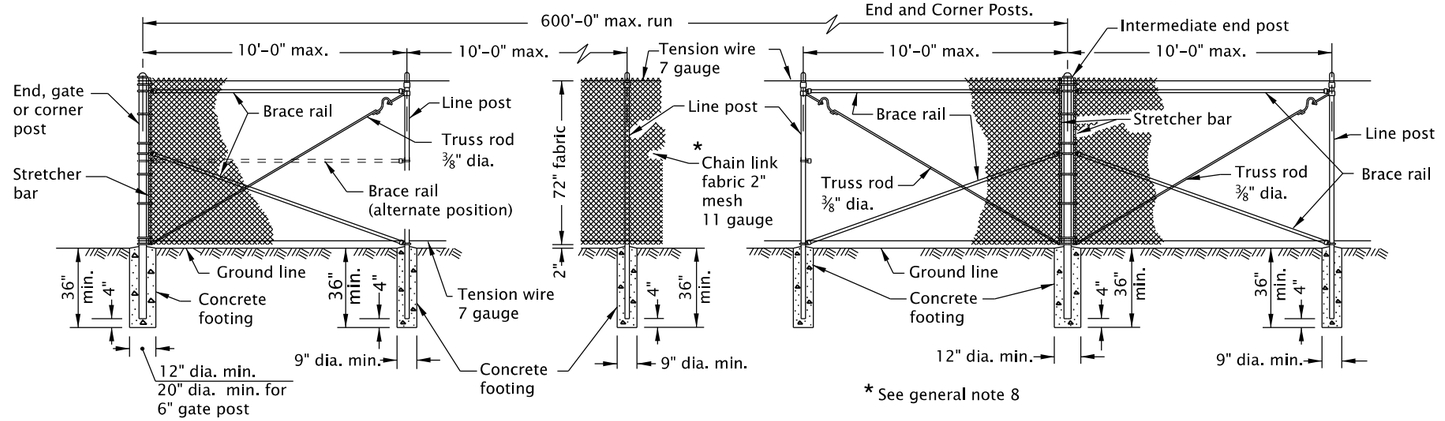
DATE	REVISION DESCRIPTION

rd615.dgn 25-JUL-2017

RD615

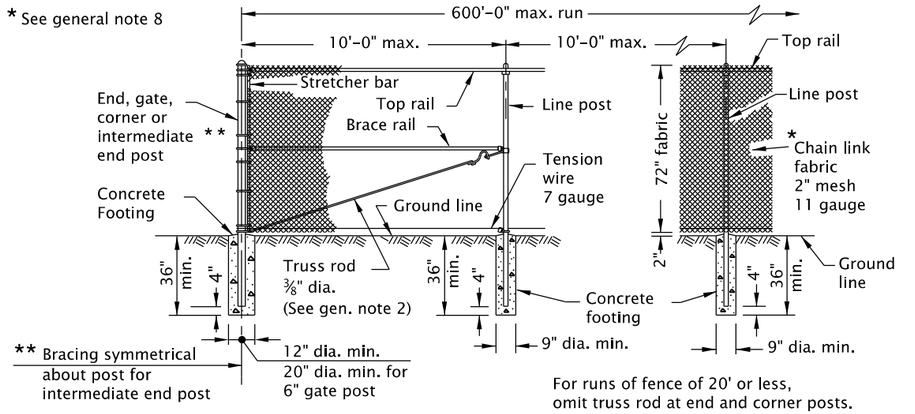
rd815.dgn 21-JUN-2019

TYPE CL-6

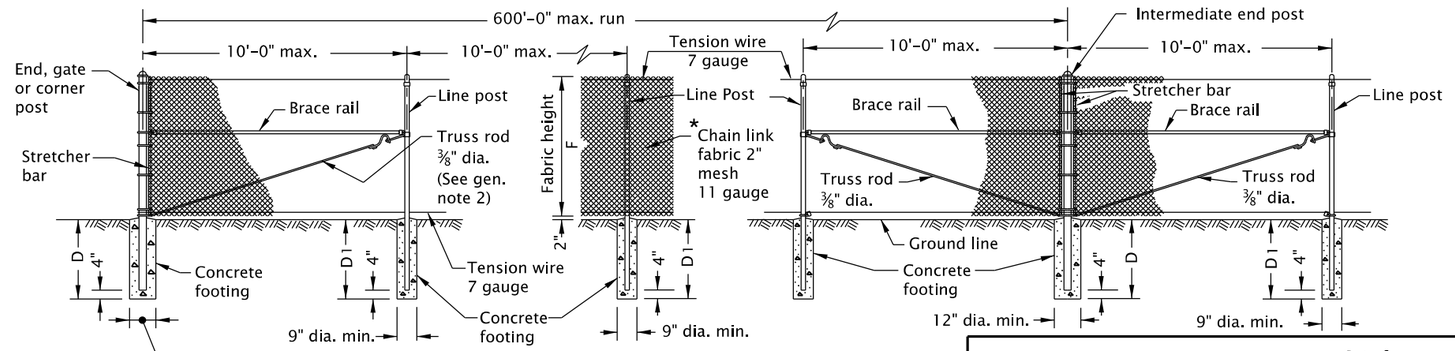


* See general note 8

TYPE CL-6R



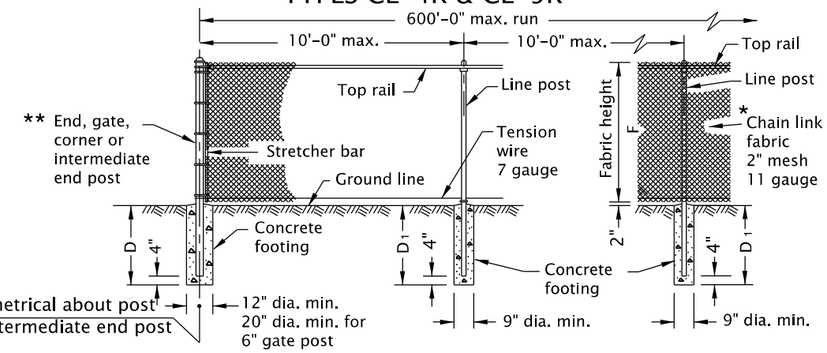
TYPES CL-4 & CL-5



TYPE	D min. (in)	D1 min. (in)	F nom. (in)
CL-4	30	24	48
CL-5	36	36	60

* See general note 8

TYPES CL-4R & CL-5R



* See general note 8

TYPE	D min. (in)	D1 min. (in)	F nom. (in)
CL-4R	30	24	48
CL-5R	36	36	60

For runs of fence of 20' or less, omit truss rod at end and corner posts.

GATES

* See general note 8

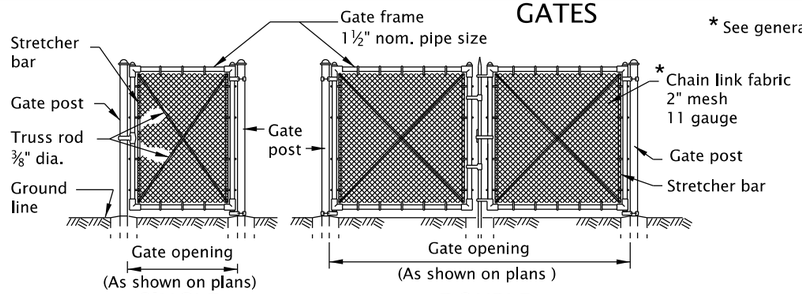


TABLE 1

TYPE	MEMBER								GATE OPENING (ft)		GATE POSTS		
	BRACE AND TOP RAILS		LINE POSTS				END, CORNER & INTERMEDIATE END POST						
	TUBULAR		TUBULAR		H-SECTION		TUBULAR				TUBULAR		
	Fence Industry (in)	Nom. Dia. (in)	Fence Industry (in)	Nom. Dia. (in)	Size (in)	Wt. lb/ft	Fence Industry (in)	Nom. Dia. (in)	SINGLE GATE	DOUBLE GATE	Fence Industry (in)	Nom. Dia. (in)	
STEEL CL-4 & CL-4R CL-5 & CL-5R	1⅝	1¼	1⅞	1½	1⅞ x 1⅝	2.72	2⅜	2	Up thru 6	Up thru 12	2⅞	2½	STEEL
									7 thru 13	13 thru 26	4	3½	
CL-6 & CL-6R	1⅝	1¼	2⅜	2	2¼ x 2	4.10	2⅞	2½	14 thru 18	27 thru 36	6⅝	6	

NOTE: For CL-6, CL-6R, CL-8, CL-8R, CL-10 & CL-10R, the hardware is minimum and does not include slat wind loading.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Do not use top rail where fence can be struck by an errant vehicle.
2. Fittings shown are illustrative of use and not specific as to design.
3. Gate posts on each side of a gate opening to be the same size. At a double gate installation with unequal width gates, size of both posts to be as indicated for a single gate installation of the wider gate width.
4. For cross sectional dimensions of members, see Table 1.
5. Posts and rails with sections not shown that meet the requirements of AASHTO M181 are acceptable alternates. See ODOT's QPL for acceptable alternates.
6. All concrete shall be commercial grade concrete.
7. All chain link fabric top and bottom selvage shall be knuckled finish.
8. Chain link fabric for the fence to be installed with pickets shall be 9 gauge wire woven in 3½" by 5½" diamond mesh.
9. See project plans for details not shown.

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

BASELINE REPORT DATE 21-JUN-2019

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

OREGON STANDARD DRAWINGS

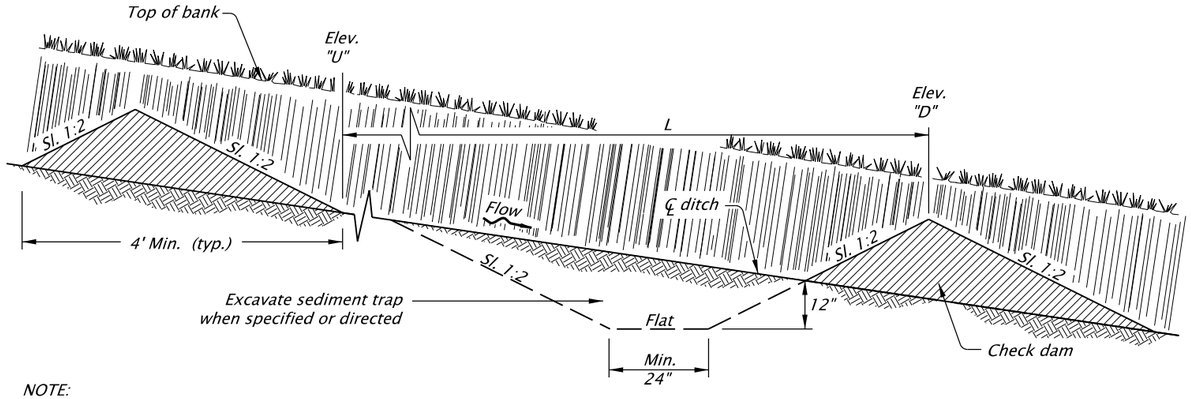
CHAIN LINK FENCE

2018

DATE	REVISION DESCRIPTION
06-2019	REVISED DETAIL & NOTES

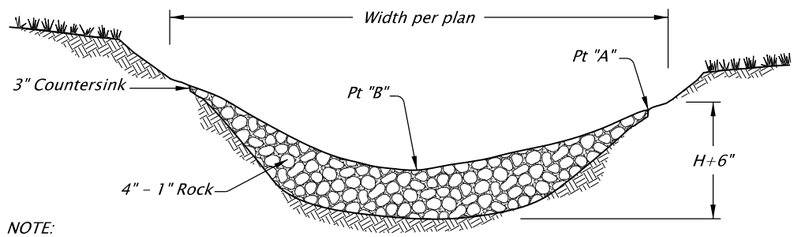
RD815

Effective Date: December 1, 2019 - May 31, 2020



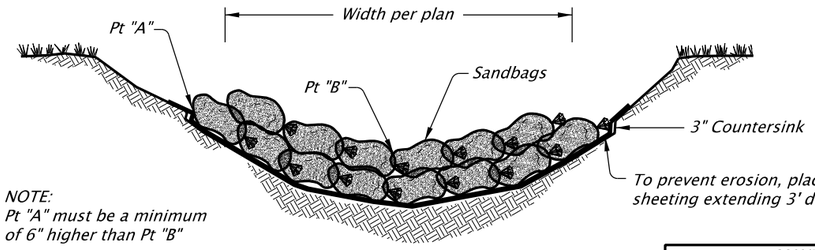
NOTE:
L = Spacing along swale or ditch so that Elevation "U" equals Elevation "D".

TYPICAL PROFILE SECTION CHECK DAMS (SHOWN WITH AGGREGATE)



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

AGGREGATE CHECK DAM - TYPE 1



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

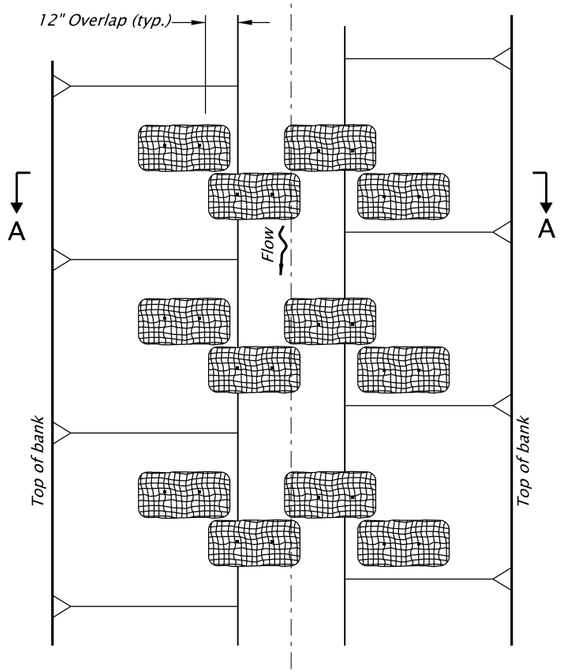
SANDBAG CHECK DAM - TYPE 4

NOTES:

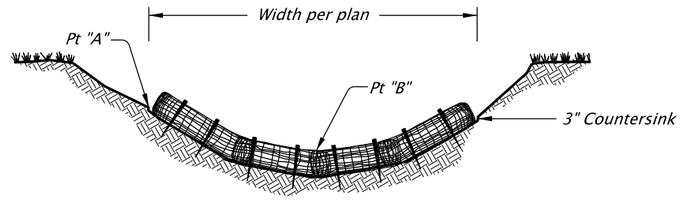
1. Type 3 - stake biofilter bags with two 2" X 2" X 18" (min.) wood stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags. Omit stakes if placed over paved surfaces. Overlap bags 6" min at each joint.
2. Type 4 - Tightly abut or overlap ends of sandbags at each 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

CALC. BOOK NO. 6407

BASELINE REPORT DATE November 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

CHECK DAMS TYPE 1, 3 AND 4

2018

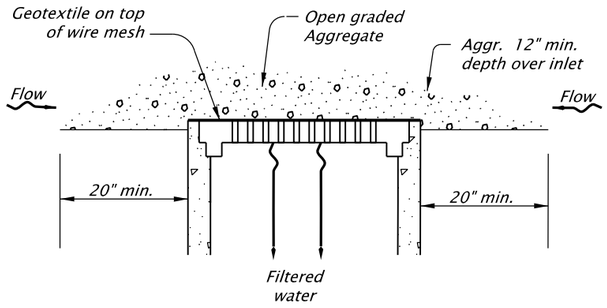
DATE	REVISION DESCRIPTION

rd1005.dgn 11-29-2017

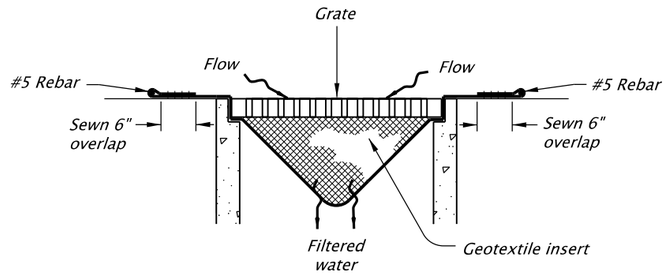
RD1005

Effective Date: December 1, 2019 - May 31, 2020

RD1005

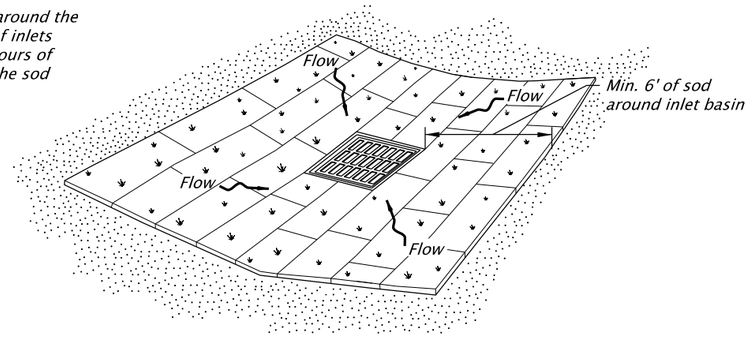


GEOTEXTILE/WIRE MESH/AGGREGATE - TYPE 2

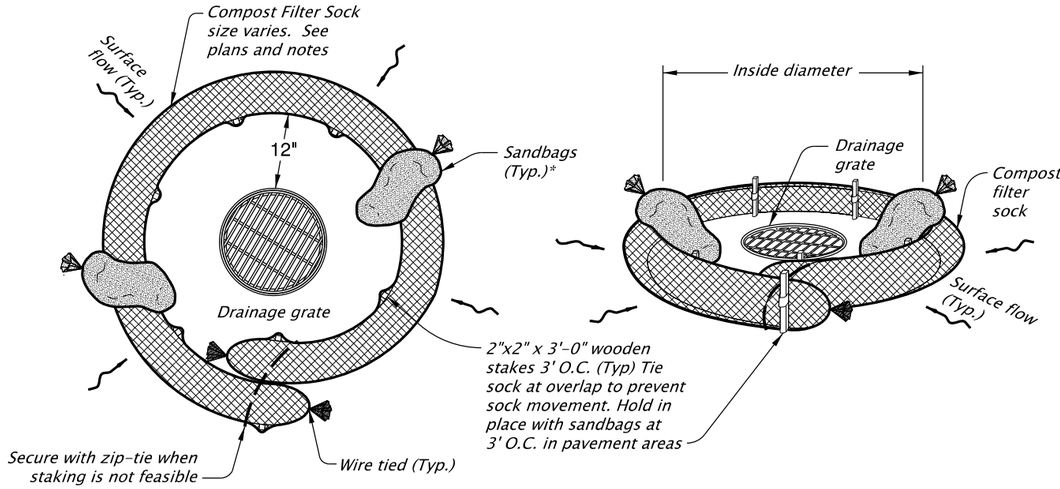


PREFABRICATED FILTER INSERT - TYPE 3

Note:
Install sod around the perimeter of inlets within 36 hours of harvest of the sod

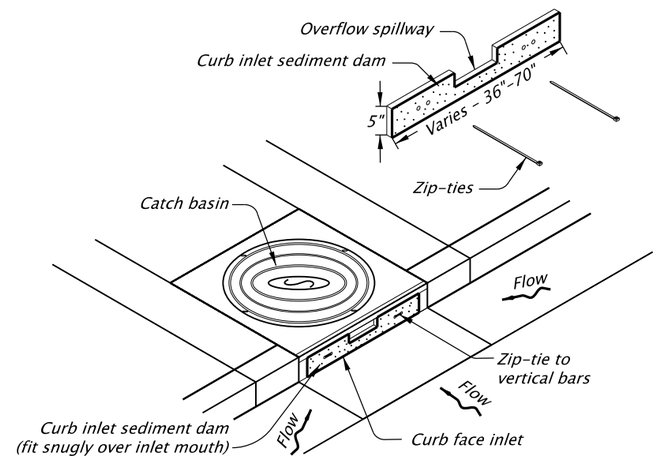


SOD PROTECTION - TYPE 6

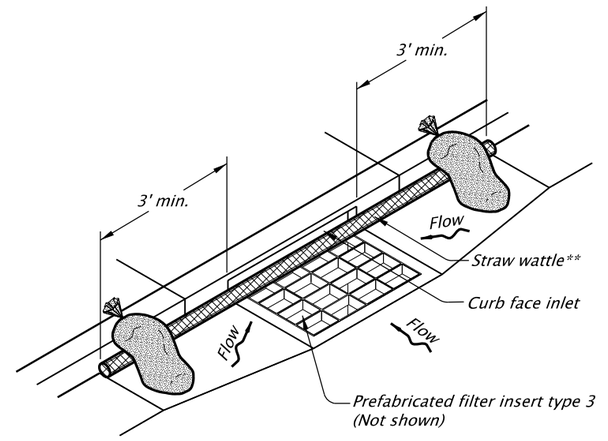


AREA DRAIN PLAN

AREA DRAIN PERSPECTIVE VIEW

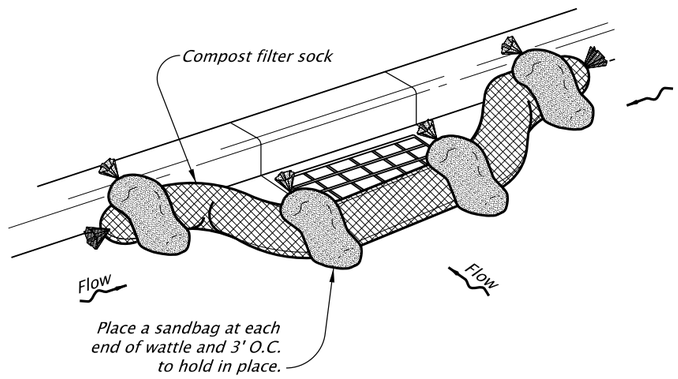


CURB INLET SEDIMENT DAM - TYPE 10



WATTLE BARRIER WITH FILTER INSERT - TYPE 11

** Straw wattle drawn NTS to show curb inlet opening



CURB INLET PERSPECTIVE VIEW

COMPOST FILTER SOCK OR WATTLE - TYPE 7

* Use sandbags to hold wattles in place. Sandbags are not necessary for compost filter socks

Notes:

Type 2 - Geotextile/wire mesh/aggregate
Place the wire mesh over the grate.
Place sediment fence geotextile over the wire mesh and perimeter area around structure.
Install aggregate over the geotextile fabric.

Type 3 - Prefabricated filter inserts
Install prefabricated filter inserts according to the plans, special provisions, and manufacturer recommendations.
Prefabricated inserts with provisions for overflow are allowed only when accompanied by additional BMP's to prevent the potential of sediments entering project storm systems.
Field fabricated inserts are not allowed.

Type 7 - Compost filter sock
Drive 2" X 2" wood stakes a minimum of 6" into ground and flush with the top of the sock.
Overlap ends of sock per manufacturers recommendations

Type 7 cont. - (1' min, 3' max).
Use 8" to 12" dia sock on curbside in traffic areas.
Use 12" to 18" dia sock in non-traffic areas or areas where the larger socks can be used safely.

Type 10 - Curb inlet sediment dam
Fit curb inlet sediment dam snugly into inlet mouth. Curb inlet sediment dam is required for use with inlet filter insert where at-grade inlet grate and curb inlet are combined at a catch basin.

Type 11 - Wattle barrier with filter insert
Install prefabricated filter insert per type 3 detail.
Install wattles over opening and 3' to each side of opening tight against curb. Adjust wattle to force storm water to flow through filter insert or wattle prior to leaving the site. Adjust, replace or modify the inlet protection as needed to prevent sediment laden water from entering the catch basin.

CALC. BOOK NO. _ 6402, 6406, 6407 _

BASELINE REPORT DATE _ _ October 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

INLET PROTECTION
TYPE 2, 3, 6, 7, 10 and 11

2018

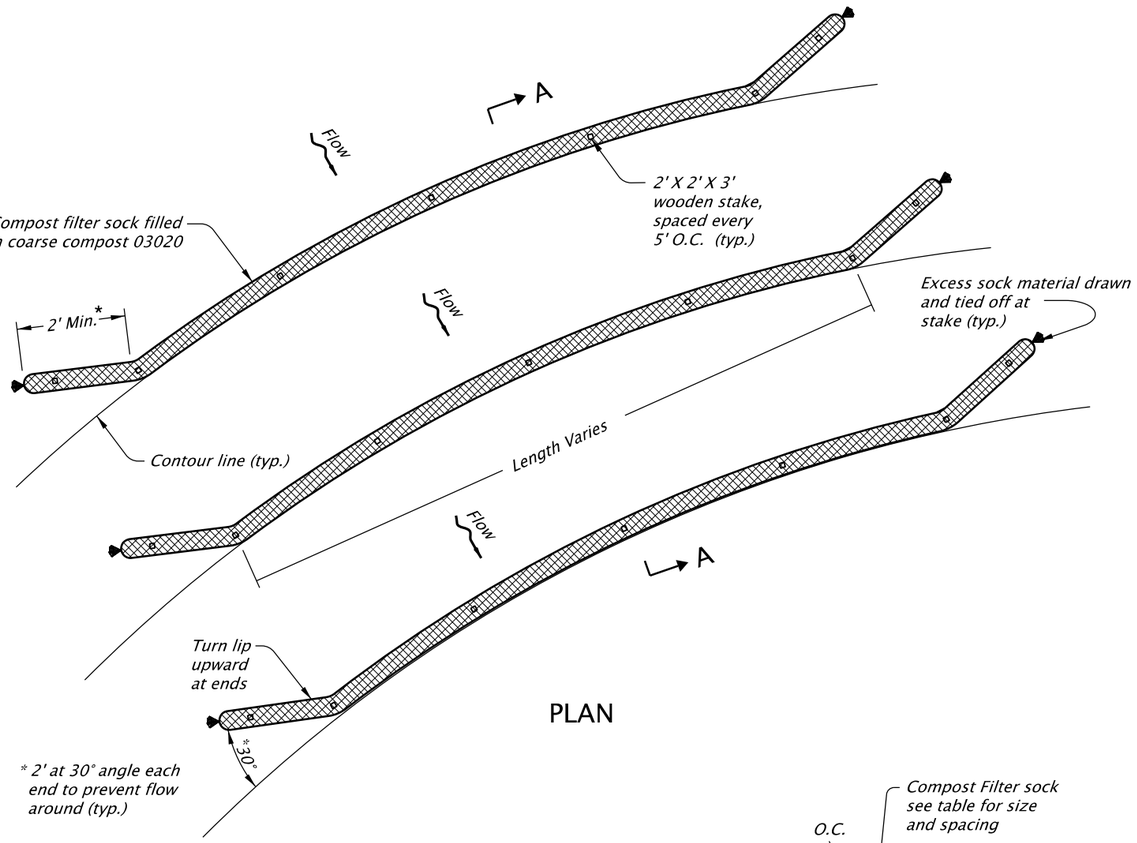
DATE	REVISION DESCRIPTION
01/2018	Added type 10 and 11
10/2018	Corrected Sheet title to include added inlet protection details

rd1010.dgn 10-01-2018

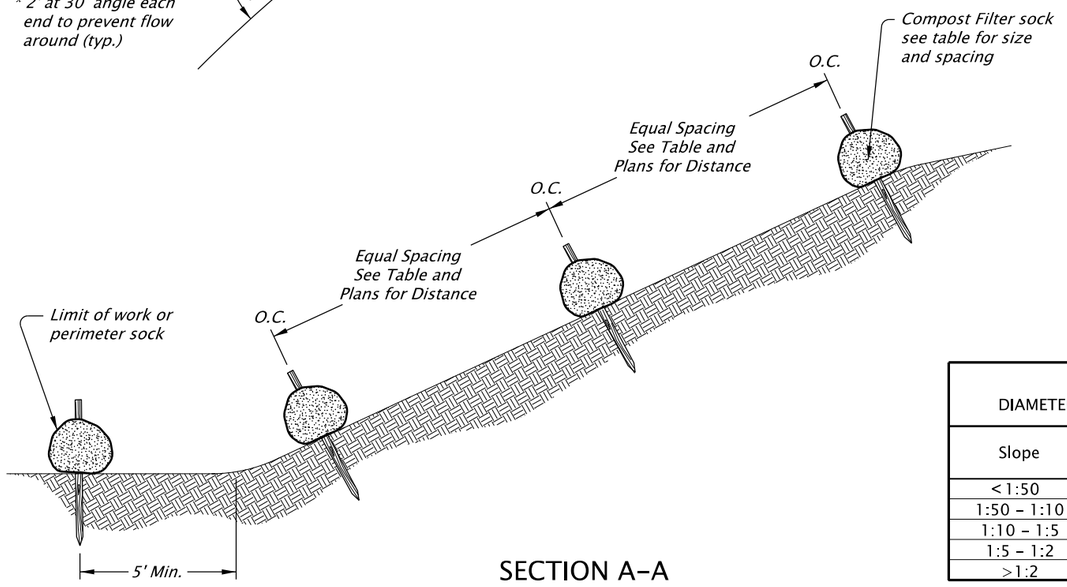
RD1010

Effective Date: December 1, 2019 - May 31, 2020

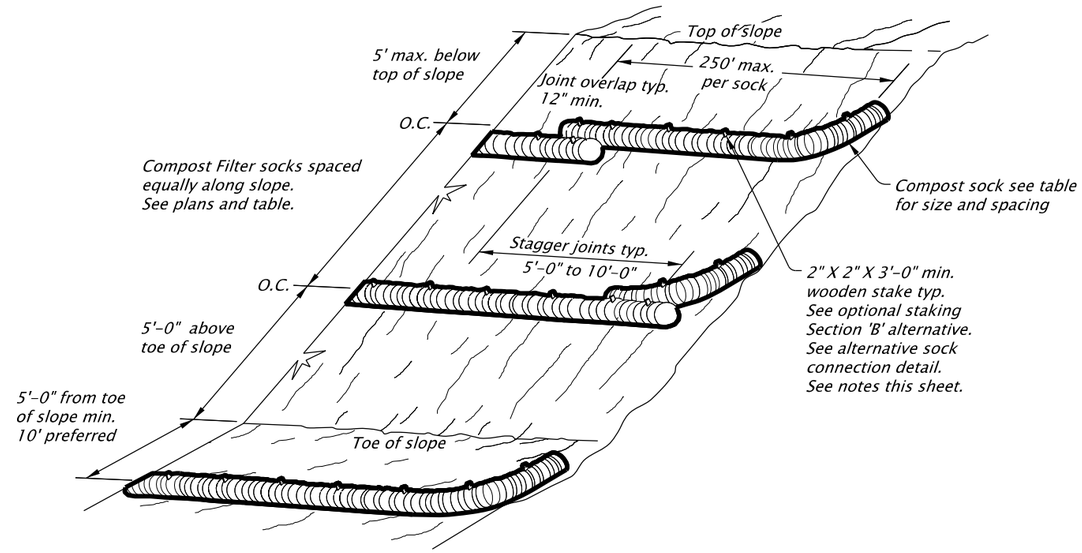
rd1032.dgn 06-01-2017



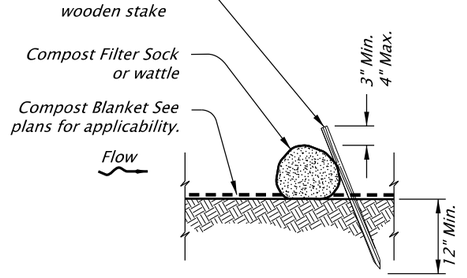
PLAN



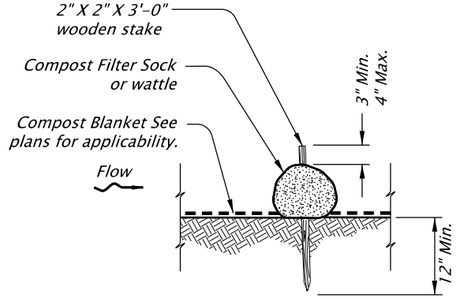
SECTION A–A



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

COMPOST FILTER SOCK

CALC. BOOK NO. 6403, 6404, 6405

BASELINE REPORT DATE July 2014

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 BARRIER TYPE 8

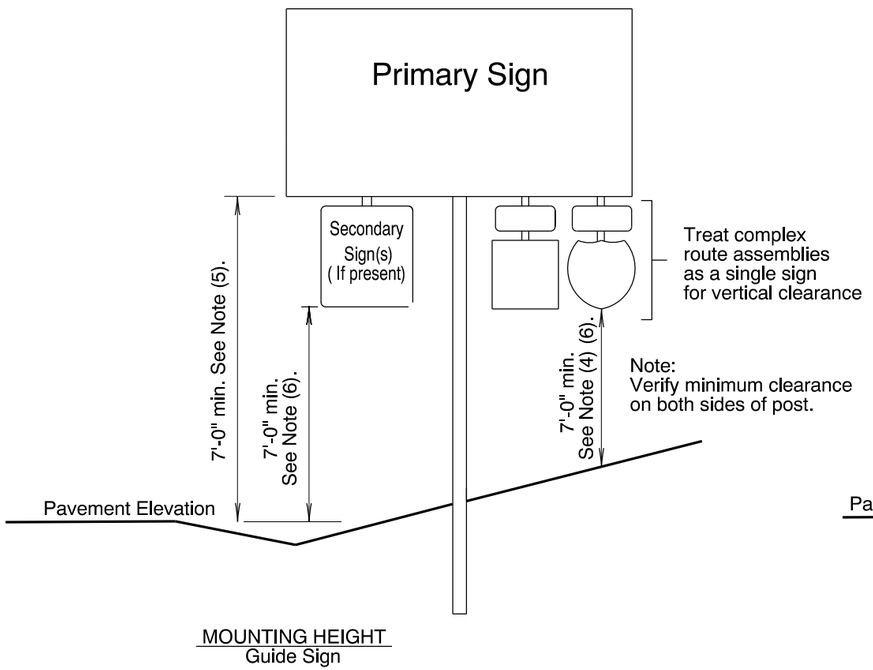
2018

DATE	REVISION DESCRIPTION

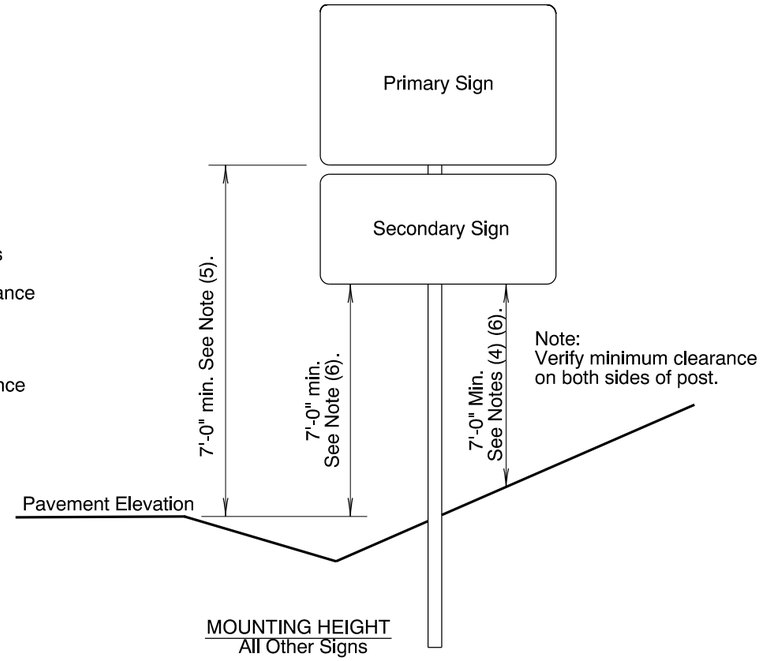
RD1032

Effective Date: December 1, 2019 - May 31, 2020

RD1032



MOUNTING HEIGHT
Guide Sign



MOUNTING HEIGHT
All Other Signs

General Installation Notes:

a. Signing details shown on this sheet are intended to convey "typical" conditions only. Individual locations may require installation different from those shown.
For guidance regarding unique installations or exceptions call the Project Sign Designer or Region Traffic Section.

b. Locate breakaway supports away from ditches to avoid problems with erosion, corrosion, debris, maintenance and breakaway performance. See Dwg. No. TM635 for more information.

c. For wood post support details see Dwg. No. TM670.

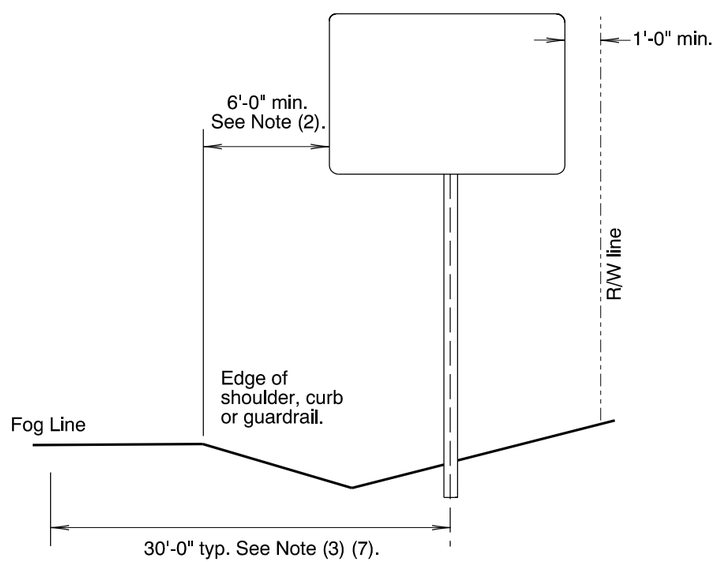
d. For perforated steelsquare tube support details see Dwg. No. TM681.

e. For triangular base breakaway support details see Dwg. No. TM602.

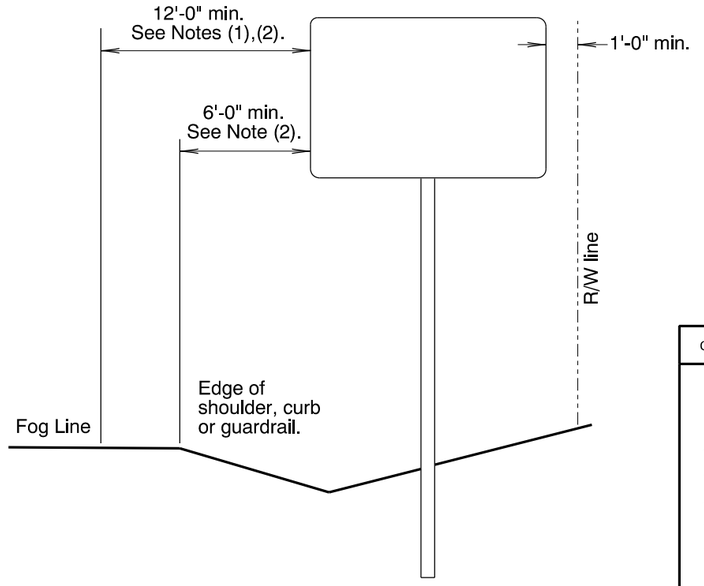
f. For multi-post breakaway support details see Dwg. No. TM600.

g. Mounting heights should not be more than 3 inches more than the minimum heights shown, where practical.

h. 2" vertical spacing between all signs.



LATERAL OFFSET
Guide Signs



LATERAL OFFSET
All Other Signs

Notes:

1). 6' minimum if behind barrier.

2). 2' minimum if restricted R/W.

3). 20' for ramp terminals.

4). 8' minimum if bicycle path underneath.

5). 8' minimum if secondary signs attached.

6). 5' minimum if outside clearzone, in rural areas and no pedestrians underneath.

7). For multi-post installations measure distance from post closest to roadway.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 01/08/2018

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

SIGN INSTALLATION DETAILS

2018

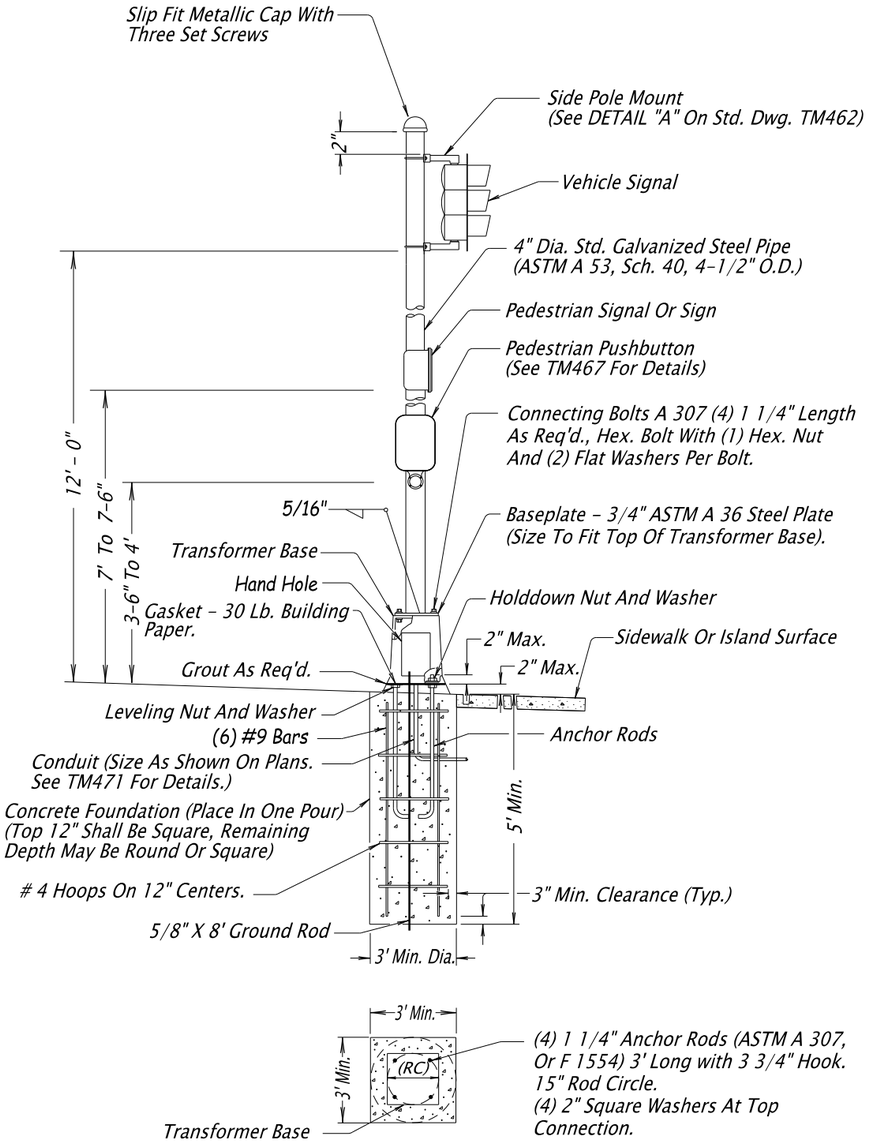
DATE	REVISION DESCRIPTION
1/08/18	Adjusted slope line on Mounting Height detail for clarity

TM200.dgn 1-3-2017

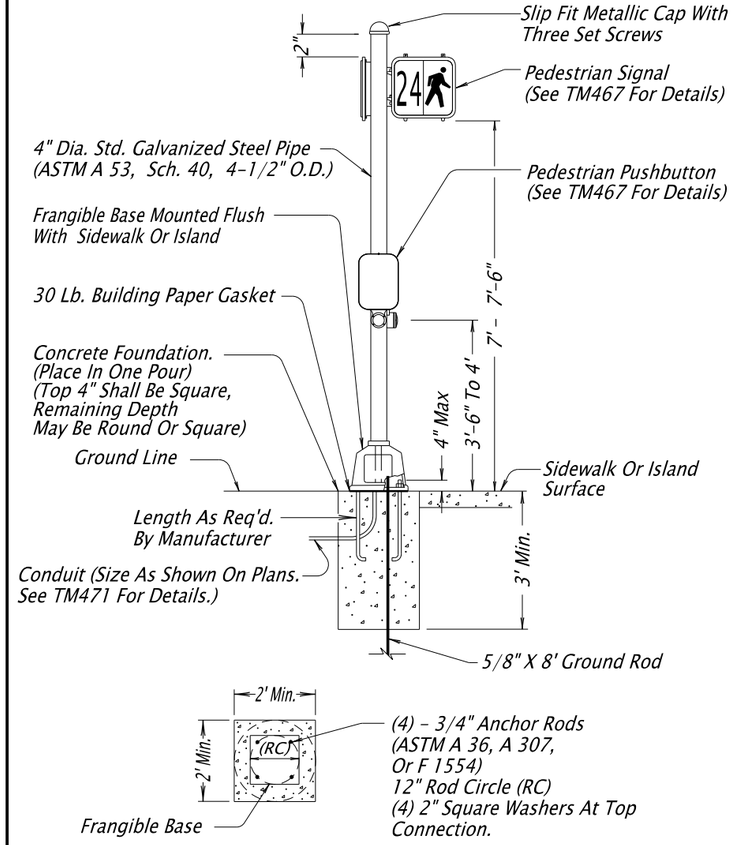
TM200

plotfile_TM200s_500s.dgn :: Default 7/10/2019 3:21:08 PM hwyr20m

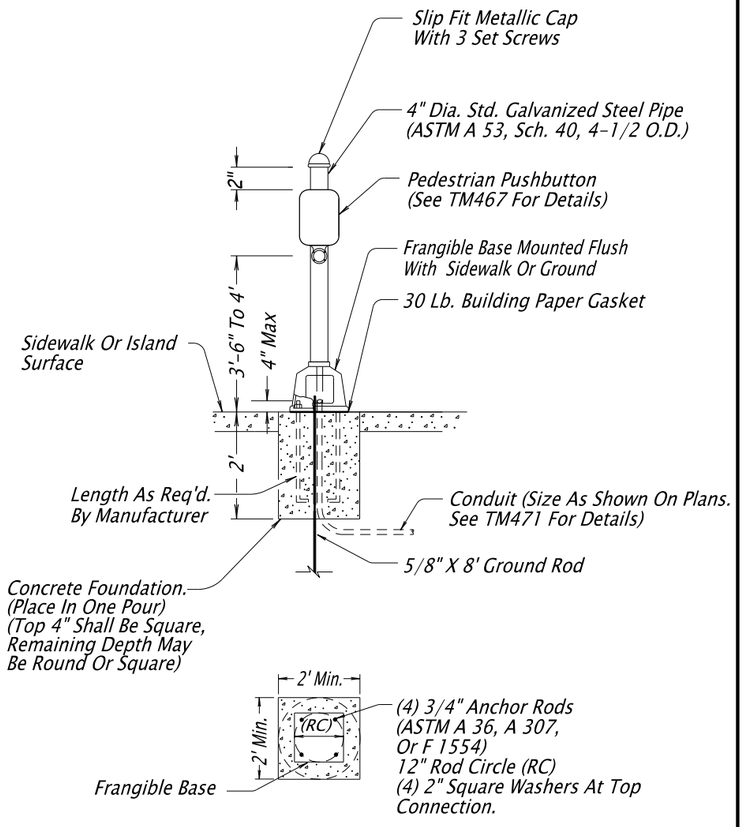
Effective Date: December 1, 2019 - May 31, 2020



VEHICLE SIGNAL PEDESTAL



PEDESTRIAN SIGNAL PEDESTAL



PEDESTRIAN OR BICYCLE PUSH BUTTON POST

General Notes:

1. *All Bolts, Nuts And Washers Shall Conform To 02560.20 And Be Galvanized Steel According To 02560.40 Unless Noted Otherwise.*
2. *All Anchor Rods Shall Be Galvanized Steel Conforming To 02560.30.*
3. *All Pole Entrances Containing Wiring Shall Be Smooth.*
4. *Install 1/4" Thick Preformed Expansion Joint Filler Around Footing In Sidewalk Area As Per Tm653.*
5. *Top Of Foundations Shall Have 0" - 1/4 " Exposure Above Finish Grade.*
6. *Flat Side Of Foundation Should Line Up With Back Of Sidewalk.*

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

BASELINE REPORT DATE 2-Jul-2018

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

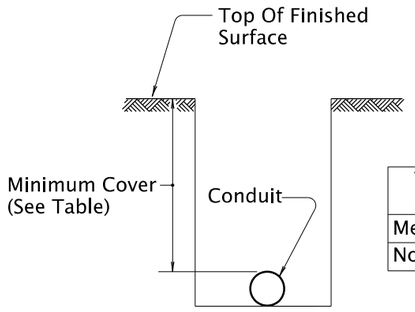
OREGON STANDARD DRAWINGS

VEHICLE, PEDESTRIAN SIGNAL AND PUSHBUTTON MOUNTING OPTION DETAILS

2018

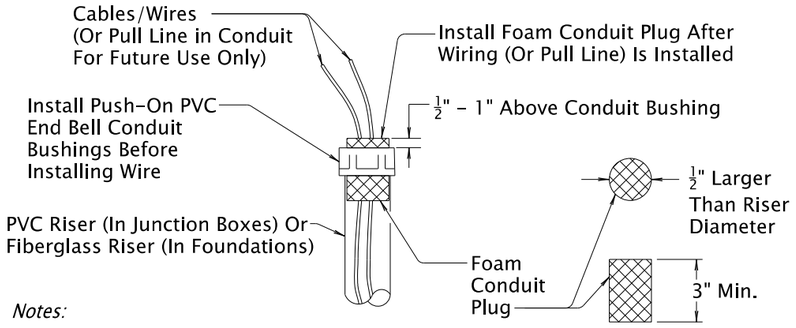
DATE	REVISION DESCRIPTION
07/18	Added References To Several Notes

TM457



Type Of Conduit	Minimum Cover Table (Use Permit Depth If Greater Than These) Roadway & Shoulders	Other Areas
Metallic	24"	18"
Non-Metallic	30"	18"

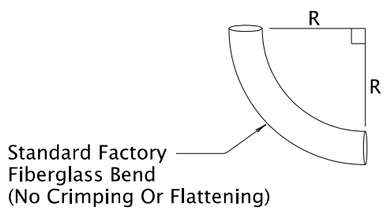
MINIMUM COVER FROM FINISHED SURFACE



Notes:

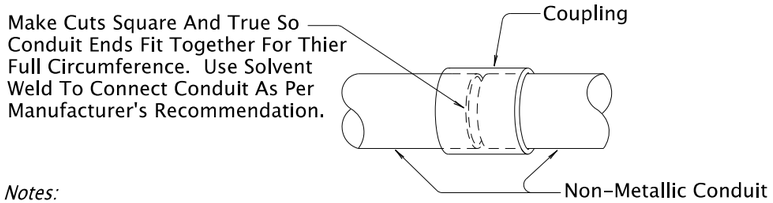
1.) Ream Conduit Ends To Remove Rough Edges And Burrs
2.) Temporarily Plug Or Cap Conduit Ends Until Wiring Is Installed To Keep Debris Out

CONDUIT ENDS AND BUSHINGS



Conduit Diameter	R (min.)
1.5"	10"
2.0"	12"
2.5"	15"
3.0"	18"

CONDUIT ELBOWS

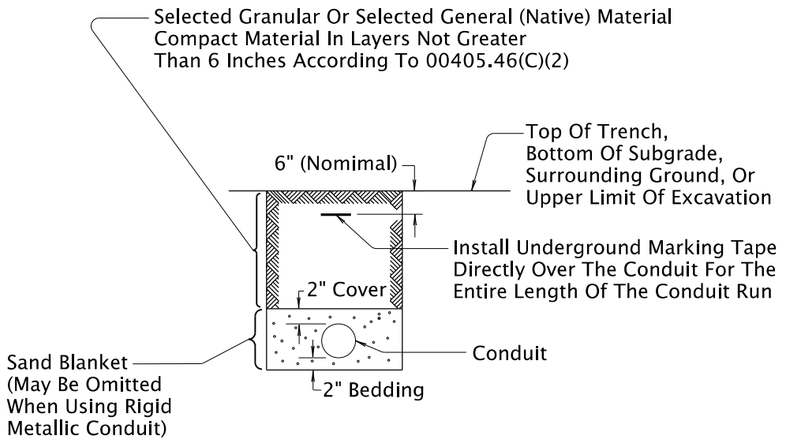


Notes:

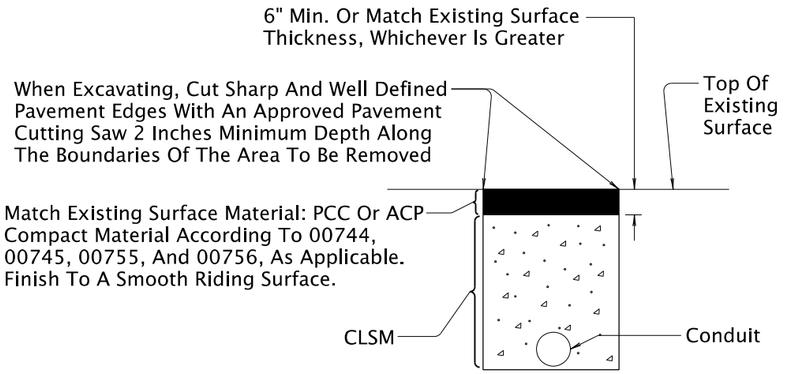
1.) Slip Joints, Running Threads Or Reducing Couplings Not Allowed. Use The Same Size Conduit For The Entire Length, Outlet To Outlet.

CONDUIT COUPLINGS

TM471



UNSURFACED AREAS
(new roadway prior to paving, shoulders, under sidewalk, landscaped areas, etc.)



EXISTING PAVED AREAS

Trenching & Backfill Notes:

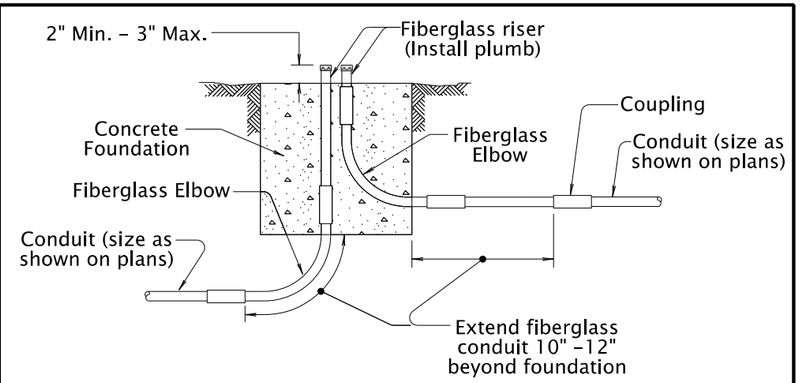
1. Excavate According To 00960.40. In Areas To Be Paved Or Landscaped, Place All Conduit Before Paving Or Landscaping.

2. Hold Trench Width To A Practical Minimum

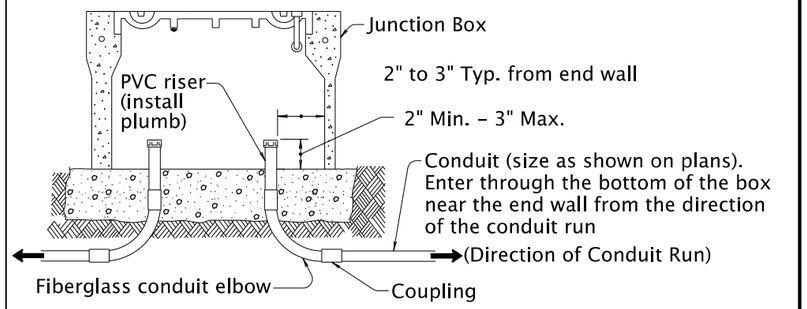
3. Do Not Backfill Trenches Until Inspected By The Engineer

4. Furnish Backfill Materials According To 00960.10

CONDUIT OPEN TRENCH EXCAVATION & BACKFILL



CONDUIT INSTALLATIONS IN FOUNDATIONS
(Applicable for Pole, Pedestal, Post, Service Cabinet and Controller Cabinet Foundations)



CONDUIT INSTALLATION IN JUNCTION BOXES

General Notes:

1. Install Non-Metallic Conduit Unless Otherwise Shown. Conduit Runs Shall Be Continous Between Any Pole, Junction Box, Or Cabinet.

2. Install Conduit By Open Trench Method, Horizontal Directional Drilling, Or As Shown

3. Conduit Runs Shown On Plans Are For Bidding Purposes Only. Locations May Be Changed To Avoid Obstructions.

4. Larger Conduit Than Specified May Be Used At The Option And Cost Of The Contractor

CALC. BOOK NO. N/A

BASELINE REPORT DATE 2-Jul-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.

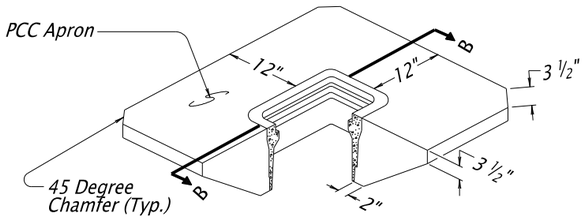
OREGON STANDARD DRAWINGS

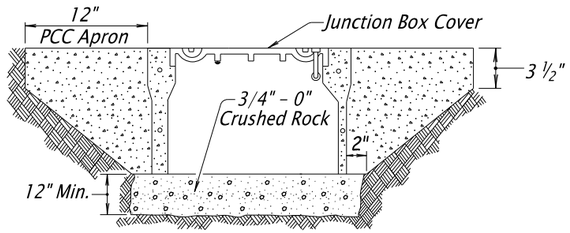
TRENCHING & CONDUIT INSTALLATION

2018

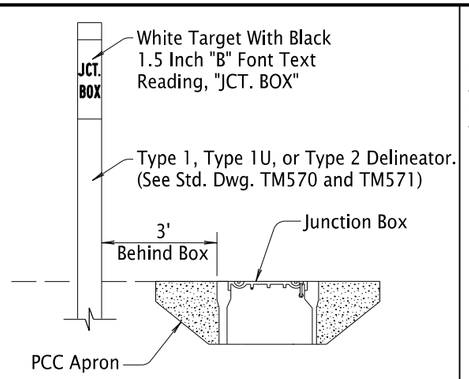
DATE	REVISION DESCRIPTION
07/18	New Drawing

TM471



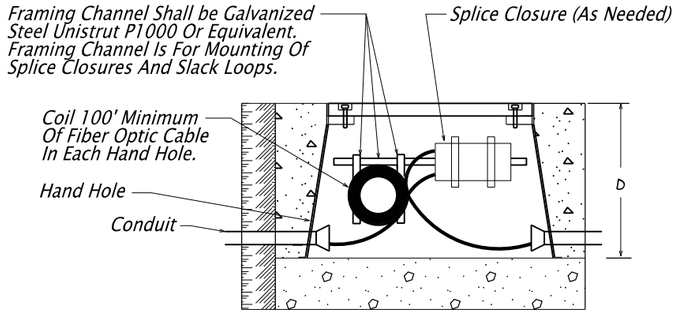


SECTION B-B

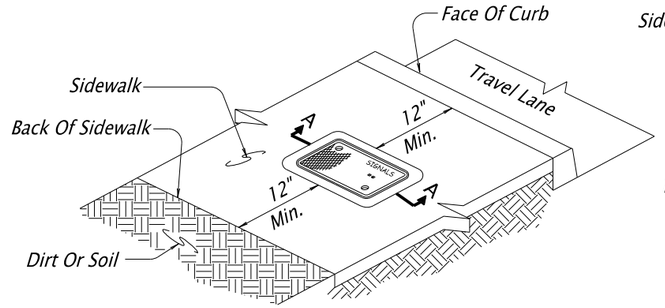


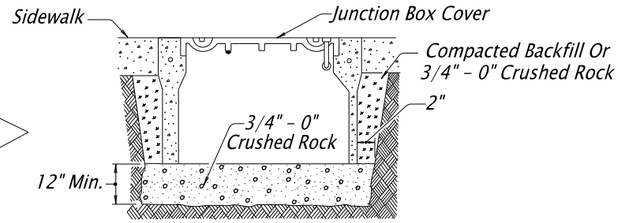
INSTALLATION IN UNSURFACED AREA

(This Detail Only Applicable for Junction Boxes Located In Incidental Travel Areas; Gravel Shoulders, Behind Guardrail, Etc. Do Not Install In Travel Lanes, Paved Shoulders, Or Other Areas Exposed To Traffic.)



HAND HOLE INSTALLATION

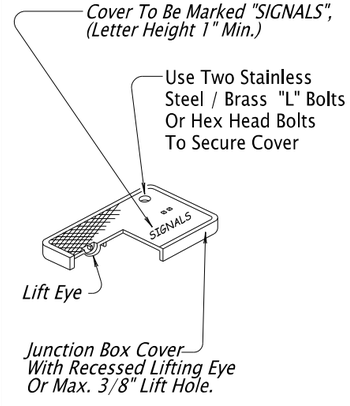




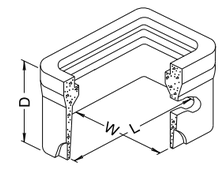
SECTION A-A

INSTALLATION IN PCC SIDEWALK

(This Detail Only Applicable for Junction Boxes Located In Flat Areas Of Sidewalks. Do Not Install In Slopes Of Ramps Or Driveways)



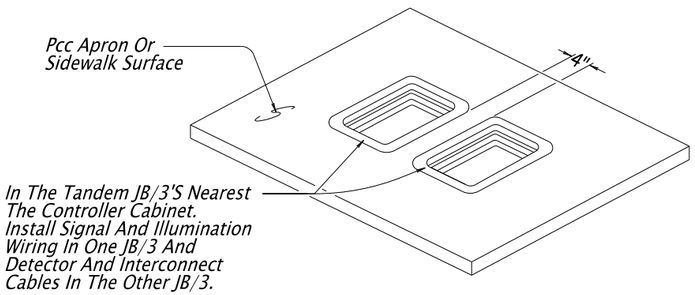
JUNCTION BOX COVER DETAILS



Type*	L	W	D
JB1	17"	10"	12"
JB2	22"	12"	12"
JB3	30"	17"	12"
HH-1	24"	30"	24"
HH-2	30"	48"	24"
HH-3	30"	48"	36"

*Junction Box Or Handhole Type As Shown On Plans

DIMENSION TABLE



TANDEM JB/3A JUNCTION BOX DETAILS

GENERAL NOTES:

1. Install Top of Junction Box Flush With The Sidewalk, Surrounding Grade, Or Top Of Curb
2. Install Junction Boxes At The Approximate Locations Shown, Or If Not Shown, No More Than 300 Feet Apart
3. More Junction Boxes Than Specified May Be Installed To Facilitate The Work At The Option And Cost Of The Contractor

CALC. BOOK NO. _ N/A _ _ _ _ _ _ _ _ _

BASELINE REPORT DATE _ 2-Jul-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

TRAFFIC SIGNAL JUNCTION BOXES/ HAND HOLES

2018

DATE	REVISION DESCRIPTION
07/18	Added A New Detail & Notes, Revised & Simplified Details

TM472

tm500.dgn 07-10-2019

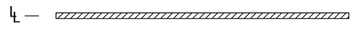
W

4" WHITE LINE

W-2

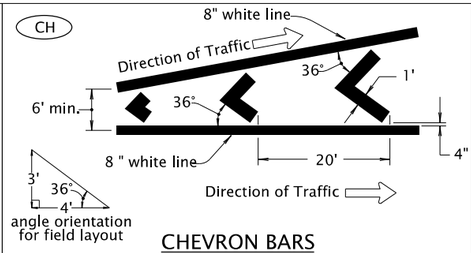
8" WHITE LINE

Y



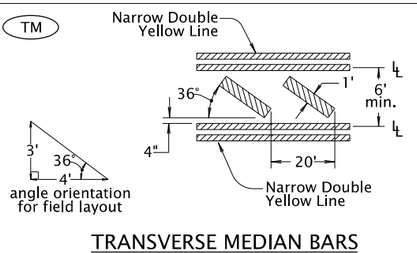
4" YELLOW LINE

CH



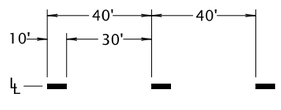
CHEVRON BARS
1' WHITE BARS AT 20' SPACING

TM



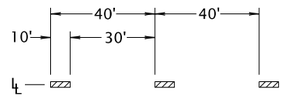
TRANSVERSE MEDIAN BARS
1' YELLOW BARS AT 20' SPACING

WB



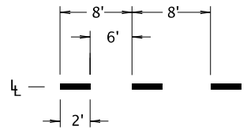
4" WHITE BROKEN LINE

YB



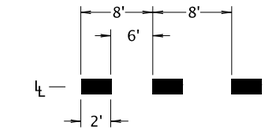
4" YELLOW BROKEN LINE

WD



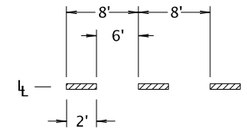
4" WHITE DOTTED LINE
For lane extensions

WD-2



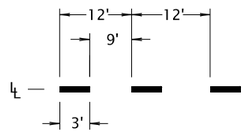
8" WHITE DOTTED LINE
For lane extensions and bike lane extensions

YD



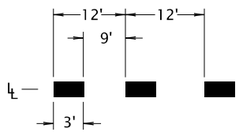
4" YELLOW DOTTED LINE
For lane extensions

DLL



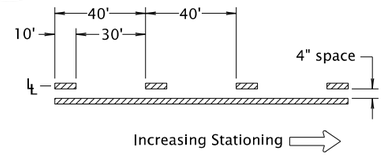
4" WHITE DOTTED LANE LINE
For lane lines in acceleration/deceleration lanes

DLL-2



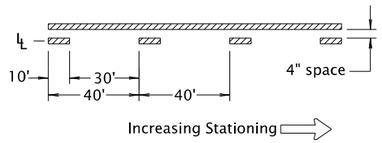
8" WHITE DOTTED LANE LINE
For lane lines in drop lanes

NPR



NO-PASS RIGHT
4" YELLOW LINES

NPL

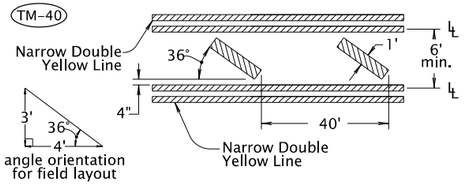


NO-PASS LEFT
4" YELLOW LINES

TWL

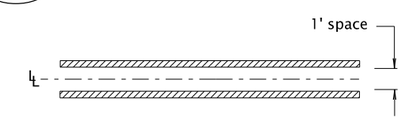
TWO-WAY LEFT TURN
4" YELLOW LINES

TM-40



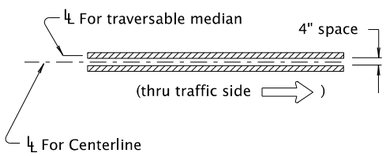
TRANSVERSE MEDIAN BARS
1' YELLOW BARS AT 40' SPACING
For use at painted medians where
distance between left turn refuges exceeds 200'

D



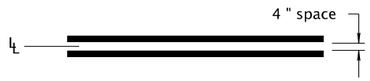
DOUBLE NO-PASS
TWO 4" YELLOW LINES

ND



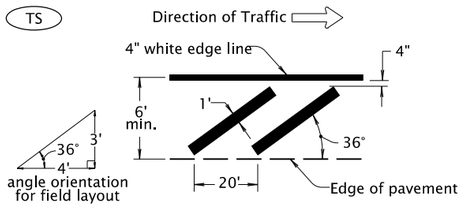
NARROW DOUBLE NO-PASS
TWO 4" YELLOW LINES

NDW



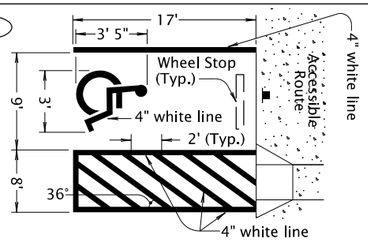
NARROW DOUBLE NO-LANE CHANGE
TWO 4" WHITE LINES

TS



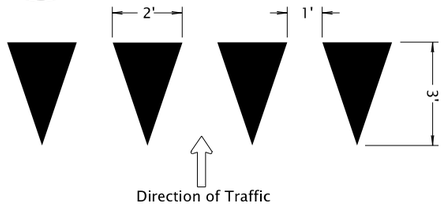
TRANSVERSE SHOULDER BARS
1' WHITE BARS AT 20' SPACING

HC



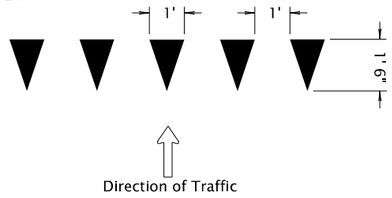
DISABLED PARKING DETAIL (white)

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

BASELINE REPORT DATE 07/01/2015

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OREGON STANDARD DRAWINGS

PAVEMENT MARKING STANDARD DETAIL BLOCKS

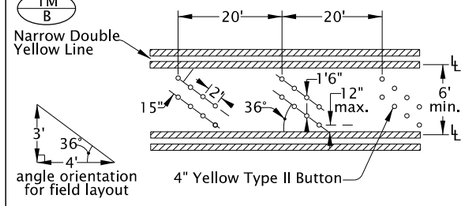
2018

DATE	REVISION DESCRIPTION

TM500

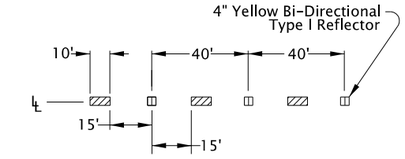
Effective Date: December 01, 2019 - May 31, 2020

TM
B



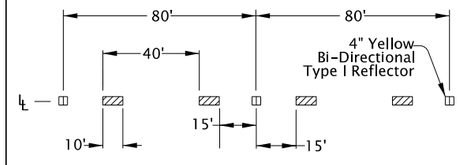
TRANSVERSE MEDIAN BAR SUBSTITUTION BUTTON

YB
R-40



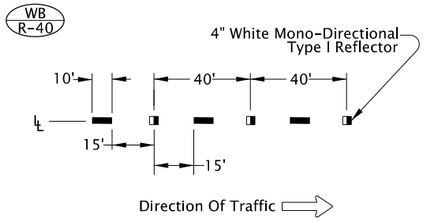
YELLOW BROKEN LINE SUPPLEMENTATION REFLECTORS WITH 4" YELLOW BROKEN LINE

YB
R-80



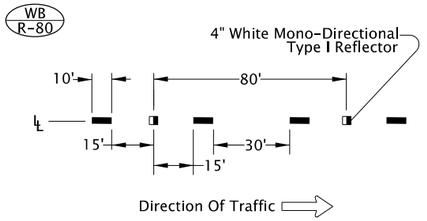
YELLOW BROKEN LINE SUPPLEMENTATION REFLECTORS WITH 4" YELLOW BROKEN LINE

WB
R-40



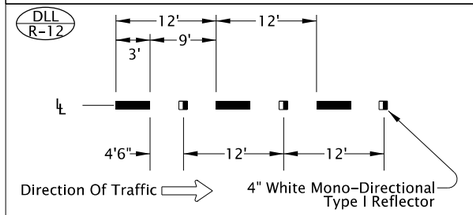
WHITE BROKEN LINE SUPPLEMENTATION REFLECTORS WITH 4" WHITE BROKEN LINE

WB
R-80



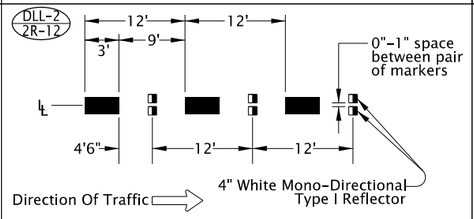
WHITE BROKEN LINE SUPPLEMENTATION REFLECTORS WITH 4" WHITE BROKEN LINE

DLL
R-12



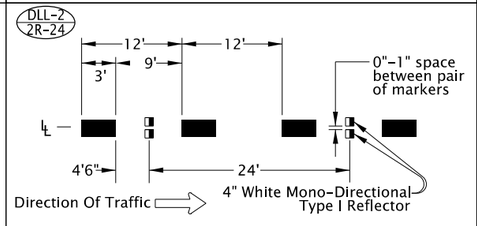
WHITE DOTTED LANE LINE SUPPLEMENTATION REFLECTORS WITH 4" WHITE DOTTED LANE LINE

DLL-2
2R-12



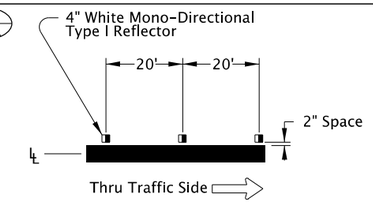
WIDE DOTTED LANE LINE SUPPLEMENTATION REFLECTORS WITH 8" WHITE DOTTED LANE LINE

DLL-2
2R-24



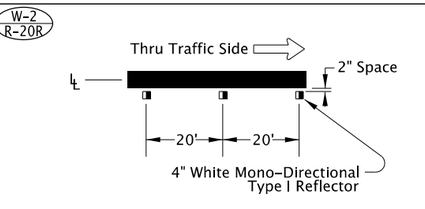
WIDE DOTTED LANE LINE SUPPLEMENTATION REFLECTORS WITH 8" WHITE DOTTED LANE LINE

W-2
R-20L



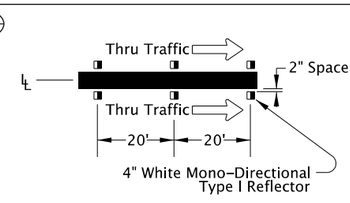
CHANNELIZING LINE POSITIONING GUIDE REFLECTORS WITH 8" WHITE LINE

W-2
R-20R



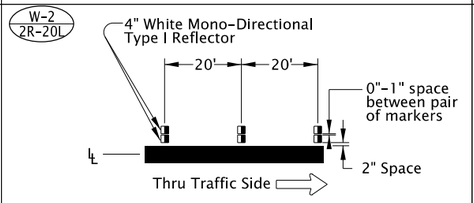
CHANNELIZING LANE LINE POSITIONING GUIDE REFLECTORS WITH 8" WHITE LINE

W-2
2R-20



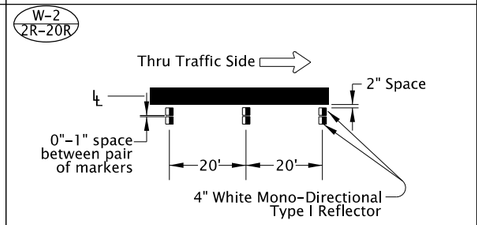
CHANNELIZING LANE LINE POSITIONING GUIDE REFLECTORS WITH 8" WHITE LINE

W-2
2R-20L



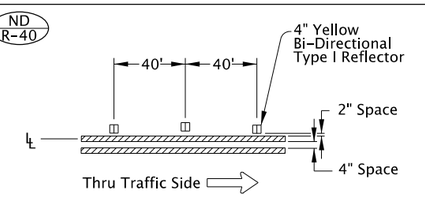
CHANNELIZING LINE SUPPLEMENTATION REFLECTORS WITH 8" WHITE LINE

W-2
2R-20R



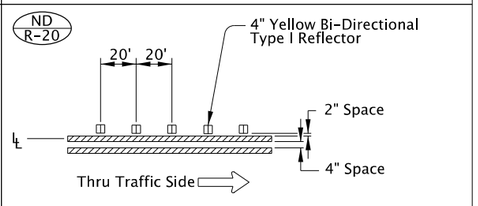
CHANNELIZING LINE SUPPLEMENTATION REFLECTORS WITH 8" WHITE LINE

ND
R-40



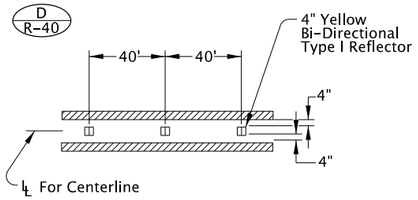
NARROW DOUBLE YELLOW POSITIONING GUIDE REFLECTORS WITH TWO 4" YELLOW LINES

ND
R-20



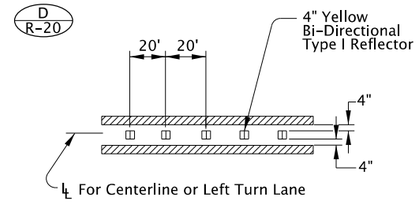
NARROW DOUBLE YELLOW POSITIONING GUIDE REFLECTORS WITH TWO 4" YELLOW LINES

D
R-40



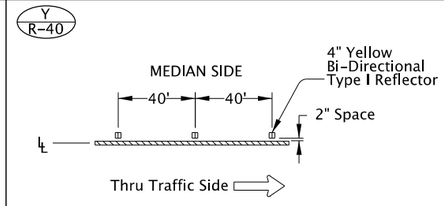
DOUBLE NO-PASS POSITIONING GUIDE REFLECTORS WITH TWO 4" YELLOW LINES

D
R-20



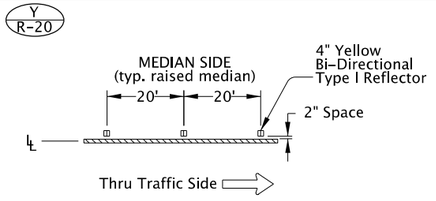
DOUBLE NO-PASS POSITIONING GUIDE REFLECTORS WITH TWO 4" YELLOW LINES

Y
R-40



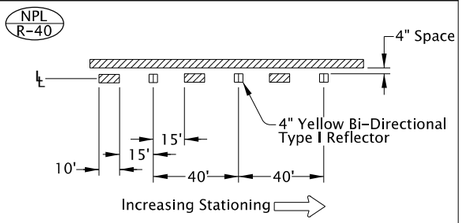
YELLOW LINE POSITIONING GUIDE REFLECTORS WITH 4" YELLOW LINE

Y
R-20



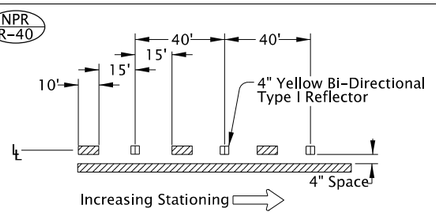
YELLOW LINE POSITIONING GUIDE REFLECTORS WITH 4" YELLOW LINE

NPL
R-40



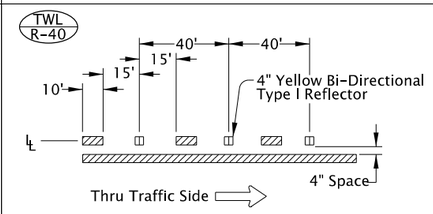
NO-PASS LEFT POSITIONING GUIDE REFLECTORS WITH 4" YELLOW LINES

NPR
R-40



NO-PASS RIGHT POSITIONING GUIDE REFLECTORS WITH 4" YELLOW LINES

TWL
R-40



TWO WAY LEFT TURN POSITIONING GUIDE REFLECTORS WITH 4" YELLOW LINES

General note:

1) Surface mount Raised Pavement Markers (RPMs) unless otherwise specified.

LEGEND

- Direction Of Travel, Increasing Stationing or Thru Traffic Side
- ℄ — Lane line dimensions are shown on the striping plans
- Mono-directional crystal white marker reflects white to the left in this symbol
- Bi-directional yellow marker reflects yellow both left and right in this symbol

CALC. BOOK NO. N/A

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.

BASELINE REPORT DATE 07/01/2015

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

OREGON STANDARD DRAWINGS

PAVEMENT MARKING STANDARD DETAIL BLOCKS

2018

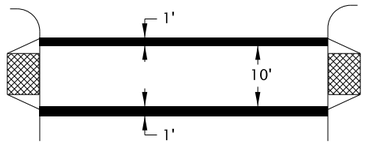
DATE	REVISION DESCRIPTION

TM502

Effective Date: December 01, 2019 - May 31, 2020

tm503.dgn 07-10-2019

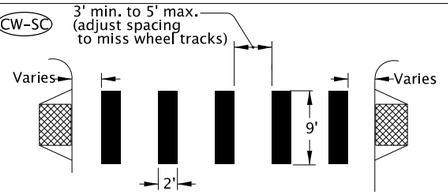
CW



STANDARD CROSSWALK
TWO 1' WHITE BARS

Install per Standard Drawing TM530

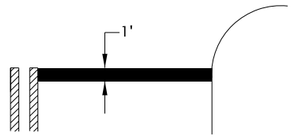
CW-SC



STAGGERED CONTINENTAL CROSSWALK
2' WHITE BARS

Install per Standard Drawing TM530

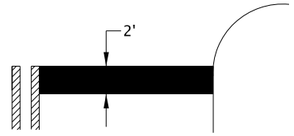
S



STOP BAR
1' WHITE BAR

Install per Standard Drawing TM530

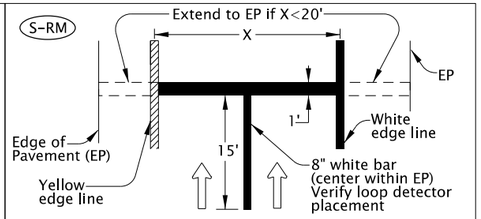
S-2



STOP BAR - LARGE
2' WHITE BAR

Install per Standard Drawing TM530

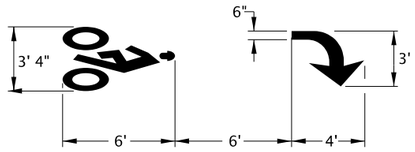
S-RM



RAMP METER STOP BAR
1' & 8" WHITE BARS

For multi-lane ramp meter applications

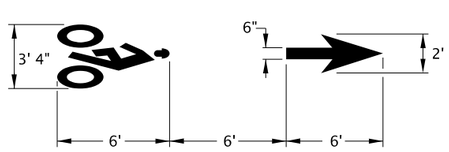
BR



BIKE RIGHT TURN STENCIL (white)

Center marking within lane width
For proportion details, see current version of Standard Highway Signs

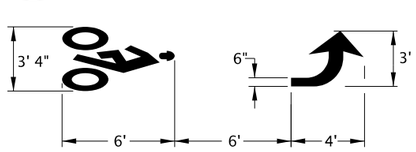
BS



BIKE LANE STANDARD STENCIL (white)

Center marking within lane width
For proportion details, see current version of Standard Highway Signs

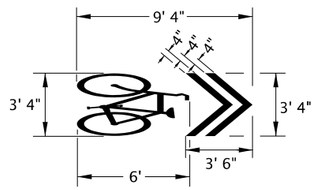
BL



BIKE LEFT TURN STENCIL (white)

Center marking within lane width
For proportion details, see current version of Standard Highway Signs

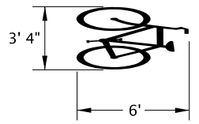
SLM



SHARED LANE MARKING (white)

Center marking within lane width or as shown
For proportion details, see current version of Standard Highway Signs

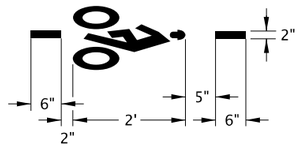
B



BIKE STENCIL (white)

Used for Intersection Bicycle Box applications.
See Section 414 of Traffic Line Manual

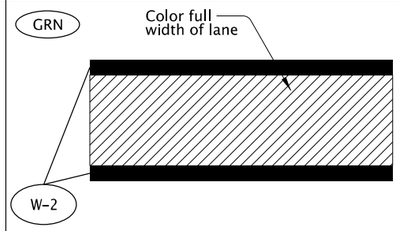
BD



BICYCLE DETECTOR MARKING (white)

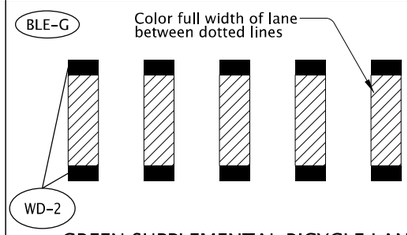
For placement location with loops, see Section 416 of Traffic Line Manual

GRN



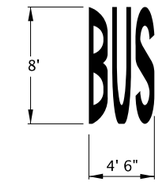
GREEN SUPPLEMENTAL BICYCLE LANE
SOLID LINE (green)

BLE-G



GREEN SUPPLEMENTAL BICYCLE LANE
DOTTED LINE EXTENSION (green)

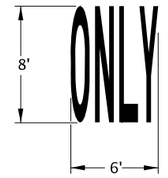
BUS



BUS (white)

Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs

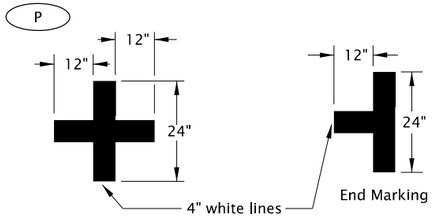
ON



ONLY (white)

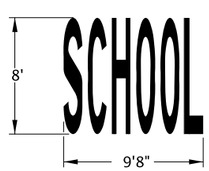
Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs

P



ON-STREET PARKING DETAIL (white)

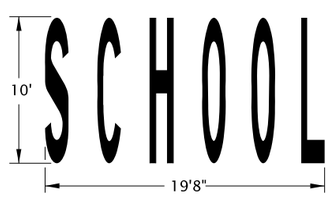
SCH



SCHOOL (white)

Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs

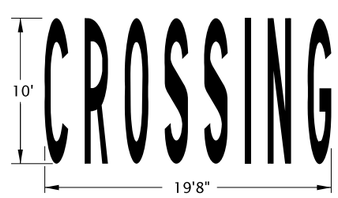
SCH-LG



SCHOOL - LARGE (white)

Center marking within width of two lanes
For letter proportion details, see current version of Standard Highway Signs

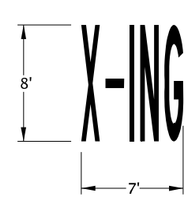
CRS-LG



CROSSING - LARGE (white)

Center marking within width of two lanes
For letter proportion details, see current version of Standard Highway Signs

XNG



X-ING (white)

Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs

General Note:

1. Arrow, letter, and bike symbol dimensions nominal.

LEGEND

Direction of Travel

CALC. BOOK NO. N/A

BASELINE REPORT DATE 07/01/2015

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

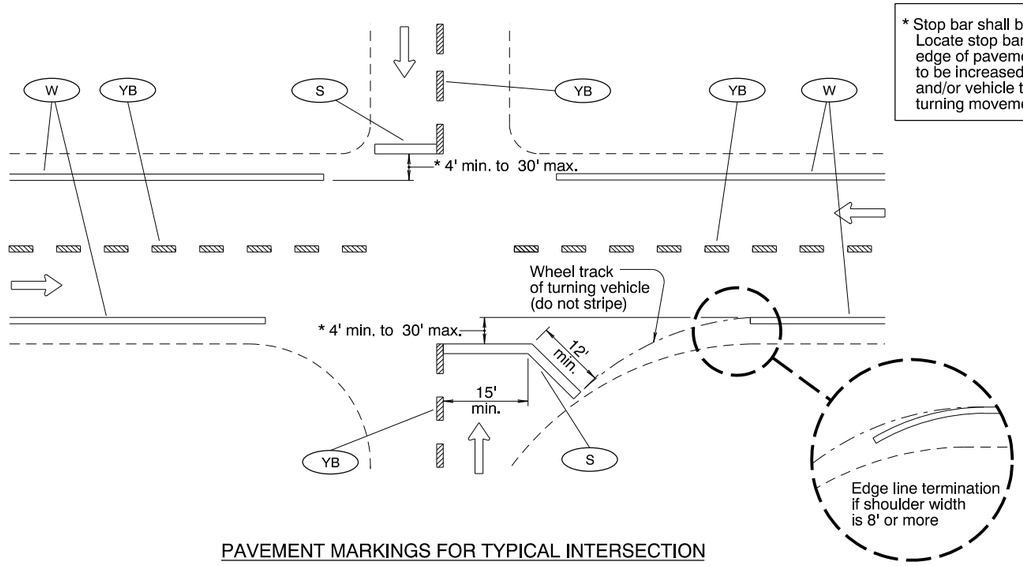
PAVEMENT MARKING STANDARD DETAIL BLOCKS

2018

DATE	REVISION DESCRIPTION

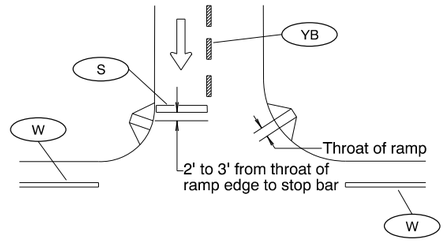
TM503

Effective Date: December 01, 2019 - May 31, 2020

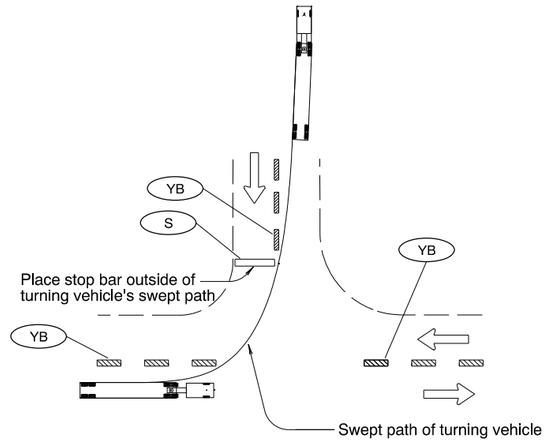


PAVEMENT MARKINGS FOR TYPICAL INTERSECTION

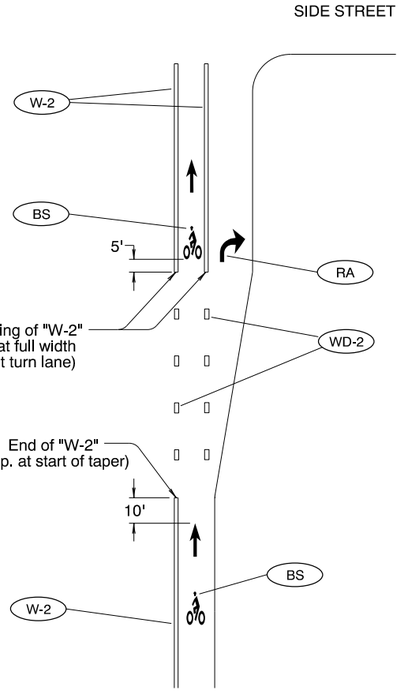
* Stop bar shall be placed as near as possible to the intersecting traveled way. Locate stop bar 4' min. to 30' max. in advance of the extended fog line, edge of pavement, or curb face. Minimum stop bar distance may need to be increased, depending on location of pedestrian ramps (see Detail "A") and/or vehicle turn radii (see Detail "B"). Field verify sight distance and truck turning movements.



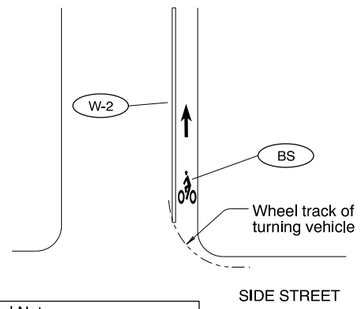
Detail "A"
STOP BAR PLACEMENT WITH
RESPECT TO PEDESTRIAN RAMPS



Detail "B"
STOP BAR PLACEMENT WITH
RESPECT TO TURN RADII



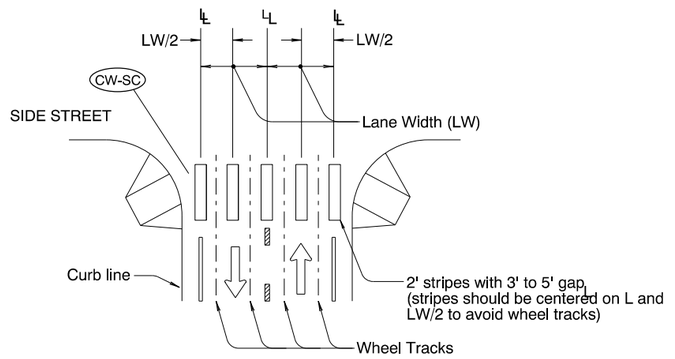
INSTALLATION OF BIKE LANE STENCILS
FOR BIKE LANE SEPARATED BY RIGHT TURN LANE



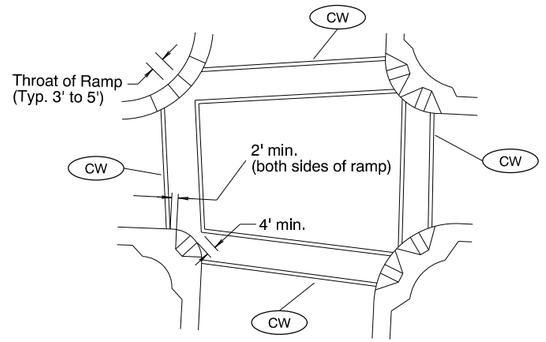
General Note:

Install bike lane stencil to avoid right turning vehicle wheel tracks.

INSTALLATION OF BIKE LANE STENCILS
FOLLOWING INTERSECTIONS



STAGGERED CONTINENTAL LAYOUT



STANDARD CROSSWALK BARS
AT INTERSECTION

General Note:

1. Install crosswalk bars such that the throat of the ADA ramp is entirely within crosswalk markings, or 5' back of extended fog line, edge of pavement, or curb face.

LEGEND

Direction of Travel

L - Lane line dimensions are shown on the striping plans

To be accompanied by Standard Dwg. Nos. TM500 thru TM503

CALC. BOOK NO. N/A

BASELINE REPORT DATE July 8, 2016

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
INTERSECTION PAVEMENT MARKINGS (CROSSWALK, STOP BAR & BIKE LANE STENCIL)

2018

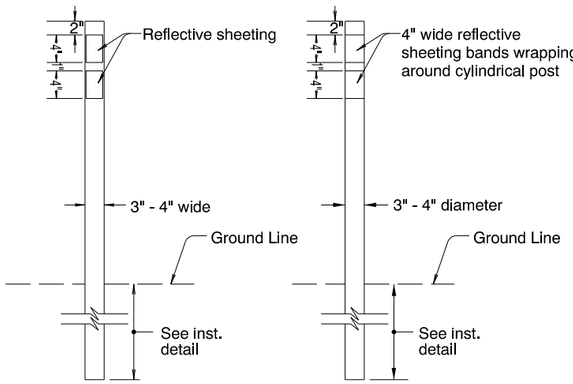
DATE	REVISION DESCRIPTION

TM530.dgn 1-3-2017

TM530

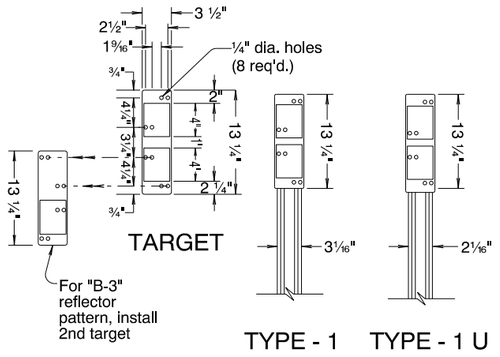
plotfile_TM200s_500s.dgn :: Default 7/10/2019 3:21:14 PM hwyr20m

Effective Date: December 1, 2019 - May 31, 2020

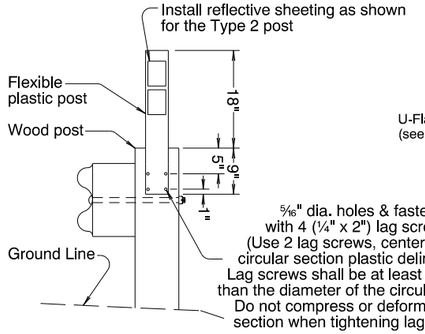


TYPE - 2 TYPE - 3

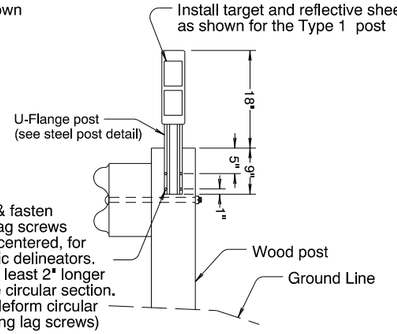
FLEXIBLE PLASTIC POSTS



TYPE - 1 TYPE - 1 U



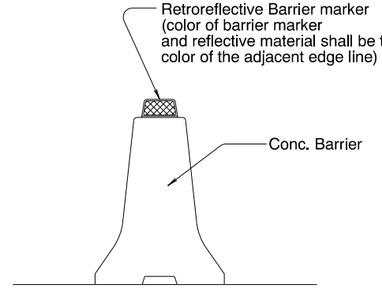
ALTERNATE 1



ALTERNATE 2

TYPE - 4

STEEL POSTS

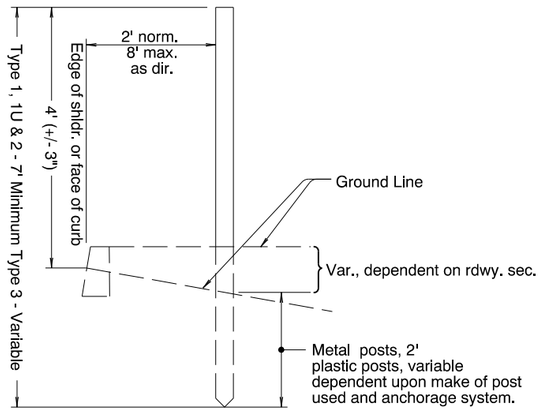


TYPE - 5

GUARDRAIL AREAS (WITH WOOD POSTS)

CONCRETE BARRIER AREAS

(Install barrier markers at 50' spacing unless otherwise noted in plans)



INSTALLATION DETAIL

NOTES:

POST:
Galv. steel, nominal weight Type 1, 2 lb/ft, Type 1 U, 1.12 lb/ft.

See Standard Drawing TM571 for steel post dimensions and details.

TARGET:
Aluminum sheet, nominal thickness .050". Fasten to post with⅜" dia. aluminum blind rivets and washers.

For "B-3" reflector pattern, top target shall overlap bottom target.

REFLECTORS:
3" x 4" reflective sheeting unless otherwise shown.
(3½" x 4" reflective sheeting is an acceptable alternate unless otherwise shown.)
Acrylic prismatic reflectors acceptable on Type 1, 1 U, 2 and 4 posts and Type 5 barrier mounts.
Place required number in sequence from top of target.

GENERAL NOTES:

1. Spacing shall be measured along the shoulder.
2. On roads with less than 500 vehicle ADT, delineators are not to be used except where situations such as sharp horizontal curves, etc. exist.
3. To clear driveways, crossroads etc., or for required adjustments at ramps and at intersections, either:
   (a) vary placement of that post up to 25% of spacing shown, or;
   (b) eliminate said post if limit of variation must be exceeded.
4. Judgement should be exercised in the installation of delineators in cut section, particularly on roads constructed to older standards where ditches are narrow and where delineators tend to hamper maintenance operations.
5. On horizontal curves place delineators nearly opposite each other.
6. At guard rail locations the delineators are to be installed behind the rail and shall be located adjacent to guard rail posts as shown for Type 4 Delineators.
7. Install all delineators with reflectors facing adjacent oncoming traffic.
8. Offset delineators an additional 4' in areas of heavy snow removal operations.
9. Backside Delineators may be used in frequently snow plowed areas where use of snow poles is not justified. When Backside Delineators are specified, substitute "W-1" and "W-2" with "W-1B" and "W-2B" respectively, on Type 1 steel posts. Do not install Backside Delineators on one-way sections of roadway, freeways and ramps, or on radius sections.
10. Refer to TM 222 for bracket assembly details for Backside Reflector Pattern.

TANGENT	HORIZONTAL CURVES				
▲MAX. SPACING EACH SIDE OF ROADWAY IN FEET	▲ MAX. SPACING EACH SIDE OF ROADWAY IN FEET				
	DEGREE OF CURVE	ON CURVE	IN ADVANCE OF & BEYOND CURVE		
			FIRST SPACE	SECOND SPACE	THIRD SPACE
400	Lower Than 1	300	300	300	300
	1	230	300	300	300
	2	160	300	300	300
	3	130	260	300	300
	4	110	220	300	300
	5	100	200	300	300
	6	90	180	270	300
	7 - 8	80	160	240	300
	9 - 11	70	140	210	300
	12 - 16	60	120	180	300
	17 - 22	50	100	150	300
	23 - 34	40	80	120	240
	35 - 53	30	60	90	180
	54 & Higher	20	40	60	120

(Min. spacing 20 feet)

(▲Install "W-1" reflective pattern unless otherwise noted. See Standard Drawings TM575 thru TM577 for spacing, layout, and reflective pattern of delineators at interchange ramps, channelized intersections, lane reductions, emergency escape ramps and freeway crossovers.)

DELINEATOR SPACING TABLE FOR TYPES 1, 1U, 2, and 4

REFLECTOR PATTERN TABLE					
	Color Type	Color Of Reflector And Target Or Post	Number Of Reflectors	Color Of Reflector And Target Or Post On Backside	Number Of Reflectors On Backside
Standard Pattern	"W-1"	White	1	Not Applicable	Not Applicable
	"W-2"	White	2		
	"Y-1"	Yellow	1		
	"Y-2"	Yellow	2		
	"B-1"	Blue	1		
	"B-2"	Blue	2		
	"B-3"	Blue	3		
	"R-1"	Red	1		
Backside Pattern	"W-1B"	White	1	White	2
	"W-2B"	White	2	White	2

To be accompanied by Drg. No. TM571, TM575, TM576, and/or TM577 as specified.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 01/06/2012

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

TRAFFIC DELINEATORS

2018

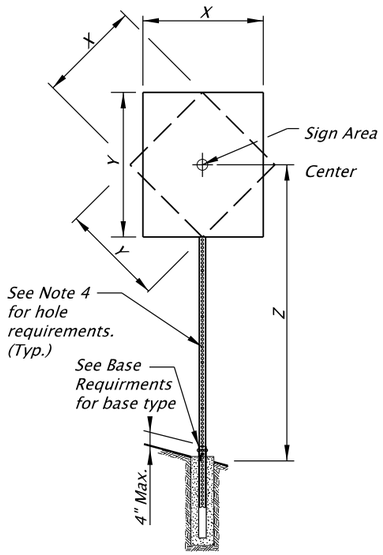
DATE	REVISION DESCRIPTION

TM570.dgn 1-3-2017

TM570

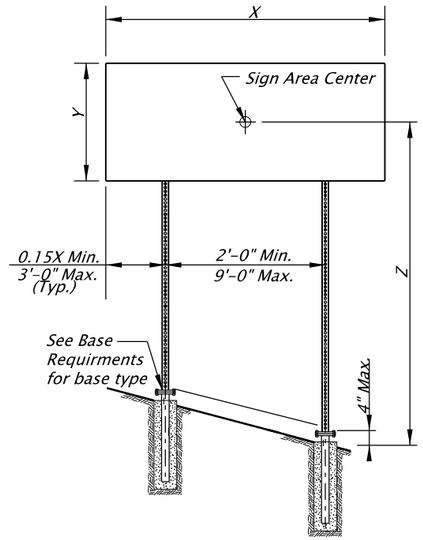
plotfile_TM200s_500s.dgn :: Default 7/10/2019 3:21:15 PM hwyr20m

Effective Date: December 1, 2019 - May 31, 2020



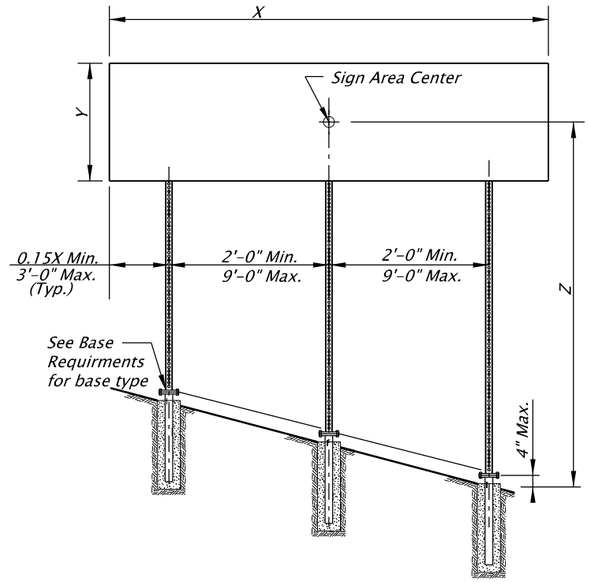
SINGLE POST ELEVATION

No scale



TWO POST ELEVATION

No scale



THREE POST ELEVATION

No scale

GENERAL NOTES:

1. Perforated Steel Square Supports are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 4th Edition, 2001, 2002, 2003, and 2006 interim revisions.
2. The design basic wind speed (3 second gust) shall be according to the wind map shown on TM671.
3. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
4. Use $^{7}/_{16}$" diameter holes at 1" spacing on each of the 4 sides.
5. Steel post shall have a minimum yield stress of 50 ksi.
6. Steel shall be galvanized according to ASTM A653 with coating designation G90.
7. General design parameters are Kz = 0.87, Cd (sign) = 1.20, and G = 1.14.
8. Permanent signing uses an Ir = 0.71 for a recurrence interval of 10 years.
9. Temporary signing uses an Ir = 0.45 for a recurrence interval of 1.5 years.
10. The sign width to sign height or sign height to sign width ratio shall not exceed 5.0.
11. For horizontal and vertical clearances of permanent signs refer to TM200 and of temporary signs refer to TM822.
12. Posts protected by barrier or guardrail do not require slip bases.

(X * Y * Z) in ft³ - Maximum									
3 Second Gust Wind Speed (TM671)									
	85 MPH			95 MPH			105 or 110 MPH		
	Number of Posts			Number of Posts			Number of Posts		
Square Tube Size	1	2	3	1	2	3	1	2	3
2"-12 ga.	79	158	237	63	126	189	57	114	171
2½"-12 ga.	136	272	408	109	218	327	98	196	294
2½"-10 ga.	165	330	495	132	264	396	119	238	357
2¼" & 2½"-12 *ga.	231	462	693	185	370	555	167	334	501

PERMANENT PERFORATED STEEL SQUARE TUBE TABLE

(X * Y * Z) in ft³ - Maximum									
3 Second Gust Wind Speed (TM671)									
	85 MPH			95 MPH			105 or 110 MPH		
	Number of Posts			Number of Posts			Number of Posts		
Square Tube Size	1	2	3	1	2	3	1	2	3
2"-12 ga.	125	250	375	100	200	300	90	180	270
2½"-12 ga.	215	430	645	172	344	516	155	310	465
2½"-10 ga.	261	522	783	209	418	627	189	378	567
2¼" & 2½"-12 *ga.	364	728	1092	292	584	876	263	526	789

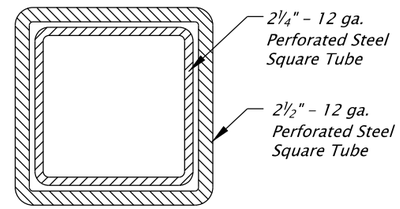
TEMPORARY PERFORATED STEEL SQUARE TUBE TABLE

* - See 2¼" & 2½" - 12 ga. detail.

	Number of Posts		
Square Tube Size	1	2	3
2"-12 ga.	Anchor	Anchor	N/A
2½"-12 ga.	Anchor	Slip	Slip
2½"-10 ga.	Slip	Slip	Slip
2¼" & 2½"-12 *ga.	Slip	Slip	Slip

1. Anchor - See Drawing TM687 for PSST anchor foundation details.
2. Slip - See Drawing TM688 for PSST slip base foundation details.
3. N/A - Do not use this option.

BASE REQUIREMENTS



2¼" - 12 ga. PSST to extend entire length inside of the 2½" - 12 ga. PSST.

2¼" & 2½" - 12 GA. DETAIL

No scale

Accompanied by dwgs. TM200, TM671, TM687, TM688, TM689, TM822

CALC. BOOK NO. 5752

BASELINE REPORT DATE 10-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

PERFORATED STEEL SQUARE TUBE (PSST) SIGN SUPPORT INSTALLATION

2018

DATE	REVISION DESCRIPTION
07/17	Changed G140 to G90.

Effective Date: December 1, 2019 - May 31, 2020

TM681

TM681

TAPER TYPES & FORMULAS	
TAPER	FORMULA
Merging (Lane Closure)	"L"
Shifting	"L"/2 or ½"L"
Shoulder Closure	"L"/3 or ⅓"L"
Flagging (See Drg. TM850)	50' – 100'
Downstream (Termination)	Varies (See Drawings)

★ Use Pre-Construction Posted Speed to select the Speed from the Tables below:

CONCRETE BARRIER FLARE RATE TABLE	
★SPEED (mph)	MINIMUM FLARE RATE
≤ 30	8:1
35	9:1
40	10:1
45	12:1
50	14:1
55	16:1
60	18:1
65	19:1
70	20:1

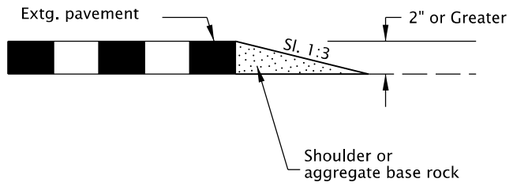
MINIMUM LENGTHS TABLE					
"L" VALUE FOR TAPERS (ft)					BUFFER "B" (ft)
★ SPEED (mph)	W = Lane or Shoulder Width being closed or shifted				
	W ≤ 10	W = 12	W = 14	W = 16	
25	105	125	145	165	75
30	150	180	210	240	100
35	205	245	285	325	125
40	265	320	375	430	150
45	450	540	630	720	180
50	500	600	700	800	210
55	550	660	770	880	250
60	600	720	840	960	285
65	650	780	910	1000	325
70	700	840	980	1000	365
FREEWAYS					
55	1000	1000	1000	1000	250
60	1000	1000	1000	1000	285
65	1000	1000	1000	1000	325
70	1000	1000	1000	1000	365

NOTES:
- For Lane closures where W < 10', use "L" value for W = 10'.
- For Shoulder closures where W < 10', use "L" value for W = 10' or calculate "L" using formula, for Speeds ≥ 45: L = WS, Speeds < 45: L = $S^2W/60$, S = Speed, W=Width

TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE				
★ SPEED (mph)	Sign Spacing (ft)			Max. Channelizing Device Spacing (ft)
	A	B	C	
20 – 30	100	100	100	20
35 – 40	350	350	350	20
45 – 55	500	500	500	40
60 – 70	700	700	700	40
Freeway	1000	1500	2640	40

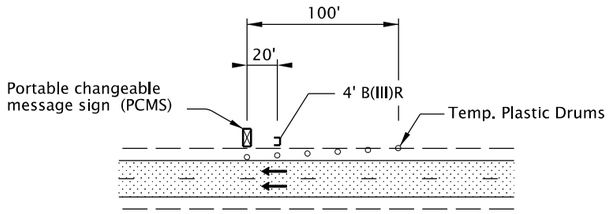
NOTES:
- Place traffic control devices on 10 ft. spacing for intersection and access radii.
- When necessary, sign spacing may be adjusted to fit site conditions. Limit spacing adjustments to 30% of the "A" dimension for all speeds.

NOTES:
- When paved shoulders adjacent to excavations are less than four feet wide protect longitudinal abrupt edge as shown.
- Use aggregate wedge when abrupt edge is 2 inches or greater.



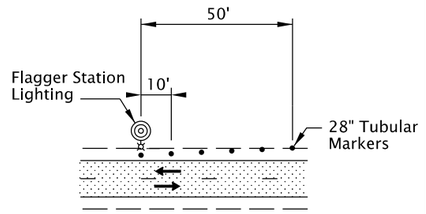
EXCAVATION ABRUPT EDGE

NOTES:
- Install PCMS beyond the outside shoulder, when possible.
- Use the appropriate type of barricade panels for PCMS location. Right shoulder, use Type B(III)R Left shoulder, use Type B(III)L
- Use six drums in shoulder taper on 20' spacing. The drums and barricade may be omitted when PCMS is placed behind a roadside barrier.
- Detail as shown is used for trailered and non-crashworthy components of:
  - Portable Traffic Signals
  - Smart Work Zone Systems



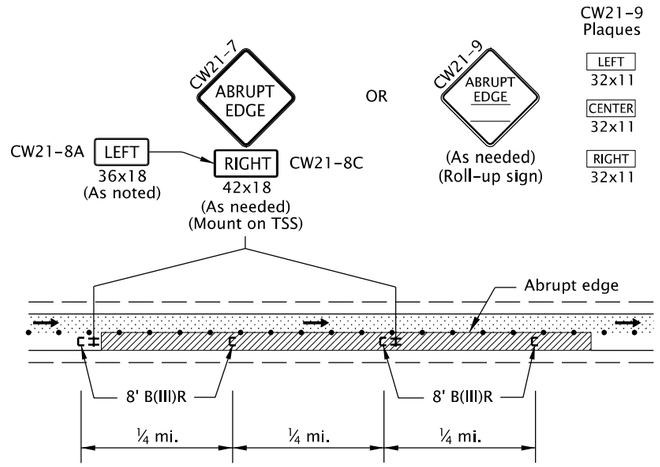
PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) INSTALLATION

NOTES:
- Install Flagger Station Lighting beyond the outside shoulder, where practical.
- Use six tubular markers in shoulder taper on 10' spacing.
- Place cart / generator / power supply off of the shoulder, as far as practical.



FLAGGER STATION LIGHTING DELINEATION

NOTES:
- Abrupt edges may be created by paving, operations, excavations or other roadway work. Use abrupt edge signing for longitudinal abrupt edges of 1 inch or greater.
- If the excavation is located on left side of traffic, replace the 8' B(III)R barricades with 8' B(III)L barricades and replace the "RIGHT" (CW21-8C) riders with "LEFT" (CW21-8A) riders.
- Continue signing and other traffic control devices throughout excavation area at spacings shown.
- If roll-up signs are used, attach the correct (CW21-9) plaques to the sign face using hook and loop fasteners. Place roll-up signs in advance of barricades.



TYPICAL ABRUPT EDGE DELINEATION

GENERAL NOTES FOR ALL TCP DRAWINGS:
- Signs and other Traffic Control Devices (TCD) shown are the minimum required.
- Place a barricade approx. 20' ahead of all sequential arrow boards.
- Arrows shown in roadway are directional arrows to indicate traffic movements.
- All signs are 48" x 48" unless otherwise shown. Use flourescent orange sheeting for the background of all temporary warning signs.
- All diamond shaped warning signs mounted on barrier sign supports shall be 36" by 36". All other signs mounted on barrier sign supports shall not exceed 12 sq. ft. in total sign area.
- Low speed highways have a pre-construction posted speed of 40 mph or less. High speed highways have a pre-construction posted speed of > 40 mph.
- Do not locate sign supports in locations designated for bicycle or pedestrian traffic.
- Combine drawing details to complete temporary traffic control for each work activity.
- To be accompanied by Drg. Nos. TM820 & TM821.

○ ○ ○ Temp. Plastic Drums See TCD Spacing Table for max. spacing.

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

UNDER TRAFFIC

UNDER CONSTRUCTION

CALC. BOOK NO. TM09-01

BASELINE REPORT DATE 01-JAN-2019

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

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OREGON STANDARD DRAWINGS

TABLES, ABRUBT EDGE AND PCMS DETAILS

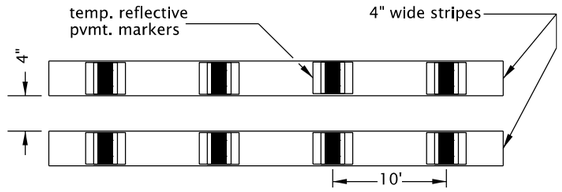
2018

DATE	REVISION DESCRIPTION

tm800.dgn 01-JAN-2019

TM800

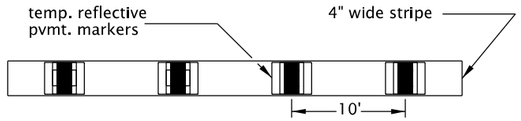
Effective Date: December 1, 2019 - May 31, 2020



LAYOUT "A"
(Supplemented double solid lines)

TYPICAL APPLICATIONS:

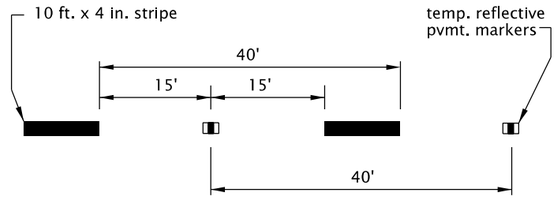
- To prohibit lane changes or passing (include appropriate regulatory signs).
- Freeway or multilane shifts and crossovers.
- For projects in place through winter months.
- Two-lane, two-way centerlines.



LAYOUT "B"
(Supplemented solid line)

TYPICAL APPLICATIONS:

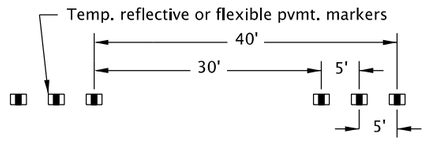
- Alignment shifts or crossovers.
- To discourage lane changes in multilane sections.
- For projects in place through winter months.



LAYOUT "C"
(Supplemented broken lines)

TYPICAL APPLICATIONS:

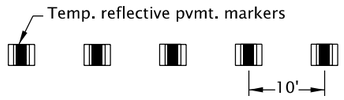
- Freeway and multilane broken lines.
- High ADT 2 lane roads (greater than 10,000).
- For projects in place through winter months.



LAYOUT "D"
(Simulated broken lines)

TYPICAL APPLICATIONS:

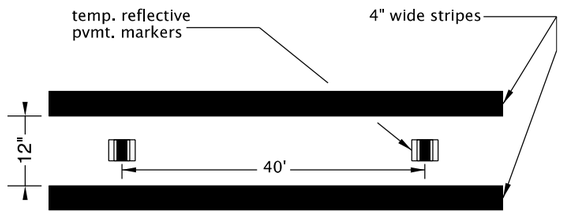
- During staging on finished/existing surfaces.
- HMAC intermediate surfaces.
- Emulsified asphalt surface treatments (chip seals) where permanent pavement markings cannot be placed within two weeks.



LAYOUT "E"
(Simulated solid lines)

TYPICAL APPLICATIONS:

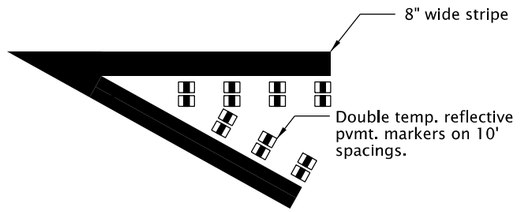
- Alignment shifts or crossovers.
- To discourage lane changes in multilane sections.
- Edge lines for short durations, less than 14 days.



LAYOUT "F"
(Supplemented wide double solid lines)

TYPICAL APPLICATIONS:

- To prohibit lane changes or passing (include appropriate regulatory signs).
- 2 lane, 2 way centerlines.
- 2 lane, 1 way alignments on freeways or multi-lane highways.



LAYOUT "G"
(Supplemented solid 8" line)

TYPICAL APPLICATIONS:

- Gore areas
- Alignment splits (bifurcations)

GENERAL NOTES FOR ALL DETAILS:

- When using Supplemented or Simulated lines:
  1. Yellow Bi-Directional Pavement Markers are required for Two-Way Traffic.
  2. White Mono-Directional Pavement Markers are required for one-way traffic or edge lines.
- Supplemented lines are painted lines enhanced with Reflective Pavement Markers.
- Simulated lines are Reflective Pavement Markers placed in a pattern to substitute for a painted line.
- Pavement marking colors shall conform to the MUTCD.

CALC. BOOK NO. N/A

BASELINE REPORT DATE 01-JAN-2019

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OREGON STANDARD DRAWINGS

TEMPORARY PAVEMENT MARKINGS

2018

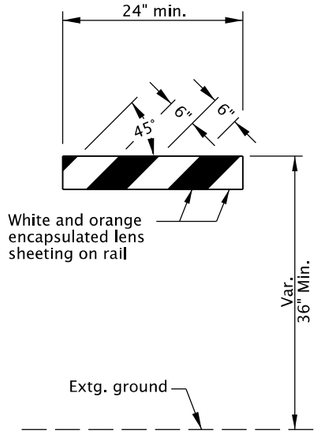
DATE	REVISION DESCRIPTION

tm810.dgn 01-JAN-2019

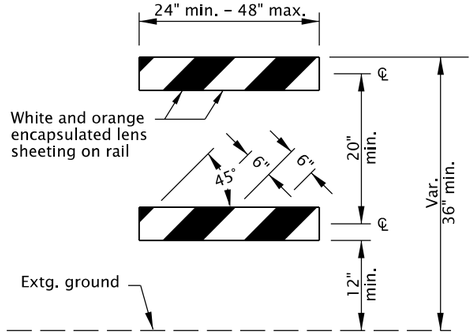
TM810

Effective Date: December 1, 2019 - May 31, 2020

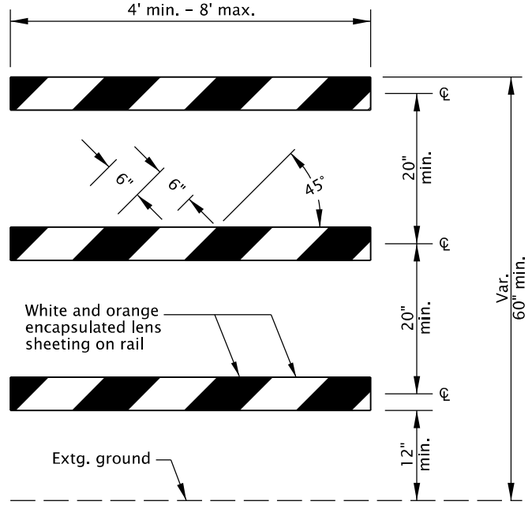
tm820.dgn 01-JAN-2019



TYPE I



TYPE II



TYPE III

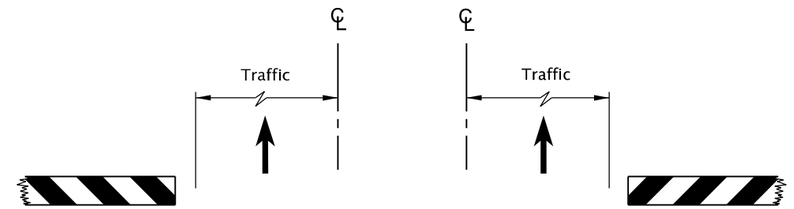
BARRICADE RAIL LAYOUT

GENERAL NOTES FOR ALL DETAILS:

- Sandbags (approximately 25 lb sack filled with sand) may be placed on lower frame to provide additional ballast.
- Ballast shall not extend above bottom rail or be suspended from barricade.
- For rails less than 36" long, 4" wide stripes shall be used.
- Rails must be 8" min. to 12" max. in height.
- Use barricades from ODOT Qualified Products List (QPL).
- Use 4' Type III barricades where horizontal space is limited.
- Do not block bike lanes or shoulders unless the facility is properly closed and signed.
- Do not place barricades in sidewalks unless sidewalk is closed and a temporary pedestrian accessible route (TPAR) is signed according to the TCP. See Dwg. No. TM 844.

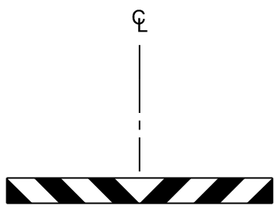
NOTES:

- Markings for barricade rails shall slope downward at an angle of 45° in the direction traffic is to pass.
- Where a barricade extends entirely across a roadway, it is desirable that the stripes slope downward in the direction toward which traffic must turn in detouring.
- Where both right and left turns are provided for, slope the chevron striping downward in both directions from the center of the barricade.
- For full roadway closures, the C or LR barricade may be used. Extend barricades completely across roadway unless access is required for local road users.

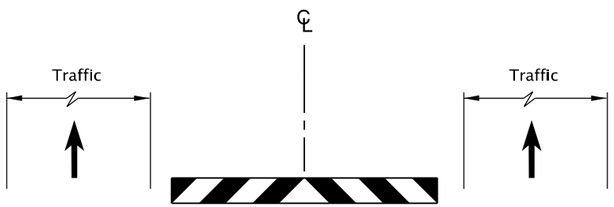


LT. SIDE – L
(For approaching traffic)

RT. SIDE – R
(For approaching traffic)

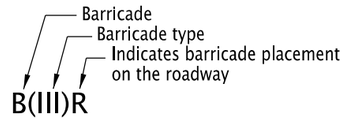


CLOSED – C
(For approaching traffic)



LT. / RT. – LR
(For approaching traffic)

DIAGRAM FOR BARRICADE PLACEMENT AND SLOPE MARKING



BARRICADE NOTATION

CALC. BOOK NO. N/A

BASELINE REPORT DATE 01-JAN-2019

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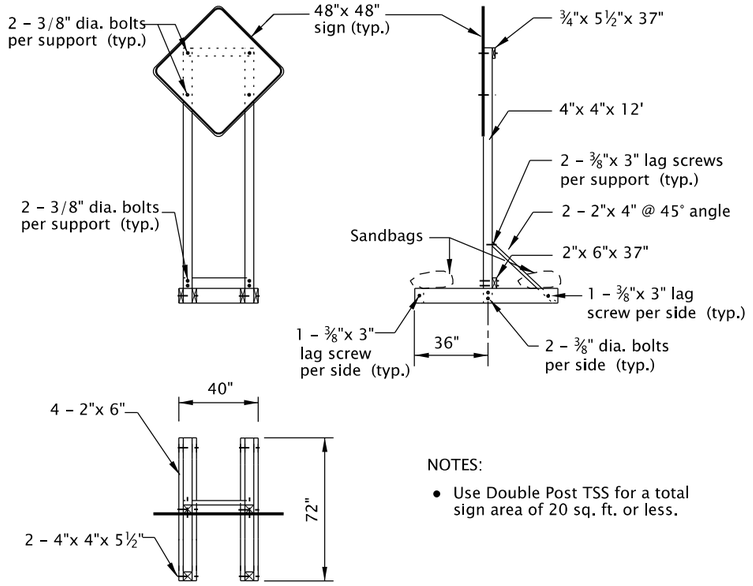
OREGON STANDARD DRAWINGS

TEMPORARY BARRICADES

2018

DATE	REVISION DESCRIPTION
01-2019	REVISED NOTES

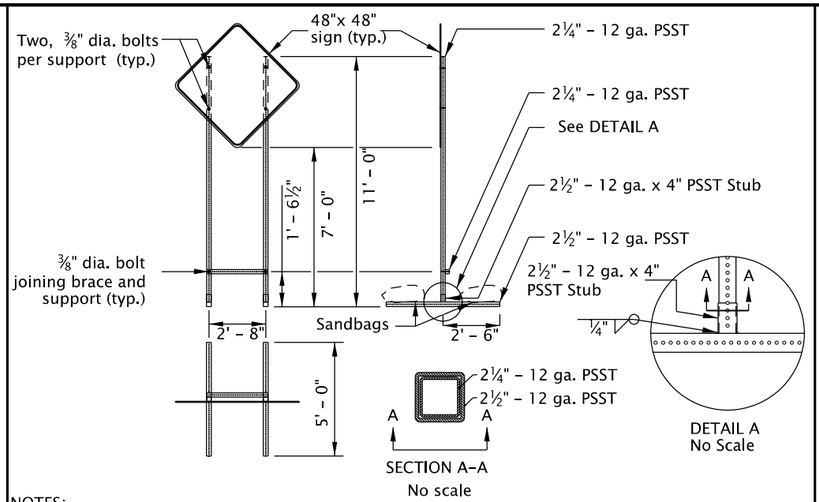
TM820



NOTES:

- Use Double Post TSS for a total sign area of 20 sq. ft. or less.

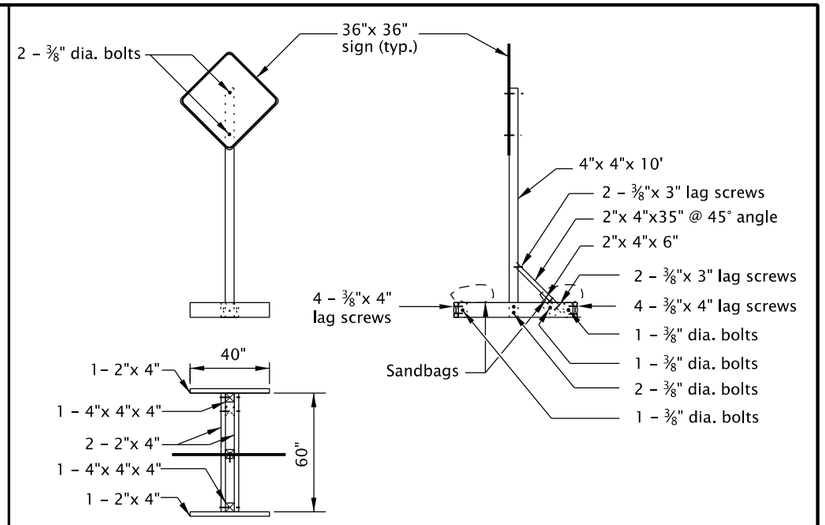
DOUBLE POST
TEMPORARY SIGN SUPPORT (TSS)



NOTES:

- Use PSST TSS's for a total sign area of 16 sq. ft. or less.
- All members shall have a minimum yield stress of 50 ksi.
- Galvanize steel according to ASTM A653 with coating designation G90. Remove Galvanizing from steel before welding. Repair Galvanizing according to ASTM A780.
- Use A325 Bolts or equivalent.
- 2¼" – 12 ga. PSST to extend entire length inside of the 2½" – 12 ga. x 4" PSST Stub.
- Do not use bolt to secure 2¼" PSST inside of the 2½" – 12 ga. x 4" PSST Stub.
- Weld steel according to AWS D.1.1.

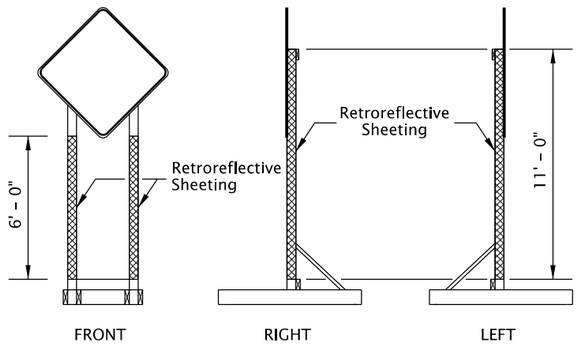
PERFORATED STEEL SQUARE TUBE (PSST)
TEMPORARY SIGN SUPPORT (TSS)



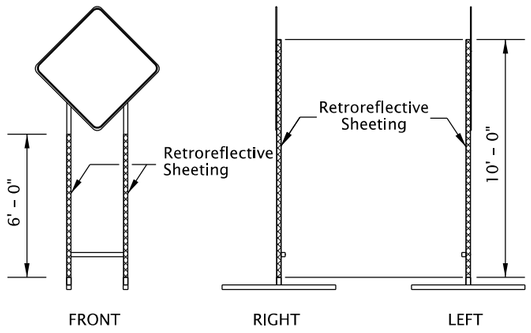
NOTES:

- Use Single Post TSS for a total sign area of 12 sq. ft. or less.
- Use Single Post TSS for mounting "Business Access" (CG20–11) signs. Do not mount signs on Type II or III Barricades.

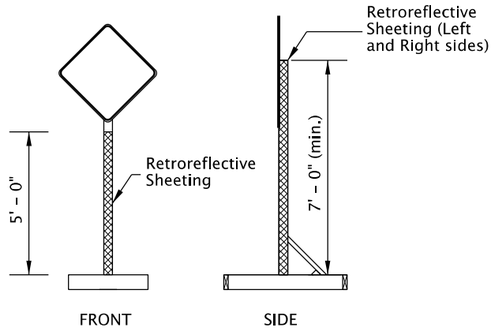
SINGLE POST
TEMPORARY SIGN SUPPORT (TSS)



DOUBLE POST
TEMPORARY SIGN SUPPORT (TSS)



PERFORATED STEEL SQUARE TUBE (PSST)
TEMPORARY SIGN SUPPORT (TSS)



SINGLE POST
TEMPORARY SIGN SUPPORT (TSS)

TEMPORARY SIGN SUPPORT GENERAL NOTES:

- DO NOT TIP OVER TSS AT ANY TIME.
- Do not locate TSS's in locations that block pedestrian/bicycle traffic.
- For wooden TSS's, use either Douglas Fir or Hem Fir, which is surfaced four sides (S4S) and free of heart center (FOHC).
- See "Temporary Sign Placement" detail on TM822 for sign installation heights.
- Do not place or stack ballast more than 24" above the ground.
- When sign is inconsistent with current work zone conditions, cover sign: or turn sign 90 degrees away from approaching traffic. Remove TSS from roadway when signing is not needed for more than 3 days.
- Place a minimum of 50 lbs of sandbags on each of the four TSS supports legs. (25 lb. max per bag) (min. 100 lbs per side of each TSS).

NOTES:

- Apply flourescent orange, ANSI Type VIII or IX retroreflective sheeting to TSS posts, as shown, for all temporary signs, except "STOP" and "DO NOT ENTER". For "STOP" and "DO NOT ENTER" signs, used red ANSI Type III or IV retroreflective sheeting on the TSS posts.
- Apply sign post retroreflectivity to each TSS post facing front; and to the left and right sides of the TSS, as shown. Use 3" wide sheeting for wood post TSS's. Use 2" wide sheeting for PSST TSS's.
- Sheeting may be applied directly to post material; or applied to a rigid, lightweight substrate, then securely attached to the posts.

SIGN POST REFLECTIVE SHEETING PLACEMENT

CALC. BOOK NO. N/A

BASELINE REPORT DATE 01–JAN–2019

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OREGON STANDARD DRAWINGS

TEMPORARY SIGN SUPPORTS

2018

DATE	REVISION DESCRIPTION
01–2019	REVISED NOTES

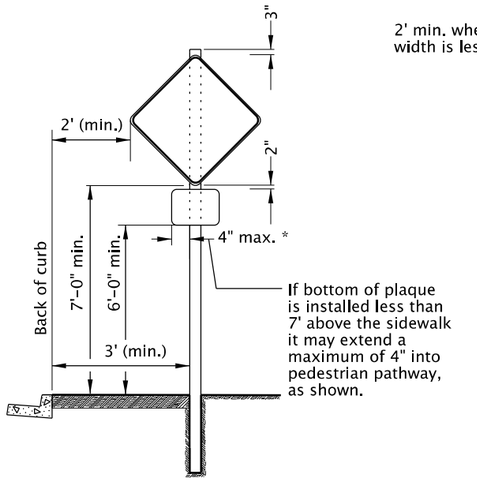
Effective Date: December 1, 2019 - May 31, 2020

TM821

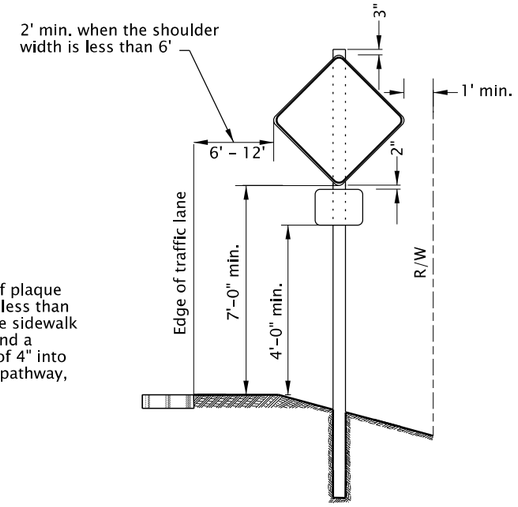
tm821.dgn 01–JAN–2019

NOTES:

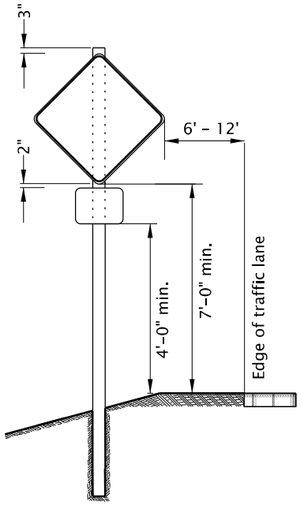
- Do not block bicycle lanes, sidewalks, or TPAR's with sign supports. Maintain minimum widths for these facilities according TCP Design Manual, MUTCD, ADA, or as directed.
- To be accompanied by Drg. Nos. TM670, TM671, TM687, TM688 & TM689.



URBAN AREAS WITH CURB/SIDEWALK

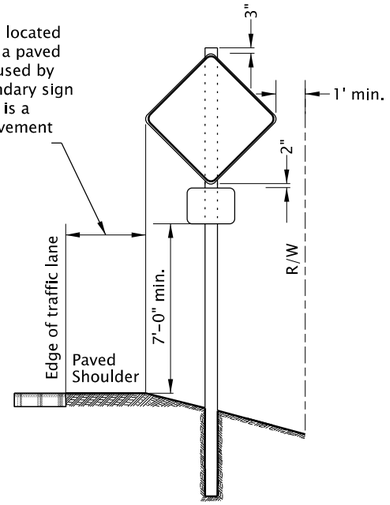


RURAL AREAS



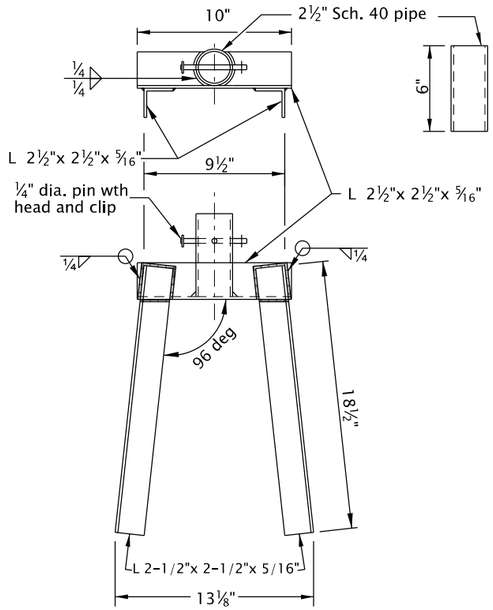
DIVIDED HIGHWAY/FREEWAY MEDIANS
NO CURB/SIDEWALK

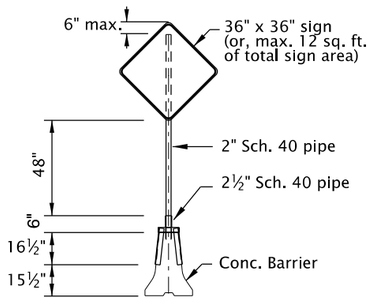
Where temporary signs are located adjacent to or intrude into a paved shoulder or other surface used by bicycle traffic, install secondary sign (plaque) so bottom of sign is a minimum of 7'0" above pavement surface, as shown.



RURAL OR URBAN AREAS – CURB OR NO CURB
BICYCLES ON SHOULDER

TEMPORARY SIGN PLACEMENT





NOTES:

- Drill additional holes so sign can be rotated 90 degrees and pinned when not in use.
- All structural steel shall conform to ASTM A36.
- Support fits both 32" and 42" tall "F" barrier.
- Use for supporting a maximum 12 sq. ft. of total sign area.
- Place support at connection between two concrete barrier sections.
- Weld steel according to American Welding Society (AWS) D.1.1.
- Do not use clipped signs.

CONCRETE BARRIER SIGN SUPPORT

CALC. BOOK NO. N/A

BASELINE REPORT DATE 01-JAN-2019

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OREGON STANDARD DRAWINGS

TEMPORARY SIGN SUPPORTS

2018

DATE	REVISION DESCRIPTION
01-2018	REVISED DRAWING
01-2019	REVISED NOTES

tm822.dgn 01-JAN-2019

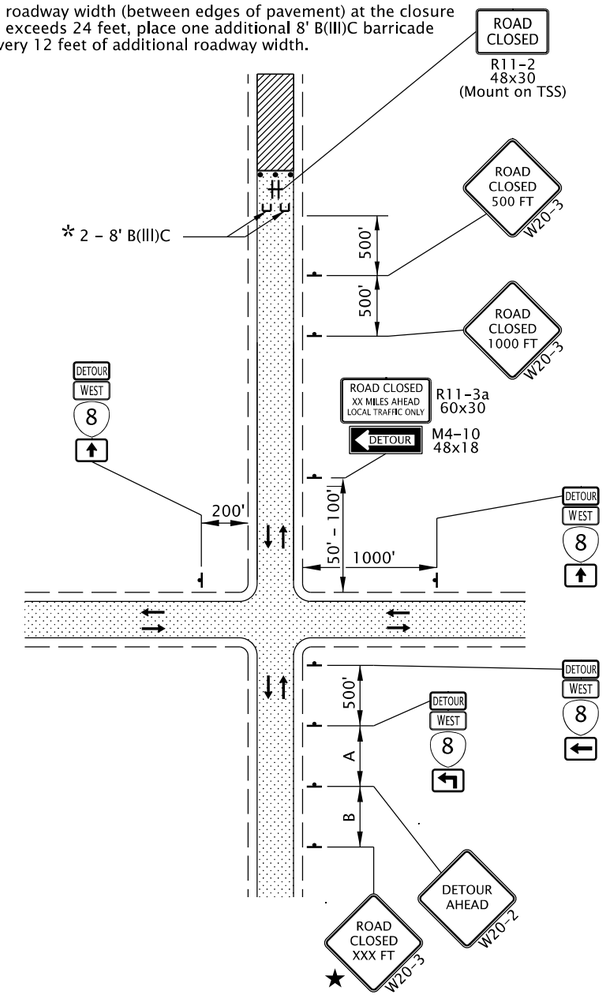
TM822

Effective Date: December 1, 2019 - May 31, 2020

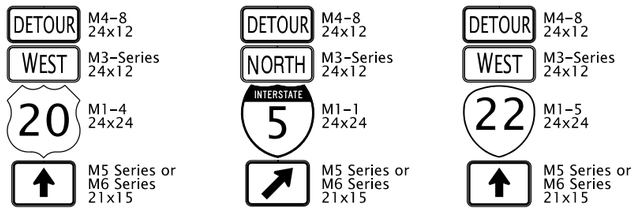
TM822

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.

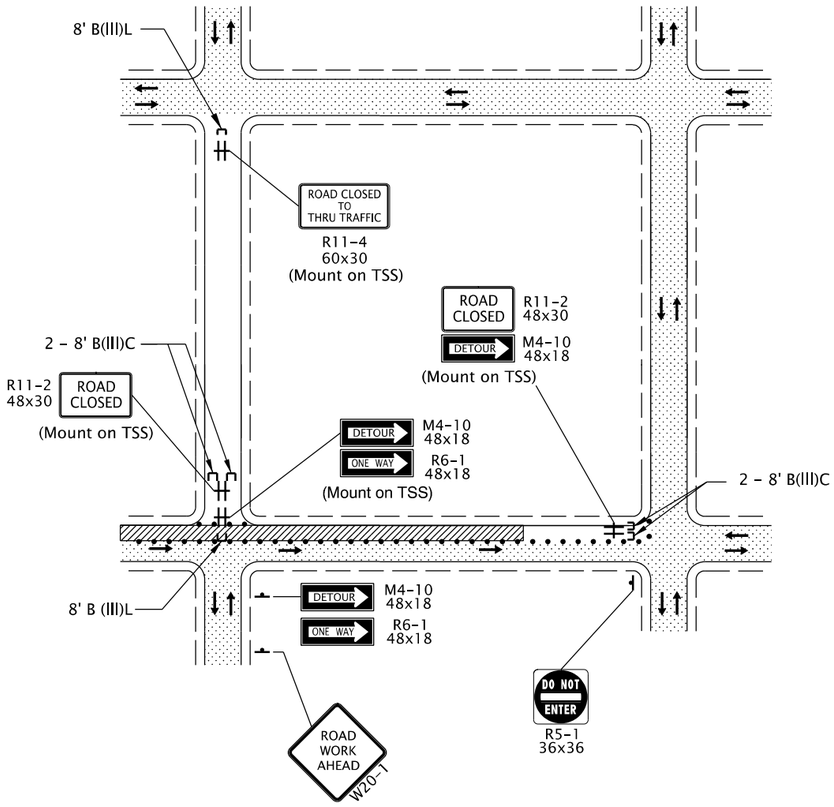


TYPICAL ROAD CLOSURE WITH DETOUR



TYPICAL TRAILBLAZER ASSEMBLY

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

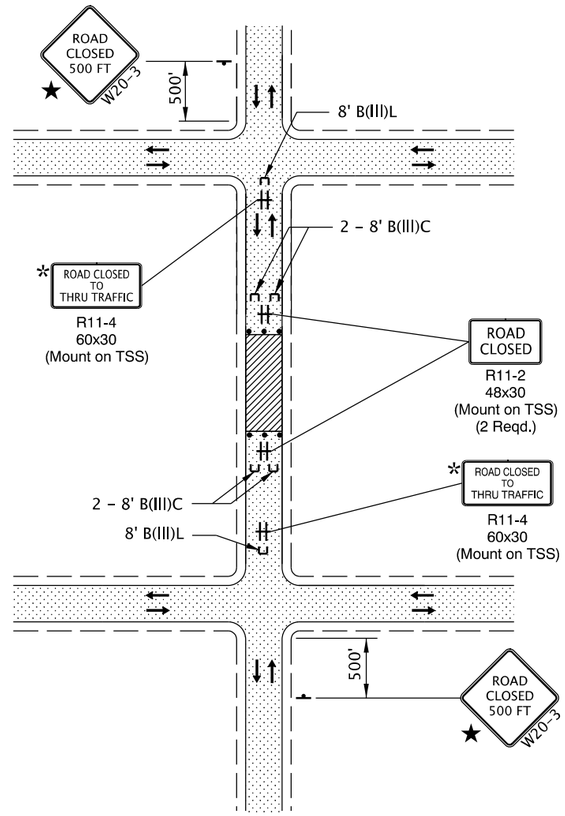
48 x 60 (nom.)
Project Specific Design

- 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 Drg. TM800.
- To be accompanied by Drg. 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

BASELINE REPORT DATE 01-JAN-2019

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

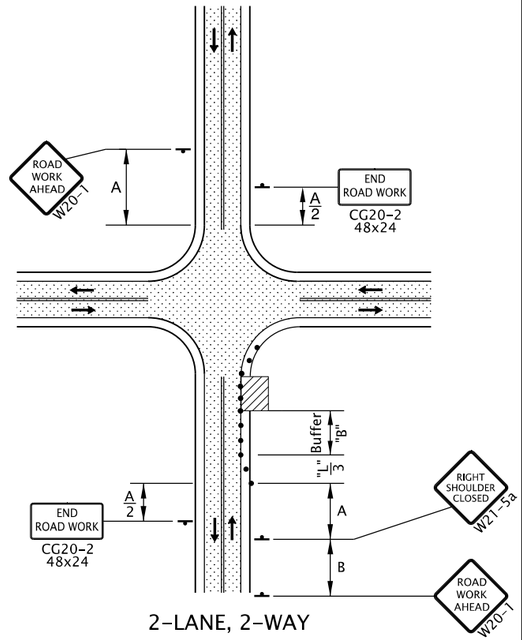
CLOSURE DETAILS

2018

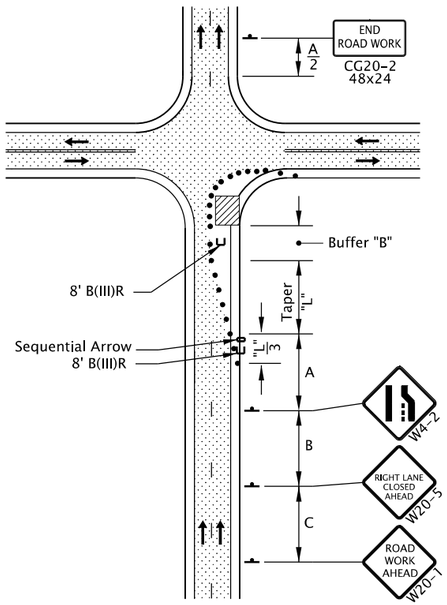
DATE	REVISION DESCRIPTION
01-2018	REVISED DRAWING

tm840.dgn 01-JAN-2019

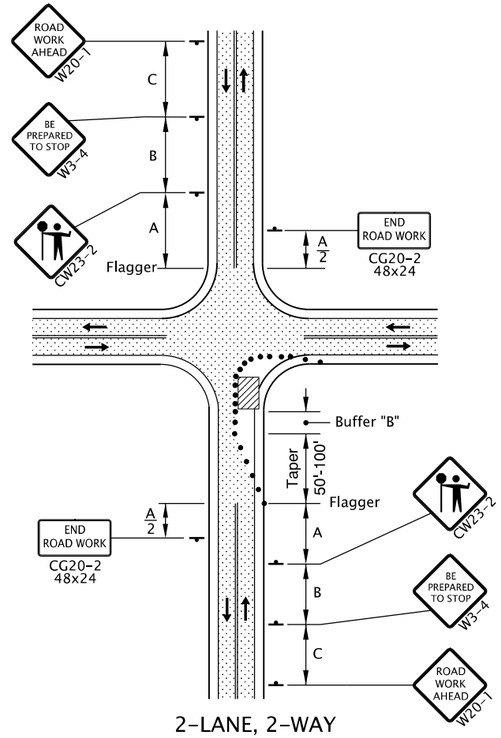
TM840



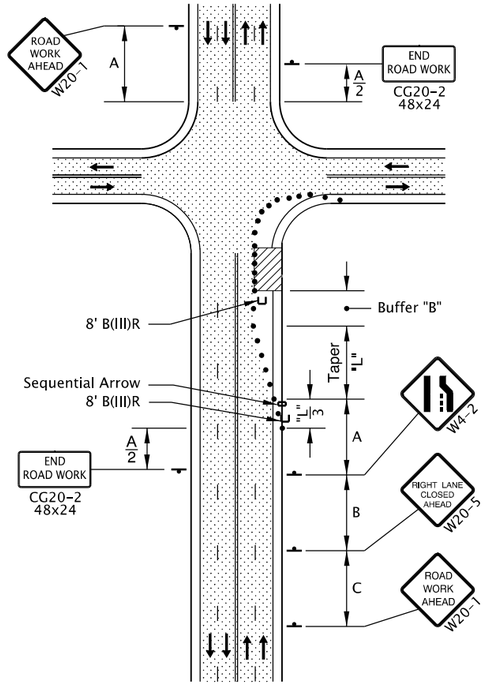
2-LANE, 2-WAY
SHOULDER CLOSURE



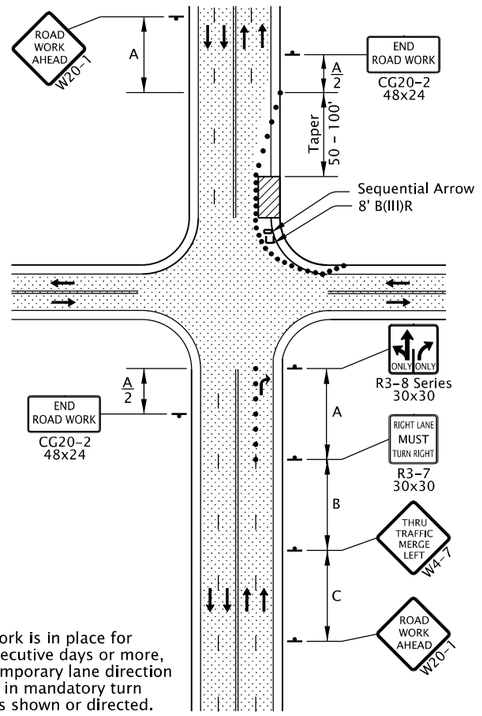
2-LANE, 1-WAY
RIGHT LANE CLOSURE



2-LANE, 2-WAY
ONE LANE CLOSURE

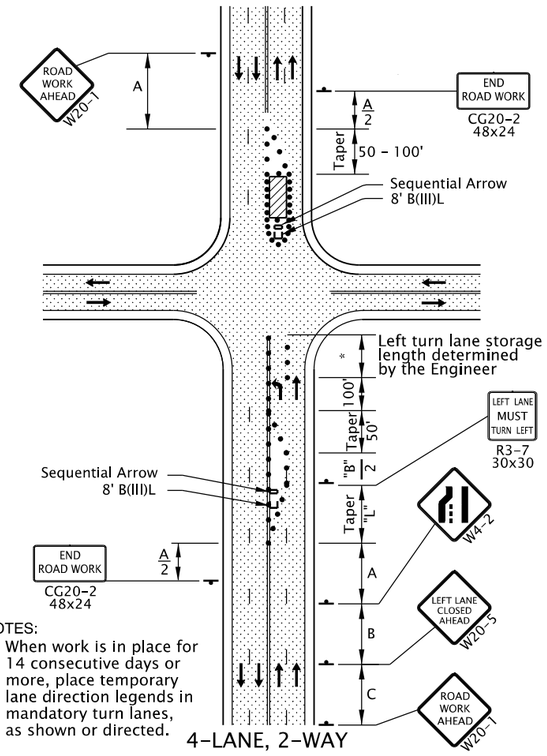


4-LANE, 2-WAY
RIGHT LANE CLOSURE, NEAR SIDE



NOTES:
- When work is in place for 14 consecutive days or more, place temporary lane direction legends in mandatory turn lanes, as shown or directed.

4-LANE, 2-WAY
RIGHT LANE CLOSURE, FAR SIDE



NOTES:
- When work is in place for 14 consecutive days or more, place temporary lane direction legends in mandatory turn lanes, as shown or directed.

4-LANE, 2-WAY
LEFT LANE CLOSURE, FAR SIDE

GENERAL NOTES FOR ALL DETAILS:

- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection.
- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" on Drg. TM800.
- For left lane or shoulder work, place TCD to close left lane or shoulder. Use "LEFT LANE CLOSED AHEAD" (W20-5) sign, "LEFT LANE ENDS" (W4-2L) symbol sign, or "LEFT SHOULDER CLOSED" (W21-5a) sign, where applicable.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Drg. TM800.
- When a through road intersects within the work zone, place a "ROAD WORK AHEAD" (W20-1) sign in advance of the intersection at sign spacing A.
- Use plastic drums in lane closure tapers when the posted speed is 45 mph or greater.
- Where shoulder width is limited, Sequential Arrow may be placed within the lane closure taper.
- Place channelizing devices around intersection radii and construction areas at 10' spacing.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- To be accompanied by Drg. Nos. TM820,TM821 & TM840.

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

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

UNDER TRAFFIC

UNDER CONSTRUCTION

CALC. BOOK NO. N/A

BASELINE REPORT DATE 01-JUL-2019

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

INTERSECTION WORK ZONE DETAILS

2018

DATE	REVISION DESCRIPTION
07-2019	REVISED DRAWING

tm841.dgn 01-Jul-2019

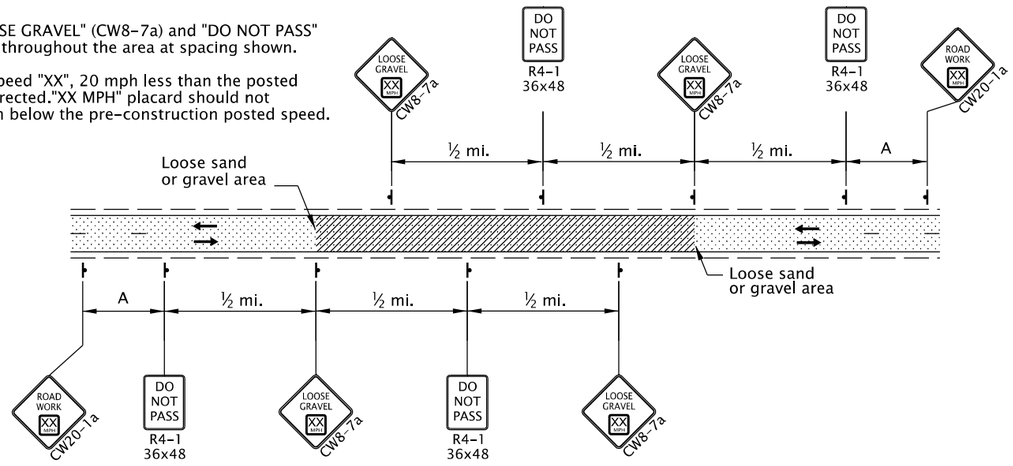
TM841

Effective Date: December 1, 2019 - May 31, 2020

TM841

NOTE:

- Continue "LOOSE GRAVEL" (CW8-7a) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.
- Use advisory speed "XX", 20 mph less than the posted speed, or as directed."XX MPH" placard should not exceed 20 mph below the pre-construction posted speed.

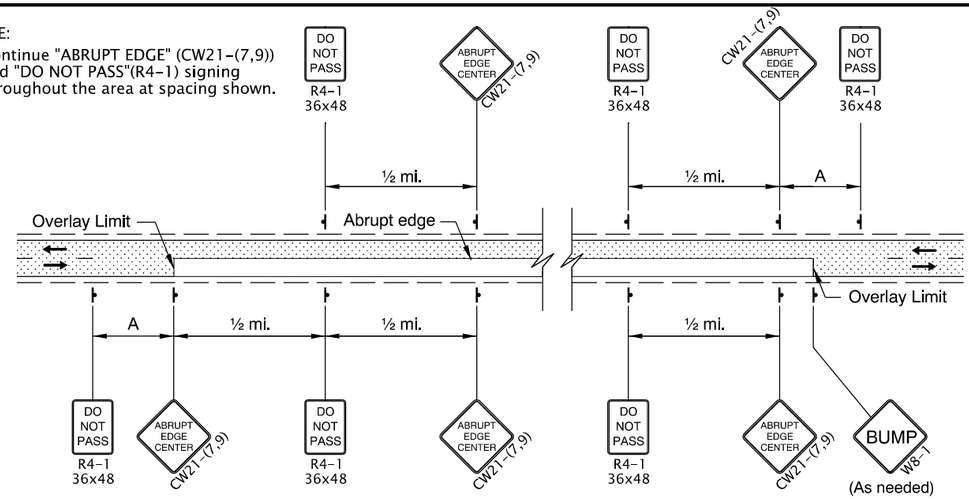


2-LANE, 2-WAY ROADWAY

LOOSE GRAVEL IN ROADWAY SIGNING

NOTE:

- Continue "ABRUPT EDGE" (CW21-(7,9)) and "DO NOT PASS"(R4-1) signing throughout the area at spacing shown.

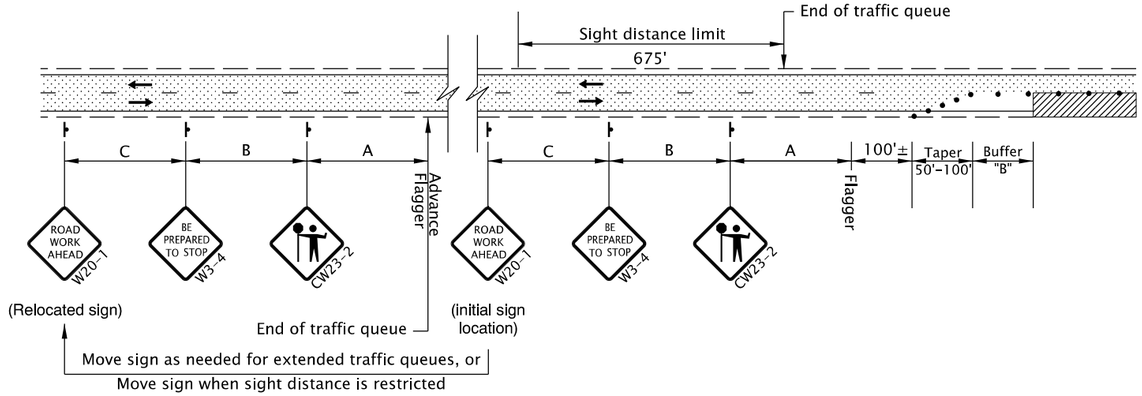


2-LANE, 2-WAY ROADWAY

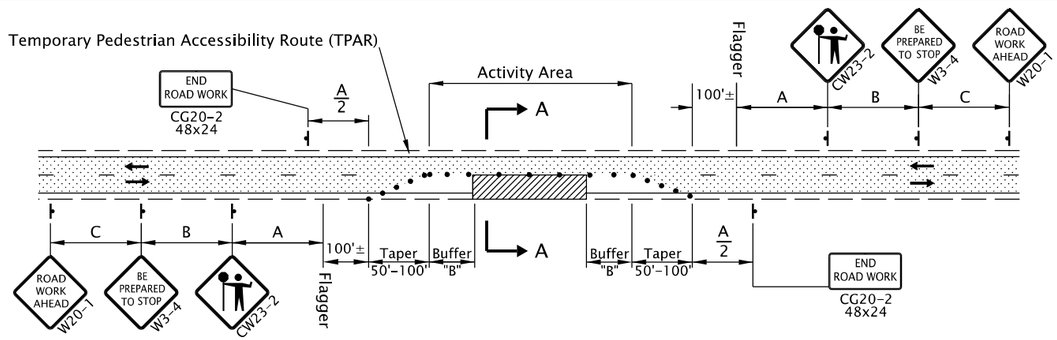
OVERLAY AREA SIGNING

NOTES:

- Place Advance Flagger and additional signing when traffic queues extend beyond initial warning signing OR when sight distance is restricted.
- Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.
- Place additional Tubular Markers for Flagger and Advance Flagger Stations according to FLAGGER STATION DELINEATION detail.

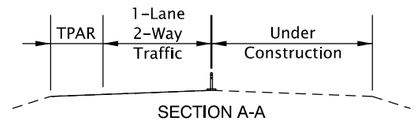


ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES



NOTE:

- When using pilot cars with flaggers to control traffic during paving operations, the Tubular Marker spacing along centerline may be increased to 200' within the Activity Area, as shown or as directed.
- Include CR4-23 signs mounted on Type II Barricade located approx. 50' before each Flagger.
- Coordinate and control pedestrians movements through the TPAR using Flaggers, other TCM, or as directed. When the existing shoulder is greater than or equal to 4' wide, provide a minimum of 4' of width for the TPAR.



2-LANE, 2-WAY ROADWAY

ONE LANE CLOSURE

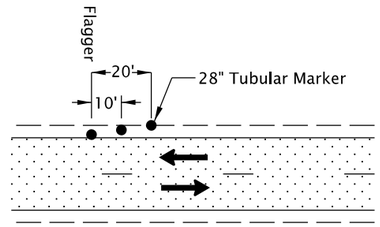
GENERAL NOTES FOR ALL DETAILS:

- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- Cover existing passing zone signing, as directed.
- Install temporary striping as required.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" shown on Drg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Drg. No. TM800.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- To be accompanied by Drg. Nos. TM821.

- • • • • 28" Tubular Markers on 20' max. spacing for flagger tapers and stations
- • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.
- UNDER TRAFFIC
- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC

NOTE:

- Use a minimum of 3 tubular markers in shoulder taper on 10' spacing for flagger station delineation.



FLAGGER STATION DELINEATION

CALC. BOOK NO. N/A

BASELINE REPORT DATE 01-JAN-2019

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

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OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2018

DATE	REVISION DESCRIPTION
01-2018	REVISED DRAWING AND NOTES

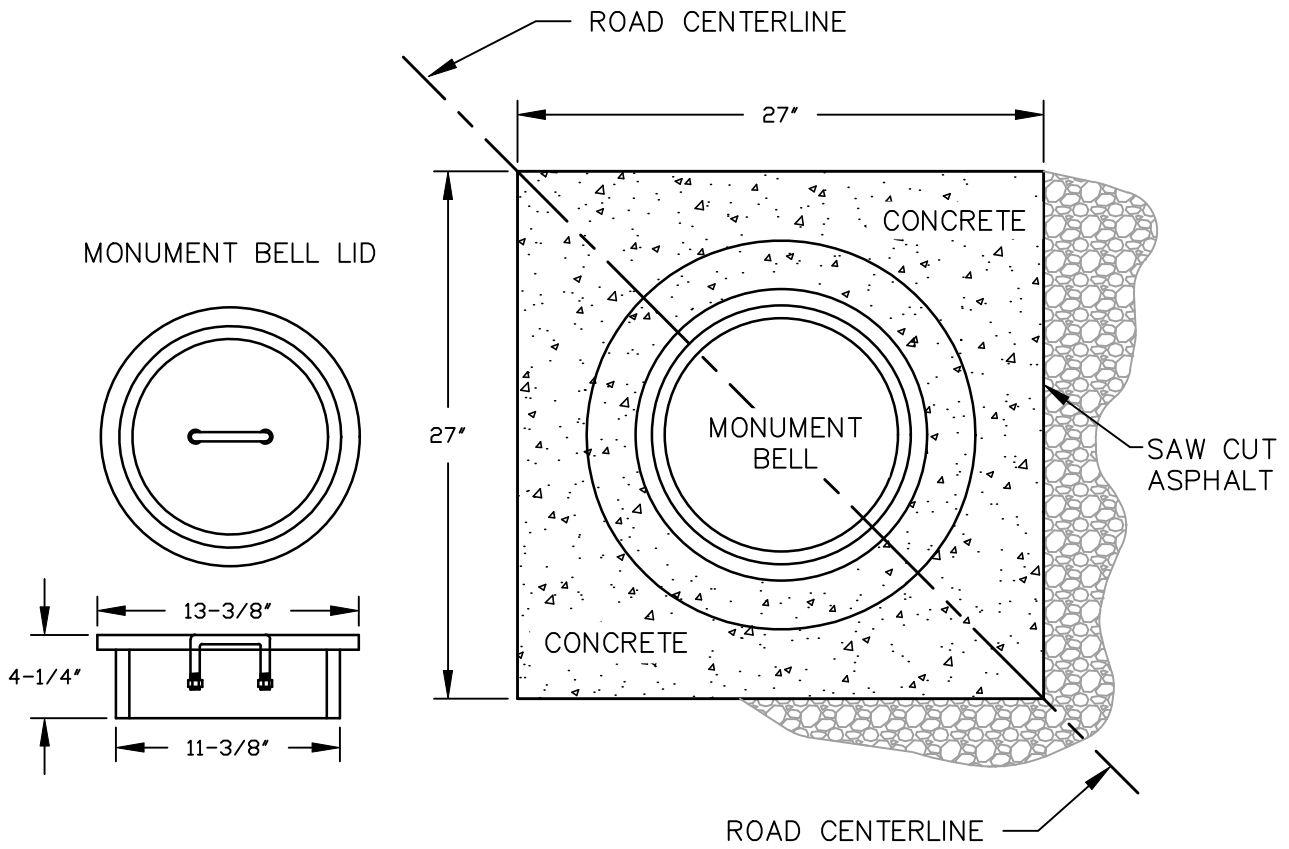
01-JAN-2019

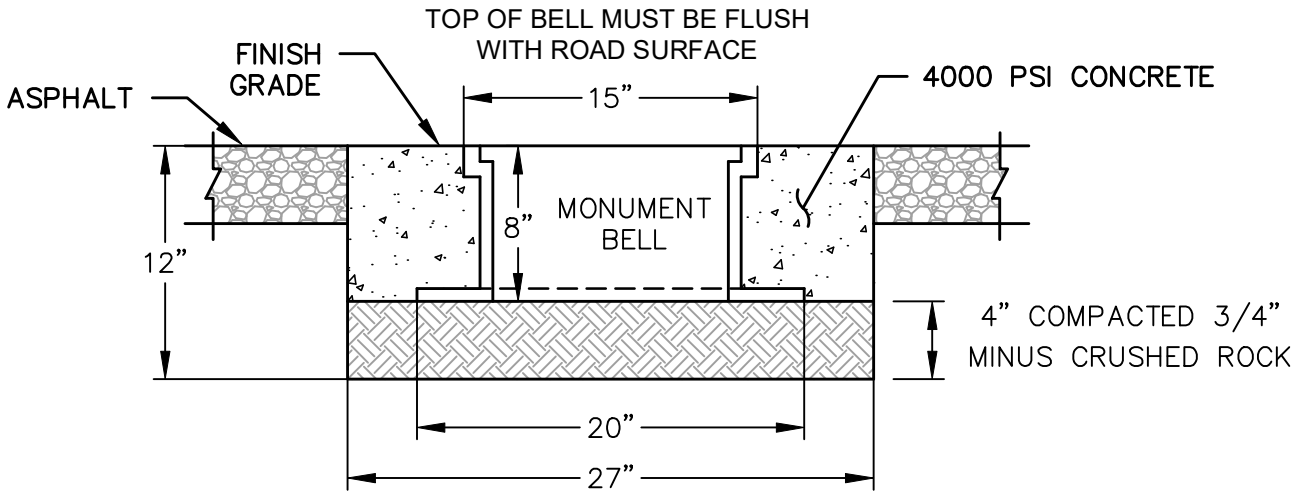
tm850.dgn

TM850

Effective Date: December 1, 2019 - May 31, 2020

TM850





NOTE:
MONUMENT BOXES TO BE CAST IRON OR ALLOY SUITABLE FOR HEAVY TRAFFIC LOADING. #1036 OR #1033 EAST JORDAN IRON WORKS #3680 OR EQUIVILANT.

REVISION	DATE	BY
REVISION	11/19	RM
REVISION	3/20	RM

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY

APPROVAL DATE: 6/1/2020 SCALE: N.T.S.

MONUMENT BOX GREATER THAN 35 MPH

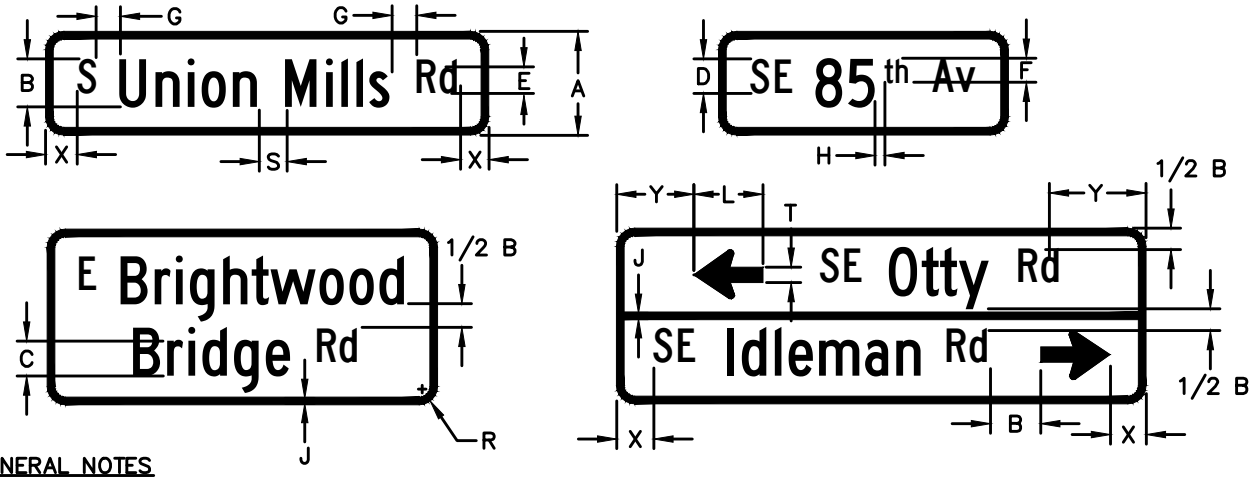
STANDARD DRAWING

M150

LEGEND DIMENSIONING TABLE

LOCATION	STREET CLASSIFICATION	POSTED SPEED (MPH)	PANEL HT.	PRIMARY LETTER HT.	LOWER-CASE LETTER HT.	SUPPLEMENTAL LETTERING SIZE		SUPER-SCRIPT HT.			BORDER/ DIVIDER THICK-NESS	BOR-DER RAD.	ARROW TAIL THICK-NESS	ARROW LENGTH
						UPPER	LOWER							
			A	B	C	D	E	F	G	H	J	R	T	L
GROUND MOUNT	ARTERIAL/COLLECTOR 4+ LANES	> 40	15	8	6	5	3 3/4	4	3 1/8	1	1/2	1 1/2		
	ARTERIAL/COLLECTOR 4+ LANES	≤ 40	12	6	4 1/2	4	3	3	2 1/2	3/4	1/2	1 1/2		
	ARTERIAL/COLLECTOR 2-3 LANES	ALL												
	LOCAL	> 25												
	ALTERNATE *		10	5	4	4	3	2 1/2	2	1/2	1/2	1 1/2		
	STACKED LEGEND	ALL	21	6	4 1/2	4	3	3	2 1/2	3/4	1/2	1 1/2	2 1/4	9
	LOCAL/CONNECTOR	≤ 25	8	5	3 3/4	3	1 7/8	2 1/2	1 1/2	1/2				
	PRIVATE	ALL												
OVERHEAD MAST ARM	ALL	ALL	21	12	9	8	6	6	5	1 3/4	1	3		
	ALTERNATE **		18	10	8	6	4 1/2	5	3 3/4	1 1/4	1	3		
	STACKED LEGEND	ALL	30	8	6	5	3 3/4	4	3 1/8	1	1	3	3	12

NOTES: ALL UNITS IN INCHES UNLESS SHOWN OTHERWISE.
S = SPACE BETWEEN WORDS = 5/8 B.
X, Y = 1/2 OF REMAINING SPACE. SHOULD BE APPROXIMATELY EQUAL TO LETTER HT (B) AND NO LESS THAN 1/2 B.
* GROUND MOUNTED: MAY BE USED IF 6" LETTERS YIELD SIGNS GREATER THAN 60" LENGTH.
** OVERHEAD: MAY BE USED IF 12" LETTERS YIELD SIGNS GREATER THAN 12' LENGTH.



GENERAL NOTES

1. ALL SIGN CORNERS SHALL BE ROUNDED.
2. BORDERS SHALL BE FLUSH WITH EDGE OF SIGN. BORDERS ARE NOT REQUIRED ON 8" PANELS.
3. LEGEND HEIGHT FOR ALL SIGNS AT AN INTERSECTION DICTATED BY THE HIGHEST CLASSIFICATION ROADWAY.
4. SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEERING FOR REVIEW PRIOR TO INSTALLATION.
5. SEE T130 FRO ADDITIONAL REQUIREMENTS.

SIGN LEGEND

1. ALL LEGENDS ARE SUBJECT TO THE ENGINEER'S APPROVAL PRIOR TO FABRICATION.
2. LETTERING SHALL BE FHWA SERIES C AT 100% WIDTH UNLESS SPECIFIED OTHERWISE.
3. THE PREFIX SHALL BE ABBREVIATED UPPER-CASE LETTERS.
4. THE STREET NAME SHALL CONSIST OF LOWER-CASE LETTERS WITH AN INITIAL UPPER-CASE LETTER.
5. THE SUFFIX SHALL BE ABBREVIATED AND CONSIST OF AN INITIAL UPPER-CASE LETTER FOLLOWED BY LOWER-CASE LETTER(S).
6. THE DESCENDERS OF LOWERCASE LETTERS SHALL NOT BE USED IN THE VERTICAL SPACING OF THE LEGEND.

MATERIALS

1. ALL SIGN MATERIALS SHALL CONFORM TO THE CURRENT MUTCD AND ODOT STANDARD SPECIFICATIONS.
2. GROUND MOUNTED: GREEN TYPE III OR TYPE IV BACKGROUND WITH SILVER-WHITE TYPE III OR TYPE IV PERMANENT LEGEND, OR SILVER-WHITE TYPE III OR TYPE IV SHEETING BACKGROUND OVERLAID WITH GREEN TRANSPARENT PASTE BACKGROUND WITH RETROFLECTIVE SILVER-WHITE SCREENED LEGEND.
3. OVERHEAD MOUNTED: GREEN TYPE III OR TYPE IV SHEETING BACKGROUND WITH WHITE TYPE IX PERMANENT LEGEND.
4. PRIVATE STREETS: SILVER-WHITE TYPE III OR TYPE IV SHEETING BACKGROUND WITH BLACK NONREFLECTIVE SCREENED, CUT-OUT PERMANENT LEGEND.

REVISION	DATE	BY
BORDER THICKNESS	1/13	CLS
suffix ltr. upper/lwr	1/13	CLS
	11/19	BP

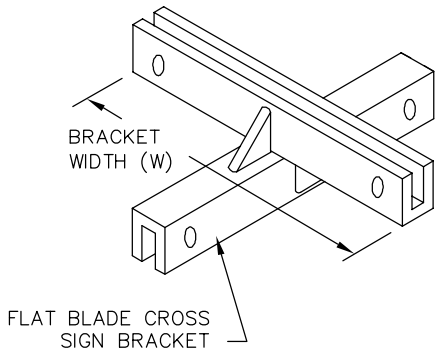
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

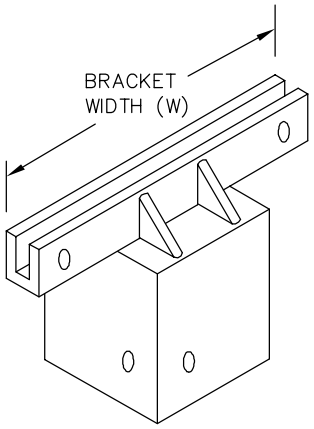
CLACKAMAS COUNTY

APPROVAL DATE: 01/31/2020 SCALE: N.T.S.

STREET NAME SIGNS & DETAILS

STANDARD DRAWING
T100





FLAT BLADE SIGN BRACKETS

SIGN BRACKET SIZE

SIGN WIDTH (IN.)	MOUNTING
< 30	POST TOP BRACKET, W = 5 ¼"
30 TO 48	POST TOP BRACKET, W = 12"
> 48	RIVET TO POST

OVERHEAD MOUNTING

1. SIGNS TO BE MOUNTED USING REUSABLE BANDING TYPE ADJUSTABLE BRACKET (SKY BRACKET OR APPROVED EQUAL) UNLESS OTHERWISE SPECIFIED.
2. NEW PROJECTS: SIGNAL MAST ARM SIGNS TO BE INCLUDED ON SIGNING PLANS.
3. EXISTING SIGNAL POLES: PERFORM POLE STRUCTURAL ANALYSIS PRIOR TO ADDING OR ENLARGING SIGNS.

ABBREVIATIONS FOR STREET NAME SUFFIXES

AV = Avenue CT = Court LN = Lane PKWY = Parkway RD = Road TER = Terrace
BLVD = Boulevard DR = Drive LP = Loop PL = Place ST = Street WY = Way
CIR = Circle

S:\Engineering\Roadway Standards\2010 Roadway Standards\2010 Standards for Publish\Drawings\DWGs\ T100-T250.dwg

REVISION	DATE	BY

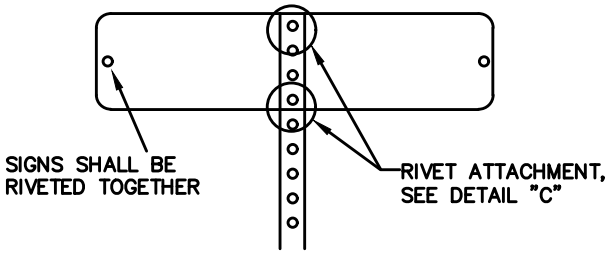
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

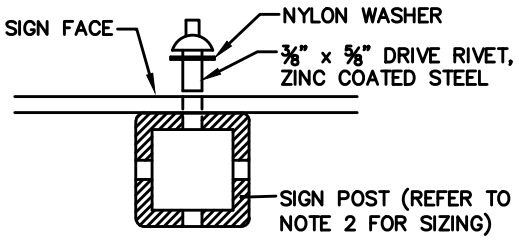
CLACKAMAS COUNTY

APPROVAL DATE: 1/1/10 SCALE: N.T.S.

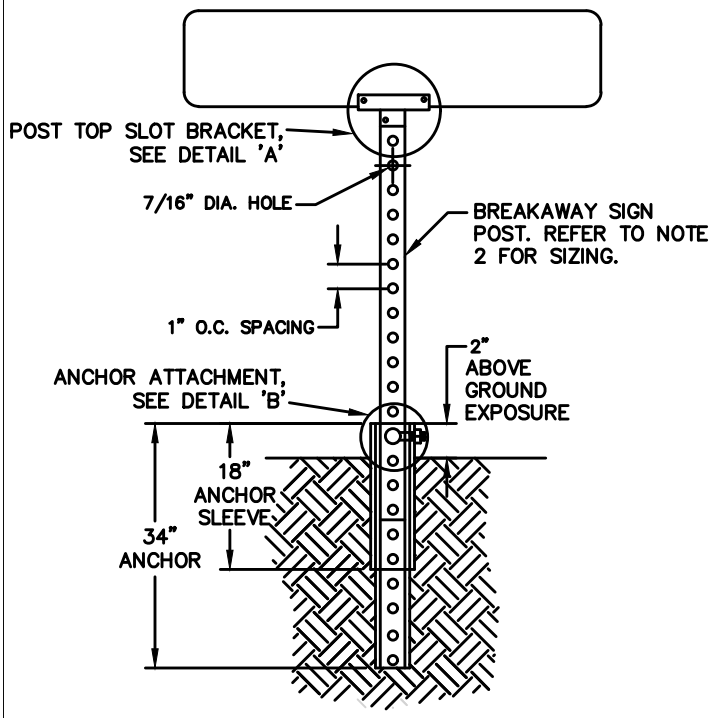
STREET NAME SIGNS & DETAILS (CONTINUED)

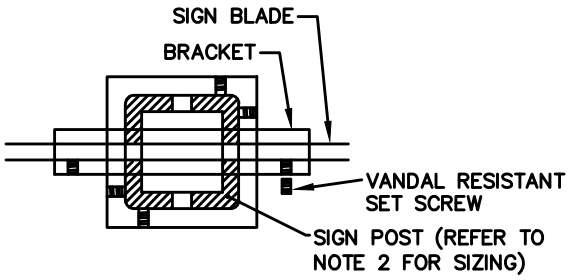
STANDARD DRAWING
T130



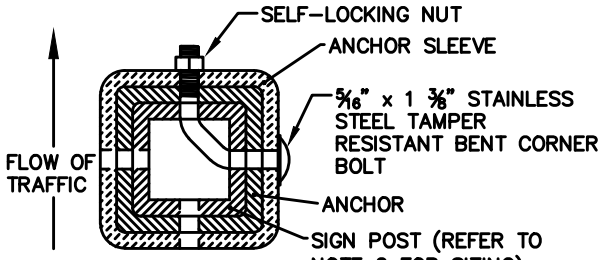


RIVET ATTACHMENT
(DETAIL 'C', TOP VIEW)





POST TOP BRACKET ATTACHMENT
(DETAIL 'A', TOP VIEW)



ANCHOR ATTACHMENT
(DETAIL 'B', TOP VIEW)

NOTES

1. SIGN COMBINATION AND MINIMUM SIGN MOUNTING HEIGHT SHALL DETERMINE POST LENGTH. A 10' (MIN.) POST SHALL BE USED. A COMBINATION OF SIGNS GREATER THAN 36" IN HEIGHT SHALL REQUIRE A 12' (MIN.) POST.
2. SIGN POST SIZING SHALL BE BASED ON OREGON STANDARD DRAWING TM681 (PERMANENT PERFORATED STEEL SQUARE TUBE TABLE –85 MPH). THE MINIMUM POST SIZE SHALL BE 2" X 2" 12 GA. SQUARE TUBE. IF THE SIGN PANEL AREA IS GREATER THAN THAT ALLOWED BY A 2" X 2" POST, THEN A 2 ½" X 2 ½" 12 GA. POST SHALL BE USED. IF A LARGER SUPPORT IS REQUIRED, THEN WOOD SIGN SUPPORTS SHALL BE USED PER OREGON STANDARD DRAWING TM670.
3. SIGN POSTS IN CONCRETE AREAS SHALL BE INSTALLED ON SURFACE–MOUNTED BREAKAWAY BASES.
4. NYLON SPACERS SHALL BE USED TO PREVENT CONTACT BETWEEN GALVANIZED STEEL AND ALUMINUM MATERIAL SURFACES.

REVISION	DATE	BY
REV 1	11/19	BP

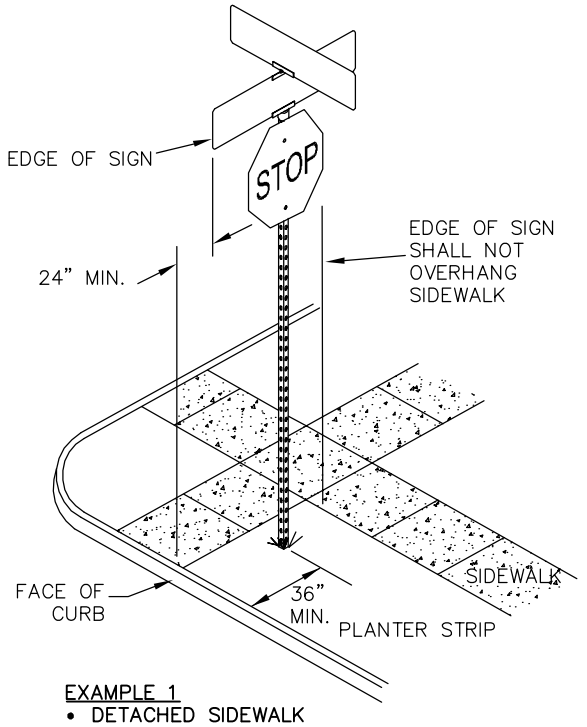
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

CLACKAMAS COUNTY

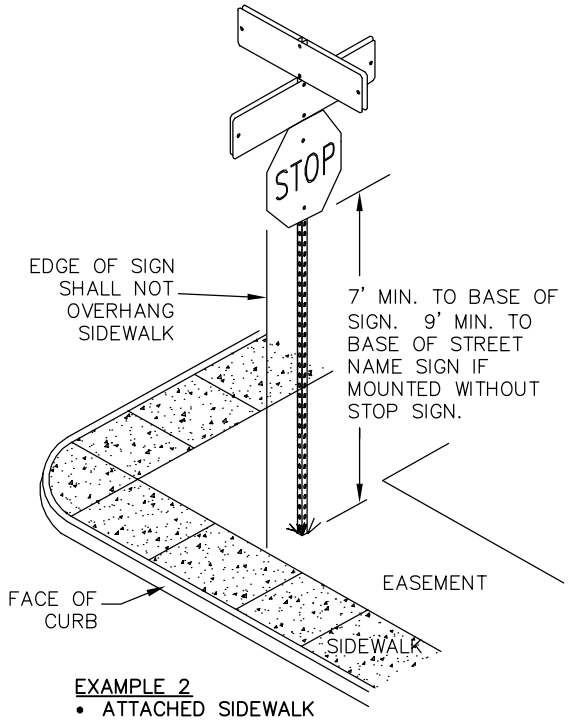
APPROVAL DATE: 01/31/2020 SCALE: N.T.S.

SIGN MOUNTING AND ATTACHMENTS

STANDARD DRAWING
T150

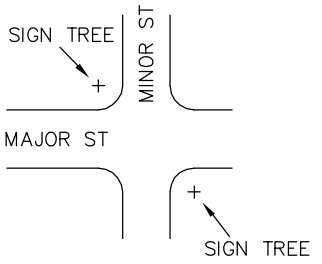


EXAMPLE 1
- DETACHED SIDEWALK
- POST TOP FLAT BLADE BRACKET WITH CROSS BRACKET

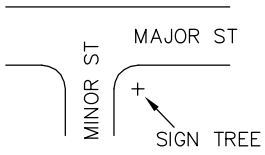


EXAMPLE 2
- ATTACHED SIDEWALK
- DOUBLE SIGNS RIVETED TO POST

TYPICAL SIGN INSTALLATIONS



4–LEG INTERSECTION



T INTERSECTON

TYPICAL STREET NAME SIGN LOCATIONS

S:\Engineering\Roadway Standards\2010 Roadway Standards\2010 Standards for Publish\Drawings\DWGs\ T100-T250.dwg

REVISION	DATE	BY

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

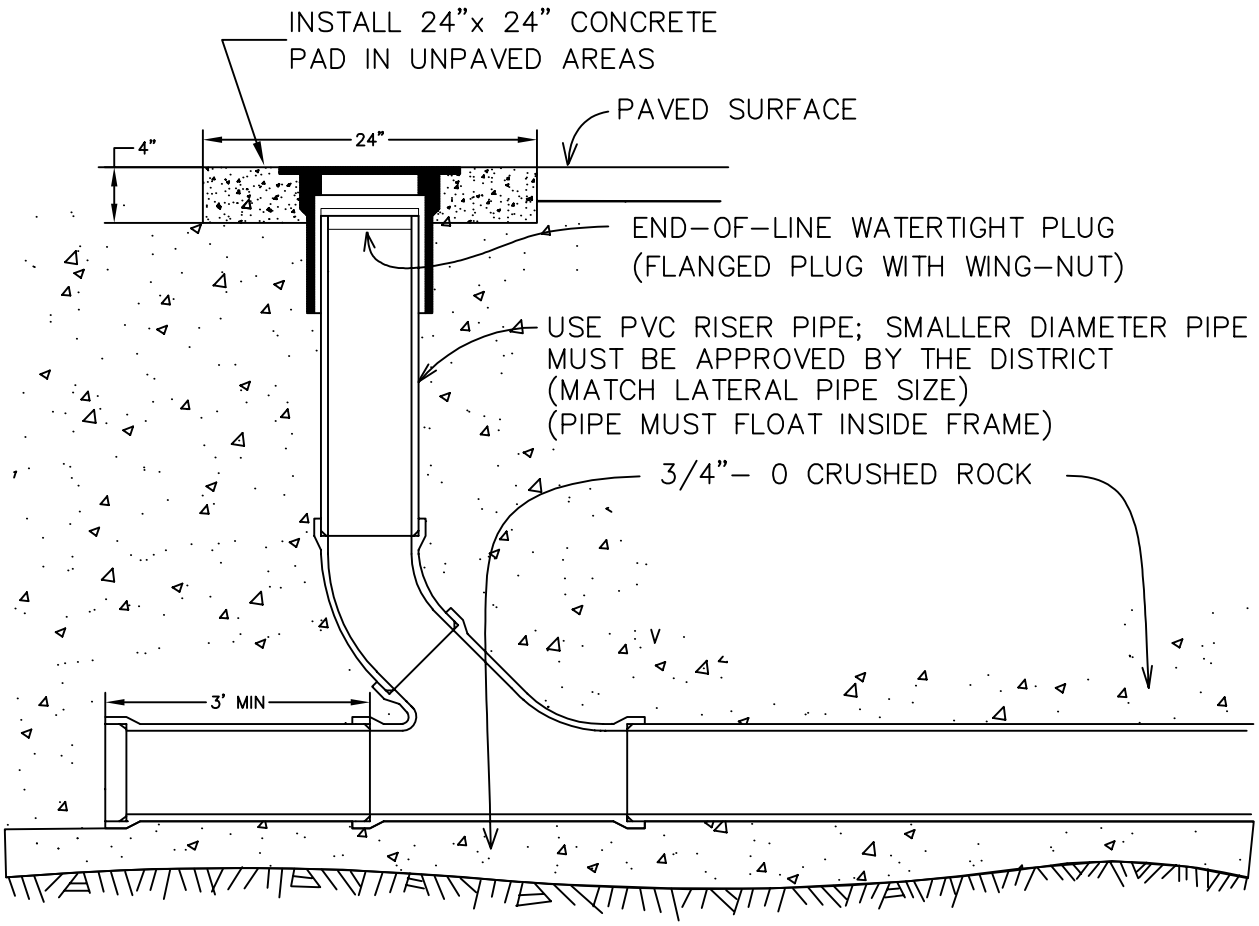
CLACKAMAS COUNTY

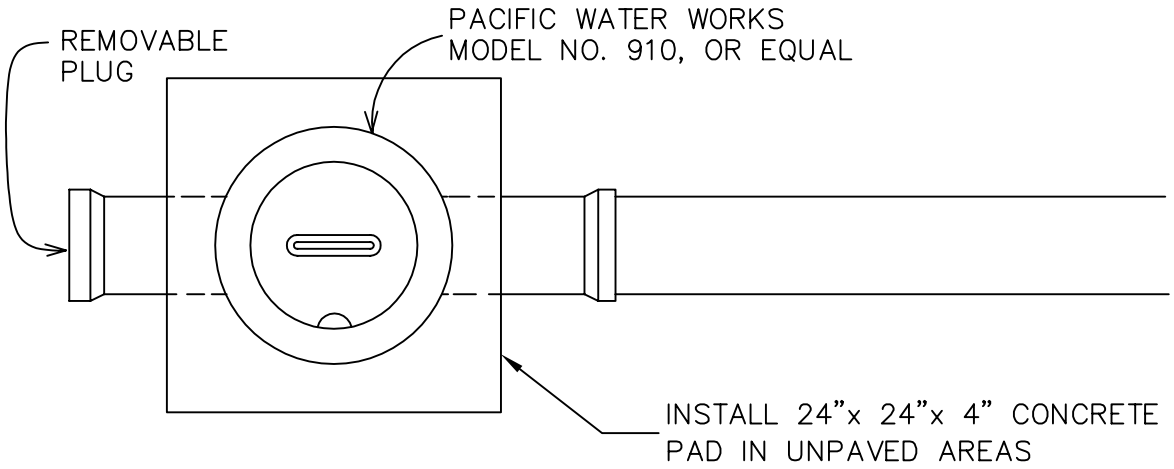
APPROVAL DATE: 1/1/10 SCALE: N.T.S.

SIGN INSTALLATIONS

STANDARD DRAWING

T250





NOTE: CLEANOUTS WITHIN A PRIVATE OR PUBLIC RIGHT–OF–WAY SHALL MEET THE LATEST ROADWAY STANDARDS FOR SPECIFICATIONS AND LOAD RATE.

WATER ENVIRONMENT SERVICES www.co.clackamas.or.us/wes	CLACKAMAS COUNTY 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	*APPROVAL DATE:* 2013 *SCALE:* N.T.S. STORM - CLEAN OUT	*STANDARD DRAWING* SWM ST-4.0

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 4/13/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Anchor Insurance and Surety, Inc 1201 SW 12th Ave. Ste. 500 Portland OR 97205	**CONTACT NAME:** Kim Lee **PHONE (A/C, No, Ext):** 503-224-2500 **FAX (A/C, No):** 503-224-9830 **E-MAIL ADDRESS:** klee@anchorias.com
INSURED EAGLELS-01 Eagle Elsner, Inc. P. O. Box 23294 Tigard OR 97281	**INSURER(S) AFFORDING COVERAGE** / **NAIC #** **INSURER A :** Charter Oak Fire Ins. Co. 25615 **INSURER B :** Travelers Property Casualty Co. of America 25674 **INSURER C :** SAIF Corporation 36196 **INSURER D :** Travelers Indemnity Co. 25666 **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** 1481311416 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X **COMMERCIAL GENERAL LIABILITY** [ ] CLAIMS-MADE [X] OCCUR X WA STOP GAP GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY X PRO-JECT [ ] LOC [ ] OTHER:	Y		DT-CO-1019R236-COF-20	6/1/2020	6/1/2021	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG JOBSITE POLLUTION	$ 1,000,000 $ 300,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $ 1,000,000
B	**AUTOMOBILE LIABILITY** X ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS X HIRED AUTOS ONLY X NON-OWNED AUTOS ONLY	Y		810-0N699992-20-26-G	6/1/2020	6/1/2021	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) POLLUTION	$ 1,000,000 $ $ $ $ 1,000,000
B	X **UMBRELLA LIAB** X OCCUR **EXCESS LIAB** [ ] CLAIMS-MADE [ ] DED X RETENTION $ 10,000			CUP-5J064957-20-26	6/1/2020	6/1/2021	EACH OCCURRENCE AGGREGATE	$ 8,000,000 $ 8,000,000 $
C	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		810540	10/1/2020	10/1/2021	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 500,000 $ 500,000 $ 500,000
D	INSTALLATION FLOATER LEASED/RENTED EQUIPMENT			QT-660-8449L841-TIA-20	6/1/2020	6/1/2021	ANY ONE LOCATION ANY ONE ITEM | AGGRE	1,000,000 250,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Certificate holder and all other entities are additional insureds when specified by written contract. Coverage is primary & non-contributory and includes waiver of subrogation when required by written contract. All subject to the terms, conditions and exclusions of the policies. Endorsements attached: CG D2 46 04 19, CG D3 16 02 19, CG D2 11 01 04, CA T3 53 02 15, WC000313.
Umbrella Excess Liability goes over General Liability, Auto and Employers Liability.

Project Name: #2021-13 South Central Point Road and South New Era Road Intersection Realignment Construction

CERTIFICATE HOLDER

Clackamas County Procurement
2051 Kaen Road
Oregon City OR 97045

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Joel Dietzman

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

XTEND ENDORSEMENT FOR CONTRACTORS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

GENERAL DESCRIPTION OF COVERAGE – This endorsement broadens coverage. However, coverage for any injury, damage or medical expenses described in any of the provisions of this endorsement may be excluded or limited by another endorsement to this Coverage Part, and these coverage broadening provisions do not apply to the extent that coverage is excluded or limited by such an endorsement. The following listing is a general coverage description only. Read all the provisions of this endorsement and the rest of your policy carefully to determine rights, duties, and what is and is not covered.

A. Who Is An Insured – Unnamed Subsidiaries

B. Blanket Additional Insured – Governmental Entities – Permits Or Authorizations Relating To Operations

C. Incidental Medical Malpractice

D. Blanket Waiver Of Subrogation

E. Contractual Liability – Railroads

F. Damage To Premises Rented To You

PROVISIONS

A. WHO IS AN INSURED – UNNAMED SUBSIDIARIES

The following is added to **SECTION II – WHO IS AN INSURED**:

Any of your subsidiaries, other than a partnership, joint venture or limited liability company, that is not shown as a Named Insured in the Declarations is a Named Insured if:

a. You are the sole owner of, or maintain an ownership interest of more than 50% in, such subsidiary on the first day of the policy period; and

b. Such subsidiary is not an insured under similar other insurance.

No such subsidiary is an insured for "bodily injury" or "property damage" that occurred, or "personal and advertising injury" caused by an offense committed:

a. Before you maintained an ownership interest of more than 50% in such subsidiary; or

b. After the date, if any, during the policy period that you no longer maintain an ownership interest of more than 50% in such subsidiary.

For purposes of Paragraph **1.** of Section **II** – Who Is An Insured, each such subsidiary will be deemed to be designated in the Declarations as:

a. An organization other than a partnership, joint venture or limited liability company; or

b. A trust;

as indicated in its name or the documents that govern its structure.

B. BLANKET ADDITIONAL INSURED – GOVERNMENTAL ENTITIES – PERMITS OR AUTHORIZATIONS RELATING TO OPERATIONS

The following is added to **SECTION II – WHO IS AN INSURED**:

Any governmental entity that has issued a permit or authorization with respect to operations performed by you or on your behalf and that you are required by any ordinance, law, building code or written contract or agreement to include as an additional insured on this Coverage Part is an insured, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" arising out of such operations.

The insurance provided to such governmental entity does not apply to:

a. Any "bodily injury", "property damage" or "personal and advertising injury" arising out of operations performed for the governmental entity; or

b. Any "bodily injury" or "property damage" included in the "products-completed operations hazard".

C. INCIDENTAL MEDICAL MALPRACTICE

1. The following replaces Paragraph **b.** of the definition of "occurrence" in the **DEFINITIONS** Section:

b. An act or omission committed in providing or failing to provide "incidental medical services", first aid or "Good Samaritan services" to a person, unless you are in the business or occupation of providing professional health care services.

2. The following replaces the last paragraph of Paragraph **2.a.(1)** of **SECTION II – WHO IS AN INSURED**:

Unless you are in the business or occupation of providing professional health care services, Paragraphs **(1)(a)**, **(b)**, **(c)** and **(d)** above do not apply to "bodily injury" arising out of providing or failing to provide:

(a) "Incidental medical services" by any of your "employees" who is a nurse, nurse assistant, emergency medical technician or paramedic; or

(b) First aid or "Good Samaritan services" by any of your "employees" or "volunteer workers", other than an employed or volunteer doctor. Any such "employees" or "volunteer workers" providing or failing to provide first aid or "Good Samaritan services" during their work hours for you will be deemed to be acting within the scope of their employment by you or performing duties related to the conduct of your business.

3. The following replaces the last sentence of Paragraph **5.** of **SECTION III – LIMITS OF INSURANCE**:

For the purposes of determining the applicable Each Occurrence Limit, all related acts or omissions committed in providing or failing to provide "incidental medical services", first aid or "Good Samaritan services" to any one person will be deemed to be one "occurrence".

4. The following exclusion is added to Paragraph **2.**, **Exclusions**, of **SECTION I – COVERAGES – COVERAGE A – BODILY INJURY AND PROPERTY DAMAGE LIABILITY**:

Sale Of Pharmaceuticals

"Bodily injury" or "property damage" arising out of the violation of a penal statute or ordinance relating to the sale of pharmaceuticals committed by, or with the knowledge or consent of, the insured.

5. The following is added to the **DEFINITIONS** Section:

"Incidental medical services" means:

a. Medical, surgical, dental, laboratory, x-ray or nursing service or treatment, advice or instruction, or the related furnishing of food or beverages; or

b. The furnishing or dispensing of drugs or medical, dental, or surgical supplies or appliances.

6. The following is added to Paragraph **4.b.**, **Excess Insurance**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

This insurance is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to any of your "employees" for "bodily injury" that arises out of providing or failing to provide "incidental medical services" to any person to the extent not subject to Paragraph **2.a.(1)** of Section **II** – Who Is An Insured.

D. BLANKET WAIVER OF SUBROGATION

The following is added to Paragraph **8.**, **Transfer Of Rights Of Recovery Against Others To Us**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

If the insured has agreed in a contract or agreement to waive that insured's right of recovery against any person or organization, we waive our right of recovery against such person or organization, but only for payments we make because of:

a. "Bodily injury" or "property damage" that occurs; or

b. "Personal and advertising injury" caused by an offense that is committed;

subsequent to the execution of the contract or agreement.

E. CONTRACTUAL LIABILITY – RAILROADS

1. The following replaces Paragraph **c.** of the definition of "insured contract" in the **DEFINITIONS** Section:

c. Any easement or license agreement;

2. Paragraph **f.(1)** of the definition of "insured contract" in the **DEFINITIONS** Section is deleted.

F. DAMAGE TO PREMISES RENTED TO YOU

The following replaces the definition of "premises damage" in the **DEFINITIONS** Section:

"Premises damage" means "property damage" to:

a. Any premises while rented to you or temporarily occupied by you with permission of the owner; or

b. The contents of any premises while such premises is rented to you, if you rent such premises for a period of seven or fewer consecutive days.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED
(Includes Products-Completed Operations If Required By Contract)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

PROVISIONS

The following is added to **SECTION II – WHO IS AN INSURED**:

Any person or organization that you agree in a written contract or agreement to include as an additional insured on this Coverage Part is an insured, but only:

a. With respect to liability for "bodily injury" or "property damage" that occurs, or for "personal injury" caused by an offense that is committed, subsequent to the signing of that contract or agreement and while that part of the contract or agreement is in effect; and

b. If, and only to the extent that, such injury or damage is caused by acts or omissions of you or your subcontractor in the performance of "your work" to which the written contract or agreement applies. Such person or organization does not qualify as an additional insured with respect to the independent acts or omissions of such person or organization.

The insurance provided to such additional insured is subject to the following provisions:

a. If the Limits of Insurance of this Coverage Part shown in the Declarations exceed the minimum limits required by the written contract or agreement, the insurance provided to the additional insured will be limited to such minimum required limits. For the purposes of determining whether this limitation applies, the minimum limits required by the written contract or agreement will be considered to include the minimum limits of any Umbrella or Excess liability coverage required for the additional insured by that written contract or agreement. This provision will not increase the limits of insurance described in Section **III** – Limits Of Insurance.

b. The insurance provided to such additional insured does not apply to:

(1) Any "bodily injury", "property damage" or "personal injury" arising out of the providing, or failure to provide, any professional architectural, engineering or surveying services, including:

(a) The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders or change orders, or the preparing, approving, or failing to prepare or approve, drawings and specifications; and

(b) Supervisory, inspection, architectural or engineering activities.

(2) Any "bodily injury" or "property damage" caused by "your work" and included in the "products-completed operations hazard" unless the written contract or agreement specifically requires you to provide such coverage for that additional insured during the policy period.

c. The additional insured must comply with the following duties:

(1) Give us written notice as soon as practicable of an "occurrence" or an offense which may result in a claim. To the extent possible, such notice should include:

(a) How, when and where the "occurrence" or offense took place;

(b) The names and addresses of any injured persons and witnesses; and

(c) The nature and location of any injury or damage arising out of the "occurrence" or offense.

(2) If a claim is made or "suit" is brought against the additional insured:

(a) Immediately record the specifics of the claim or "suit" and the date received; and

(b) Notify us as soon as practicable and see to it that we receive written notice of the claim or "suit" as soon as practicable.

(3) Immediately send us copies of all legal papers received in connection with the claim or "suit", cooperate with us in the investigation or settlement of the claim or defense against the "suit", and otherwise comply with all policy conditions.

(4) Tender the defense and indemnity of any claim or "suit" to any provider of other insurance which would cover such additional insured for a loss we cover. However, this condition does not affect whether the insurance provided to such additional insured is primary to other insurance available to such additional insured which covers that person or organization as a named insured as described in Paragraph **4.**, Other Insurance, of Section **IV** – Commercial General Liability Conditions.

COMMERCIAL GENERAL LIABILITY

POLICY NUMBER: ISSUE DATE:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY

DESIGNATED PROJECT(S) GENERAL AGGREGATE LIMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Designated Project(s):	Designated Project General Aggregate(s):
EACH "PROJECT" FOR WHICH YOU HAVE AGREED IN A WRITTEN CONTRACT THAT IS IN EFFECT DURING THIS POLICY PERIOD, TO PROVIDE A SEPARATE GENERAL AGGREGATE LIMIT, PROVIDED THAT THE CONTRACT IS SIGNED BY YOU BEFORE THE "BODILY INJURY" OR "PROPERTY DAMAGE" OCCURS.	GENERAL AGGREGATE LIMIT SHOWN ON THE DECLARATIONS.

A. For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under **COVERAGE A. (SECTION I)**, and for all medical expenses caused by accidents under **COVERAGE C (SECTION I)**, which can be attributed only to operations at a single designated "project" shown in the Schedule above:

1. A separate Designated Project General Aggregate Limit applies to each designated "project", and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations, unless separate **Designated Project General Aggregate(s)** are scheduled above.

2. The Designated Project General Aggregate Limit is the most we will pay for the sum of all damages under **COVERAGE A.**, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard", and for medical expenses under **COVERAGE C**, regardless of the number of:

a. Insureds;

b. Claims made or "suits" brought; or

c. Persons or organizations making claims or bringing "suits".

3. Any payments made under **COVERAGE A.** for damages or under **COVERAGE C.** for medical expenses shall reduce the Designated Project General Aggregate Limit for that designated "project". Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Project General Aggregate Limit for any other designated "project" shown in the Schedule above.

4. The limits shown in the Declarations for **Each Occurrence, Damage To Premises Rented To You and Medical Expense** continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Project General Aggregate Limit.

B. For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under **COVERAGE A. (SECTION I)**, and for all medical expenses caused by accidents under **COVERAGE C. (SECTION I)**, which cannot be attributed only to operations at a single designated "project" shown in the Schedule above:

1. Any payments made under **COVERAGE A.** for damages or under **COVERAGE C.** for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-Completed Operations Aggregate Limit, whichever is applicable; and
2. Such payments shall not reduce any Designated Project General Aggregate Limit.

C. Part **2.** of **SECTION III – LIMITS OF INSURANCE** is deleted and replaced by the following:

2. The General Aggregate Limit is the most we will pay for the sum of:
   a. Damages under **Coverage B**; and
   b. Damages from "occurrences" under **COVERAGE A (SECTION I)** and for all medical expenses caused by accidents under **COVERAGE C (SECTION I)** which cannot be attributed only to operations at a single designated "project" shown in the **SCHEDULE** above.

D. When coverage for liability arising out of the "products-completed operations hazard" is provided, any payments for damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard" will reduce the Products-Completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Project General Aggregate Limit.

E. For the purposes of this endorsement the **Definitions Section** is amended by the addition of the following definition:

"Project" means an area away from premises owned by or rented to you at which you are performing operations pursuant to a contract or agreement. For the purposes of determining the applicable aggregate limit of insurance, each "project" that includes premises involving the same or connecting lots, or premises whose connection is interrupted only by a street, roadway, waterway or right-of-way of a railroad shall be considered a single "project".

F. The provisions of **SECTION III – LIMITS OF INSURANCE** not otherwise modified by this endorsement shall continue to apply as stipulated.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BUSINESS AUTO EXTENSION ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

GENERAL DESCRIPTION OF COVERAGE – This endorsement broadens coverage. However, coverage for any injury, damage or medical expenses described in any of the provisions of this endorsement may be excluded or limited by another endorsement to the Coverage Part, and these coverage broadening provisions do not apply to the extent that coverage is excluded or limited by such an endorsement. The following listing is a general coverage description only. Limitations and exclusions may apply to these coverages. Read all the provisions of this endorsement and the rest of your policy carefully to determine rights, duties, and what is and is not covered.

A. BROAD FORM NAMED INSURED

B. BLANKET ADDITIONAL INSURED

C. EMPLOYEE HIRED AUTO

D. EMPLOYEES AS INSURED

E. SUPPLEMENTARY PAYMENTS – INCREASED LIMITS

F. HIRED AUTO – LIMITED WORLDWIDE COVERAGE – INDEMNITY BASIS

G. WAIVER OF DEDUCTIBLE – GLASS

H. HIRED AUTO PHYSICAL DAMAGE – LOSS OF USE – INCREASED LIMIT

I. PHYSICAL DAMAGE – TRANSPORTATION EXPENSES – INCREASED LIMIT

J. PERSONAL PROPERTY

K. AIRBAGS

L. NOTICE AND KNOWLEDGE OF ACCIDENT OR LOSS

M. BLANKET WAIVER OF SUBROGATION

N. UNINTENTIONAL ERRORS OR OMISSIONS

PROVISIONS

A. BROAD FORM NAMED INSURED

The following is added to Paragraph **A.1.**, **Who Is An Insured**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

Any organization you newly acquire or form during the policy period over which you maintain 50% or more ownership interest and that is not separately insured for Business Auto Coverage. Coverage under this provision is afforded only until the 180th day after you acquire or form the organization or the end of the policy period, whichever is earlier.

B. BLANKET ADDITIONAL INSURED

The following is added to Paragraph **c.** in **A.1.**, **Who Is An Insured**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

Any person or organization who is required under a written contract or agreement between you and that person or organization, that is signed and executed by you before the "bodily injury" or "property damage" occurs and that is in effect during the policy period, to be named as an additional insured is an "insured" for Covered Autos Liability Coverage, but only for damages to which this insurance applies and only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Section **II**.

C. EMPLOYEE HIRED AUTO

1. The following is added to Paragraph **A.1.**, **Who Is An Insured**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

An "employee" of yours is an "insured" while operating an "auto" hired or rented under a contract or agreement in an "employee's" name, with your permission, while performing duties related to the conduct of your business.

2. The following replaces Paragraph **b.** in **B.5.**, **Other Insurance**, of **SECTION IV – BUSINESS AUTO CONDITIONS**:

b. For Hired Auto Physical Damage Coverage, the following are deemed to be covered "autos" you own:

(1) Any covered "auto" you lease, hire, rent or borrow; and

(2) Any covered "auto" hired or rented by your "employee" under a contract in an "employee's" name, with your

permission, while performing duties related to the conduct of your business.

However, any "auto" that is leased, hired, rented or borrowed with a driver is not a covered "auto".

D. EMPLOYEES AS INSURED

The following is added to Paragraph **A.1.**, **Who Is An Insured**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

Any "employee" of yours is an "insured" while using a covered "auto" you don't own, hire or borrow in your business or your personal affairs.

E. SUPPLEMENTARY PAYMENTS – INCREASED LIMITS

1. The following replaces Paragraph **A.2.a.(2)**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

(2) Up to $3,000 for cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.

2. The following replaces Paragraph **A.2.a.(4)**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

(4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to $500 a day because of time off from work.

F. HIRED AUTO – LIMITED WORLDWIDE COVERAGE – INDEMNITY BASIS

The following replaces Subparagraph **(5)** in Paragraph **B.7.**, **Policy Period, Coverage Territory**, of **SECTION IV – BUSINESS AUTO CONDITIONS**:

(5) Anywhere in the world, except any country or jurisdiction while any trade sanction, embargo, or similar regulation imposed by the United States of America applies to and prohibits the transaction of business with or within such country or jurisdiction, for Covered Autos Liability Coverage for any covered "auto" that you lease, hire, rent or borrow without a driver for a period of 30 days or less and that is not an "auto" you lease, hire, rent or borrow from any of your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households.

(a) With respect to any claim made or "suit" brought outside the United States of America, the territories and possessions of the United States of America, Puerto Rico and Canada:

(i) You must arrange to defend the "insured" against, and investigate or settle any such claim or "suit" and keep us advised of all proceedings and actions.

(ii) Neither you nor any other involved "insured" will make any settlement without our consent.

(iii) We may, at our discretion, participate in defending the "insured" against, or in the settlement of, any claim or "suit".

(iv) We will reimburse the "insured" for sums that the "insured" legally must pay as damages because of "bodily injury" or "property damage" to which this insurance applies, that the "insured" pays with our consent, but only up to the limit described in Paragraph **C.**, Limits Of Insurance, of SECTION **II** – COVERED AUTOS LIABILITY COVERAGE.

(v) We will reimburse the "insured" for the reasonable expenses incurred with our consent for your investigation of such claims and your defense of the "insured" against any such "suit", but only up to and included within the limit described in Paragraph **C.**, Limits Of Insurance, of SECTION **II** – COVERED AUTOS LIABILITY COVERAGE, and not in addition to such limit. Our duty to make such payments ends when we have used up the applicable limit of insurance in payments for damages, settlements or defense expenses.

(b) This insurance is excess over any valid and collectible other insurance available to the "insured" whether primary, excess, contingent or on any other basis.

(c) This insurance is not a substitute for required or compulsory insurance in any country outside the United States, its territories and possessions, Puerto Rico and Canada.

You agree to maintain all required or compulsory insurance in any such country up to the minimum limits required by local law. Your failure to comply with compulsory insurance requirements will not invalidate the coverage afforded by this policy, but we will only be liable to the same extent we would have been liable had you complied with the compulsory insurance requirements.

(d) It is understood that we are not an admitted or authorized insurer outside the United States of America, its territories and possessions, Puerto Rico and Canada. We assume no responsibility for the furnishing of certificates of insurance, or for compliance in any way with the laws of other countries relating to insurance.

G. WAIVER OF DEDUCTIBLE – GLASS

The following is added to Paragraph **D.**, **Deductible**, of **SECTION III – PHYSICAL DAMAGE COVERAGE**:

No deductible for a covered "auto" will apply to glass damage if the glass is repaired rather than replaced.

H. HIRED AUTO PHYSICAL DAMAGE – LOSS OF USE – INCREASED LIMIT

The following replaces the last sentence of Paragraph **A.4.b.**, **Loss Of Use Expenses**, of **SECTION III – PHYSICAL DAMAGE COVERAGE**:

However, the most we will pay for any expenses for loss of use is $65 per day, to a maximum of $750 for any one "accident".

I. PHYSICAL DAMAGE – TRANSPORTATION EXPENSES – INCREASED LIMIT

The following replaces the first sentence in Paragraph **A.4.a.**, **Transportation Expenses**, of **SECTION III – PHYSICAL DAMAGE COVERAGE**:

We will pay up to $50 per day to a maximum of $1,500 for temporary transportation expense incurred by you because of the total theft of a covered "auto" of the private passenger type.

J. PERSONAL PROPERTY

The following is added to Paragraph **A.4.**, **Coverage Extensions**, of **SECTION III – PHYSICAL DAMAGE COVERAGE**:

Personal Property

We will pay up to $400 for "loss" to wearing apparel and other personal property which is:

(1) Owned by an "insured"; and

(2) In or on your covered "auto".

This coverage applies only in the event of a total theft of your covered "auto".

No deductibles apply to this Personal Property coverage.

K. AIRBAGS

The following is added to Paragraph **B.3.**, **Exclusions**, of **SECTION III – PHYSICAL DAMAGE COVERAGE**:

Exclusion **3.a.** does not apply to "loss" to one or more airbags in a covered "auto" you own that inflate due to a cause other than a cause of "loss" set forth in Paragraphs **A.1.b.** and **A.1.c.**, but only:

a. If that "auto" is a covered "auto" for Comprehensive Coverage under this policy;

b. The airbags are not covered under any warranty; and

c. The airbags were not intentionally inflated.

We will pay up to a maximum of $1,000 for any one "loss".

L. NOTICE AND KNOWLEDGE OF ACCIDENT OR LOSS

The following is added to Paragraph **A.2.a.**, of **SECTION IV – BUSINESS AUTO CONDITIONS**:

Your duty to give us or our authorized representative prompt notice of the "accident" or "loss" applies only when the "accident" or "loss" is known to:

(a) You (if you are an individual);

(b) A partner (if you are a partnership);

(c) A member (if you are a limited liability company);

(d) An executive officer, director or insurance manager (if you are a corporation or other organization); or

(e) Any "employee" authorized by you to give notice of the "accident" or "loss".

M. BLANKET WAIVER OF SUBROGATION

The following replaces Paragraph **A.5.**, **Transfer Of Rights Of Recovery Against Others To Us**, of **SECTION IV – BUSINESS AUTO CONDITIONS** :

5. Transfer Of Rights Of Recovery Against Others To Us

We waive any right of recovery we may have against any person or organization to the extent required of you by a written contract signed and executed prior to any "accident" or "loss", provided that the "accident" or "loss" arises out of operations contemplated by

such contract. The waiver applies only to the person or organization designated in such contract.

N. UNINTENTIONAL ERRORS OR OMISSIONS

The following is added to Paragraph **B.2.**, **Concealment, Misrepresentation, Or Fraud**, of **SECTION IV – BUSINESS AUTO CONDITIONS**:

The unintentional omission of, or unintentional error in, any information given by you shall not prejudice your rights under this insurance. However this provision does not affect our right to collect additional premium or exercise our right of cancellation or non-renewal.

Carrier no: 20001 **Endorsement no:** WC000313

SAIF policy: 810540 Eagle-Elsner Inc

Waiver of Our Right to Recover from Others Endorsement

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule.

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

Description:	ALL OPERATIONS
Contractor name:	Persons and/or organizations with whom the insured-employer is required by written contract to waive subrogation rights.

This endorsement does not alter the rights of an injured worker to pursue recovery from another party or SAIF to receive a statutory share of recoveries by an injured worker, even from the party listed in the schedule.

The premium charge for this endorsement is based on one (1) percent of your manual premium.

Effective date: October 01, 2020

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

Countersigned September 09, 2020 at Salem, Oregon

Kerry Barnett
President and Chief Executive Officer

400 High Street SE
Salem, OR 97312
P: 800.285.8525
F: 503.373.8020

CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

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

Board of County Commissioners
Clackamas County

Members of the Board:

Approval of a Contract with Murraysmith, Inc. for the Design Services for the 2022 Paving Packages

Purpose/Outcome	Contract will provide project management and coordination for four identified paving projects to be bid in the summer of 2022.
Dollar Amount and Fiscal Impact	Contract total $570,778.00.
Funding Source	County Road Fund and Community Road Fund.
Duration	December 31, 2021
Previous Board Action/Review	April 27, 2021 – Discussion item at Issues.
Strategic Plan Alignment	This project follows the Board's Key Initiatives to provide strong infrastructure and ensure safe communities by maintaining the County's existing road infrastructure.
Counsel Review	1. April 20, 2021 2. AN
Procurement Review	Was the item processed through Procurement? Yes
Contact Person	Vince Hall, Civil Engineer, 503-650-3210
Contract No.	3129

Background:
The Project will provide project management and coordination, develop design criteria, survey and utility coordination, geotechnical, temporary traffic control plans, pavement marking plans, final PS&E (Plans, Specifications and Estimates) and Bid Assistance, monument preservation, and right-of-way services for the 2022 contract paving projects. The County has identified four paving projects that will pave approximately 4.8 miles, for the 2022 paving season which are: Sunnyside Rd (122nd-132nd) Paving Project, Sunnyside Rd (132nd-162nd) Paving Project, Boyer Rd/King Rd Area Paving Package, and the Mcloughlin Neighborhood Paving Package. These projects are part of an annual program to preserve the pavements of 1,400 miles of county roads.

Procurement Process:
This project was advertised in accordance with ORS and LCRB Rules on July 9, 2020. Proposals were opened on August 6, 2020. The County received three (3) Proposals: AKS Engineering; KPFF; and Murraysmith, Inc. An evaluation committee of three DTD personnel scored Murraysmith, Inc. the highest. Upon Contract award, the statement of work and project fees were negotiated and finalized.

Recommendation:
Staff respectfully recommends that the Board approve and execute the Contract with Murraysmith, Inc. for the Design Services for the 2022 Paving Packages.

Sincerely,

Vince Hall

Vince Hall
Civil Engineer

Placed on the BCC Agenda _____ by Procurement and Contract Services

CLACKAMAS COUNTY
PERSONAL SERVICES CONTRACT
Contract #3129

This Personal Services Contract (this "Contract") is entered into between Murraysmith, Inc. ("Contractor" or "Consultant"), and Clackamas County, a political subdivision of the State of Oregon ("County") on behalf of Department of Transportation Development ("DTD").

ARTICLE I.

1. **Effective Date and Duration.** This Contract shall become effective upon signature of both parties. Unless earlier terminated or extended, this Contract shall expire on December 31, 2022.

2. **Scope of Work.** Contractor shall provide the following personal services: #2020-29 Design Services for the 2022 Paving Packages ("Work"), further described in **Exhibit A.**

3. **Consideration.** The County agrees to pay Contractor, from available and authorized funds, a sum not to exceed **five hundred seventy thousand seven hundred seventy-eight dollars ($570,778.00)**, for accomplishing the Work required by this Contract. Consideration rates are on a time and materials basis in accordance with the rates and costs specified in Exhibit B If any interim payments to Contractor are made, such payments shall be made only in accordance with the schedule and requirements in Exhibit B.

4. **Invoices and Payments.** Unless otherwise specified, Contractor shall submit monthly invoices for Work performed. Invoices shall describe all Work performed with particularity, by whom it was performed, and shall itemize and explain all expenses for which reimbursement is claimed. The invoices shall include the total amount billed to date by Contractor prior to the current invoice. If Contractor fails to present invoices in proper form within sixty (60) calendar days after the end of the month in which the services were rendered, Contractor waives any rights to present such invoice thereafter and to receive payment therefor. Payments shall be made in accordance with ORS 293.462 to Contractor following the County's review and approval of invoices submitted by Contractor. Contractor shall not submit invoices for, and the County will not be obligated to pay, any amount in excess of the maximum compensation amount set forth above. If this maximum compensation amount is increased by amendment of this Contract, the amendment must be fully effective before Contractor performs Work subject to the amendment.

   Invoices shall reference the above Contract Number and be submitted to: Vince Hall.

5. **Travel and Other Expense.** Authorized: ☒ Yes ☐ No
   If travel expense reimbursement is authorized in this Contract, such expense shall only be reimbursed at the rates in the County Contractor Travel Reimbursement Policy, hereby incorporated by reference and found at: https://www.clackamas.us/finance/terms.html.Travel expense reimbursement is not in excess of the not to exceed consideration.

6. **Contract Documents.** This Contract consists of the following documents, which are listed in descending order of precedence and are attached and incorporated by reference, this Contract, Exhibit A, and Exhibit B.

7. **Contractor and County Contacts.**

Contractor Administrator: Andrew Giesy Phone: 503-225-9010 Email: Andrew.giesy@murraysmith.us	County Administrator: Vince Hall Phone: 503-650-3210 Email: vincehal@clackamas.us

Payment information will be reported to the Internal Revenue Service ("IRS") under the name and taxpayer ID number submitted. (See I.R.S. 1099 for additional instructions regarding taxpayer ID numbers.) Information not matching IRS records will subject Contractor payments to backup withholding.

ARTICLE II.

1. **ACCESS TO RECORDS.** Contractor shall maintain books, records, documents, and other evidence, in accordance with generally accepted accounting procedures and practices, sufficient to reflect properly all costs of whatever nature claimed to have been incurred and anticipated to be incurred in the performance of this Contract. County and their duly authorized representatives shall have access to the books, documents, papers, and records of Contractor, which are directly pertinent to this Contract for the purpose of making audit, examination, excerpts, and transcripts. Contractor shall maintain such books and records for a minimum of six (6) years, or such longer period as may be required by applicable law, following final payment and termination of this Contract, or until the conclusion of any audit, controversy or litigation arising out of or related to this Contract, whichever date is later.

2. **AVAILABILITY OF FUTURE FUNDS.** Any continuation or extension of this Contract after the end of the fiscal period in which it is written is contingent on a new appropriation for each succeeding fiscal period sufficient to continue to make payments under this Contract, as determined by the County in its sole administrative discretion.

3. **CAPTIONS.** The captions or headings in this Contract are for convenience only and in no way define, limit, or describe the scope or intent of any provisions of this Contract.

4. **COMPLIANCE WITH APPLICABLE LAW.** Contractor shall comply with all applicable federal, state and local laws, regulations, executive orders, and ordinances, as such may be amended from time to time.

5. **COUNTERPARTS.** This Contract may be executed in several counterparts (electronic or otherwise), each of which shall be an original, all of which shall constitute the same instrument.

6. **GOVERNING LAW.** This Contract, and all rights, obligations, and disputes arising out of it, shall be governed and construed in accordance with the laws of the State of Oregon and the ordinances of Clackamas County without regard to principles of conflicts of law. Any claim, action, or suit between County and Contractor that arises out of or relates to the performance of this Contract shall be brought and conducted solely and exclusively within the Circuit Court for Clackamas County, for the State of Oregon. Provided, however, that if any such claim, action, or suit may be brought in a federal forum, it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the County of any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. Contractor, by execution of this Contract, hereby consents to the personal jurisdiction of the courts referenced in this section.

7. **RESPONSIBILITY FOR DAMAGES; INDEMNITY.** Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay which may be caused by, or result from, the negligent conduct of Work, or from any act, omission, or neglect of Contractor, its subcontractors, agents, or employees. The Contractor agrees to indemnify, hold harmless and defend the County, and its officers, elected officials, agents and employees from and against all claims and actions, and all expenses incidental to the investigation and defense thereof, arising out of or based upon damage or injuries to persons or property caused by the errors,

omissions, fault or negligence of the Contractor or the Contractor's employees, subcontractors, or agents. However, neither Contractor nor any attorney engaged by Contractor shall defend the claim in the name of County or any department of County, nor purport to act as legal representative of County or any of its departments, without first receiving from the Clackamas County Counsel's Office authority to act as legal counsel for County, nor shall Contractor settle any claim on behalf of County without the approval of the Clackamas County Counsel's Office. County may, at its election and expense, assume its own defense and settlement.

8. **INDEPENDENT CONTRACTOR STATUS.** The service(s) to be rendered under this Contract are those of an independent contractor. Although the County reserves the right to determine (and modify) the delivery schedule for the Work to be performed and to evaluate the quality of the completed performance, County cannot and will not control the means or manner of Contractor's performance. Contractor is responsible for determining the appropriate means and manner of performing the Work. Contractor is not to be considered an agent or employee of County for any purpose, including, but not limited to: (A) The Contractor will be solely responsible for payment of any Federal or State taxes required as a result of this Contract; and (B) This Contract is not intended to entitle the Contractor to any benefits generally granted to County employees, including, but not limited to, vacation, holiday and sick leave, other leaves with pay, tenure, medical and dental coverage, life and disability insurance, overtime, Social Security, Workers' Compensation, unemployment compensation, or retirement benefits.

9. **INSURANCE.** Contractor shall secure at its own expense and keep in effect during the term of the performance under this Contract the insurance required and minimum coverage indicated below. The insurance requirement outlined below do not in any way limit the amount of scope of liability of Contractor under this Contract. Contractor shall provide proof of said insurance and name the County as an additional insured on all required liability policies. Proof of insurance and notice of any material change should be submitted to the following address: Clackamas County Procurement Division, 2051 Kaen Road, Oregon City, OR 97045 or procurement@clackamas.us.

Required - Workers Compensation: Contractor shall comply with the statutory workers' compensation requirements in ORS 656.017, unless exempt under ORS 656.027 or 656.126.
☒ Required – Commercial General Liability: combined single limit, or the equivalent, of not less than $1,000,000 per occurrence, with an annual aggregate limit of $2,000,000 for Bodily Injury and Property Damage.
☒ Required – Professional Liability: combined single limit, or the equivalent, of not less than $1,000,000 per claim, with an annual aggregate limit of $2,000,000 for damages caused by error, omission or negligent acts.
☒ Required – Automobile Liability: combined single limit, or the equivalent, of not less than $1,000,000 per accident for Bodily Injury and Property Damage.

The policy(s) shall be primary insurance as respects to the County. Any insurance or self-insurance maintained by the County shall be excess and shall not contribute to it. Any obligation that County agree to a waiver of subrogation is hereby stricken.

10. **LIMITATION OF LIABILITIES.** This Contract is expressly subject to the debt limitation of Oregon counties set forth in Article XI, Section 10, of the Oregon Constitution, and is contingent upon funds being appropriated therefore. Any provisions herein which would conflict with law are deemed inoperative to that extent. Except for liability arising under or related to Article II, Section 13 or Section 20 neither party shall be liable for (i) any indirect, incidental, consequential or special damages under this Contract or (ii) any damages of any sort arising solely from the termination of this Contact in accordance with its terms.

11. **NOTICES.** Except as otherwise provided in this Contract, any required notices between the parties shall be given in writing by personal delivery, email, or mailing the same, to the Contract Administrators identified in Article 1, Section 6. If notice is sent to County, a copy shall also be sent to: Clackamas County Procurement, 2051 Kaen Road, Oregon City, OR 97045, or procurement@clackamas.us. Any communication or notice so addressed and mailed shall be deemed to be given five (5) days after mailing, and immediately upon personal delivery, or within 2 hours after the email is sent during County's normal business hours (Monday – Thursday, 7:00 a.m. to 6:00 p.m.) (as recorded on the device from which the sender sent the email), unless the sender receives an automated message or other indication that the email has not been delivered.

12. **OWNERSHIP OF WORK PRODUCT.** All work product of Contractor that results from this Contract (the "Work Product") is the exclusive property of County. County and Contractor intend that such Work Product be deemed "work made for hire" of which County shall be deemed the author. If for any reason the Work Product is not deemed "work made for hire," Contractor hereby irrevocably assigns to County all of its right, title, and interest in and to any and all of the Work Product, whether arising from copyright, patent, trademark or trade secret, or any other state or federal intellectual property law or doctrine. Contractor shall execute such further documents and instruments as County may reasonably request in order to fully vest such rights in County. Contractor forever waives any and all rights relating to the Work Product, including without limitation, any and all rights arising under 17 USC § 106A or any other rights of identification of authorship or rights of approval, restriction or limitation on use or subsequent modifications. Notwithstanding the above, County shall have no rights in any pre-existing Contractor intellectual property provided to County by Contractor in the performance of this Contract except to copy, use and re-use any such Contractor intellectual property for County use only. Any reuse of such Work Product outside the scope of work for which it was developed, or any alteration of it whatsoever, without Consultant's review and approval shall be at the County's sole risk.

13. **REPRESENTATIONS AND WARRANTIES.** Contractor represents and warrants to County that (A) Contractor has the power and authority to enter into and perform this Contract; (B) this Contract, when executed and delivered, shall be a valid and binding obligation of Contractor enforceable in accordance with its terms; (C) Contractor shall at all times during the term of this Contract, be qualified, professionally competent, and duly licensed to perform the Work; (D) Contractor is an independent contractor as defined in ORS 670.600; and (E) the Work under this Contract shall be performed in the same professional skill, care, diligence and standards as other professionals performing similar services under similar conditions.. The warranties set forth in this section are in addition to, and not in lieu of, any other warranties provided. The Contractor shall be responsible for the technical accuracy of its services and documents resulting therefrom, and District shall not be responsible for discovering deficiencies therein. The Contractor shall correct such deficiencies without additional compensation except to the extent such action is directly attributable to deficiencies in information furnished by the District.

14. **SURVIVAL.** All rights and obligations shall cease upon termination or expiration of this Contract, except for the rights and obligations set forth in Article II, Sections 1, 6, 7, 10 ,12, 13, 14, 15, 17, 20, 21, 25, 27, and 29 and all other rights and obligations which by their context are intended to survive. However, such expiration shall not extinguish or prejudice the County's right to enforce this Contract with respect to: (a) any breach of a Contractor warranty; or (b) any default or defect in Contractor performance that has not been cured.

15. **SEVERABILITY.** If any term or provision of this Contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular term or provision held to be invalid.

16. **SUBCONTRACTS AND ASSIGNMENTS.** Contractor shall not enter into any subcontracts for any of the Work required by this Contract, or assign or transfer any of its interest in this Contract by operation of law or otherwise, without obtaining prior written approval from the County, which shall be granted or denied in the County's sole discretion. In addition to any provisions the County may require, Contractor shall include in any permitted subcontract under this Contract a requirement that the subcontractor be bound by this Article II, Sections 1, 7, 8, 13, 16 and 27 as if the subcontractor were the Contractor. County's consent to any subcontract shall not relieve Contractor of any of its duties or obligations under this Contract.

17. **SUCCESSORS IN INTEREST.** The provisions of this Contract shall be binding upon and shall inure to the benefit of the parties hereto, and their respective authorized successors and assigns.

18. **TAX COMPLIANCE CERTIFICATION.** The Contractor shall comply with all federal, state and local laws, regulation, executive orders and ordinances applicable to this Contract. Contractor represents and warrants that it has complied, and will continue to comply throughout the duration of this Contract and any extensions, with all tax laws of this state or any political subdivision of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318. Any violation of this section shall constitute a material breach of this Contract and shall entitle 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 or applicable law.

19. **TERMINATIONS.** This Contract may be terminated for the following reasons: (A) by mutual agreement of the parties or by the County (i) for convenience upon thirty (30) days written notice to Contractor, or (ii) at any time the County fails to receive funding, appropriations, or other expenditure authority as solely determined by the County; or (B) if contractor breaches any Contract provision or is declared insolvent, County may terminate after thirty (30) days written notice with an opportunity to cure.

    Upon receipt of written notice of termination from the County, Contractor shall immediately stop performance of the Work. Upon termination of this Contract, Contractor shall deliver to County all documents, Work Product, information, works-in-progress and other property that are or would be deliverables had the Contract Work been completed. Upon County's request, Contractor shall surrender to anyone County designates, all documents, research, objects or other tangible things needed to complete the Work.

20. **REMEDIES.** If terminated by the County due to a breach by the Contractor, then the County shall have any remedy available to it in law or equity. If this Contract is terminated for any other reason, Contractor's sole remedy is payment for the goods and services delivered and accepted by the County, less any setoff to which the County is entitled.

21. **NO THIRD PARTY BENEFICIARIES.** County and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly or otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Contract.

22. **TIME IS OF THE ESSENCE.** Contractor agrees that time is of the essence in the performance this Contract.

23. **FOREIGN CONTRACTOR.** If the Contractor is not domiciled in or registered to do business in the State of Oregon, Contractor shall promptly provide to the Oregon Department of Revenue and the Secretary of State, Corporate Division, all information required by those agencies relative to this

Contract. The Contractor shall demonstrate its legal capacity to perform these services in the State of Oregon prior to entering into this Contract.

24. **FORCE MAJEURE.** Neither County nor Contractor shall be held responsible for delay or default caused by events outside the County or Contractor's reasonable control including, but not limited to, fire, terrorism, riot, acts of God, or war. However, Contractor shall make all reasonable efforts to remove or eliminate such a cause of delay or default and shall upon the cessation of the cause, diligently pursue performance of its obligations under this Contract.

25. **WAIVER.** The failure of County to enforce any provision of this Contract shall not constitute a waiver by County of that or any other provision.

26. **PUBLIC CONTRACTING REQUIREMENTS.** Pursuant to the public contracting requirements contained in Oregon Revised Statutes ("ORS") Chapter 279B.220 through 279B.235, Contractor shall:
    a. Make payments promptly, as due, to all persons supplying to Contractor labor or materials for the prosecution of the work provided for in the Contract.
    b. Pay all contributions or amounts due the Industrial Accident Fund from such Contractor or subcontractor incurred in the performance of the Contract.
    c. Not permit any lien or claim to be filed or prosecuted against County on account of any labor or material furnished.
    d. Pay the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
    e. As applicable, the Contractor shall pay employees for work in accordance with ORS 279B.235, which is incorporated herein by this reference. 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 breach entitling County to terminate this Contract for cause.
    f. If the Work involves lawn and landscape maintenance, Contractor shall salvage, recycle, compost, or mulch yard waste material at an approved site, if feasible and cost effective.

27. **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.

28. **KEY PERSONS.** Contractor acknowledges and agrees that a significant reason the County is entering into this Contract is because of the special qualifications of certain Key Persons set forth in the contract. Under this Contract, the County is engaging the expertise, experience, judgment, and personal attention of such Key Persons. Neither Contractor nor any of the Key Persons shall delegate performance of the management powers and responsibilities each such Key Person is required to provide under this Contract to any other employee or agent of the Contractor unless the County provides prior written consent to such delegation. Contractor shall not reassign or transfer a Key Person to other duties or positions such that the Key Person is no longer available to provide the County with such Key Person's services unless the County provides prior written consent to such reassignment or transfer.

29. **MERGER.** THIS CONTRACT CONSTITUTES THE ENTIRE AGREEMENT BETWEEN THE PARTIES WITH RESPECT TO THE SUBJECT MATTER REFERENCED THEREIN. THERE ARE NO UNDERSTANDINGS, AGREEMENTS, OR REPRESENTATIONS, ORAL OR WRITTEN, NOT SPECIFIED HEREIN REGARDING THIS CONTRACT. NO AMENDMENT, CONSENT, OR WAIVER OF TERMS OF THIS CONTRACT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY ALL PARTIES. ANY SUCH AMENDMENT, CONSENT, OR WAIVER SHALL BE EFFECTIVE ONLY IN THE SPECIFIC INSTANCE AND FOR THE SPECIFIC PURPOSE GIVEN. CONTRACTOR, BY THE SIGNATURE HERETO OF

ITS AUTHORIZED REPRESENTATIVE, IS AN INDEPENDENT CONTRACTOR, ACKNOWLEDGES HAVING READ AND UNDERSTOOD THIS CONTRACT, AND CONTRACTOR AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.

By their signatures below, the parties to this Contract agree to the terms, conditions, and content expressed herein.

Murraysmith, Inc.	Clackamas County
[signature] 4/15/21 Authorized Signature Date	Chair Date
Gabriel Crop, Principal Engineer Name / Title (Printed)	Recording Secretary
146807-14 Oregon Business Registry #	Approved as to Form:
DBC/Oregon Entity Type / State of Formation	[signature] 04/20/2021 County Counsel Date

EXHIBIT A
PERSONAL SERVICES CONTRACT
SCOPE OF WORK

SCOPE OF WORK
DESIGN SERVICES FOR THE 2022 PAVING PACKAGES
CLACKAMAS COUNTY, OR

Introduction/Background

The Clackamas County Department of Transportation and Development - Transportation Maintenance Division (County) maintains and repairs about 1,400 miles of County-owned surface streets of varying size and capacity requiring rehabilitation and preventative maintenance to keep them operational. The County Board of Commissioner approved the Community Road Fund in 2019 to address repair/maintenance needs for these streets, along with other congestion relief and safety improvements projects.

Project Description

The County has identified four (4) paving projects (Sunnyside Road (122nd - 132nd) Project, Sunnyside Road (132nd - 162nd) Project, Boyer/King Road Area Package, and McLoughlin Neighborhood Package) to be constructed in the summer of 2022. The two Sunnyside Rd projects will be combined and delivered as a single PS&E package, however due to funding sources, the projects will be tracked separately during design and construction. The planned street segments to be rehabilitated and designed by the Consultant are listed below in Table 1.

Table 1: Road Rehabilitation List for 2022

Sunnyside (122nd – 132nd) Project (County Project No. 22342)			
Street	**From**	**To**	**Length (ft)**
Sunnyside Rd	122nd	132nd (inclusive)	3,170
		Total	**3,170**

Sunnyside (132nd – 162nd) Project (County Project No. 22343)			
Street	**From**	**To**	**Length (ft)**
Sunnyside Rd	132nd (exclusive)	162nd	8,430
		Total	**8,430**

Boyer / King Road Area Package (County Project No. 22310)			
Street	**From**	**To**	**Length (ft)**
Owen Dr	85th Ave	King Rd	952
King Rd	82nd Ave	Owen Dr	1,521
King Rd	Owen Dr	Spencer Rd	340
Spencer Dr	Dead End	Dead End	1,611
Owen Dr	King Rd	Owen Dr. Cont.	865
Spencer Ct	Spencer Rd	CCCC	838
		Total	**6,127**

McLoughlin Neighborhood Package (County Project No. 22311)			
Street	**From**	**To**	**Length (ft)**
Woodland Wy	Chestnut St	Chestnut St	200
Park Rd	Chestnut St	Pine Ln	276
Chestnut St	Hwy 99E	Woodland Wy	362
Laurel St	Park Entrance Rd	Dead End	1,360
Pine Ln	Woodland Wy	Bunnell Rd	1,147
Bunnell St	Park Entrance Rd	Chestnut St	942
Maple St	Hwy 99E	Bunnell St	1,506
Walnut St	Bunnell Rd	Woodland Wy	1,180
Park Entrance Rd	Rupert Dr	Bunnell St	436
		Total	**7,409**

County Responsibilities

The County will be responsible for the following:

A. Provide a project manager who is responsible for overall project development and management and for coordination between the Consultant and the County.
B. Review and verify the work scope and design parameters for each project, including proposed standards.
C. Review and process Consultant's monthly payment requests.
D. Provide Consultant with County tax lot lines in AutoCAD compatible format.
E. Provide Consultant with the County's standard 11x17 drafting border, title block and drafting standards required to be followed.
F. Provide Consultant with digital copies of the County 00100 Special Provisions. County will also be responsible for preparing the front-end contract forms and assembling the bid-booklet.
G. Review and approve right-of-way permit application(s) prepared by Consultant for design field work. It is assumed that the County will pay for all permit fees if applicable.
H. Provide timely review and comment on reports, drawings, bid items and quantities, and estimate submitted by Consultant to County for review and approval. Assume County will provide review of submittals within 3 weeks.
I. Renew and continue to administrate the County-wide 1200-CA erosion control permit.
    a. An Oak Lodge Water Services (OLWS) erosion control permit will be required for the McLoughlin Package (see Task 9). Should the McLoughlin Package require a pavement treatment beyond an AC grind/inlay and OLWS stormwater quality/quantity requirements are triggered, then the County will utilize stormwater credits from a nearby County-owned water quality facility. Consultant will coordinate with OLWS to discuss stormwater impacts, but stormwater management documentation and design for water quality or quantity will not be required and are not included in this scope of work.

b. No additional documentation is required for the Sunnyside Project, Boyer/King Rd Area Package or the McLoughlin Area Package by Oregon DEQ, Water Environment Services (WES) or other permitting agencies while the 1200-CA umbrella permit remains in effect.

J. Review all permitting prepared by Consultant for the City of Happy Valley and pay applicable permit fees. Consultant will submit permits on the City's behalf.
K. Provide legal review of contracts, bid forms, and real property.
L. Provide notifications as necessary to the public and business community regarding the nature and timing of the design and construction work to be completed.
M. Participate in field walk-throughs with Consultant staff to verify pavement rehabilitation treatment.
N. Advertise and manage the bidding and construction contracting process.
O. Manage the construction process.

SCOPE OF WORK

The County may elect to authorize the tasks identified in the Scope of Work as Contingency Tasks. Consultant shall only complete Contingency Tasks if written (email acceptable) Notice to Proceed (NTP) is issued by the County. The time and materials Not to Exceed (NTE) amount for completing Contingency Tasks is identified in the attached Fee Estimate and is only billable if authorized.

Task 1: Project Management and Coordination

As part of the overall project management of the project, the Consultant will:

A. Designate and coordinate the Consultant team.
B. Schedule, prepare for, attend, and document project kickoff meeting. A project kickoff meeting will include the Consultant (assumed 3 Murraysmith team members and 1 GeoDesign team member), County Staff, and other project stakeholders. Project meetings will be held virtually online using video conference calling software.
C. Prepare a detailed schedule showing all major tasks, meetings, and review milestones. Update the schedule after each milestone, as necessary (up to 2 schedule revisions assumed).
D. Coordinate submittal and review by the County at the 50% and 90% level of completion.
E. Prepare detailed monthly progress reports with schedule updates, and progress billings and submit to the County for approval and payment.
F. Schedule, prepare for, attend, and document up to six (6) work session meetings (design criteria meeting, design review meetings at the 50% and 90% design milestones, and three others as needed). Work session meetings will include the Consultant (assumed 3 Murraysmith team members and 1 sub-consultant team member), County Staff, and other project stakeholders.
G. Conduct telephone and video call work sessions, up to two per month, to keep the project team informed about issues, decisions and impact. Document decisions in email format.
H. Conduct internal Quality Control reviews for all submittals.

I. Document action items from meetings, comments, and responses in a master comment/response log.
J. Monitor and manage project scope, schedule and budget.

Assumptions:

A. Design phase is assumed to be January 2020 through December 2021, with right-of-entry phase between May 2021 and December 2021. Post-construction monument survey work will take place after construction is complete, tentatively scheduled for Summer 2022.
B. The 50% and 90% design work sessions/meetings will be for all paving packages. Individual meetings for each paving package after each submittal will not be necessary.
C. Construction phase services are not included.
D. Meetings will be held at 902 Abernathy Rd, Oregon City, OR 97045 or virtually online.

Task 1 Deliverables:

A. Monthly progress reports, schedule updates and progress billings
B. Project schedule, and schedule updates after design review meetings
C. Meeting agendas and minutes

Task 1.1: Project Management and Coordination for Sunnyside Road (122nd – 132nd) Project

The Consultant will perform all work as described above.

Task 1.2: Project Management and Coordination for Sunnyside Road (132nd – 162nd) Project

The Consultant will perform all work as described above.

Task 1.3: Project Management and Coordination for Boyer/King Rd Area Package

The Consultant will perform all work as described above.

Task 1.4: Project Management and Coordination for McLoughlin Area Package

The Consultant will perform all work as described above through Geotechnical Investigation Task 4.4.

Contingency Task 1.4.1: Project Management and Coordination for McLoughlin Area Package

If this package proceeds beyond Geotechnical Investigations, the Consultant will perform all remaining work as described above to complete designs.

Task 2: Project Design Criteria - Reserved

Task 3: Surveying

The Consultant will set control for each paving package and will create base maps showing ground features in the paving limits using a mobile LiDAR scanning technology to collect the data. The LiDAR data will be on a County-designated coordinate system.

The Consultant will:

A. Review existing control established from prior curb ramp project where available and set additional control at intervals of 300 – 500 feet for each street in the paving packages.
B. Perform mobile LiDAR scanning on each road to be paved and develop AutoCAD base map drawings in 1" – 50' scale containing line work of ground features. Incorporate County provided AutoCAD property information (on state plane coordinates) into basemap drawings. Features will include:
    a. Edge of pavement (line)
    b. Pavement striping (line)
    c. Gutter lines along curbs and face of gutter pans if present (line)
    d. Driveway entrances locations and approximate extent of driveway aprons (line)
    e. Mailboxes adjacent to edge of pavement or curb
    f. Street signs adjacent to edge of pavement or curb
    g. All in-pavement features including surface utility structures (points)

Assumptions:

A. No topographic survey information is required.
B. Horizontal positioning based on the Oregon Coordinate Reference System (OCRS) and elevations based on NAVD'88
C. Pre-construction survey and post-construction record of survey are addressed under Task 12.
D. Traffic control for setting control and control points is included in the work.
E. LiDAR data collection traffic control includes a chase vehicle.

Task 3.1: Surveying for Sunnyside Road (122nd – 132nd) Project

The Consultant will perform all work as described above.

Task 3.2: Surveying for Sunnyside Road (132nd – 162nd) Project

The Consultant will perform all work as described above.

Task 3.3: Surveying for Boyer/King Rd Area Package

The Consultant will perform all work as described above.

Contingency Task 3.4: Surveying for McLoughlin Area Package

If this package proceeds beyond Geotechnical Investigations, the Consultant will perform all work as described above to complete designs.

Task 3 Deliverables:

A. Auto CAD files, PDF basemaps and .dtm files for each project/package

Task 4: Geotechnical Investigation

Consultant will complete pavement investigations to evaluate the existing pavement thickness and pavement capacity for each street section. For all street sections, Consultant will determine an appropriate pavement rehabilitation method for each street section.

Task 4.1 – Geotechnical Investigations for Sunnyside Road (122nd-132nd) Project

Specific services include the following:

Field Investigations:

A. Complete a generalized distress survey of each road section. Provide a qualitative review and summary of pavement conditions.
B. Provide traffic control and traffic control plans when required. It is assumed permitting requirements and fees will be handled by County personnel.
C. Complete Falling Weight Deflectometer (FWD) testing with tests completed in each travel lane with approximate 150-foot spacing.
D. Develop an exploration work plan and perform exploration field locates. A single work plan will cover all paving packages.
E. Explore subsurface conditions in the proposed sections by completing core borings to depths of up to three feet below ground surface (BGS). It is assumed that up to 9 cores will be completed to determine in-situ conditions for the subject streets identified in Table 1. In general, core explorations will be completed to approximately 2.5 feet BGS; however, in areas of utility conflict, cores will be through the pavement surfacing only.
F. Maintain a detailed log of the explorations. Obtain samples of the pavement, base, and subgrade materials encountered.
G. Analyze traffic data to be provided by the County and calculate 20-, 15- and 10-year design equivalent single axle loading (ESAL).
H. Analyze FWD data and back calculate effective pavement capacity.
I. Conduct laboratory testing to determine the in-situ moisture content of the subgrade soil to assist in determining the likelihood of potential problems during construction.
J. Provide a summary of pavement capacity compared to 20-year design life.

Pavement Preservation Design:

A. Provide a data report summarizing field investigation findings.
B. Conduct a site visit for each street (with County staff if available) to complete site reconnaissance for the purpose of developing pavement rehabilitation designs. It is assumed this field visit will occur after the draft pavement investigations and report are available for reference.
C. Develop recommended pavement designs.

Assumptions:

A. Permitting documentation for pavement explorations will be prepared by Consultant. Fees for pavement investigation permitting will be paid by the County.

Task 4.2 – Geotechnical Investigations for Sunnyside Road (132nd-162nd) Project

Specific services will be completed per Task 4.1. It is assumed up to 22 cores will be completed.

Task 4.3 – Geotechnical Investigations for Boyer/King Rd Area Package

Specific services include the following:

Field Investigations:

A. Complete a generalized distress survey of each road section. Provide a qualitative review and summary of pavement conditions.
B. Provide traffic control and traffic control plans when required. It is assumed permitting requirements and fees will be handled by County personnel.
C. Complete Ground Penetrating Radar (GPR) testing on each road section in the outside wheel track of the main travel lanes using a 2 GHz truck-mounted horn antenna on each street.
D. Analyze truck-mounted GPR data and provide a plot of estimated asphalt concrete thickness by pavement station. GPR data to be proofed by subsurface exploration data.
E. Develop an exploration work plan and perform exploration field locates. A single work plan will cover all paving packages.
F. Explore subsurface conditions in the proposed sections by completing core borings to depths of up to three feet below ground surface (BGS). It is assumed that up to 13 cores will be completed to compare GPR results with in-situ conditions for the subject streets identified in Table 1. In general, core explorations will be completed to approximately 2.5 feet BGS; however, in areas of utility conflict, cores will be through the pavement surfacing only.
G. Conduct dynamic cone penetration (DCP) testing at every other core location per street section. Evaluate DCP results and soil classification results to estimate the resilient modulus of the subgrade soil.
H. Maintain a detailed log of the explorations. Obtain samples of the pavement, base, and subgrade materials encountered.
I. Analyze traffic data to be provided by the County and calculate 20-, 15- and 10-year design equivalent single axle loading (ESAL).
J. Conduct laboratory testing to determine the in-situ moisture content of the subgrade soil to assist in determining the likelihood of potential problems during construction.
K. Complete Full Depth Reclamation (FDR) cement content testing at three different cement contents.
L. Provide a summary of pavement capacity compared to 20-year design life.

Pavement Preservation Design:

A. Provide a data report summarizing field investigation findings.
B. Conduct site visit for each street (with County staff if available) to complete site reconnaissance for the purpose of developing pavement rehabilitation designs. It is

assumed this field visit will occur after the draft pavement investigations and report are available for reference.

C. Develop recommended pavement designs.
D. Develop preliminary construction cost estimates based on draft and final pavement design recommendations.

Assumptions:

A. Permitting documentation for pavement explorations will be prepared by Consultant. Fees for pavement investigation permitting will be paid by the County.

Task 4.4 – Geotechnical Investigations for McLoughlin Area Package

Specific services will be completed per Task 4.3. It is assumed up to 16 cores will be completed.

Task 4 Deliverables:

A. Exploration work plan. A single work plan will cover all paving packages.
B. Draft and final Pavement Design report. A single Pavement Design report will cover all paving packages.
C. Draft and final preliminary construction cost estimates for the McLoughlin Area Package.

Task 5 – Utility Coordination

Potential utility conflicts are anticipated due to pavement elevation changes and/or full depth pavement treatment work. Below-ground utility adjustments are anticipated to include valve box (gas and water) adjustments, manhole (storm, sewer, telephone, and other) adjustments and potential underground relocations to accommodate full depth pavement treatment options. Above-ground utility facilities are not anticipated to need adjustment or relocation. Adjustments to County-owned facilities (storm) will be incorporated into the design.

Utility coordination efforts will include:

A. Develop a utility contact information list.
B. Email project information letters to utility companies involved to explain nature of the work and schedule.
C. Request One-Call locate paint and facility mapping. Verify paint locations during field walkthrough and add utility locations to the base map where pavement treatments are anticipated to be full depth (Boyer/King Rd and McLoughlin areas).
D. Issue conflict notices (utilities to determine potential conflicts) to impacted utilities via email with the 50% plans for utilities to identify and resolve potential conflicts.
E. Provide project plan updates via email to each utility at the 90% and 100% design phases.
F. Maintain a record of correspondence with utility companies.
G. Coordinate with utilities to resolve utility conflicts and finalize utility relocation requirements as appropriate. Affected utilities will be responsible for developing their relocation designs. Consultant will review each utility's relocation plans and proposed schedule, provide written comments and recommendations. Utility relocation work will

be conducted pursuant to existing franchise agreements and require a street opening permit. No overhead utility relocations are anticipated.

H. Conduct a utility coordination meeting with utility service providers and prepare meeting minutes of the coordination meeting (assume 1 meeting per package).
I. Provide a final timing and status letter to all utilities notifying of impending construction.

Assumptions:

A. Utility potholing of County-owned utilities will be performed by the County (as necessary).
B. Franchise utilities are responsible for minor valve can and vault/manhole lid adjustments (gas, water, communications, sewer, etc.).

Task 5.1: Utility Coordination for Sunnyside Road (122nd – 132nd) Project

The Consultant will perform all work as described above.

Task 5.2: Utility Coordination for Sunnyside Road (132nd – 162nd) Project

The Consultant will perform all work as described above.

Task 5.3: Utility Coordination for Boyer/King Rd Area Package

The Consultant will perform all work as described above.

Contingency Task 5.4: Utility Coordination for McLoughlin Area Package

If this package proceeds beyond Task 4.4 - Geotechnical Investigations, the Consultant will perform all work as described above to complete designs.

Task 5 Deliverables:

A. Utility contact list per paving package.
B. Project information letters and conflict notices to each affected utility.
C. Reviewed utility relocation plans with comments and recommendations.
D. Timing and Status Letters for each utility with relocations.

Task 6: Design for Sunnyside Road (122nd-132nd) Project

Task 6.1 – 50% Design

During this phase, Consultant will develop engineering plans and estimates for the street list described in Table 1. Plan sheets will be developed based on basemapping prepared by Consultant under Task 3. Specific requirements under this task include:

A. Integrate mobile scan base mapping into project plan sheets.
B. Prepare Field Verification Checklist for County review and comment.
    a. No ADA compliance review work or new ADA ramp designs are anticipated.
    b. No stormwater quality or quantity improvements are required.
C. Conduct site visit to field verify mapping and identify potential areas of concern utilizing the Field Verification Checklist.

D. Incorporate recommended pavement rehabilitation treatments for each street.
E. Establish appropriate project limits, identify the design sections and edge and longitudinal treatment details, and identify signal loops for traffic counts which may be impacted.
F. Coordinate with the County regarding minor County-owned utility improvements in the project area such as catch basin modifications and incorporate improvements into the plans. The County will provide information necessary for minor utility improvements to be included.
G. Prepare 50% construction plans (1" = 50' scale on 11"x17" sheets) and details to clearly describe the work to be constructed. Construction plans will include civil notes, details and sections, and street improvement plans for streets listed in Table 1. Striping plans will be submitted at the 90% design milestone.
H. Prepare 50% traffic signal count loops replacement plans showing the replacement of the existing traffic count loops at the intersection of 132nd/Sunnyside. Plans will include count loops locations and relevant conduit, junction boxes, and cabinet, related to the count loops system
I. Prepare 50% traffic control plans and details to identify the type, quantity, and location for temporary traffic control devices. Plans may include staging plans, lane shifts, lane and shoulder widths, lane closures, road closures, temporary detours, temporary diversions, temporary striping, temporary signing, cutting sections at critical areas with dimensions and other relevant information. Plans must meet the requirements of section 290 of the Clackamas Roadway Standards, Oregon Standard Drawings, The Oregon Temporary Traffic Control Handbook, and the Manual on Uniform Traffic Control Devices ("MUTCD").
J. Prepare a 50% level cost estimate with 30% contingency and bid schedule. Cost estimate bid items will be based on the 2018 ODOT/APWA Standard Specifications for Construction.
K. Complete quality control/quality assurance reviews of 50% deliverables.
L. Respond to County comments in a County-provided Comment/Response Log. Consultant will update the log based on discussions/decisions/clarifications at design review meetings (see Task 1) and resubmit at the following milestone.

Assumptions:

A. Erosion control plan will be provided by the Contractor and the project is covered under the County's 1200-CA permit.
B. Consultant will respond to one unified set of comments from the County.
C. The 122nd-132nd project will be combined with the 132nd-162nd project as one PS&E contract documents, however, due to separate funding sources, the projects will be tracked separately. See Task 7 for a preliminary sheet list for the combined projects.

Task 6.2 – 90% Design

The 90% design submittal will be advanced from the 50% submittal (incorporating review comments as appropriate). The street list will be adjusted as needed to match available budget

with corresponding adjustment in plans sheets. Additional tasks beyond those listed above include:

A. Add striping sheets to the same scale and layout as the paving sheets. Work will include field verification measurements where necessary to confirm layout with respect to LiDAR mapping. Plans will meet the requirements of section 280 of Clackamas Roadway Standards, ODOT Traffic Line Manual, Striping Design Guidelines Manual, Oregon Standard Drawings, and the MUTCD.
B. Prepare 90% traffic signal plans and details at the intersection listed above. Plans will include count loops locations and relevant conduit, junction boxes, wiring, and cabinet related to the count loops system. Count loop wiring diagrams and loop installation details will be included at this level.
C. Prepare draft technical specifications in the 2018 ODOT/APWA format.
D. Start City of Happy Valley Right-of-Way permit coordination activities for upcoming construction activities adjacent to City streets. The intent is to understand the restrictions/requirements that will be placed upon the Contractor for inclusion in the Contract Documents.
E. Prepare City of Happy Valley Noise Variance permit for anticipated night work.
F. Complete quality control/quality assurance reviews of 90% deliverables.
G. Respond to County comments in a County-provided Comment/Response Log. Consultant will update the log based on discussions/decisions/clarifications at design review meetings (see Task 1) and resubmit at the following milestone.

Assumptions:

A. Consultant will respond to one unified set of comments from the County.
B. Signal loop impacts (for automatic traffic recorders) will require replacement of loops in kind; no further signal modification or design will be required (existing signals have video detection).
C. Changes to existing roadway profile grades are not necessary. Where full reconstruction is recommended and proposed, the Contractor will be responsible to record the existing profile information to recreate the roadway finish grades.

Task 6.3 – Final Design

The final design submittal will be advanced from the 90% Design submittal (incorporating review comments as appropriate).

Task 6 Deliverables:

A. Field Verification Checklist
B. Electronic versions of the 50% plans and cost estimate (PDF and Excel)
C. Electronic versions of the 90% Special Provisions, Plans, and Cost Estimate (PDF, Word, and Excel)
D. Electronic versions of the Final Special Provisions, Plans, and Cost Estimate (PDF, Word, and Excel).
E. Comment/response logs.

Task 7: Design for Sunnyside Road (132nd-162nd) Project

Task 7.1 – 50% Design

During this phase, Consultant will develop engineering plans and estimates for the street list described in Table 1. Plan sheets will be developed based on basemapping prepared by Consultant under Task 3. Specific requirements under this task will match that described in Task 6.1. Task 6.1 F is replaced with the following traffic signal systems loops requirements for this task:

F. Prepare 50% traffic signal count loops replacement plans showing the replacement of the existing count loops at the intersections of 142nd/Sunnyside, 152nd/Sunnyside, and 162nd/Sunnyside. Plans will include system loops locations and relevant conduit, junction boxes, and cabinet, related to the count loops system.

Task 7.2 – 90% Design

The 90% design submittal will be advanced from the 50% submittal (incorporating review comments as appropriate). The street list will be adjusted as needed to match available budget with corresponding adjustment in plans sheets. Additional tasks beyond those listed above will match that described in Task 6.2. Task 6.2.B is replaced with the following traffic signal systems loops requirements for this task:

B. Prepare 90% traffic signal plans and details at the intersections listed above. Plans will include count loops locations and relevant conduit, junction boxes, wiring, and cabinet related to the count loops system. Count loop wiring diagrams and loop installation details will be included at this level.

The following is the anticipated list of plan sheets for the combined Sunnyside Road (122nd-162nd) Project:

Running Total	Sheets	Sheet Number	50%	90% & Final	Description
1	1	G1	Yes	Yes	Cover Sheet, Location Map, Index of Sheets
2	1	G2	Yes	Yes	Legend and General Notes
22	20	TC1 to TC20	Yes	Yes	Traffic Control Notes and Plans
23	1	C1	Yes	Yes	Typical Sections
25	2	C2 to 3	Yes	Yes	Paving Details
45	20	C4 to 9	Yes	Yes	Paving Plan Map and Notes
65	20	ST1 to ST6	No	Yes	Striping Layouts (same format as paving plan shts.)
66	1	ST7	No	Yes	Striping Details
70	4	TS1 to TS4	Yes	Yes	Traffic Signal Count Loop Replacement Legend, Plans, and Details
75	5	D1 to D5	No	Yes	County/ODOT Standard Drawings

Task 7.3 – Final Design

The final design submittal will be advanced from the 90% Design submittal (incorporating review comments as appropriate).

Task 7 Deliverables:

A. Field Verification Checklist
B. Electronic versions of the 50% plans and cost estimate (PDF and Excel)
C. Electronic versions of the 90% Special Provisions, Plans, and Cost Estimate (PDF, Word, and Excel)
D. Electronic versions of the Final Special Provisions, Plans, and Cost Estimate (PDF, Word, and Excel).
E. Comment/response logs.

Task 8: Design for Boyer/King Rd Area Package

Task 8.1 – 50% Design

During this phase, Consultant will develop engineering plans and estimates for the street list described in Table 1. Plan sheets will be developed based on basemapping prepared by Consultant under Task 3. Specific requirements under this task include:

A. Integrate mobile scan base mapping into project plan sheets.
B. Prepare Field Verification Checklist for County review and comment.
    a. No ADA compliance review work or new ADA ramp designs are anticipated.
    b. No stormwater quality or quantity improvements are required.
C. Conduct site visit to field verify mapping and identify potential areas of concern utilizing the Field Verification Checklist.
D. Establish appropriate project limits, identify the design sections and edge and longitudinal treatment details, and identify signal loops for traffic counts which may be impacted.
E. Coordinate with the County regarding minor County-owned utility improvements in the project area such as catch basin modifications and incorporate improvements into the plans. The County will provide information necessary for minor utility improvements to be included.
F. Prepare 50% construction plans (1” = 50’ scale on 11”x17” sheets) and details to clearly describe the work to be constructed. Construction plans will include civil notes, details and sections, and street improvement plans for streets listed in Table 1.
G. Prepare a 50% level cost estimate with 30% contingency, and bid schedule. Cost estimate bid items will be based on the 2018 ODOT/APWA Standard Specifications for Construction.
H. Complete quality control/quality assurance reviews of 50% deliverables.
I. Respond to County comments in a County provided Comment/Response Log. Consultant will update the log based on discussions/decisions/clarifications at design review meetings (see Task 1) and resubmit at the following milestone.

Assumptions:

A. Erosion control plan will be provided by the Contractor and the project is covered under the County's 1200-CA permit.
B. Consultant will respond to one unified set of comments from the County.
C. No striping plans are required for this package.

Task 8.2 – 90% Design

The 90% design submittal will be advanced from the 50% submittal (incorporating review comments as appropriate). The street list will be adjusted as needed to match available budget with corresponding adjustment in plans sheets. Additional tasks beyond those listed above include:

A. If full depth reconstruction/reclamation work is selected as the pavement treatment, add traffic control plans and details to identify the type, quantity, and location for temporary traffic control devices. Plans may include staging plans, lane shifts, lane and shoulder widths, lane closures, road closures, temporary detours, temporary diversions, temporary striping, temporary signing, cutting sections at critical areas with dimensions and other relevant information.
B. Add striping layouts to the construction plans as needed.
C. Prepare draft technical specifications in the 2018 ODOT/APWA format.
D. Begin ODOT Right-of-Way permit coordination activities for upcoming construction activities adjacent to ODOT highways (OR213/ 82nd Avenue). The intent is to understand the restrictions/requirements that will be placed upon the Contractor for inclusion in the Contract Documents. The Contractor will be responsible for obtaining an ODOT right-of-way permit for work on 82nd Avenue.
E. Complete quality control/quality assurance reviews of 90% deliverables.
F. Respond to County comments in a County-provided Comment/Response Log. Consultant will update the log based on discussions/decisions/clarifications at design review meetings (see Task 1) and resubmit at the following milestone.

Assumptions:

A. Consultant will respond to one unified set of comments from the County.
B. Changes to existing roadway profile grades are not necessary. Where full reconstruction is recommended and proposed, the Contractor will be responsible to record the existing profile information to recreate the roadway finish grades.

The following is the anticipated list of plan sheets for the Boyer/King Rd Area Package:

Running Total	Sheets	Sheet Number	50%	90% & Final	Description
1	1	G1	Yes	Yes	Cover Sheet, Location Map, Index of Sheets
2	1	G2	Yes	Yes	Legend and General Notes
15	12	TC1 to TC13	No	Yes	Traffic Control Notes and Plans
17	2	C1 to C2	Yes	Yes	Typical Sections

19	2	C3 to C4	Yes	Yes	Paving Details
30	11	C5 to C15	Yes	Yes	Paving Plan Map and Notes
35	5	D1 to D5	No	Yes	County/ODOT Standard Drawings

Task 8.3 – Final Design

The final design submittal will be advanced from the 90% Design submittal (incorporating review comments as appropriate).

Task 8 Deliverables:

A. Field Verification Checklist
B. Electronic versions of the 50% plans and cost estimate (PDF and Excel)
C. Electronic versions of the 90% Special Provisions, Plans, and Cost Estimate (PDF, Word, and Excel)
D. Electronic versions of the Final Special Provisions, Plans, and Cost Estimate (PDF, Word, and Excel).
E. Final comment/response logs.

Contingency Task 9: Design for McLoughlin Area Package

If this package proceeds beyond Task 4.4 - Geotechnical Investigations, the Consultant will perform all work as described below to complete designs.

Contingency Task 9.1 – 50% Design

During this phase, Consultant will develop engineering plans and estimates for the street list described in Table 1. Plan sheets will be developed based on basemapping prepared by Consultant under Task 3. Specific requirements under this task will match that described in Task 8.1.

Contingency Task 9.2 – 90% Design

The 90% design submittal will be advanced from the 50% submittal (incorporating review comments as appropriate). The street list will be adjusted as needed to match available budget with corresponding adjustment in plans sheets. Additional tasks beyond those listed above will match that described in Task 8.2. Consultant will also provide erosion control plans and details for inclusion in the Contract Documents, and for use in obtaining the Oak Lodge Water Services Erosion Control Permit. Stormwater management coordination, design and permitting are excluded from this Scope of Work. If Oak Lodge Water Services stormwater management triggers are activated by the improvements, the County will mitigate using stormwater management credits from other sources.

The following is the anticipated list of plan sheets for the McLoughlin Area Package:

Running Total	Sheets	Sheet Number	50%	90% & Final	Description
1	1	G1	Yes	Yes	Cover Sheet, Location Map, Index of Sheets
2	1	G2	Yes	Yes	Legend and General Notes
17	14	TC1 to TC14	No	Yes	Traffic Control Notes and Plans
32	15	EC1 to EC15	No	Yes	Erosion Control Plan and Details
35	3	C1 to C3	Yes	Yes	Typical Sections
37	2	C4 to C5	Yes	Yes	Paving Details
50	13	C6 to C19	Yes	Yes	Paving Plan Map and Notes
55	5	D1 to D5	No	Yes	County/ODOT Standard Drawings

Contingency Task 9.3 – Final Design

The final design submittal will be advanced from the 90% Design submittal (incorporating review comments as appropriate).

Contingency Task 9 Deliverables:

A. Field Verification Checklist
B. Electronic versions of the 50% plans and cost estimate (PDF and Excel)
C. Electronic versions of the 90% Special Provisions, Plans, and Cost Estimate (PDF, Word, and Excel)
D. Electronic versions of the Final Special Provisions, Plans, and Cost Estimate (PDF, Word, and Excel).
E. Final comment/response logs.

Contingency Task 10 – Right of Entry Requests for McLoughlin Area Package

If this package proceeds beyond Task 4.4 - Geotechnical Investigations, the Consultant will perform all work as described below.

Consultant will obtain a Right of Entry for driveway connection work beyond the existing approximate tax lot right-of-way line in the McLoughlin Area Package. It is assumed a right of entry will be required for 10% of the non-curbed properties (15 total requests) adjacent to the roads included in this paving package.

The Consultant will need to obtain current vesting deeds for properties within the project boundaries.

The Consultant will create a Status Excel spreadsheet to include property owner name, mailing address, site address, tax lot number, status and other associated date for each property needing a Right of Entry (ROE). Consultant will use their own data sources. The spreadsheet should be distinctly grouped by road.

For each property needing ROE, the Consultant will use their own data sources to get a copy of the last vesting deed to be used to verify ownership and the owner's mailing address information if different than the site address, and enter the information into the spreadsheet.

For each property, the Consultant will prepare and mail a Letter of Request for ROE, 2 copies of a ROE form, one stamped, self-addressed return envelope and the business card of the Agent signing the letter. The letter of request will be submitted to the County for review before use. The letter should be printed on County letterhead.

The Consultant will use the County ROE form. Prepared and proofed ROEs will be scanned into one file and emailed to the County for signature by the County Project Manager. The signed ROEs will be scanned into one file and emailed back to the Consultant for use in the mailings. ROE date mailed and date returned will be tracked in the spreadsheet.

The Consultant will be required to answer phone calls and emails from property owners. A comments column in the spreadsheet should be used to track the date, names of both parties to the conversation, and very brief summary for all phone calls or emails received.

If after 45 days from date of mailing no phone call or ROE has been returned, the Consultant will repeat the process one time. The second mailing will contain a "Second Request Letter" along with 2 copies of the ROE. The "Second Request Letter" will be submitted to the County for review before mailing.

The Consultant will keep the spreadsheet current and will email a copy to the County weekly on a mutually agreed upon day of the week.

Acquired ROE originals will be mailed to the County on a mutually agreed upon schedule. Digital copies of acquired ROE's will be emailed to County on a mutually agreed upon schedule.

Assumptions:

A. County will provide an example or template ROE form.

Contingency Task 10 Deliverables:

A. Status Reports
B. Copies of vesting deeds
C. Rights of Entry forms

Task 11 – Bid Phase Services

The County will publish, advertise and be the primary point of contact for bidder inquiries. The Consultant will provide bidding assistance, including responding to questions from potential construction contractors and suppliers to the County about the Plans and Specifications during the bidding process, and completion of minor addenda, if necessary, to clarify the documents.

Consultant will prepare up to one (1) addendum per paving package and assist the County in responding to bidder inquires during the bid period.

Assumptions:

A. A pre-bid meeting will not be conducted.

Task 11.1: Bid Phase Services for Sunnyside Road (122nd – 132nd) Project

The Consultant will perform all work as described above.

Task 11.2: Bid Phase Services for Sunnyside Road (132nd – 162nd) Project

The Consultant will perform all work as described above.

Task 11.3: Bid Phase Services for Boyer/King Rd Area Package

The Consultant will perform all work as described above.

Contingency Task 11.4: Bid Phase Services for McLoughlin Area Package

If this package proceeds beyond Task 4.4 - Geotechnical Investigations, the Consultant will perform all work as described above.

Task 11 Deliverables:

A. Up to three (3) addenda (1 per package) in electronic format.
B. Up to nine (9) written responses to questions (3 per package).

Task 12 - Monument Preservation

A. Pre-construction Survey
    1. A Pre-Construction Survey will be conducted along the project corridor and within the project work area during the design phase.
    2. Check county records for surveys conducted along the project corridor, within the proposed work area. Search for and tie monuments in the field.
    3. Identify monuments on plan sheets and in AutoCAD format within the proposed work area. Provide construction notes to maintain and protect, adjust or install new boxes over existing monuments.

B. Post-construction Survey
    1. Verify if any monuments need to be recovered after construction.
    2. Check monument locations after construction and reset any monuments disturbed or destroyed.
    3. Prepare and file a post-construction record of survey with the County's Surveyor.

Assumptions:

A. A pre-construction Record of Survey for pavement management type of work is not required to be submitted to the County.
B. Land corners along the right-of-way line are not anticipated to be disturbed, therefore the monument survey work will focus on monuments within the right-of-way, not including the right-of-way or property lines.

C. Cost of Post-Construction Record of Survey review by the County Surveyor's office and mylar filing fee are included.

Task 12.1: Monument Preservation for Sunnyside Road (122nd – 132nd) Project

The Consultant will perform all work as described above.

Task 12.2: Monument Preservation for Sunnyside Road (132nd – 162nd) Project

The Consultant will perform all work as described above.

Task 12.3: Monument Preservation for Boyer/King Rd Area Package

The Consultant will perform all work as described above.

Contingency Task 12.4: Monument Preservation for McLoughlin Area Package

If this package proceeds beyond Task 4.4 - Geotechnical Investigations, the Consultant will perform all work as described above.

Task 12 Deliverables:

A. PDF plan sheets and AutoCAD format of existing monuments within the proposed work area.
B. Filed post-construction survey with the County for any disturbed monuments.

Work Schedule:

Completion of the 2022 paving area projects scope of work tasks will be required prior to December 31, 2021, except for the post-construction surveys. Below is the anticipated project schedule:

2022 Paving Packages

	Design	Right of Way	Construction
Anticipated Start Date	January 2020	May 2021	June 2022
Anticipated End Date	December 2021	December 2021	August 2022

Term of Contract:

The term of the contract shall be from the effective date through **December 31, 2022**.

EXHIBIT B
FEE SCHEDULE

DESIGN SERVICES FOR THE 2022 PAVING PACKAGES
CLACKAMAS COUNTY
PROPOSED FEE ESTIMATE

	LABOR CLASSIFICATION (HOURS)							Estimated Fees								
									Subconsultants							
	Principal Engineer II	Professional Engineer VII	Engineering Designer I	Engineering Designer II	Technician II	Administrative II	Hours	Labor	PBS	Erlandsen	GeoDesign	DKS	UFS	Subconsultant Total with Markup	Expenses	Total
	$230 Crop	$191 Giesy	$136 Eljechi	$147 Castro	$138 McFaddin	$101 Haught										
Task 1 - Project Management and Coordination																
Task 1.1 Sunnyside Road (122nd - 132nd) Project	11	32	11	0	0	4	58	$ 10,542						$ -	$ 100	$ 10,642
Task 1.2 Sunnyside Road (132nd - 162nd) Project	21	60	21	0	0	6	108	$ 19,752						$ -	$ 100	$ 19,852
Task 1.3 Boyer/King Rd Area Package	11	32	11	0	0	4	58	$ 10,542						$ -	$ 100	$ 10,642
Task 1.4 McLoughlin Area Package - Pavement Design Phase	5	14	5	0	0	2	26	$ 4,706						$ -	$ 100	$ 4,806
Contingency Task 1.4.1 *McLoughlin Area Package - Design/Bid Phase*	*6*	*22*	*7*	*0*	*0*	*3*	*38*	*$ 6,837*						*$ -*	*$ -*	*$ 6,837*
Task 1 Subtotal	**54**	**160**	**55**	**0**	**0**	**19**	**288**	**$ 52,379**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 400**	**$ 52,779**
Task 2 - Project Design Criteria - RESERVED																
Task 2 Subtotal	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Task 3 - Surveying																
Task 3.1 - Sunnyside Road (122nd - 132nd) Project	0	1	2	0	2	0	5	$ 739	$ 3,000	$ 2,500				$ 5,500	$ 100	$ 6,339
Task 3.2 - Sunnyside Road (132nd - 162nd) Project	0	1	2	0	2	0	5	$ 739	$ 7,000	$ 10,000				$ 17,000	$ 100	$ 17,839
Task 3.3 - Boyer/King Rd Area Package	0	1	2	0	2	0	5	$ 739	$ 12,000	$ 8,100				$ 20,100	$ 100	$ 20,939
Contingency Task 3.4 - *McLoughlin Area Package*	*0*	*1*	*2*	*0*	*2*	*0*	*5*	*$ 739*	*$ 14,000*	*$ 12,000*				*$ 26,000*	*$ 100*	*$ 26,839*
Task 3 Subtotal	**0**	**4**	**8**	**0**	**8**	**0**	**20**	**$ 2,956**	**$ 36,000**	**$ 32,600**	**$ -**	**$ -**	**$ -**	**$ 68,600**	**$ 400**	**$ 71,956**
Task 4 - Geotechnical Investigations																
Task 4.1 - Sunnyside Road (122nd - 132nd) Project	3	6	1	0	0	0	10	$ 1,972			$ 19,512			$ 19,512	$ 56	$ 21,540
Task 4.2 - Sunnyside Road (132nd - 162nd) Project	6	12	2	0	0	0	20	$ 3,944			$ 24,295			$ 24,295	$ 56	$ 28,295
Task 4.3 - Boyer/King Rd Area Package	3	6	1	0	0	0	10	$ 1,972			$ 17,791			$ 17,791	$ 56	$ 19,819
Task 4.4 - McLoughlin Area Package	4	8	8	0	0	0	20	$ 3,536			$ 20,544			$ 20,544	$ 56	$ 24,136
Task 4 Subtotal	**16**	**32**	**12**	**0**	**0**	**0**	**60**	**$ 11,424**	**$ -**	**$ -**	**$ 82,142**	**$ -**	**$ -**	**$ 82,142**	**$ 224**	**$ 93,790**
Task 5 - Utility Coordination																
Task 5.1 - Sunnyside Road (122nd - 132nd) Project	0	4	12	0	0	0	16	$ 2,396						$ -	$ 33	$ 2,429
Task 5.2 - Sunnyside Road (132nd - 162nd) Project	0	10	24	0	0	0	34	$ 5,174						$ -	$ 33	$ 5,207
Task 5.3 - Boyer/King Rd Area Package	0	6	20	0	0	0	26	$ 3,866						$ -	$ 33	$ 3,899
Contingency Task 5.4 - *McLoughlin Area Package*	*0*	*8*	*24*	*0*	*0*	*0*	*32*	*$ 4,792*						*$ -*	*$ 33*	*$ 4,825*
Task 5 Subtotal	**0**	**28**	**80**	**0**	**0**	**0**	**108**	**$ 16,228**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 132**	**$ 16,360**
Task 6 - Design for Sunnyside Road (122nd-132nd) Project																
Task 6.1 - 50% Design	3	16	62	24	20	0	125	$ 18,466				$ 589		$ 589	$ 43	$ 19,098
Task 6.2 - 90% Design	4	25	74	12	23	0	138	$ 20,697				$ 589		$ 589	$ 20	$ 21,306
Task 6.3 - Final Design	1	22	32	8	24	0	87	$ 13,272				$ 1,178		$ 1,178	$ 20	$ 14,470
Task 6 Subtotal	**8**	**63**	**168**	**44**	**67**	**0**	**350**	**$ 52,435**	**$ -**	**$ -**	**$ -**	**$ 2,355**	**$ -**	**$ 2,355**	**$ 83**	**$ 54,873**
Task 7 - Design for Sunnyside Road (132nd-162nd) Project																
Task 7.1 - 50% Design	6	30	142	36	44	0	258	$ 37,786				$ 1,656		$ 1,656	$ 43	$ 39,485
Task 7.2 - 90% Design	7	59	129	20	42	0	257	$ 39,159				$ 1,656		$ 1,656	$ 20	$ 40,835
Task 7.3 - Final Design	3	40	54	16	42	0	155	$ 23,822				$ 3,313		$ 3,313	$ 20	$ 27,155
Task 7 Subtotal	**16**	**129**	**325**	**72**	**128**	**0**	**670**	**$ 100,767**	**$ -**	**$ -**	**$ -**	**$ 6,625**	**$ -**	**$ 6,625**	**$ 83**	**$ 107,475**
Task 8 - Design Boyer/King Rd Area Package																
Task 8.1 - 50% Design	3	21	84	19	18	0	145	$ 21,334						$ -	$ 43	$ 21,377
Task 8.2 - 90% Design	3	48	73	12	24	0	160	$ 24,862						$ -	$ 20	$ 24,882
Task 8.3 - Final Design	2	22	38	8	12	0	82	$ 12,662						$ -	$ 20	$ 12,682
Task 8 Subtotal	**8**	**91**	**195**	**39**	**54**	**0**	**387**	**$ 58,858**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 83**	**$ 58,941**
Contingency Task 9 - Design for McLoughlin Area Package																
Contingency Task 9.1 - 50% Design	*4*	*27*	*95*	*20*	*24*	*0*	*170*	*$ 25,181*						*$ -*	*$ 43*	*$ 25,224*
Contingency Task 9.2 - 90% Design	*5*	*55*	*128*	*20*	*43*	*0*	*251*	*$ 37,937*						*$ -*	*$ 20*	*$ 37,957*
Contingency Task 9.3 - Final Design	*3*	*26*	*53*	*12*	*20*	*0*	*114*	*$ 17,388*						*$ -*	*$ 20*	*$ 17,408*
Task Contingency Task 9 - Subtotal	**12**	**108**	**276**	**52**	**87**	**0**	**535**	**$ 80,506**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 83**	**$ 80,589**
Contingency Task 10 - Right of Entry Requests for McLoughlin Area Package																
ROE's	*0*	*8*	*8*	*0*	*0*	*0*	*16*	*$ 2,616*					*$ 14,649*	*$ 14,649*	*$ -*	*$ 17,265*
Task Contingency Task 10 - Subtotal	**0**	**8**	**8**	**0**	**0**	**0**	**16**	**$ 2,616**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 14,649**	**$ 14,649**	**$ -**	**$ 17,265**
Task 11 - Bid Phase Services																
Task 11.1 - Sunnyside Road (122nd - 132nd) Project	0	4	2	0	2	0	8	$ 1,312				$ 217		$ 217	$ -	$ 1,529
Task 11.2 - Sunnyside Road (132nd - 162nd) Project	0	4	2	0	2	0	8	$ 1,312				$ 433		$ 433	$ -	$ 1,745
Task 11.3 - Boyer/King Rd Area Package	0	4	2	0	2	0	8	$ 1,312						$ -	$ -	$ 1,312
Contingency Task 11.4 - *McLoughlin Area Package*	*0*	*4*	*2*	*0*	*2*	*0*	*8*	*$ 1,312*						*$ -*	*$ -*	*$ 1,312*
Task Task 11 - Subtotal	**0**	**16**	**8**	**0**	**8**	**0**	**32**	**$ 5,248**	**$ -**	**$ -**	**$ -**	**$ 650**	**$ -**	**$ 650**	**$ -**	**$ 5,898**
Task 12 - Monument Preservation																
Task 12.1 - Sunnyside Road (122nd - 132nd) Project	0	1	2	0	0	0	3	$ 463	$ 2,000					$ 2,000	$ -	$ 2,463
Task 12.2 - Sunnyside Road (132nd - 162nd) Project	0	1	2	0	0	0	3	$ 463	$ 4,000					$ 4,000	$ -	$ 4,463
Task 12.3 - Boyer/King Rd Area Package	0	1	2	0	0	0	3	$ 463	$ 1,500					$ 1,500	$ -	$ 1,963
Contingency Task 12.4 - *McLoughlin Area Package*	*0*	*1*	*2*	*0*	*0*	*0*	*3*	*$ 463*	*$ 1,500*					*$ 1,500*	*$ -*	*$ 1,963*
Task Task 12 - Subtotal	**0**	**4**	**8**	**0**	**0**	**0**	**12**	**$ 1,852**	**$ 9,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 9,000**	**$ -**	**$ 10,852**

DESIGN SERVICES FOR THE 2022 PAVING PACKAGES
CLACKAMAS COUNTY
PROPOSED FEE ESTIMATE

	LABOR CLASSIFICATION (HOURS)							Estimated Fees								
									Subconsultants							
	Principal Engineer II	Professional Engineer VII	Engineering Designer I	Engineering Designer II	Technician II	Administrative II	Hours	Labor	PBS	Erlandsen	GeoDesign	DKS	UFS	Subconsultant Total with Markup	Expenses	Total
	$230 Crop	$191 Giesy	$136 Eljechi	$147 Castro	$138 McFaddin	$101 Haught										
SUBTOTALS FOR NON-CONTINGENCY TASKS																
SUBTOTAL NON-CONTINGENCY - For Sunnyside Road (122nd - 132nd) Project	*22*	*111*	*198*	*44*	*71*	*4*	*450*	*$ 69,859*	*$ 5,000*	*$ 2,500*	*$ 19,512*	*$ 2,572*	*$ -*	*$ 29,584*	*$ 372*	*$ 99,815*
SUBTOTAL NON-CONTINGENCY - For Sunnyside Road (132nd - 162nd) Project	*43*	*217*	*378*	*72*	*132*	*6*	*848*	*$ 132,151*	*$ 11,000*	*$ 10,000*	*$ 24,295*	*$ 7,058*	*$ -*	*$ 52,353*	*$ 372*	*$ 184,876*
SUBTOTAL NON-CONTINGENCY- For Boyer/King Rd Area Package	*22*	*141*	*233*	*39*	*58*	*4*	*497*	*$ 77,752*	*$ 13,500*	*$ 8,100*	*$ 17,791*	*$ -*	*$ -*	*$ 39,391*	*$ 372*	*$ 117,515*
SUBTOTAL NON-CONTINGENCY - For McLoughlin Area Package	*9*	*22*	*13*	*0*	*0*	*2*	*46*	*$ 8,242*	*$ -*	*$ -*	*$ 20,544*	*$ -*	*$ -*	*$ 20,544*	*$ 156*	*$ 28,942*
SUBTOTAL NON-CONTINGENCY TASKS - ALL PACKAGES	***96***	***491***	***822***	***155***	***261***	***16***	***1841***	***$ 288,004***	***$ 29,500***	***$ 20,600***	***$ 82,142***	***$ 9,630***	***$ -***	***$ 141,872***	***$ 1,272***	***$ 431,148***
SUBTOTALS FOR CONTINGENCY TASKS																
SUBTOTAL CONTINGENCY - For Sunnyside Road (122nd - 132nd) Project	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
SUBTOTAL CONTINGENCY - For Sunnyside Road (132nd - 162nd) Project	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
SUBTOTAL CONTINGENCY - For Boyer/King Rd Area Package	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
SUBTOTAL CONTINGENCY - For McLoughlin Area Package	*18*	*152*	*321*	*52*	*91*	*3*	*637*	*$ 97,265*	*$ 15,500*	*$ 12,000*	*$ -*	*$ -*	*$ 14,649*	*$ 42,149*	*$ 216*	*$ 139,630*
SUBTOTAL CONTINGENCY TASKS - ALL PACKAGES	***18***	***152***	***321***	***52***	***91***	***3***	***637***	***$ 97,265***	***$ 15,500***	***$ 12,000***	***$ -***	***$ -***	***$ 14,649***	***$ 42,149***	***$ 216***	***$ 139,630***
TOTAL AMOUNTS (NON-CONTINGENCY AND CONTINGENCY TASKS)																
TOTAL AMOUNT (NON-CONTINGENCY AND CONTINGENCY) - For Sunnyside Road (122nd - 132nd) Project	*22*	*111*	*198*	*44*	*71*	*4*	*450*	*$ 69,859*	*$ 5,000*	*$ 2,500*	*$ 19,512*	*$ 2,572*	*$ -*	*$ 29,584*	*$ 372*	*$ 99,815*
TOTAL AMOUNT (NON-CONTINGENCY AND CONTINGENCY) - For Sunnyside Road (132nd - 162nd) Project	*43*	*217*	*378*	*72*	*132*	*6*	*848*	*$ 132,151*	*$ 11,000*	*$ 10,000*	*$ 24,295*	*$ 7,058*	*$ -*	*$ 52,353*	*$ 372*	*$ 184,876*
TOTAL AMOUNT (NON-CONTINGENCY AND CONTINGENCY) - For Boyer/King Rd Area Package	*22*	*141*	*233*	*39*	*58*	*4*	*497*	*$ 77,752*	*$ 13,500*	*$ 8,100*	*$ 17,791*	*$ -*	*$ -*	*$ 39,391*	*$ 372*	*$ 117,515*
TOTAL AMOUNT (NON-CONTINGENCY AND CONTINGENCY) - For McLoughlin Area Package	*27*	*174*	*334*	*52*	*91*	*5*	*683*	*$ 105,507*	*$ 15,500*	*$ 12,000*	*$ 20,544*	*$ -*	*$ 14,649*	*$ 62,693*	*$ 372*	*$ 168,572*
TOTAL CONTRACT AMOUNT (NON-CONTINGENCY AND CONTINGENCY TASKS) - ALL PACKAGES	***114***	***643***	***1142***	***207***	***352***	***19***	***2477***	***$ 385,269***	***$ 45,000***	***$ 32,600***	***$ 82,142***	***$ 9,630***	***$ 14,649***	***$ 184,021***	***$ 1,488***	***$ 570,778***

SCHEDULE OF CHARGES

Personnel:

Labor will be invoiced by staff classification at the following hourly rates, which are valid through December 31, 2022. After this period, the rates are subject to adjustment.

Billing Classifications	2020 Rates	Billing Classifications	2020 Rates
Principal Engineer VI	$270	Construction Manager VIII	$227
Principal Engineer V	$260	Construction Manager VII	$219
Principal Engineer IV	$250	Construction Manager VI	$203
Principal Engineer III	$239	Construction Manager V	$188
Principal Engineer II	$230	Construction Manager IV	$178
Principal Engineer I	$222	Construction Manager III	$162
Professional Engineer IX	$212	Construction Manager II	$150
Engineering Designer IX	$204	Construction Manager I	$133
Professional Engineer VIII	$202	Inspector VII	$188
Engineering Designer VIII	$193	Inspector VI	$172
Professional Engineer VII	$191	Inspector V	$156
Engineering Designer VII	$184	Inspector IV	$145
Professional Engineer VI	$182	Inspector III	$129
Engineering Designer VI	$175	Inspector II	$117
Professional Engineer V	$171	Inspector I	$100
Engineering Designer V	$164	Technician IV	$173
Professional Engineer IV	$161	Technician III	$157
Engineering Designer IV	$161	Technician II	$138
Professional Engineer III	$161	Technician I	$119
Engineering Designer III	$161	Administrative III	$110
Engineering Designer II	$147	Administrative II	$101
Engineering Designer I	$136	Administrative I	$89
Project Manager V	$270		
Project Manager IV	$250		
Project Manager III	$225		
Project Manager II	$200		
Project Manager I	$164		

Project Expenses:

Expenses incurred that are directly attributable to the project will be invoiced at actual cost. These expenses include the following:

Mileage	Current IRS Rate
Postage and Delivery Services	At Cost
Printing and Reproduction	At Cost
Travel, Lodging, and Subsistence	At Cost

Outside Services:

Outside technical, professional, and other services will be invoiced at actual cost.