



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 Knife River Corporation-Northwest, for the
Damascus Area Safety Countermeasures Project. Total Contract Value is \$511,845.00.
Funding through Damascus Road Fund. County General Funds are not involved.**

Purpose/Outcome	The contract will allow the install signing for the Damascus Area Safety Countermeasures Project.
Dollar Amount and Fiscal Impact	\$511,845.00
Funding Source	Damascus Road Fund
Duration	Contract Execution through December 31, 2022.
Previous Board Action/Review	4/26/22: Discussion item at issues
Strategic Plan Alignment	1. Project will reduce serious injury and fatal crashes, which is aligned with the Clackamas County Transportation Safety Action Plan to eliminate fatal crashes on Clackamas County roads by 2035. 2. The reduction of serious crashes will contribute to a safe, healthy and secure community. 3. The new safety signing will contribute to a strong infrastructure by ensuring that County roadways are meeting current Federal Highway Administration safety standards
Counsel Review	Counsel Date: April 5, 2022 Counsel Initials: AN
Procurement Review	Was this project processed through Procurement? Yes.
Contact Person	Christian Snuffin, Civil Engineering Senior 503-742-4716
Contract No.	5317

Background:

This project will install updated warning signs and pavement markings at 13 intersections and along two roadway segments in the Damascus area. These signing and pavement marking improvements will result in measurable reductions in fatal and serious injury crashes on County rural roadways, which is consistent with the goal of the Transportation Safety Action Plan to eliminate serious injury and fatal crashes by 2035. The improvements will also bring the roadways into compliance with Manual on Uniform Traffic Control Devices (MUTCD) standards.

Project locations include: (1) updated curve warning signs on 222nd Ave and one on Wiese Rd; (2) updated/enhanced safety signing and pavement markings at 13 Damascus area intersections, including all major intersections on 222nd Ave, 242nd Ave and Tillstrom Rd plus the intersection of Wiese Rd and Bohna Park Rd.

Procurement Process:

This project was advertised in accordance with ORS and LCRB Rules on February 2, 2022. Bids were publicly opened on March 3, 2022. The County received two (2) bids: Elk Mountain Construction, \$537,664.00, and Knife River Corporation, \$511,845.00. After review of the bids, Knife River Corporation- Northwest was determined to be the lowest responsive bidder.

Recommendation:

Staff respectfully recommends that the Board approve and sign this public improvements contract with Knife River Corporation- Northwest, for the Damascus Area Safety Countermeasures Project.

Sincerely,

Christian Snuffin

Christian Snuffin
Civil Engineering Senior

Placed on the BCC Agenda _____ by Procurement



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
Contract #5317

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 Knife River Corporation- Northwest, 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: # 2022-07 Damascus Area Safety Countermeasures Project

1. Contract Price, Contract Documents and Work.

The Contractor, in consideration of the sum of Five Hundred Eleven Thousand Eight Hundred Forty-Five Dollars (\$511,845.00) (the "Contract Price"), to be paid to the Contractor by Owner in the manner and at the time hereinafter provided, and subject to the terms and conditions provided for in the Instructions to Bidders and other Contract Documents (as defined in the project specifications) referenced within the Instructions to Bidders), all of which are incorporated herein by reference, hereby agrees to perform all Work described and reasonably inferred from the Contract Documents. The Contract Price is the amount contemplated by the Base Bid 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
• 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 Damascus Area Systemic Safety Enhancements (the "Specifications"), together with the provisions of the Oregon Standard Specifications for Construction (2021) referenced therein.

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

2. Representatives.

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

[X]

Unless otherwise specified in the Contract Documents, the Owner designates Christian Snuffin 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: Matt Wilson shall be the Contractor's project executive, and will provide oversight and guidance throughout the project term.

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

Job Superintendent: Jacob Kemp 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")

SUBSTANTIAL COMPLETION DATE: December 15, 2022

FINAL COMPLETION DATE: December 31, 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. \$ 600.00 per Calendar day past the Substantial Completion date as identified in section 00180.85 (b).

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:

Knife River Corporation-Northwest
32260 Old Highway 34
Tangent, Oregon 97389

Contractor CCB # 2101 Expiration Date: 8/10/2022
Oregon Business Registry #068610-17 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.

Knife River Corporation-Northwest

Clackamas County

x Ethan H 3/31/22
Authorized Signature Date

Chair Date

Ethan Hasenstein
Assistant Secretary

Name / Title Printed

Recording Secretary

APPROVED AS TO FORM
[Signature] 04/05/2022

County Counsel Date



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY**

Table of Contents

Section B-1.....Notice of Public Improvement Contract Opportunity

Section B-2.....Instructions to Bidders

Section B-3.....Supplemental Instructions to Bidders

Section B-4.....Bid Bond

Section B-5.....Bid Form

Section B-6.....Public Improvement Contract

Section B-7.....Performance Bond

Section B-8..... Payment Bond

Section B-9..... Project Information, Plans, Specifications and Drawings



CLACKAMAS COUNTY
NOTICE OF PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

INVITATION TO BID #2022-07
Damascus Area Safety Countermeasures Project
February 3, 2022

Clackamas County ("County") through its Board of County Commissioners is accepting sealed bids for the **Damascus Area Safety Countermeasures Project** until **March 3, 2022, 3:00 PM**, Pacific Time, ("Bid Closing") at the following location:

DELIVER BIDS TO: Clackamas County Procurement Division via email to procurement@clackamas.us.

Bidding Documents can be downloaded from the state of Oregon procurement website ("OregonBuys") at the following address: <https://oregonbuys.gov/bsa/view/login/login.xhtml>, Document No.S-C01010-00001962.

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: \$304,223.00

Contact Information

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

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

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, 2022, which can be downloaded at the following web address: http://www.oregon.gov/boli/WHD/PWR/Pages/pwr_state.aspx
The Work will take place in Clackamas County, Oregon.

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



CLACKAMAS COUNTY PUBLIC IMPROVEMENT CONTRACT

INSTRUCTIONS TO BIDDERS

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

Article 1. Scope of Work

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

Article 2. Examination of Site and Conditions

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

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

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

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

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

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

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

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

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

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

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

Article 4. Security to Be Furnished by Each Bidder

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

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

Article 5. Execution of Bid Bond

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

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

Article 6. Execution of the Bid Form

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

The Bid Form relates to Bids on a specific Project

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

Article 7. Prohibition of Alterations to Bid

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

Article 8. Submission of Bid

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

Article 9. Bid Closing and Opening of Bids

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

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

Generally, Bid results will be posted to the 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: # 2022-07 Damascus Area Safety Countermeasures Project

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

- 1. Email of Bids** - 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 3:00 p.m. Pacific Time, March 3, 2022. The Bid must be emailed to the following address: Procurement@clackamas.us. **The email subject line must read “Bid for #2022-07 Damascus Area Safety Countermeasures Project.”** 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:

ZOOM LINK

Join Zoom Meeting

<https://clackamascounty.zoom.us/j/88477987177>

Meeting ID: 884 7798 7177

One tap mobile

+16699006833,,88477987177# US (San Jose) 12532158782,,88477987177# US
(Tacoma)

Dial by your location

- +1 669 900 6833 US (San Jose)
- +1 253 215 8782 US (Tacoma)
- +1 346 248 7799 US (Houston)
- +1 408 638 0968 US (San Jose)
- +1 646 876 9923 US (New York)
- +1 301 715 8592 US (Washington DC)
- +1 312 626 6799 US (Chicago)

Meeting ID: 884 7798 7177

Find your local number: <https://clackamascounty.zoom.us/u/kb2dmNAyPm>

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

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

Bidders must perform Good Faith Effort (defined below) and submit **Form 1 and Form 2** for the Bidders Bid to be considered responsive. **Form 1 and Form 2** must be submitted within **two (2) hours** after the Closing Date and Time. Form 1 and Form 2 may be submitted 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
PUBLIC IMPROVEMENT CONTRACT

BID BOND

Project Name: # 2022-07 Damascus Area Safety Countermeasures Project

We, Knife River Corporation - Northwest, as "Principal,"
(Name of Principal)

and Liberty Mutual Insurance Company, an MA Corporation,
(Name of Surety)

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

Ten Percent of Amount Bid dollars.

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

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

IN WITNESS WHEREOF, we have caused this instrument to be executed and sealed by our duly authorized legal representatives this 3rd day of March, 20 22.

Principal: Knife River Corporation - Northwest

Surety: Liberty Mutual Insurance Company

By: [Signature]
Signature

[Signature]
By: Attorney-In-Fact

Ethan Hasenstein
Assistant Secretary

Heather R. Goedel
Name

Official Capacity

8400 Normandale Lake Blvd., Suite 1700
Address

Attest: [Signature]
Corporation Secretary

Bloomington, MN 55437
City State Zip

Jeffrey R. Steyaert
Assistant Secretary

763-302-7159
Phone

763-302-7200
Fax



Surety Acknowledgment

State of Minnesota }
County of Hennepin } ss.

On this 3rd day of March 2022, before me personally came Heather R. Goedel, to me known, who being by me duly sworn, did depose and say that she is the Attorney-in-Fact of Liberty Mutual Insurance Company described in and which executed the above instrument; that she knows the seal of said corporation; that the seal affixed to said instruments is such corporate seal, that it was so affixed by order of the Board of Directors of said corporation, and that she signed her name to it by like order.



Notary Public





This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8207281-190003

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Blake S. Bohlig; Brian D. Carpenter; Craig Olmstead; Erik T. Gunkel; Heather R. Goedtel; Irene Nichols; Jessica Hoff; Kelly Nicole Enghauser; Laurie Pflug; Megan Scott; Michelle Halter; Nicole Langer

all of the city of Bloomington state of MN each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 4th day of February, 2022.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 4th day of February, 2022 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 3rd day of March, 2022.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID FORM

PROJECT: # 2022-07 Damascus Area Safety Countermeasures Project
BID CLOSING: March 3, 2022, 3:00 PM, Pacific Time
BID OPENING: March 3, 2022, 3:05 PM, Pacific Time

FROM: Knife River Corporation - Northwest
Bidder's Name (must be full legal name, not ABN/DBA)

TO: Clackamas County
Procurement Division – procurement@clackamas.us

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

- a. An individual; or
- b. A partnership registered under the laws of the State of _____; or
- c. A corporation organized under the laws of the State of Oregon; or
- d. A limited liability corporation organized under the laws of the State of _____;

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

Five Hundred eleven thousand eight hundred
forty five dollars and zero cents

Dollars (\$ \$511,845.00)

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

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

• ADDENDA numbered 0 through 0, 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 **Damascus Area Systemic Enhancements**

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:

Liberty Mutual Insurance Company
(name of surety company - not insurance agency)

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

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

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

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

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

11. Contractor's CCB registration number is 2101. 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 Liberty Insurance Corporation Policy No. WA7-64D-, and that Contractor shall submit Certificates of Insurance as required.

05097-022

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

Project Executive: Matt Wilson, Cell Phone: 503-642-2531,
Project Manager: Alex Brock, Cell Phone: 503-214-0518,
Job Superintendent: Jacob Kemp, Cell Phone: 971-330-3111,
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 Knife River Corporation - Northwest
ADDRESS 32260 Old Highway 34
Tangent, OR 97389
TELEPHONE NO 541-918-5100
EMAIL Alex.Brock@kniferiver.com
SIGNATURE 1) N/A
Sole Individual
or 2) N/A
Partner
or 3) X Edm H
Authorized Officer or Employee of Corporation
Ethan Hasenstein
Assistant Secretary

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

BID I#2022-07 - Damascus Area Systemic Safety Enhancements

Bid Item	Description	Bid Unit	Quantity	Cost Item	Total
GENERAL CONDITIONS (00100)					
1	EXTRA WORK AS AUTHORIZED (\$20,000)	LS	1	\$20,000.00	\$20,000.00
MOBILIZATION AND TRAFFIC CONTROL (00200)					
2	MOBILIZATION (00210)	LS	1	\$50,000.00	\$50,000.00
3	TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (00221)	LS	1	\$50,000.00	\$50,000.00
4	FLAGGERS (00223)	HOUR	400	\$100.00	\$40,000.00
5	EROSION CONTRL PLAN (00280)	LS	1	\$1,000.00	\$1,000.00
PERMANENT TRAFFIC CONTROL AND GUIDANCE DEVICES (00800)					
6	PAVEMENT LINE REMOVAL (00851)	FT	200	\$5.20	\$1,040.00
7	PAVEMENT BAR REMOVAL (00851)	SF	100	\$15.60	\$1,560.00
8	MONO-DIRECTIONAL WHITE TYPE 1AR MARKERS (00855)	EACH	30	\$19.50	\$585.00
9	THERMOPLASTIC, EXTRUDED, SURFACE, NON-PROFILED (00865)	FT	1200	\$4.55	\$5,460.00
10	PAVEMENT LEGEND, TYPE B-HS: "STOP" (00867)	EACH	6	\$520.00	\$3,120.00
11	PAVEMENT LEGEND, TYPE B-HS: "AHEAD" (00867)	EACH	2	\$585.00	\$1,170.00
12	PAVEMENT BAR, TYPE B-HS (00867)	SF	680	\$14.30	\$9,724.00
PERMANENT TRAFFIC CONTROL & ILLUMINATION SYSTEMS (00900)					
13	REMOVE EXISTING SIGNS (00905)	LS	1	\$15,000.00	\$15,000.00
14	REMOVE AND REINSTALL EXISTING SIGNS (00905)	LS	1	\$4,190.00	\$4,190.00
15	SIGN SUPPORT FOOTINGS (00920)	LS	1	\$54,100.00	\$54,100.00
16	PERFORATED STEEL SQUARE TUBE ANCHOR SIGN SUPPORTS (2"x2" 12-ga) (00930)	EACH	197	\$414.00	\$81,558.00
17	PERFORATED STEEL SQUARE TUBE ANCHOR SIGN SUPPORTS (2.5"x2.5" 10-ga) (00930)	EACH	12	\$977.00	\$11,724.00
18	SIGNS, STANDARD SHEETING, SHEET ALUMINUM (00940)	SQFT	1916	\$16.50	\$31,614.00
19	FLASHING BEACON INSTALLATION (00990)	LS	1	\$130,000.00	\$130,000.00
				Bid Total	\$511,845.00

\$511,845.00

PROPOSED COST _____

(Numerically)

PROPOSED COST Five Hundred eleven thousand eight hundred forty five dollars and zero cents

(Written in Words)

COMPANY NAME Knife River Corporation - Northwest

AUTHORIZED SIGNATURE X 

Ethan Hasenstein
Assistant Secretary

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM
PROJECT: #2022-07 Damascus Area Safety Countermeasures Project

BID OPENING: March 3, 2022, 3:00 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.	Prairie Electric	\$94,836.10	Electrical
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: Knife River Corporation - Northwest

Bidder Signature:  Phone # 541-918-5100
 Ethan Hasenstein
 Assistant Secretary

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

Prime Contractor Name:

Total Contract Amount:

Project Name: # 2022-07 Damascus Area Safety Countermeasures Project

DOW BIDDER WILL SELF-PERFORM (GFE not required)	
Signage	

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 (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors	DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box <input checked="" type="checkbox"/>		
			MBE	WBE	ESB
Name Hicks Striping & Curbing, LLC Address P.O BOX 9127 City/St/Zip BROOKS, OR 97305 Phone# 503-364-4577 OCCB# 64685	Pavement Marking	\$20,430.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name A&D Flagging, LLC Address P.O Box 30443 City/St/Zip Portland, OR 97283 Phone# 503-875-1625 OCCB# 220179	Flagging	\$24,000.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Name PRAIRIE ELECTRIC Address 6000 NE 88TH ST City/St/Zip VANCOUVER WA 98665 Phone# 360-573-2750 OCCB# 60178	ELECTRICAL	\$94,836.10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Prime Contractor Name:
Project Name: # 2022-07 Damascus Area Safety
Countermeasures Project

Total Contract Amount:

LIST ALL SUBCONTRACTORS BELOW Use correct legal name of Subcontractor (No Assumed Business Names)	Division of Work (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors	DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box <input checked="" type="checkbox"/>		
			MBE	WBE	ESB
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--	--	--------------------------	--------------------------	--------------------------

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

Prime Contractor:

Project: # 2022-07 Damascus Area Safety Countermeasures Project

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

NAME OF M/W/ESB SUBCONTRACTOR	Divisions of Work (Painting, electrical, landscaping, etc.)	Date Solicitation Letter / Fax Sent	PHONE CONTACT		BID ACTIVITY Check Yes or No			REJECTED BIDS (if bid received & not used)		Notes
			Date of Call	Person Receiving Call	Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used (Price, Scope or Other. If Other, explain in Notes>>)	
CPS FLAGGING	FLAGGING	2/18/2022	3/1/2022	Karisa A. Mata	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	\$26,380	Price	
A&D FLAGGING	FLAGGING	2/18/2022	3/1/2022	Ashley	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	\$24,000		
COAT FLAGGING	FLAGGING	2/18/2022	3/1/2022	Jacob	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			"Not Bidding at this moment"
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<u>** In regards to the pavement markings & electrical, we could not find any qualified pavement marking companies that were DBE certified to complete this scope of work.</u>					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			

**CLACKAMAS COUNTY
GOOD FAITH EFFORT
PROJECT COMPLETION REPORT
(FORM 3)**

Prime Contractor Name:

Total Contract Amount:

Project Name: # 2022-07 Damascus Area Safety Countermeasures Project

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 <input checked="" type="checkbox"/>		
			MBE	WBE	ESB
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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
PUBLIC IMPROVEMENT CONTRACT

PERFORMANCE BOND

Bond No.: 190049950/107588843
Solicitation: #2022-07
Project Name: Damascus Area Safety Countermeasures Project

<u>Liberty Mutual Insurance Company</u> (Surety #1)	Bond Amount No. 1:	\$ <u>255,922.50</u>
<u>Travelers Casualty and Surety Company of America</u> (Surety #2)*	Bond Amount No. 2:*	\$ <u>255,922.50</u>
<i>* If using multiple sureties</i>	Total Penal Sum of Bond:	\$ <u>511,845.00</u>

We, Knife River Corporation - Northwest 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) Five Hundred Eleven Thousand Eight Hundred Forty Five and 00/100 Dollars (\$511,845.00) (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 30th day of March, 2022.

PRINCIPAL: Knife River Corporation - Northwest

By: X Ethan Hasenstein
Signature
Ethan Hasenstein
Assistant Secretary

Attest: X Jeffrey R. Steyaert
Official Capacity
Jeffrey R. Steyaert
Corporation Secretary
Assistant Secretary

Liberty Mutual Insurance Company &
SURETY: Travelers Casualty and Surety Company of America
[Add signatures for each if using multiple bonds]

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

Heather R. Goedel, Attorney-in-Fact

Heather R. Goedel
Name
[Signature]
Signature

8400 Normandale Lake Blvd., Suite 1700
Address

Bloomington, MN 55437
City State Zip
763-302-7159 763-302-7200
Phone Fax



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PAYMENT BOND

Bond No.: 190049950/107588843
Solicitation: #2022-07
Project Name: Damascus Area Safety Countermeasures Project

Table with 3 columns: Surety Name, Surety Number, Bond Amount No. 1, Bond Amount No. 2, Total Penal Sum of Bond. Values include Liberty Mutual Insurance Company, Travelers Casualty and Surety Company of America, and amounts like \$255,922.50 and \$511,845.00.

We, Knife River Corporation - Northwest, 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) Five Hundred Eleven Thousand Eight Hundred Forty Five and 00/100 Dollars (\$511,845.00) (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 30th day of March, 20 22.

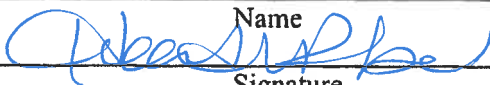
PRINCIPAL: Knife River Corporation - Northwest

By: 
Signature
Ethan Hasenstein
Assistant Secretary

Attest: 
Official Capacity
Corporation Secretary
Jeffrey R. Stevaert
Assistant Secretary

Liberty Mutual Insurance Company &
SURETY: Travelers Casualty and Surety Company of America
[Add signatures for each if using multiple bonds]

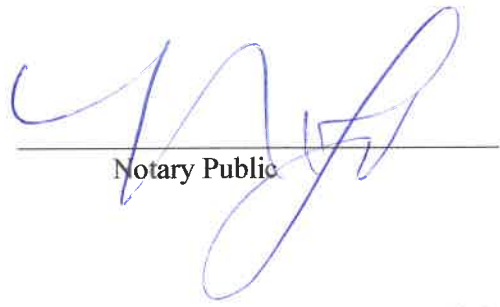
BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each bond]

Heather R. Goedel, Attorney-in-Fact
Name

Signature
8400 Normandale Lake Blvd., Suite 1700
Address
Bloomington, MN 55437
City State Zip
763-302-7159 763-302-7200
Phone Fax

Surety Acknowledgment

State of Minnesota }
County of Hennepin } ss.

On this 30th day of March 2022, before me personally came Heather R. Goedtel, to me known, who being by me duly sworn, did depose and say that she is the Attorney-in-Fact of Liberty Mutual Insurance Company & Travelers Casualty and Surety Company of America described in and which executed the above instrument; that she knows the seal of said corporation; that the seal affixed to said instruments is such corporate seal, that it was so affixed by order of the Board of Directors of said corporation, and that she signed her name to it by like order.



Notary Public





This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8207281-190003

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Blake S. Bohlig; Brian D. Carpenter; Craig Olmstead; Erik T. Gunkel; Heather R. Goedel; Irene Nichols; Jessica Hoff; Kelly Nicole Enghausser; Laurie Pflug; Megan Scott; Michelle Halter; Nicole Langer

all of the city of Bloomington state of MN each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 4th day of February, 2022.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company
By: David M. Carey, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 4th day of February, 2022 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 30th day of March, 2022.



By: Renee C. Llewellyn, Assistant Secretary

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.



**Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company**

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **HEATHER R GOEDEL** of **BLOOMINGTON**, **Minnesota**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April**, 2021.



State of Connecticut

City of Hartford ss.

By: 
Robert L. Raney, Senior Vice President

On this the **21st** day of **April**, 2021, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, 2026




Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this **30th** day of **March**, 2022




Kevin E. Hughes, Assistant Secretary

**To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.**



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

PROJECT: #2022-07 Damascus Area Safety Countermeasures Project

Project Background:

Clackamas County Department of Transportation and Development is seeking a qualified contractor to install signing for the Damascus Area Safety Countermeasures Project. This project has three components: horizontal alignment warning signs, intersection signing and pavement markings, and an energized overhead flashing beacon. The successful contractor will install the following:

Systemic Horizontal Alignment Signs

Install updated horizontal alignment warning signs per the project plans on SE Wiese Rd and SE 222nd Drive to reduce crashes and to comply with Manual on Uniform Traffic Control Devices (“MUTCD”) standards. Signs will include advance curve/turn warning signs, advisory speed plaques, chevron signs, and others.

Systemic Rural Intersections

Install various safety countermeasures per project plans to reduce crashes at 13 Damascus area intersections. The safety countermeasures include doubled-up, oversized advance warning signs, doubled-up STOP signs, retroreflective sheeting on sign posts, enhanced pavement markings, RPMs, delineators, and others.

Flashing Beacon

Install flashing beacons on overhead mast arm per project plans at the intersection of SE 222nd Drive and SE Tillstrom.

Engineers Estimate: \$304,223.00

Key Dates:

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

Substantial Completion: December 15, 2022

Final Completion: December 31, 2022

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

SPECIAL PROVISIONS FORDAMASCUS AREA SYSTEMIC SAFETY ENHANCEMENTS-
CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT-
Signing, Pavement Markings and Signals, dated 2021

DAMASCUS AREA SYSTEMIC SAFETY ENHANCEMENTS-June 2021- Drawing Set, Sheets No.
1, D-01 through D-10, C-01-1 through C-01-4, C-02-1 through C-02-4, I-01-1 through I-01-3, I-02-1
through I-02-3, I-03-1 through I-03-3, I-04-1 through I-04-3, I-05-01 through I-05-03, I-06-1 through I-
06-3, I-07-1 through I-07-4, I-08-1 through I-08-3, I-09-1 through I-09-3, I-10-1 through I-10-3, I-11-1
through I-11-3, I-12-1 through I-12-3, I-13-1 through I-13-3, TS-1 through TS-6 (65 pages)

Oregon Standard Drawings (9 pages)

SPECIAL PROVISIONS

FOR

DAMASCUS AREA SYSTEMIC SAFETY ENHANCEMENTS

**CLACKAMAS COUNTY DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT**

SIGNING, PAVEMENT MARKINGS, AND SIGNALS

2021



Damascus Area Systemic Safety Enhancements

TABLE OF CONTENTS FOR SPECIAL PROVISIONS

WORK TO BE DONE.....	3
SECTION 00110 – ORGANIZATION, CONVENTIONS, ABBREVIATIONS AND DEFINITIONS.....	4
SECTION 00120 – BIDDING REQUIREMENTS AND PROCEDURES.....	7
SECTION 00130 – AWARD AND EXECUTION OF CONTRACT	8
SECTION 00140 – SCOPE OF WORK.....	9
SECTION 00150 – CONTROL OF WORK.....	10
SECTION 00160 – SOURCE OF MATERIALS.....	12
SECTION 00165 – QUALITY OF MATERIALS.....	13
SECTION 00170 – LEGAL RELATIONS AND RESPONSIBILITIES.....	14
SECTION 00180 – PROSECUTION AND PROGRESS.....	15
SECTION 00190 – MEASUREMENT OF PAY QUANTITIES	17
SECTION 00195 – PAYMENT.....	17
SECTION 00196 – PAYMENT FOR EXTRA WORK.....	19
SECTION 00197 – PAYMENT FOR FORCE ACCOUNT WORK.....	19
SECTION 00199 – DISAGREEMENTS, PROTESTS AND CLAIMS.....	20
SECTION 00210 - MOBILIZATION.....	22
SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC	22
SECTION 00221 - COMMON PROVISIONS FOR WORK ZONE TRAFFIC CONTROL	22
SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS.....	23
SECTION 00223 - WORK ZONE TRAFFIC CONTROL LABOR AND VEHICLES	23
SECTION 00224 - TEMPORARY TRAFFIC CHANNELIZING DEVICES.....	23
SECTION 00280 - EROSION AND SEDIMENT CONTROL.....	23
SECTION 00290 - ENVIRONMENTAL PROTECTION	23
SECTION 00330 - EARTHWORK.....	24
SECTION 00350 - GEOSYNTHETIC INSTALLATION.....	24
SECTION 00405 - TRENCH EXCAVATION, BEDDING, AND BACKFILL	24
SECTION 00440 - COMMERCIAL GRADE CONCRETE.....	24
SECTION 00445 - SANITARY, STORM, CULVERT, SIPHON, AND IRRIGATION PIPE	25
SECTION 00641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS	25
SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS.....	25
SECTION 00855 - PAVEMENT MARKERS.....	26
SECTION 00865 - LONGITUDINAL PAVEMENT MARKINGS - DURABLE.....	26
SECTION 00867 - TRANSVERSE PAVEMENT MARKINGS - LEGENDS AND BARS.....	26
SECTION 00905 - REMOVAL AND REINSTALLATION OF EXISTING SIGNS.....	26
SECTION 00920 - SIGN SUPPORT FOOTINGS.....	26
SECTION 00930 - METAL SIGN SUPPORTS.....	26
SECTION 00940 - SIGNS.....	27
SECTION 00960 - COMMON PROVISIONS FOR ELECTRICAL SYSTEMS	27
SECTION 00962 - METAL ILLUMINATION AND TRAFFIC SIGNAL SUPPORTS.....	28
SECTION 00963 - SIGNAL SUPPORT DRILLED SHAFTS	29
SECTION 00990 - TRAFFIC SIGNALS.....	29
SECTION 02030 – SUPPLEMENTARY CEMENTITIOUS MATERIALS	30
SECTION 02050 - CURING MATERIALS.....	31
SECTION 02560 - FASTENERS.....	31
SECTION 02690 - PCC AGGREGATES.....	31


CLACKAMAS COUNTY DEPARTMENT OF LAND USE AND TRANSPORTATION

SPECIAL PROVISIONS

FOR

Signing, Pavement Markings, and Signals
Damascus Area Systemic Safety Enhancements
Clackamas County

PROFESSIONAL OF RECORD CERTIFICATION:

<p>Seal w/signature</p>  <p>EXPIRES: 06/30/22</p>	<p>I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for temporary features, permanent signing, pavement markings, and signals. Modified Special Provisions were prepared by me or under my supervision.</p> <p>Section(s) 00210, 00220, 00221, 00222, 00223, 00224, 00280, 00290, 00330, 00350, 00405, 00440, 00445, 00641, 00850, 00855, 00865, 00867, 00905, 00920, 00930, 00940, 00960, 00962, 00963, 00990, 02030, 02050, 02560, 02960</p>
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Damascus Area Systemic Safety Enhancements

SPECIAL PROVISIONS

WORK TO BE DONE

The Work to be done under this Contract consists of the following:

1. Install horizontal alignment warning signs on two rural County roadways.
2. Install rural intersection safety improvements including signing and pavement markings at 13 rural intersections.
3. Install overhead flashing beacon intersection control beacon at SE Tillstrom Road/SE 222nd Drive intersection.

Perform additional and Incidental Work as called for by the Specifications and Plans.

APPLICABLE SPECIFICATIONS

The Specifications that are applicable to the Work on this Project is the 2021 edition of the "Oregon Standard Specifications for Construction", as modified by these Special Provisions. All Sections in Part 00100 apply, whether or not modified or referenced in the Special Provisions.

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

CLASS OF PROJECT

Signing, Pavement Markings and Signal

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, 2021 edition.
- Plans and drawings
- Other bid documents included or referenced in the bid documents
- Addenda, if any
- The Agreement Form and Special Provisions

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

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

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

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

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

Department – A subdivision of the Agency.

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

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

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

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

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

ODOT Procurement Office – Clackamas County Purchasing Department.

Owner – Synonymous with Agency.

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

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

Shop Drawings – Synonymous with Working Drawings.

Solicitation Document – Synonymous with Bid Documents.

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

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

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

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

SECTION 00120 – BIDDING REQUIREMENTS AND PROCEDURES

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

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

See Instructions to Bidders.

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

See Instructions to Bidders.

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

See Notice of Public Improvement Contract and Instructions to Bidders.

Copies of the 2021 Oregon Standard Specifications for Construction and Supplements might be found on the Oregon Department of Transportation website at:

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

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

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

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

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

See Instructions to Bidders.

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

See Instructions to Bidders.

00120.45 Submittal of Bids - Delete and replace with:

See Instructions to Bidders.

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

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

See Instructions to Bidders.

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

See Instructions to Bidders.

00120.95 Opportunity for Cooperative Arrangement – Delete this section.

SECTION 00130 – AWARD AND EXECUTION OF CONTRACT

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

00130.00 Consideration of Bids - Delete third paragraph.

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

See Instructions to Bidders.

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

See Instructions to Bidders.

00130.30 Contract Booklet – Add the following:

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

- The "Oregon Standard Specifications for Construction", 2021 Edition, as published by the Oregon Department of Transportation (ODOT).
- "Oregon Standard Drawings" latest edition, as published by ODOT.
- Clackamas County Service District No. 1 "Surface Water Standard Specifications", latest edition.

00130.40 Contract Submittals - Delete and replace with the following:

See Instructions to Bidders.

00130.70 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.

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.

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) and the following:

- 1) Lay out and construction stakes for sign pole installations;
- 2) Stake right-of way or easement lines;

- 3) All stakes will be one-time only; and
- 4) Deduct from payments due the Contractor all costs incurred to replace stakes and marks negligently or intentionally damaged, removed, or destroyed by the Contractor.

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:

There are no anticipated conflicts with the Utilities. Contact those Utilities having buried facilities and request that they locate and mark them for their protection prior to construction.

Energized power lines overhang portions of the Work with a minimum vertical clearance of 10 feet. Contractor shall maintain at least 10 feet of safety clearance. Exceptions require written approval from the Portland General Electric Company 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.

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.

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.

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:

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(d) 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
- Kittelson and Associates and its employees

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

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.

00180.41 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.

Add the following subsection:

00180.50(h) Contract Time - Complete all Work to be done under the Contract not later than December 31, 2022.

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 \$600 per Calendar Day *.

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

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.

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

00195.20(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.

SECTION 00196 – PAYMENT FOR EXTRA WORK

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

00196.91 Extra Work Allowance – Add the following new section:

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

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..."

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.

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.
- When an abrupt edge is created by excavation, protect traffic according to the "Excavation Abrupt Edge" and the "Typical Abrupt Edge Delineation" configurations shown on the Standard Drawings.
- Protect pedestrians in pole base excavation areas by placing approved covers over all pole base excavations. Place a minimum of two B(II)LR barricades adjacent to and on either side of the excavated area, facing pedestrian traffic, or place covers and barricades as directed.

SECTION 00221 - COMMON PROVISIONS FOR WORK ZONE TRAFFIC CONTROL

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

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

SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS

Comply with Section 00222 of the Standard Specifications.

SECTION 00223 - WORK ZONE TRAFFIC CONTROL LABOR AND VEHICLES

Comply with Section 00223 of the Standard Specifications.

SECTION 00224 - TEMPORARY TRAFFIC CHANNELIZING DEVICES

Comply with Section 00224 of the Standard Specifications.

SECTION 00280 - EROSION AND SEDIMENT CONTROL

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

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.

00280.90 Payment - In the paragraph that begins "Item (a) includes..." delete the bullet that specifies "providing the Erosion and Sediment Control Manager".

Replace the paragraph that begins "When only Item (a) is..." with the following paragraph:

Additional ESC devices required for permit compliance will be paid for as Extra Work according to Section 00196.

SECTION 00290 - ENVIRONMENTAL PROTECTION

Comply with Section 00290 of the Standard Specifications.

SECTION 00330 - EARTHWORK

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

00330.14 Selected Granular Backfill - Delete the sentence that begins “Reclaimed glass meeting the requirements of Section 02695...”

00330.80 Measurement – Replace this section with following:

00330.80 Measurement – No measurement will be performed.

00330.90 Payment – Replace this section with the following:

00330.90 Payment – No separate or additional payment will be made for Work that is required to be done under these Specifications that does not appear as a separately listed item in the Contract Schedule of Items. All work is considered incidental to Flashing Beacon Installation.

SECTION 00350 - GEOSYNTHETIC INSTALLATION

Comply with Section 00350 of the Standard Specifications modified as follows.

00350.80 Measurement – Replace this section with following:

00350.80 Measurement – No measurement will be performed.

00350.90 Payment – Replace this section with the following:

00350.90 Payment – No separate or additional payment will be made for Work that is required to be done under these Specifications that does not appear as a separately listed item in the Contract Schedule of Items. All work is considered incidental to Flashing Beacon Installation.

SECTION 00405 - TRENCH EXCAVATION, BEDDING, AND BACKFILL

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

00405.90 Payment - Add the following paragraph to the end of this subsection:

When the Contract Schedule of Items does not indicate payment for Work performed under this Section, no separate or additional payment will be made. Payment will be included in payment made for the appropriate items under which this Work is required.

SECTION 00440 - COMMERCIAL GRADE CONCRETE

Comply with Section 00440 of the Standard Specifications.

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

Comply with Section 00445 of the Standard Specifications modified as follows.

00445.80 Measurement – Replace this section with following:

00445.80 Measurement – No measurement will be performed.

00445.90 Payment – Replace this section with the following:

00445.90 Payment – No separate or additional payment will be made for Work that is required to be done under these Specifications that does not appear as a separately listed item in the Contract Schedule of Items. All work is considered incidental to Flashing Beacon Installation.

SECTION 00641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS

Comply with Section 00641 of the Standard Specifications modified as follows.

00641.80 Measurement – Replace this section with following:

00641.80 Measurement – No measurement will be performed.

00641.90 Payment – Replace this section with the following:

00641.90 Payment – No separate or additional payment will be made for Work that is required to be done under these Specifications that does not appear as a separately listed item in the Contract Schedule of Items. All work is considered incidental to Flashing Beacon Installation.

SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS

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

00850.30 Manufacturer's Representative - Replace this subsection, except for the subsection number and title, with the following:

For Sections referencing 00850.30, the services of a manufacturer's representative are not required. Place pavement markings only when the pavement is ready for the pavement marking material according to the manufacturer's installation instructions.

SECTION 00855 - PAVEMENT MARKERS

Comply with Section 00855 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 00920 - SIGN SUPPORT FOOTINGS

Comply with Section 00920 of the Standard Specifications modified as follows:

00920.80 Measurement - Add the following to the end of this subsection:

The estimated quantities of concrete for minor sign supports are:

Support Type	Quantity
Perforated Steel Square Tube Slip Base Sign Supports	18.81 cu. yd.

SECTION 00930 - METAL SIGN SUPPORTS

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

00930.80 Measurement - Replace this subsection with the following:

The quantities for metal sign supports will be measured on the unit basis.

00930.90 Payment - The accepted quantities of metal sign supports will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Perforated Square Tube Anchor Sign Supports (2" x 2" 12-gauge).....	Each

(b) Perforated Square Tube Slip Base Sign Supports (2.5" x 2.5" 10-gauge).... Each

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:

00960.30 Licensed Electricians - Replace the paragraph that begins "According to the Oregon Administrative Rule ..." with the following paragraph:

According to the Oregon Administrative Rule 918-282-0120(1), no person or entity shall allow any individual to perform electrical work for which the individual is not properly registered or licensed. Every person who installs electrical systems on the Project shall submit a copy of their electrical license or apprentice registration to the Engineer prior to performing any Work. They must be licensed as an S or a J under Oregon Administrative Rule 918-282.

00960.46 Service Cabinet and Electrical Energy - Replace this subsection, except for the subsection number and title, with the following:

Install service cabinet and associated equipment, then arrange for the Utility providing power to have the service cabinet inspected and make the electrical hook-up prior to field testing. Field test according to 00990.70(g) for traffic signals, or according to 00970.70 for illumination.

Table 00960-1 contains Utility contact information to arrange for the Utility to make electrical hookups:

Table 00960-1

Location	Utility	Utility Contact Person's Name, Email and Phone Number	Utility Job Number
SE Tillstrom Rd at SE 222 nd Dr	PGE	Ralph Stark, 503-669-3349 Ralph.Stark@pgn.com	M3056119

Furnish and install a meter base approved by the serving Utility (with cover by the Utility), where shown.

Electrical energy costs will be billed to the Agency for permanent installations.

SECTION 00962 - METAL ILLUMINATION AND TRAFFIC SIGNAL SUPPORTS

Comply with Section 00962 of the Standard Specifications modified as follows:

00962.05(a) Traffic Signal Mast Arm Supports – Replace subsection with the following:

00962.05(a) Traffic Signal Mast Arm Supports – Design non-standard poles and foundations according to the AASHTO “Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals 4th Edition” with 2001, 2002, and 2003 interim revisions. Design factors include:

Basic wind speed (3 second gust)	100 mph
Gust factor (G)	1.14
Importance Factor (Ir)	1.0 (50 year recurrence interval)
Fatigue Category	II
Galloping	No
Truck speed	55 mph

The following standard pole drawings are prequalified for use on the Project:

Ameron Pole Products	Dwg. CKOR14TR1 (Rev. 5/19/15)
Valmont Industries	Dwg. DB00824 (Rev C 02/02/15)

All pole drawings regardless of prequalification status shall be submitted for the review of the Engineer as specified in section 00960.02 and according to section 00150.35.

00962.43 Foundations – Add the following at the end of subsection:

Foundations shall be in conformance with drawing number NWS4710. Good cohesionless soil shall be compact and well graded sand or sand and gravel with an angle of internal friction, $\phi=35^\circ$ and the effective unit weight of soil, $g=120$ pcf. Good cohesive soil shall be hard clay with a shear strength of cohesive soil, $c=1800$ psf. Average cohesionless soil shall be compact and fine sand, well drained sandy silt, loose coarse sand and gravel with an angle of internal friction, $\phi=25^\circ$ and the effective unit weight of soil, $g=100$ pcf. Average cohesive soil shall be hard or medium clay with a shear strength of cohesive soil, $c=1000$ psf and the effective unit weight of soil, $g=100$ pcf.

Poor soil conditions shall be conditions of soft clay, silt, and poorly compacted sands or containing large amounts of silt or organic material. A soil investigation and special design shall be required for poor soil conditions.

The following mast arm foundation standard drawing is prequalified for use on the Project:

Northwest Signal Supply	Dwg. NWS 4710 (Rev. 03/14/12)
-------------------------	-------------------------------

00962.46(a) Design – Replace this subsection with the following:

00962.46(a) Design – All poles shall be either round, 8 sided, 12 sided, or 16 sided in cross section unless otherwise specified by the engineer. Alternative cross section shapes shall be considered special design poles and require submission of pole design calculations per the above criteria.

Submit detail drawings of poles for approval prior to fabrication. Dual mast arm poles and/or mast arm poles with an arm greater the 60' long shall be considered special design and require drawings and calculations approved by the project engineer prior to fabrication. Calculations shall conform to the latest Clackamas County design criteria. Foundations for special design poles shall be contractor designed and must have drawings and calculations approved by the project engineer prior to construction.

Pole assembly dimensions and thickness shall be as shown in the plans. All tube thicknesses shall consist of a single ply of steel, no multi-ply shafts shall be utilized. No slip fit connections shall be allowed. No alternate sizes will be accepted. The mast arm poles and the length of mast arms shall be as indicated on the plans. All pole assemblies shall be galvanized according to ASTM A123 & A153.

00962.46(g) Welding – Add the following after the first sentence:

Workmanship and finish shall be equal to the best general practice of a metal fabrication shop. Exposed welds, except fillet and fatigue resistant welds and welds on top of mast arms, shall be ground flush with the base metal. Exposed edges of the plates which make up the base assembly and flange connections shall be finished smooth and exposed corners of plates shall be neatly rounded unless otherwise shown on the plans.

00962.46(j)(2)(a) Anchor Rods for Signal Supports and Fixed Base Luminaire Supports - Replace the paragraph that begins “Mark the position of each turned element...” with the following paragraph:

Mark position of each anchor rod and an outside ridge of each first nut above the base plate with a felt tip pen or similar marker to verify subsequent nut rotation. Rotate all first nuts above the base plate past snug tight an additional amount shown in 00962.46(j)(2)(d) in two passes. "Cheater" bars or slugging wrenches are allowed if required for large diameter anchor rods. After final tightening of the first nut above the base plate, tighten the second nut to a snug tight condition for assemblies with two nuts above the base plate.

SECTION 00963 - SIGNAL SUPPORT DRILLED SHAFTS

Comply with Section 00963 of the Standard Specifications modified as follows:

00963.90 Payment – Replace this subsection with the following:

00963.90 Payment – Mast arm pole and strain pole foundations will be paid for according to 00990.90.

SECTION 00990 - TRAFFIC SIGNALS

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

• Add the following subsection:

00990.13 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:

00990.14 LED Luminaires:

- (a) **LED Luminaire Types** - Furnish LED luminaires as shown in the plans.
- (b) **Submittals** – Before beginning LED luminaire installation, submit LED luminaires according to 00150.37 for review by the Engineer:

Within 21 Calendar Days after receipt of submittals the Engineer will review the submittals and designate as “approved”, “approved as noted” or returned for correction”. Do not begin LED luminaire installation before receiving written approval of submittals from the Engineer.

00990.90 Payment - Remove the sentence that reads “Mast arm pole and strain pole foundations will be paid for according to 00963.90.”

SECTION 02030 – SUPPLEMENTARY CEMENTITIOUS MATERIALS

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

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

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

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

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

Add the following subsection:

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

02030.50 Metakaolin - Replace this subsection with the following:

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

SECTION 02050 - CURING MATERIALS

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

02050.10 Liquid Compounds - Replace the paragraph that begins “Furnish liquid membrane-forming curing...” with the following paragraph:

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

SECTION 02560 - FASTENERS

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

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

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

SECTION 02690 - PCC AGGREGATES

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

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

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

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

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

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

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

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

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

DAMASCUS AREA SYSTEMIC SAFETY ENHANCEMENTS

PREPARED FOR:
CLACKAMAS COUNTY
 JUNE 2021

SHEET INDEX

Legend and Details

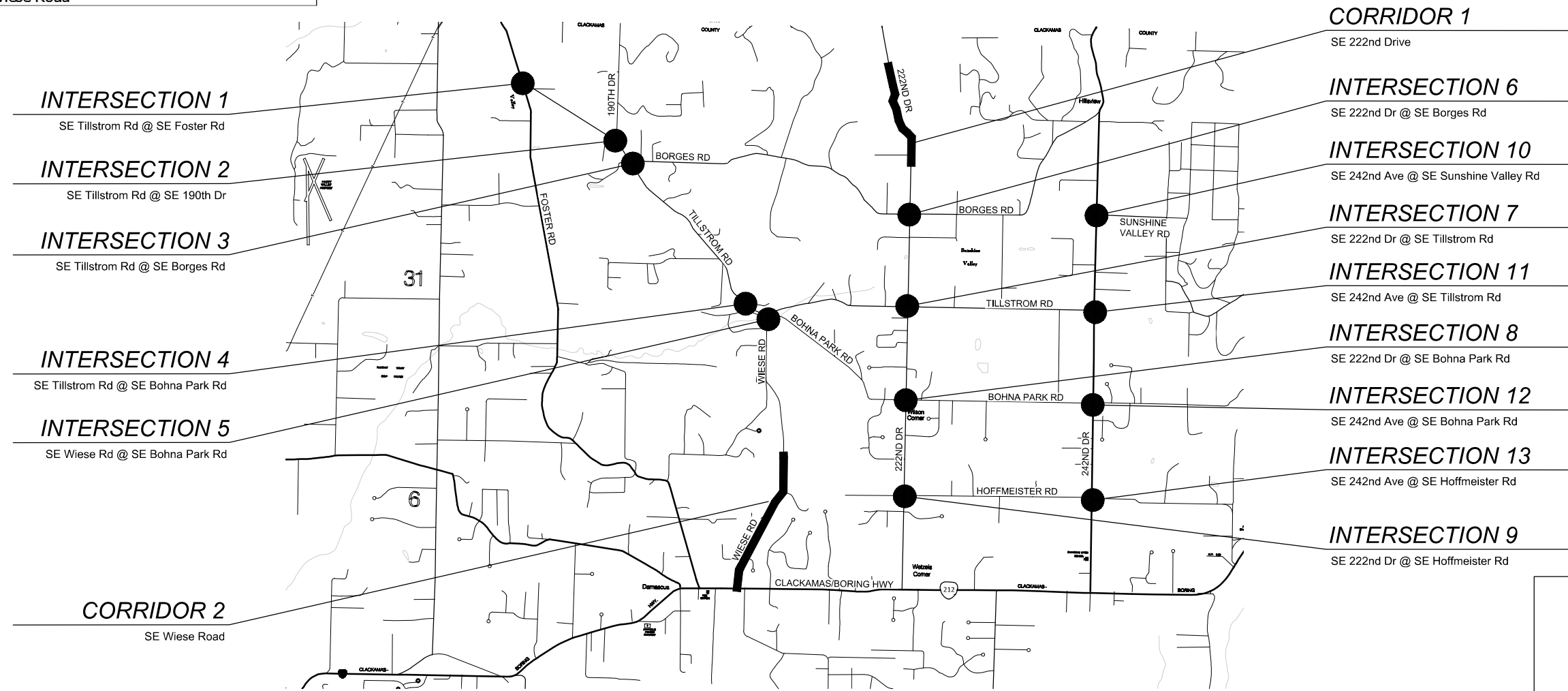
Number	Name
D-01	Legend
D-02	Sign Details
D-03	Typical Single Curve Warning Signage
D-04	Typical Reverse Curve Warning Signage
D-05	Typical Windy Road Curve Signage
D-06	Street Name Sign and Mounting Details
D-07	Sign and Post Installation Details
D-08	Sign Details
D-09	Sign Details
D-10	Pavement Marking Details

Systemic Intersections

Number	Name
I-01	SE Tillstrom Road/SE Foster Road
I-02	SE Tillstrom Road/SE 190th Drive
I-03	SE Tillstrom Road/SE Borges Road
I-04	SE Tillstrom Road/SE Bohna Park Road
I-05	SE Wiese Road/SE Bohna Park Road
I-06	SE 222nd Drive/SE Borges Road
I-07	SE 222nd Drive/SE Tillstrom Road
I-08	SE 222nd Drive/SE Bohna Park Road
I-09	SE 222nd Drive/SE Hoffmeister Road
I-10	SE 242nd Avenue/SE Sunshine Valley Road
I-11	SE 242nd Avenue/SE Tillstrom Road
I-12	SE 242nd Avenue/SE Bohna Park Road
I-13	SE 242nd Avenue/SE Hoffmeister Road

Systemic Corridors

Number	Name
C-01	222nd Drive
C-02	Wiese Road



- CORRIDOR 1**
SE 222nd Drive
- INTERSECTION 6**
SE 222nd Dr @ SE Borges Rd
- INTERSECTION 10**
SE 242nd Ave @ SE Sunshine Valley Rd
- INTERSECTION 7**
SE 222nd Dr @ SE Tillstrom Rd
- INTERSECTION 11**
SE 242nd Ave @ SE Tillstrom Rd
- INTERSECTION 8**
SE 222nd Dr @ SE Bohna Park Rd
- INTERSECTION 12**
SE 242nd Ave @ SE Bohna Park Rd
- INTERSECTION 13**
SE 242nd Ave @ SE Hoffmeister Rd
- INTERSECTION 9**
SE 222nd Dr @ SE Hoffmeister Rd

PROJECT MAP
NO SCALE








KITTELSON & ASSOCIATES
 851 SW 6TH AVENUE, SUITE 600
 PORTLAND, OR 97204
 P 503.228.5230 F 503.273.8169

Damascus Area Systemic Safety Enhancements Cover Sheet	PROJECT NO.: #2019-18 DATE: June 2021
CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	DIRECTOR DAN JOHNSON
DESIGNED BY: DZS DRAFTED BY: DZS CHECKED BY: WES	
NO. DATE:	
REVISIONS	
Sheet No.	1









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LEGEND


SIGNING

-  CURVE NUMBER
-  ALONG CORRIDOR (X) AT CURVE (Y) INSTALL NEW SIGN ASSEMBLY (Z). SEE SIGN INSTALLATION TABLE ON SHEET FOLLOWING CORRIDOR PLAN.
-  AT INTERSECTION (X) INSTALL NEW SIGN ASSEMBLY (Z). SEE SIGN INSTALLATION TABLE ON SHEET FOLLOWING INTERSECTION PLAN.
-  ON CORRIDOR OR INTERSECTION (X) MAINTAIN AND PROTECT SIGN ASSEMBLY (Z). SEE EXISTING SIGN & SIGN REMOVAL TABLE ON SHEET FOLLOWING PLAN SHEETS.
-  ON CORRIDOR OR INTERSECTION (X) REMOVE SIGN ASSEMBLY (Z). SEE EXISTING SIGN & SIGN REMOVAL TABLE ON SHEET FOLLOWING PLAN SHEETS.
-  ON CORRIDOR OR INTERSECTION (X) REMOVE AND SAVE SIGN ASSEMBLY (Z). SEE EXISTING SIGN & SIGN REMOVAL TABLE ON SHEET FOLLOWING PLAN SHEETS.
-  ON CORRIDOR OR INTERSECTION (X) REINSTALL SIGN ASSEMBLY (Z). SEE EXISTING SIGN & SIGN REMOVAL TABLE ON SHEET FOLLOWING PLAN SHEETS.

PAVEMENT MARKINGS

-  INSTALL (4) INCH SOLID WHITE PAVEMENT MARKING. SEE D-05 FOR DETAILS.
-  INSTALL (8) INCH SOLID WHITE PAVEMENT MARKING. SEE D-05 FOR DETAILS.
-  INSTALL (4) INCH DOTTED WHITE PAVEMENT MARKING. SEE D-05 FOR DETAILS.
-  INSTALL DOUBLE NO-PASS YELLOW CENTERLINE PAVEMENT MARKING. SEE D-05 FOR DETAILS.
-  INSTALL 2 FOOT WIDE WHITE STOP BAR. SEE D-05 FOR DETAILS.
-  INSTALL "STOP" PAVEMENT MARKING. SEE D-05 FOR DETAILS.
-  INSTALL "AHEAD" PAVEMENT MARKING. SEE D-05 FOR DETAILS.
-  REMOVE EXISTING STOP BAR.

MISCELLANEOUS

-  TRIM VEGETATION BACK TO ALLOW FOR CLEAR SIGHT DISTANCE. WORK TO BE PERFORMED BY CLACKAMAS COUNTY CREWS.

GENERAL NOTES

1. SIGNS PLACED WITHIN CURVES SHALL BE MARKED AND FIELD VERIFIED BY ENGINEER PRIOR TO INSTALLATION OF SIGN.
2. SIGN POSTS THAT ARE MARKED AS MAINTAIN AND PROTECT THAT REQUIRE REPLACEMENT SHALL BE REPLACED PER BID ITEM.
3. ALL SIGN POSTS SHALL BE 12-GAUGE PERFORATED STAINLESS STEEL TUBE UNLESS OTHER WISE NOTED.
4. INTERSECTION SIGNS THAT ARE MARKED IN THE FIELD IN A DRIVEWAY SHALL BE RE-MARKED 10 FEET FROM THE DRIVEWAY FURTHER FROM THE INTERSECTION.
5. SIGN ASSEMBLIES OF MORE THAN 15 SQ. FT. (TOTAL SIGN AREA) SHALL BE INSTALLED ON 2.5" X 2.5" 12-GA. POST WITH SLIP BASE FOUNDATION PER OREGON STANDARD DWG. TM688 (SEE SHEET D-09).

Damascus Area Systemic Safety Enhancements

Legend

DATE: June 2021 PROJECT NO.: #2019-18

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

 DAN JOHNSON
 DIRECTOR

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

REVISIONS

NO.	DATE:	REVISIONS

Sheet No. D-01

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 PORTLAND, OR 97204
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 OREGON
 EXPIRES: 06/30/22

WARNING SIGNS



W1-1L
36"X36"



W1-1R
36"X36"



W1-1aL-XX
36"X36"



W1-1aR-XX
36"X36"



W1-2L
36"X36"



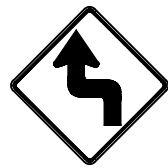
W1-2R
36"X36"



W1-2aL-XX
36"X36"



W1-1aR-XX
36"X36"



W1-3L
36"X36"



W1-3R
36"X36"



W1-4L
36"X36"



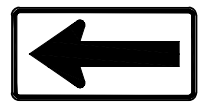
W1-4R
36"X36"



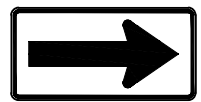
W1-5L
36"X36"



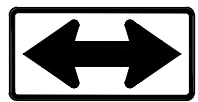
W1-5R
36"X36"



W1-6L
60"X30"



W1-6R
60"X30"



W1-7
60"X30"



W1-8R
24"X30"



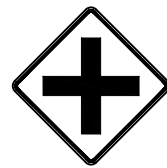
W1-8L
24"X30"



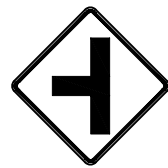
W1-10L
36"X36"



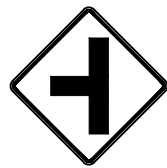
W1-10R
36"X36"



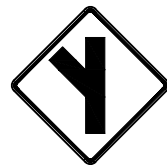
W2-1
36"X36"



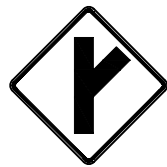
W2-2L
36"X36"



W2-2R
36"X36"



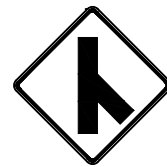
W2-3L
36"X36"



W2-3R
36"X36"



W2-3La
36"X36"



W2-3Ra
36"X36"



W3-1
36"X36"



W4-4P
36"X36"



W13-1P-20
24"X24"



W13-1P-25
24"X24"



W13-1P-30
24"X24"



W13-1P-35
24"X24"



W13-1P-40
24"X24"



W16-8P
VARIES"X8"

REGULATORY SIGNS



R1-1
36"X36"



R1-3P
18"X6"



D3-1
60"X12"



D3-1
48"X12"



D3-1
42"X12"



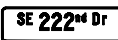
D3-1
48"X12"



D3-1
60"X12"



D3-1
42"X12"



D3-1
42"X12"



D3-1
66"X12"



D3-1
42"X12"



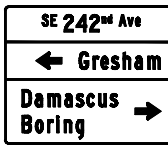
D3-1
72"X12"



D1-1
60"X12"



D1-1
60"X12"



D1-1
60"X48"



CR1033 - Modified
36"X42"



CR1033 - Modified
36"X36"



CR1033 - Modified
36"X36"

GUIDE SIGNS

KITTELSON & ASSOCIATES
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PORTLAND, OR 97204
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REGISTERED PROFESSIONAL
ENGINEER
65552PE
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OREGON
JULY 9, 2001
WADE E. SCARBROUGH
EXPIRES: 06/30/22

REVISIONS

NO. DATE:

Sheet No.
D-02

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



DAN JOHNSON
DIRECTOR

DESIGNED BY:
DZS

DRAFTED BY:
DZS

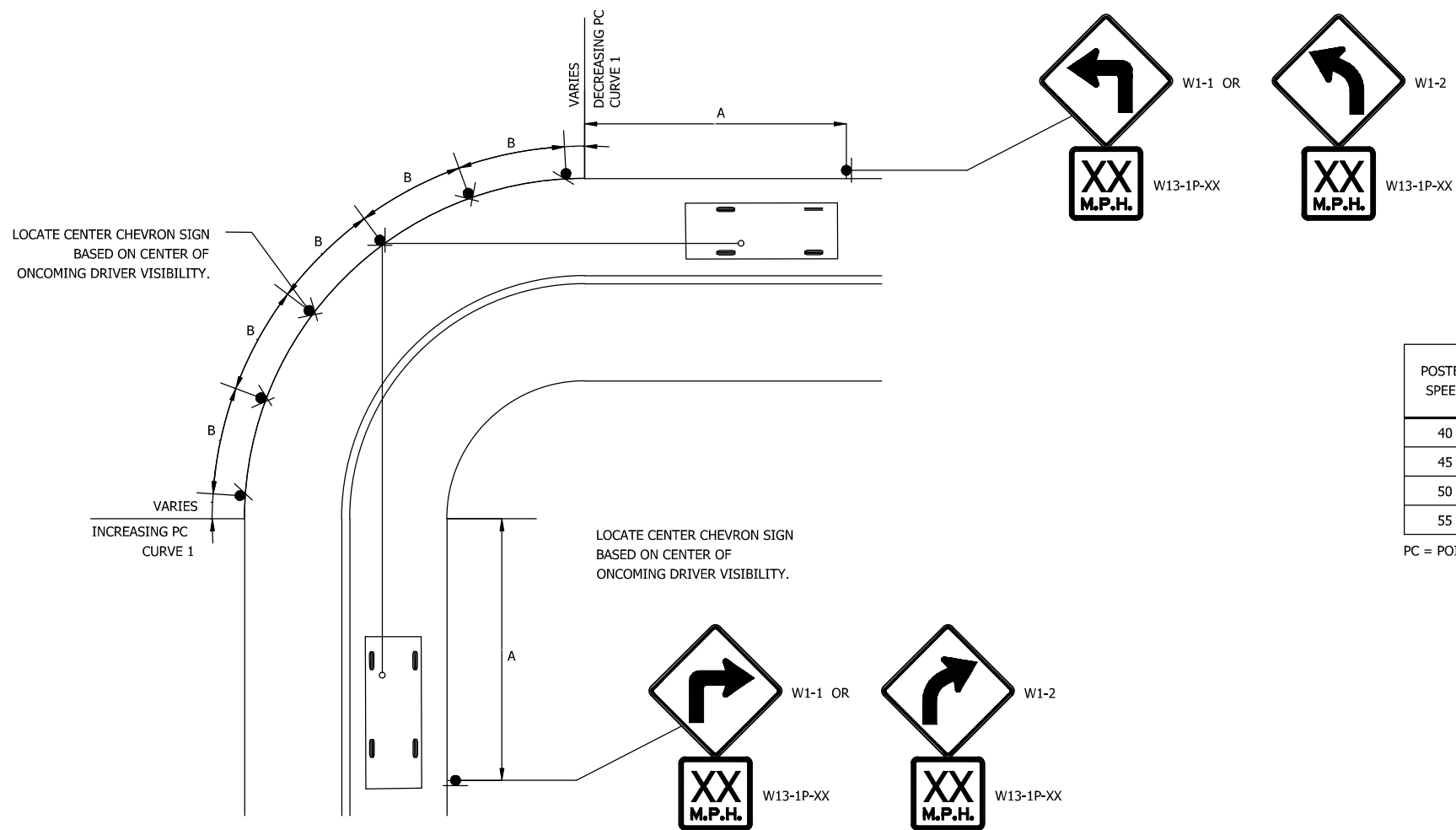
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WES

Damascus Area Systemic Safety Enhancements

Sign Details

DATE: June 2021
PROJECT NO.: #2019-18

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GENERAL NOTES

1. THIS PLAN SHALL BE USED TO ASSIST IN THE PLACEMENT OF CURVE WARNING SIGNS. THE NUMBER OF CHEVRONS, SIGN PLACEMENT DISTANCES, AND SIGN TYPES ARE PROVIDED IN THE SIGN INSTALLATION TABLE FOR EACH INTERSECTION.
2. INSTALL ADVANCE CURVE WARNING SIGNING AS SPECIFIED IN TABLE 1.
3. INSTALL CHEVRONS IF THE DIFFERENCE IN ADVISORY SPEED TO POSTED SPEED IS 10 MPH OR MORE AS SHOWN IN TABLE 2.
4. IF A DRIVEWAY CONFLICTS WITH REQUIRED ADVANCE WARNING SIGN, INSTALL SIGN A MINIMUM OF 10 FEET BEYOND DRIVEWAY AWAY FROM THE CURVE. CONFIRM FINAL PLACEMENT WITH ENGINEER PRIOR TO INSTALLATION.
5. IF A DRIVEWAY CONFLICTS WITH THE PLACEMENT OF A CHEVRON SIGN, OMIT THE CHEVRON SIGN OR INSTALL SIGN A MINIMUM OF 5 FEET (10 FEET IF DESIRED) FROM DRIVEWAY. CONFIRM FINAL PLACEMENT WITH ENGINEER PRIOR TO INSTALLATION.
6. SINGLE CHEVRONS MAY BE USED ON EITHER END OF THE CURVE AS NEEDED. CONFIRM WITH ENGINEER PRIOR TO INSTALLATION.
7. INSTALL ALL SIGNS ON PERFORATED STEEL SQUARE TUBE SIGN SUPPORT UNLESS OTHERWISE NOTED ON PLAN. SEE CLACKAMAS COUNTY STANDARD DRAWING T150 FOR SIGN MOUNTING AND ATTACHMENTS DETAILS AND T250 FOR SIGN INSTALLATION DETAILS.

TABLE 1: ADVANCE PLACEMENT OF WARNING SIGNS (A)

POSTED SPEED	ADVISORY SPEED									
	10	15	20	25	30	35	40	45	50	55
40	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
45	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
50	200 FT	190 FT	175 FT	150 FT	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT
55	275 FT	250 FT	225 FT	215 FT	200 FT	165 FT	125 FT	100 FT	100 FT	100 FT

PC = POINT OF CURVE

TABLE 2: TYPICAL CHEVRON SIGN SPACING (B)

ADVISORY SPEED	SPACING
10 TO 15 mph	40 FT
20 TO 30 mph	80 FT
35 TO 45 mph	120 FT
50 TO 60 mph	160 FT

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REGISTERED PROFESSIONAL
 ENGINEER
 65552PE
 Digitally Signed Feb 1 2022 2:50 PM
 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

Damascus Area Systemic Safety Enhancements
Single Curve Detail

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

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

REVISIONS

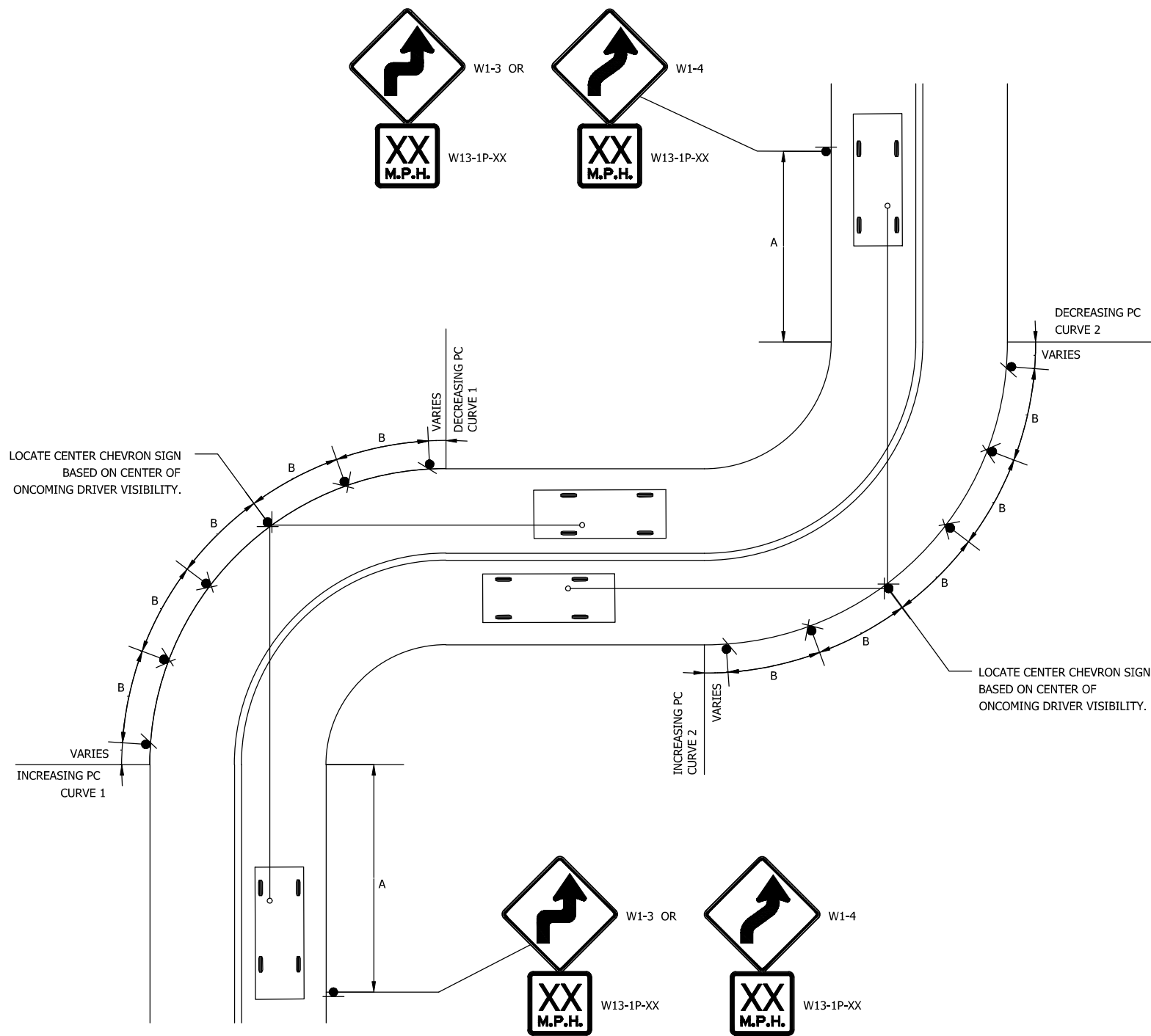
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Sheet No. D-03

DATE: June 2021 PROJECT NO.: #2019-18

DIRECTOR
 DAN JOHNSON

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GENERAL NOTES

1. THIS PLAN SHALL BE USED TO ASSIST IN THE PLACEMENT OF CURVE WARNING SIGNS. THE NUMBER OF CHEVRONS, SIGN PLACEMENT DISTANCES, AND SIGN TYPES ARE PROVIDED IN THE SIGN INSTALLATION TABLE FOR EACH INTERSECTION.
2. INSTALL ADVANCE REVERSE CURVE WARNING SIGNING AS SPECIFIED IN TABLE 1.
3. INSTALL CHEVRONS IF THE DIFFERENCE IN ADVISORY SPEED TO POSTED SPEED IS 10 MPH OR MORE AS SHOWN IN TABLE 2.
4. IF A DRIVEWAY CONFLICTS WITH REQUIRED ADVANCE WARNING SIGN, INSTALL SIGN A MINIMUM OF 10 FEET BEYOND DRIVEWAY AWAY FROM THE CURVE. CONFIRM FINAL PLACEMENT WITH ENGINEER PRIOR TO INSTALLATION.
5. IF A DRIVEWAY CONFLICTS WITH THE PLACEMENT OF A CHEVRON SIGN, OMIT THE CHEVRON SIGN OR INSTALL SIGN A MINIMUM OF 5 FEET (10 FEET IF DESIRED) FROM DRIVEWAY. CONFIRM FINAL PLACEMENT WITH ENGINEER PRIOR TO INSTALLATION.
6. SINGLE CHEVRONS MAY BE USED ON EITHER END OF THE CURVE AS NEEDED. CONFIRM WITH ENGINEER PRIOR TO INSTALLATION.
7. INSTALL ALL SIGNS ON PERFORATED STEEL SQUARE TUBE SIGN SUPPORT UNLESS OTHERWISE NOTED ON PLAN. SEE CLACKAMAS COUNTY STANDARD DRAWING T150 FOR SIGN MOUNTING AND ATTACHMENTS DETAILS AND T250 FOR SIGN INSTALLATION DETAILS.

TABLE 1: ADVANCE PLACEMENT OF WARNING SIGNS (A)

POSTED SPEED	ADVISORY SPEED									
	10	15	20	25	30	35	40	45	50	55
40	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
45	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
50	200 FT	190 FT	175 FT	150 FT	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT
55	275 FT	250 FT	225 FT	215 FT	200 FT	165 FT	125 FT	100 FT	100 FT	100 FT

PC = POINT OF CURVE

TABLE 2: TYPICAL CHEVRON SIGN SPACING (B)

ADVISORY SPEED	SPACING
10 TO 15 mph	40 FT
20 TO 30 mph	80 FT
35 TO 45 mph	120 FT
50 TO 60 mph	160 FT

KITTELSON & ASSOCIATES
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REGISTERED PROFESSIONAL
 ENGINEER
 65552PE
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 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

Damascus Area Systemic Safety Enhancements
Reverse Curve Detail

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

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

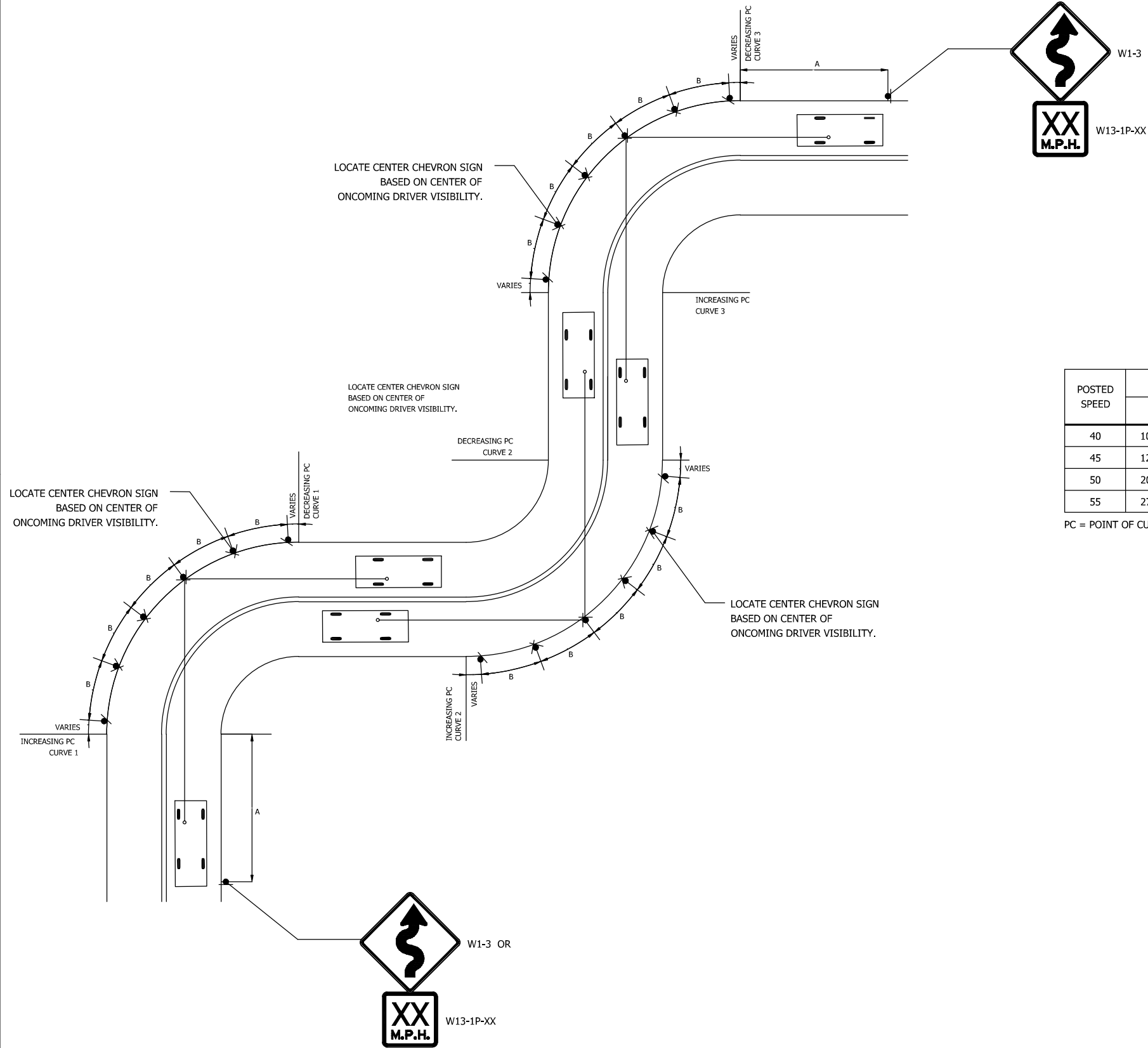
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Sheet No. **D-04**

PROJECT NO.: #2019-18
 DATE: June 2021

DIRECTOR
 DAN JOHNSON

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GENERAL NOTES

1. THIS PLAN SHALL BE USED TO ASSIST IN THE PLACEMENT OF CURVE WARNING SIGNS. THE NUMBER OF CHEVRONS, SIGN PLACEMENT DISTANCES, AND SIGN TYPES ARE PROVIDED IN THE SIGN INSTALLATION TABLE FOR EACH INTERSECTION.
2. INSTALL ADVANCE WINDY ROAD CURVE WARNING SIGNING AS SPECIFIED IN TABLE 1.
3. INSTALL CHEVRONS IF THE DIFFERENCE IN ADVISORY SPEED TO POSTED SPEED IS 10 MPH OR MORE AS SHOWN IN TABLE 2.
4. IF A DRIVEWAY CONFLICTS WITH REQUIRED ADVANCE WARNING SIGN, INSTALL SIGN A MINIMUM OF 10 FEET BEYOND DRIVEWAY AWAY FROM THE CURVE. CONFIRM FINAL PLACEMENT WITH ENGINEER PRIOR TO INSTALLATION.
5. IF A DRIVEWAY CONFLICTS WITH THE PLACEMENT OF A CHEVRON SIGN, OMIT THE CHEVRON SIGN OR INSTALL SIGN A MINIMUM OF 5 FEET (10 FEET IF DESIRED) FROM DRIVEWAY. CONFIRM FINAL PLACEMENT WITH ENGINEER PRIOR TO INSTALLATION.
6. SINGLE CHEVRONS MAY BE USED ON EITHER END OF THE CURVE AS NEEDED. CONFIRM WITH ENGINEER PRIOR TO INSTALLATION.
7. INSTALL ALL SIGNS ON PERFORATED STEEL SQUARE TUBE SIGN SUPPORT UNLESS OTHERWISE NOTED ON PLAN. SEE CLACKAMAS COUNTY STANDARD DRAWING T150 FOR SIGN MOUNTING AND ATTACHMENTS DETAILS AND T250 FOR SIGN INSTALLATION DETAILS.

TABLE 1: ADVANCE PLACEMENT OF WARNING SIGNS (A)

POSTED SPEED	ADVISORY SPEED									
	10	15	20	25	30	35	40	45	50	55
40	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
45	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
50	200 FT	190 FT	175 FT	150 FT	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT
55	275 FT	250 FT	225 FT	215 FT	200 FT	165 FT	125 FT	100 FT	100 FT	100 FT

PC = POINT OF CURVE

TABLE 2: TYPICAL CHEVRON SIGN SPACING (B)

ADVISORY SPEED	SPACING
10 TO 15 mph	40 FT
20 TO 30 mph	80 FT
35 TO 45 mph	120 FT
50 TO 60 mph	160 FT

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REGISTERED PROFESSIONAL
 ENGINEER
 65552PE
 Digitally Signed Feb 1 2022 2:51 PM
 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

Damascus Area Systemic Safety Enhancements
Windy Road Curve Detail

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

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

NO.	DATE	REVISIONS

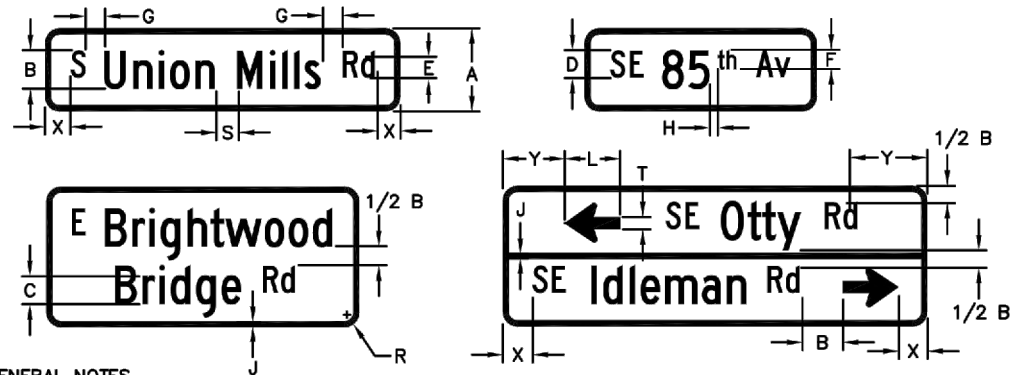
Sheet No. D-05

DATE: June 2021 PROJECT NO.: #2019-18

DIRECTOR
 DAN JOHNSON

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 THICKNESS	BORDER RAD.	ARROW TAIL THICKNESS	ARROW LENGTH
			A	B			C	D					
GROUND MOUNT	ARTERIAL/COLLECTOR 4+ LANES	> 40	15	8	6	5	3 3/4	4	3 1/2	1	1/2	1 1/2	
	ARTERIAL/COLLECTOR 4+ LANES	≤ 40											
	ARTERIAL/COLLECTOR 2-3 LANES	ALL	12	6	4 1/2	4	3	3	2 1/2	3/4	1/2	1 1/2	
	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
OVERHEAD MAST ARM	LOCAL/CONNECTOR PRIVATE	≤ 25	8	5	3 3/4	3	1 3/4	2 1/2	1 1/2	1/2			
	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 1/2	1	1	3	12

NOTES: ALL UNITS IN INCHES UNLESS SHOWN OTHERWISE.
 S = SPACE BETWEEN WORDS = 1/2 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	APPROVAL DATE: 6/1/2020	SCALE: N.T.S.	STANDARD DRAWING
BORDER THICKNESS	1/13	CLS			
suffix ltr. upper/wr	1/13	CLS			
	11/19	BP			

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



STREET NAME SIGNS & DETAILS

T100

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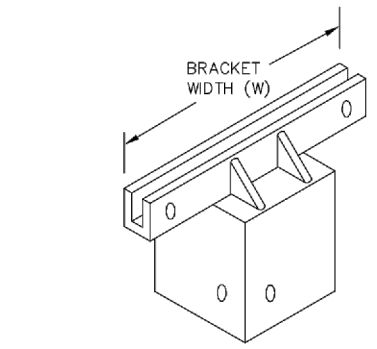
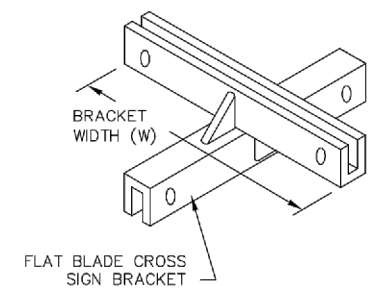
REVISION	DATE	BY	APPROVAL DATE: 1/1/10	SCALE: N.T.S.	STANDARD DRAWING

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



STREET NAME SIGNS & DETAILS (CONTINUED)

T130



SIGN BRACKET SIZE

SIGN WIDTH (IN.)	MOUNTING
< 30	POST TOP BRACKET, W = 5 1/2"
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

Damascus Area Systemic Safety Enhancements
Sign Details
 DATE: June 2021 PROJECT NO.: #2019-18

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

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

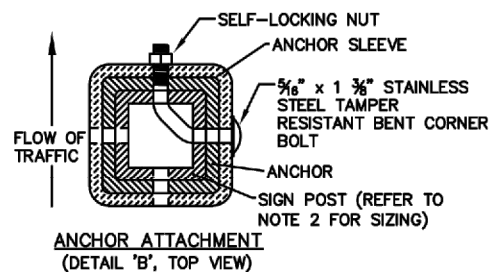
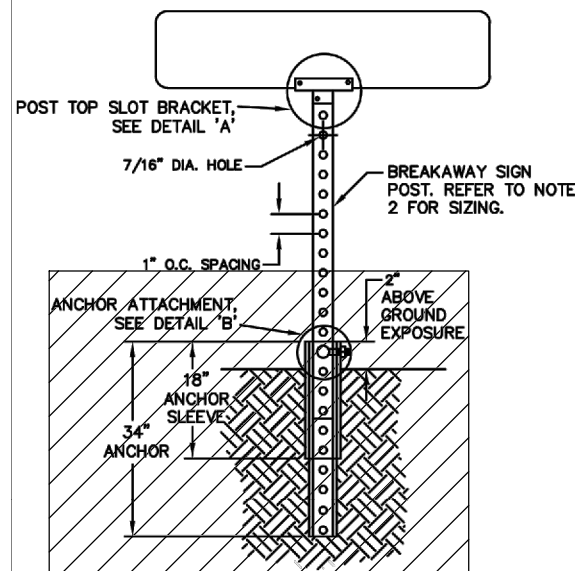
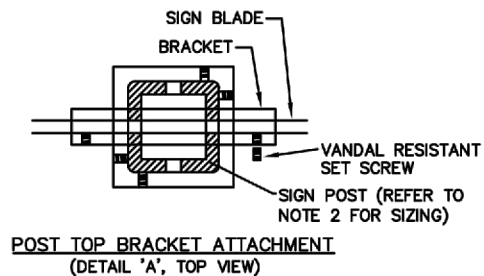
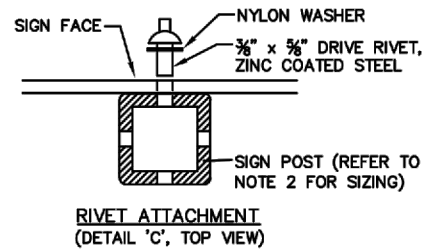
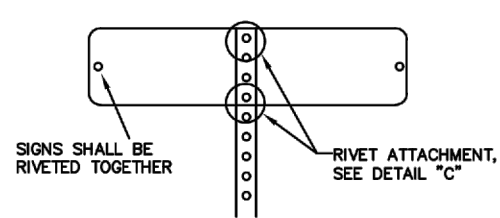
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NO. DATE:
 Sheet No. D-06



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 PORTLAND, OR 97204
 P 503.228.5230 F 503.273.8169

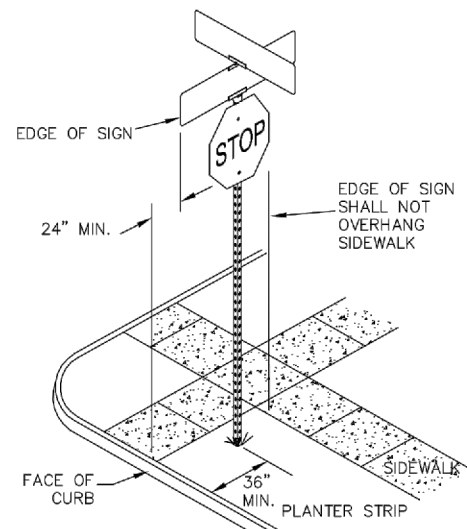
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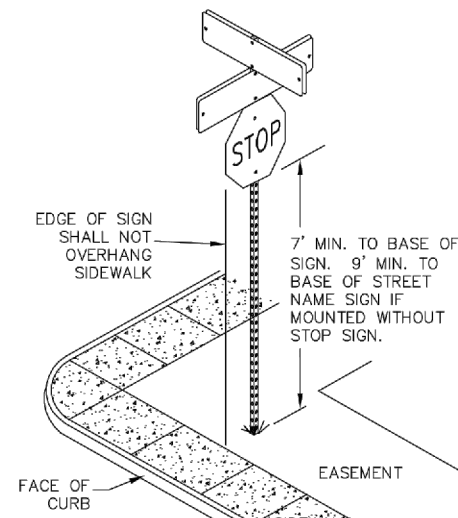
NOTES

- 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.
- 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 SIGN PANEL AREA IS GREATER THAN THAT ALLOWED BY A 2.5" X 2.5" 12-GA. SQUARE TUBE, THEN A 2.5" X 2.5" 10-GA. SQUARE TUBE POST SHALL BE USED, WITH A SLIP BASE FOUNDATION PER OREGON STANDARD DRAWING TM688.
- SIGN POSTS IN CONCRETE AREAS SHALL BE INSTALLED ON SURFACE-MOUNTED BREAKAWAY BASES.
- NYLON SPACERS SHALL BE USED TO PREVENT CONTACT BETWEEN GALVANIZED STEEL AND ALUMINUM MATERIAL SURFACES.

REVISION	DATE	BY	DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT	APPROVAL DATE: 6/1/2020	SCALE: N.T.S.	STANDARD DRAWING
REV 1	11/19	BP				T150
REVISION	3/20	RM				

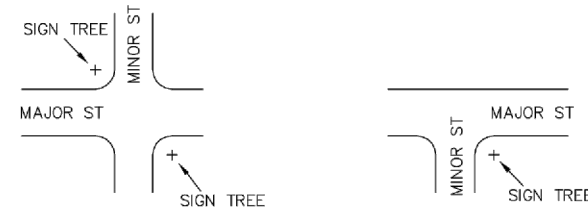


- EXAMPLE 1**
- DETACHED SIDEWALK
 - POST TOP FLAT BLADE BRACKET WITH CROSS BRACKET



- EXAMPLE 2**
- ATTACHED SIDEWALK
 - DOUBLE SIGNS RIVETED TO POST

TYPICAL SIGN INSTALLATIONS



TYPICAL STREET NAME SIGN LOCATIONS

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REVISION	DATE	BY	DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT	APPROVAL DATE: 1/1/10	SCALE: N.T.S.	STANDARD DRAWING
						T250

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 P 503.228.5230 F 503.273.8169

REGISTERED PROFESSIONAL ENGINEER
 65552PE
 Digitally Signed Feb 1 2022 2:51 PM
 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

Damascus Area Systemic Safety Enhancements
Sign Details
 DATE: June 2021 PROJECT NO.: #2019-18

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

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

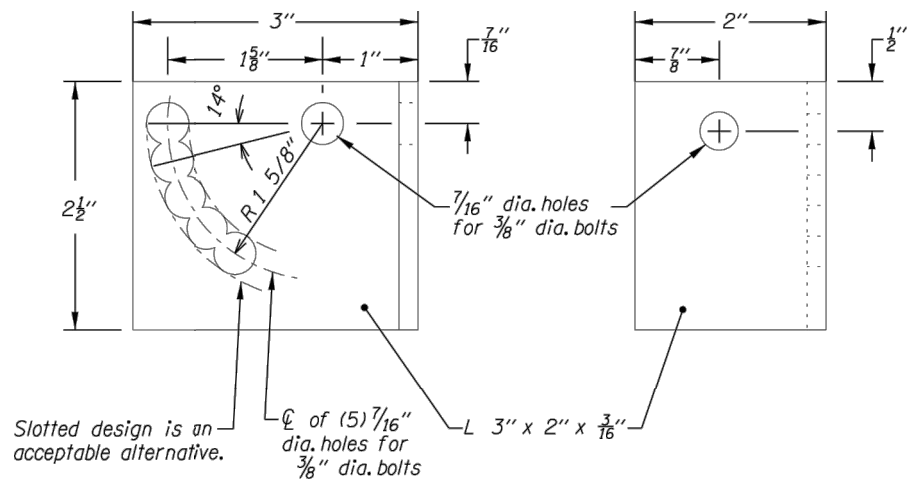
REVISIONS

NO.	DATE:		

Sheet No. D-07

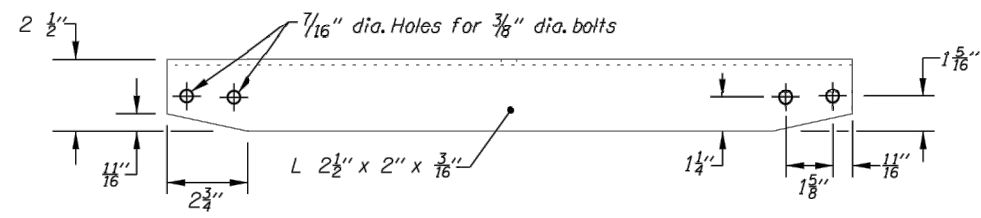
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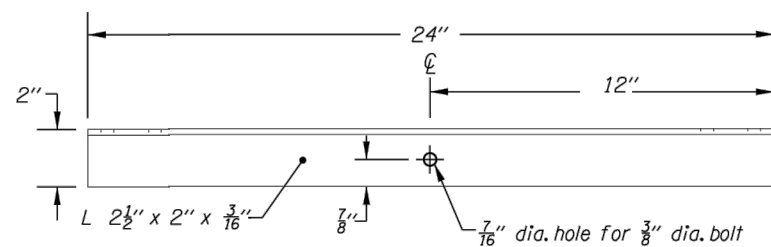
ADJUSTABLE BRACKET

Right Side Shown, Left Side Is Mirror Image.
No scale



BRACE - TOP

No scale

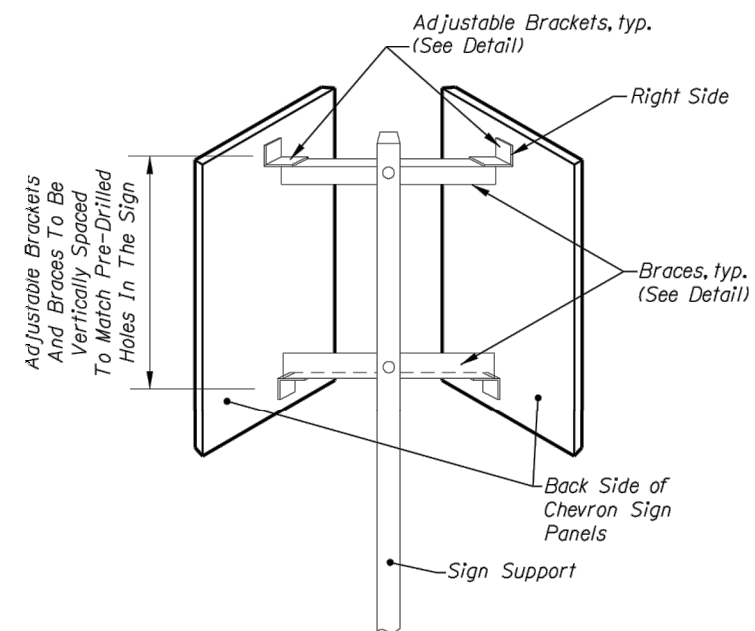


BRACE - ELEVATION

No scale

General Notes:

1. Install Chevron sign panel in line with and at approximately a right angle to approaching traffic.
2. For horizontal and vertical clearances of permanent signs refer to TM200.
3. Adjustable Brackets and Braces shall be aluminum. Aluminum shall be 6061 T6 alloy or 6063 T6 alloy.
4. Attach signs to adjustable brackets similar to the Sign Attachment Detail shown on TM676. Provide galvanized ASTM A307 Grade A bolts, A563A Hex nuts with locking feature, stainless steel ASTM 316 flat washers, and nylon washer. This does not apply to the hardware required in note 5.
5. Attach Braces to sign support according to TM676 without nylon washer and one flat washer on each side.
6. Designed for use with 2'-6" tall by 2'-0" wide Chevron sign panels or smaller.



ADJUSTABLE CHEVRON MOUNT

No scale



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OREGON
DocuSign

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Sheet No. D-09

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



DAN JOHNSON
DIRECTOR

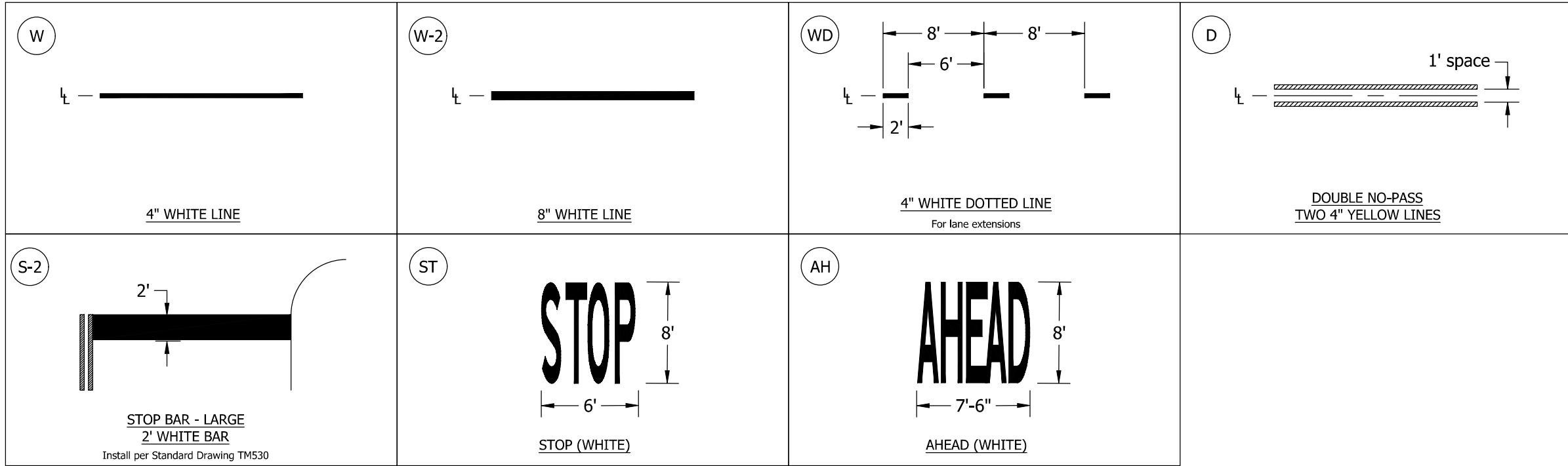
Damascus Area Systemic Safety Enhancements

Sign Details

DATE: June 2021

PROJECT NO.: #2019-18

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 PORTLAND, OR 97204
 P 503.228.5230 F 503.273.8169

REGISTERED PROFESSIONAL
 ENGINEER
 65552PE
 Digitally Signed Feb 1 2022 2:51 PM
 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

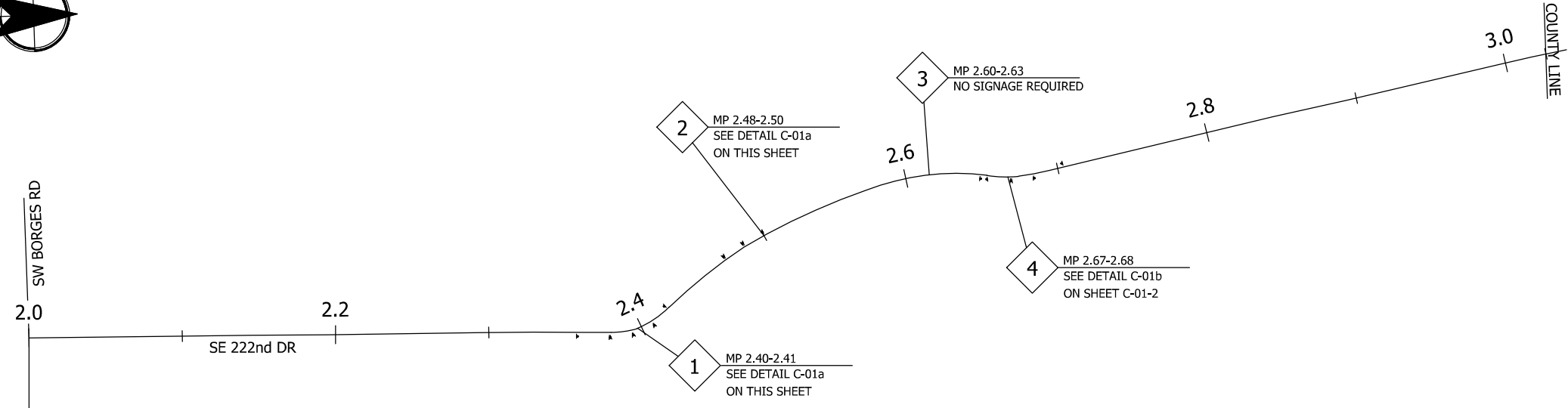
REVISIONS	
NO.	DATE:

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

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

DAN JOHNSON
 DIRECTOR

Damascus Area Systemic Safety Enhancements
Pavement Marking Details
 DATE: June 2021 PROJECT NO.: #2019-18

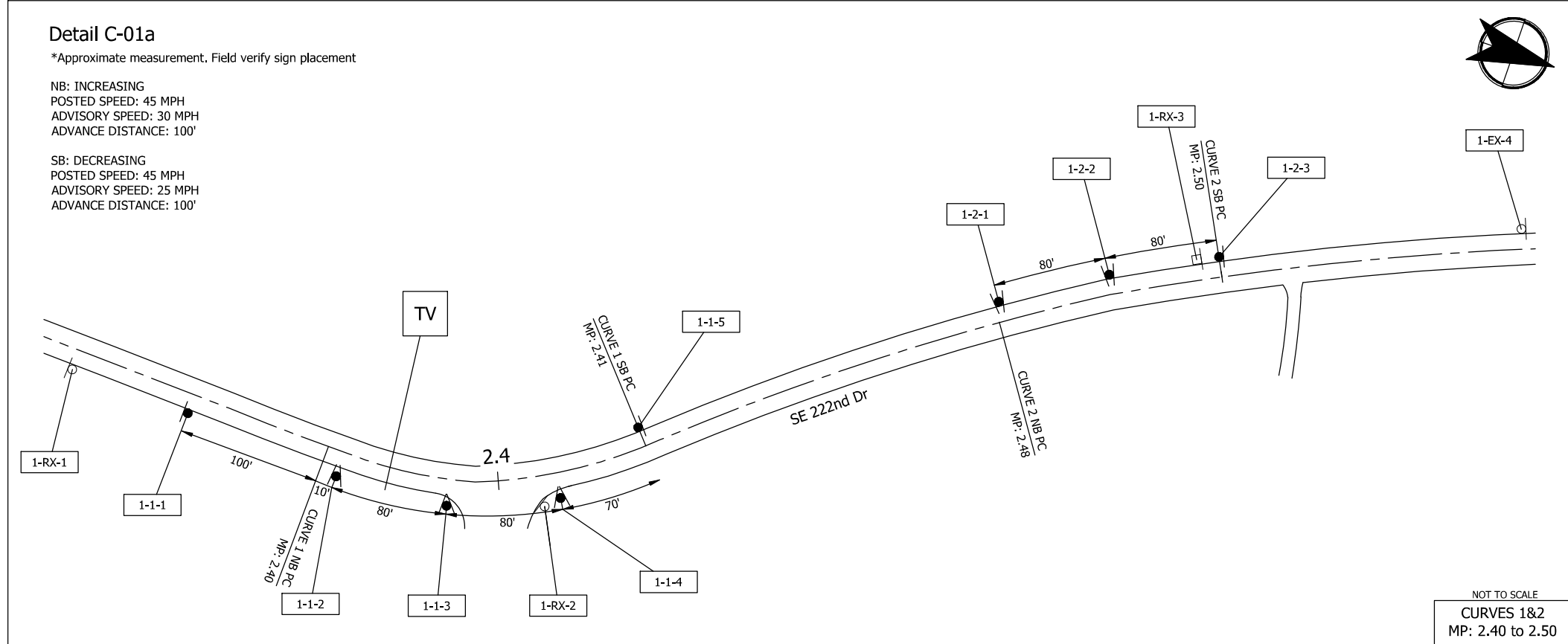


Detail C-01a

*Approximate measurement. Field verify sign placement

NB: INCREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100'

SB: DECREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 100'



NOT TO SCALE
 CURVES 1&2
 MP: 2.40 to 2.50

Note:
 See sheet D-01 for legend

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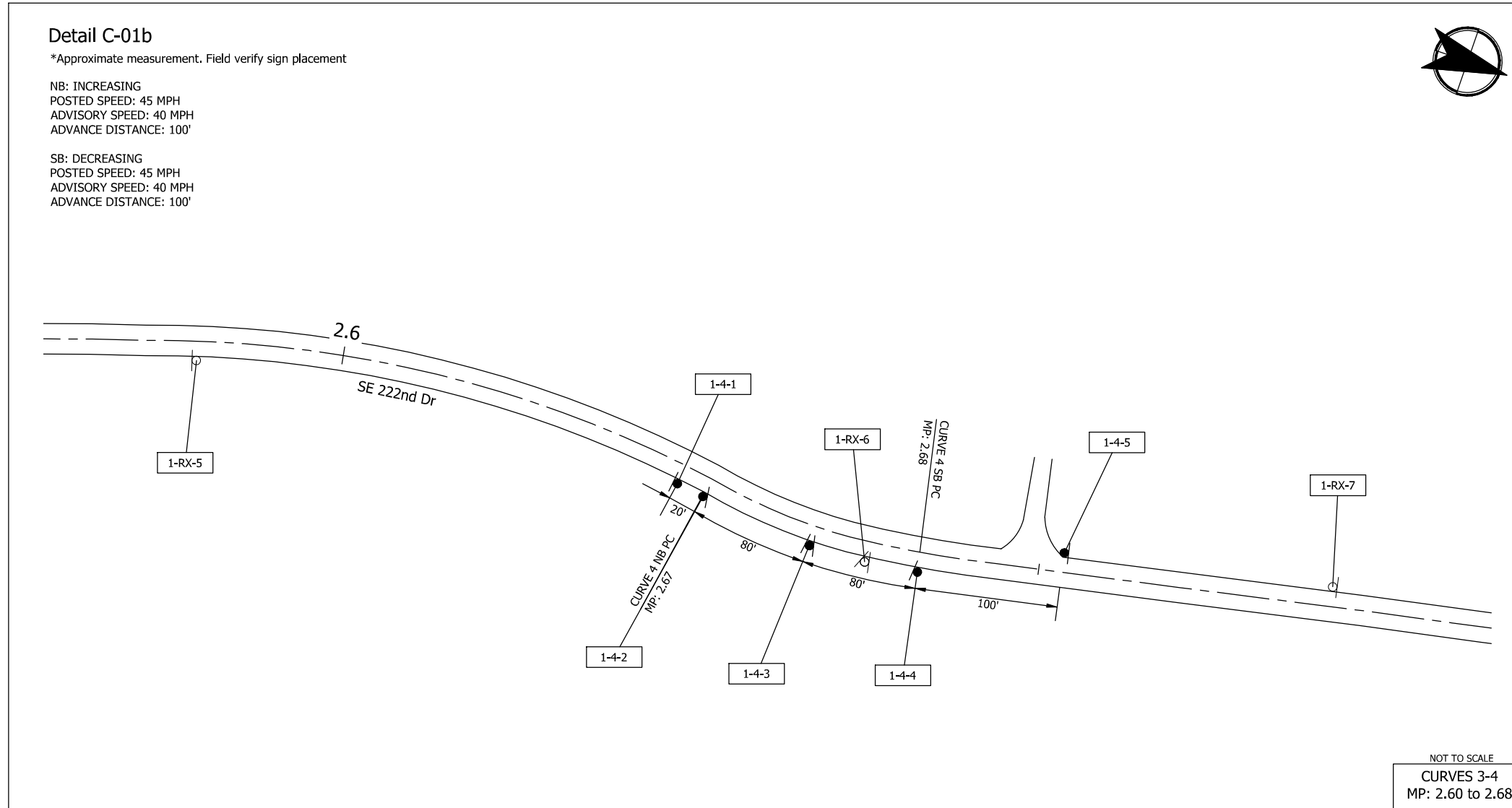
REGISTERED PROFESSIONAL
 ENGINEER
 65552PE
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 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		DIRECTOR DAN JOHNSON
DAMASCUS AREA SYSTEMIC SAFETY ENHANCEMENTS SE 222nd Drive		PROJECT NO.: #2019-18 DATE: June 2021
DESIGNED BY: DZB/SLF DRAFTED BY: DZB/SLF CHECKED BY: WES		
REVISIONS		
NO.	DATE:	
Sheet No.	C-01-1	

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Note:
See sheet D-01 for legend



KITTELSON & ASSOCIATES

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REGISTERED PROFESSIONAL
ENGINEER
65552PE

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OREGON

WADE E. SCARBROUGH
JULY 9, 2001

EXPIRES: 06/30/22

REVISIONS

NO. DATE:

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C-01-2

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

DAN JOHNSON

DIRECTOR

Damascus Area Systemic Safety Enhancements
SE 222nd Drive

DATE: June 2021 PROJECT NO.: #2019-18

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Direction from PC					X	Y	
Corridor 01 - 222nd Dr															
1	1	Northbound	45.45255 -122.43447	45 mph	30 mph	100 ft	-	South	Psst	2"x2"	W1-5L W13-1P-30	Winding Road Left Advisory Speed 30 MPH	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-01a	North	Psst	2"x2"	W1-8L W1-8R	Chevron Left Chevron Right	24 24	30 30	
	3					-	See Detail C-01a	North	Psst	2"x2"	W1-8L W1-8R	Chevron Left Chevron Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-01a for placement details.
	4					-	See Detail C-01a	North	Psst	2"x2"	W1-8L W1-8R	Chevron Left Chevron Right	24 24	30 30	
	5	Southbound	45.45278 -122.43463	45 mph	25 mph	0	-	North	Psst	2"x2"	W1-1aR-25	Supplemental Turn Right (25)	36	36	Install new sign assembly at field located Point of Curvature.
2	-	Northbound	45.45357 -122.43556	45 mph	45 mph	-	-	-	-	-	-	-	-	-	
	1	Southbound	45.4537 -122.4357	45 mph	35 mph	-	See Detail C-01a	South	Psst	2"x2"	W1-8R W1-8L	Chevron Right Chevron Left	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-01a for placement details.
	2					-	See Detail C-01a	South	Psst	2"x2"	W1-8R W1-8L	Chevron Right Chevron Left	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-01a for placement details.
	3					0 ft	-	North	Psst	2"x2"	W1-2aL-35	Supplemental Curve Left (35)	36	36	Install new sign assembly at field located Point of Curvature.
3	-	Northbound	45.45525 -122.43649	45 mph	-	This curve does not require any signage.									
	-	Southbound	45.45545 -122.43658	45 mph	-										
4	1	Northbound	Missing	45 mph	40 mph	20 ft	-	South	Psst	2"x2"	W1-2aL-40	Supplemental Curve Left (40)	36	36	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-01b	North	Psst	2"x2"	W1-8R	Chevron Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See C-01b for placement details.
	3					-	See Detail C-01b	North	Psst	2"x2"	W1-8L W1-8R	Chevron Left Chevron Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-01b for placement details.
	4					-	See Detail C-01b	North	Psst	2"x2"	W1-8L	Chevron Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See C-01b for placement details.
	5	Southbound	45.4563 -122.43654	45 mph	40 mph	100 ft	-	North	Psst	2"x2"	W1-5R W13-1P-25	Winding Road Right Advisory Speed 25 MPH	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.

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Damascus Area Systemic Safety Enhancements
SE 222nd Drive

DATE: June 2021 PROJECT NO.: #2019-18

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: DZB/SLF
DRAFTED BY: DZB/SLF
CHECKED BY: WES

NO.	DATE	REVISIONS

KITTELSON & ASSOCIATES

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PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169

REGISTERED PROFESSIONAL
ENGINEER
65552PE
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OREGON
WADE E. SCARBROUGH
EXPIRES: 06/30/22

Existing Sign & Sign Removal

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 01 - 222nd Dr								
1	W1-1L W13-1P	Left Turn Warning Speed Advisory 25 MPH	30 18	30 18	PSST	2.35	Right	Remove existing sign and support. Remove existing sign.
2	W1-6	Large Arrow (Single)	48	24	PSST	2.41	Right	Remove existing sign and support.
3	W1-1R W13-1P	Left Turn Warning Speed Advisory 30 MPH	30 18	30 18	Wood	2.5	Left	Remove existing sign and support. Remove existing sign.
4	S3-1	School Bus Stop Ahead	30	30	PSST	2.54	Left	Maintain and protect.
5	W1-4R W13-1P	Reverse Curve Right Warning Speed Advisory 35 MPH	36 24	36 24	PSST	2.58	Right	Remove existing sign and support. Remove existing sign.
6	W1-6 W1-6	Large Arrow (Single) Large Arrow (Single)	48 48	24 24	PSST	2.68	Right	Remove existing sign and support. Remove existing sign.
7	W1-4R W13-1P	Reverse Curve Right Warning Speed Advisory 35 MPH	36 18	36 18	PSST	2.74	Left	Remove existing sign and support. Remove existing sign.

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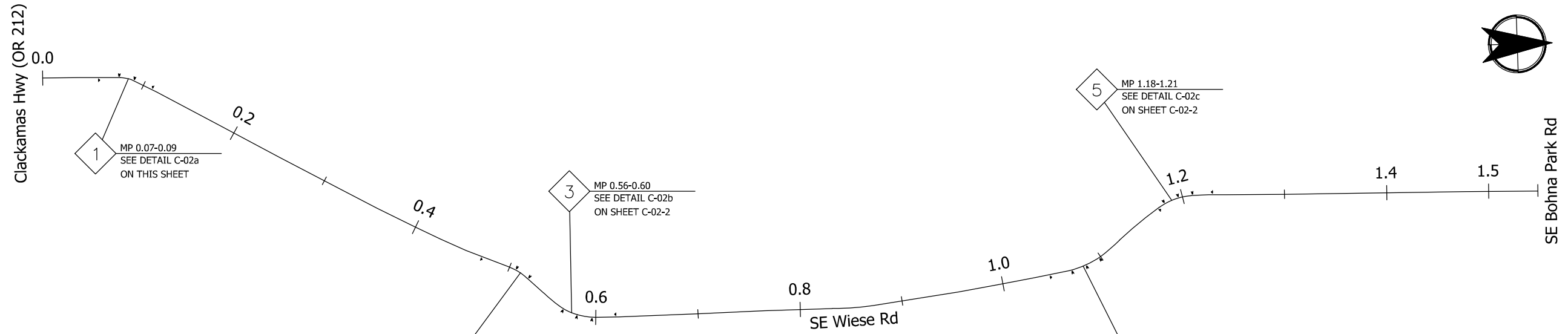
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DAN JOHNSON
 DIRECTOR

Damascus Area Systemic Safety Enhancements
SE 222nd Drive

DATE: June 2021 PROJECT NO.: #2019-18

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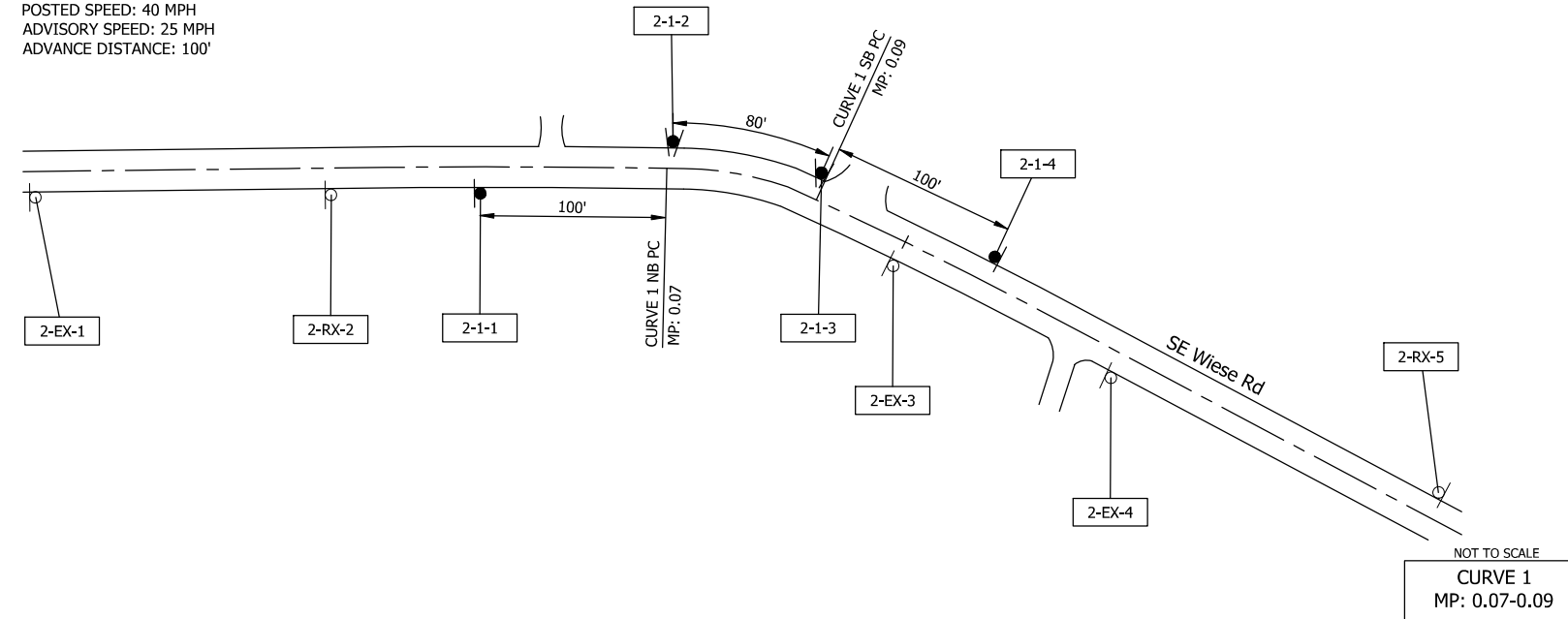


Detail C-02a

*Approximate measurement. Field verify sign placement

NB: INCREASING
 POSTED SPEED: 40 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 100'

SB: DECREASING
 POSTED SPEED: 40 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 100'

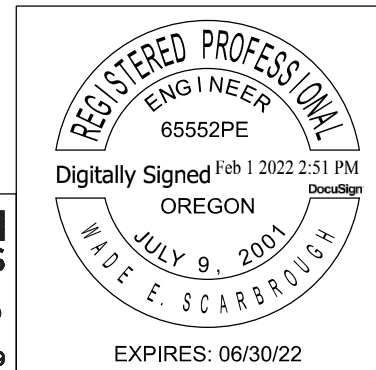


NOT TO SCALE
 CURVE 1
 MP: 0.07-0.09

Note:
 See sheet D-01 for legend



851 SW 6TH AVENUE, SUITE 600
 PORTLAND, OR 97204
 P 503.228.5230 F 503.273.8169



Damascus Area Systemic Safety Enhancements
SE Wiese Road

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

DAN JOHNSON
 DIRECTOR

DESIGNED BY: DZB/SJF
 DRAFTED BY: DZB/SJF
 CHECKED BY: WES

NO.	DATE	REVISIONS

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C-02-1

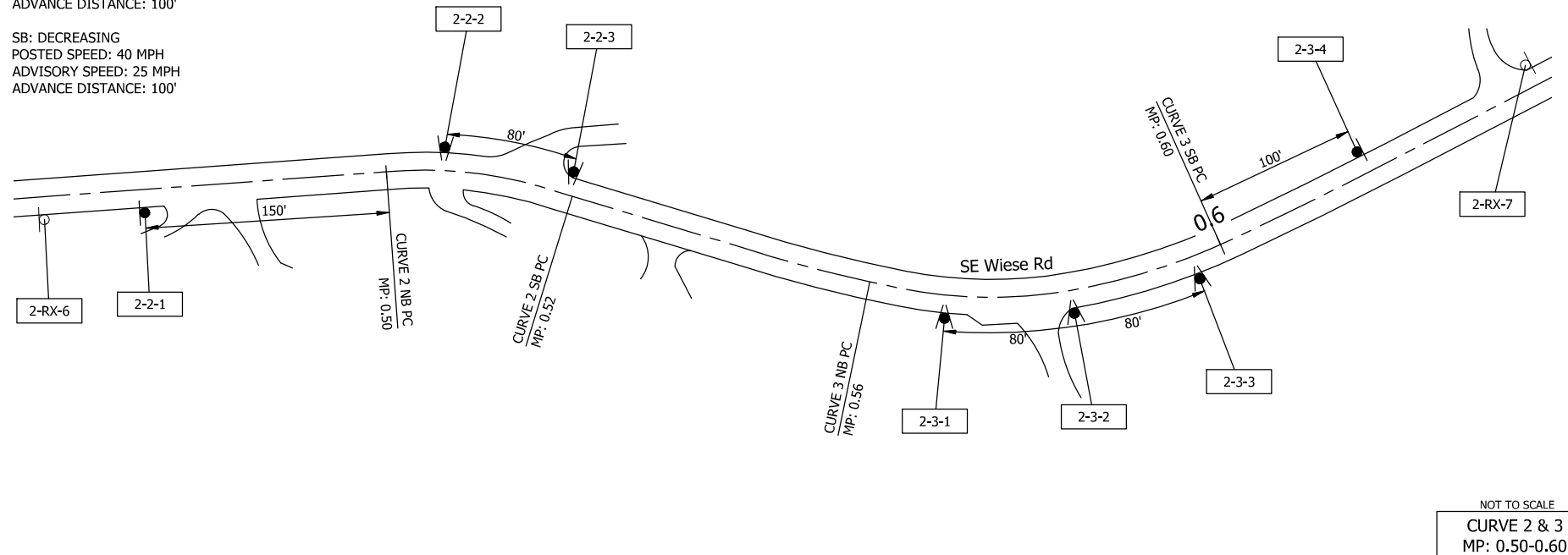
DATE: June 2021 PROJECT NO.: #2019-18

Detail C-02b

*Approximate measurement. Field verify sign placement

NB: INCREASING
 POSTED SPEED: 40 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 100'

SB: DECREASING
 POSTED SPEED: 40 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 100'



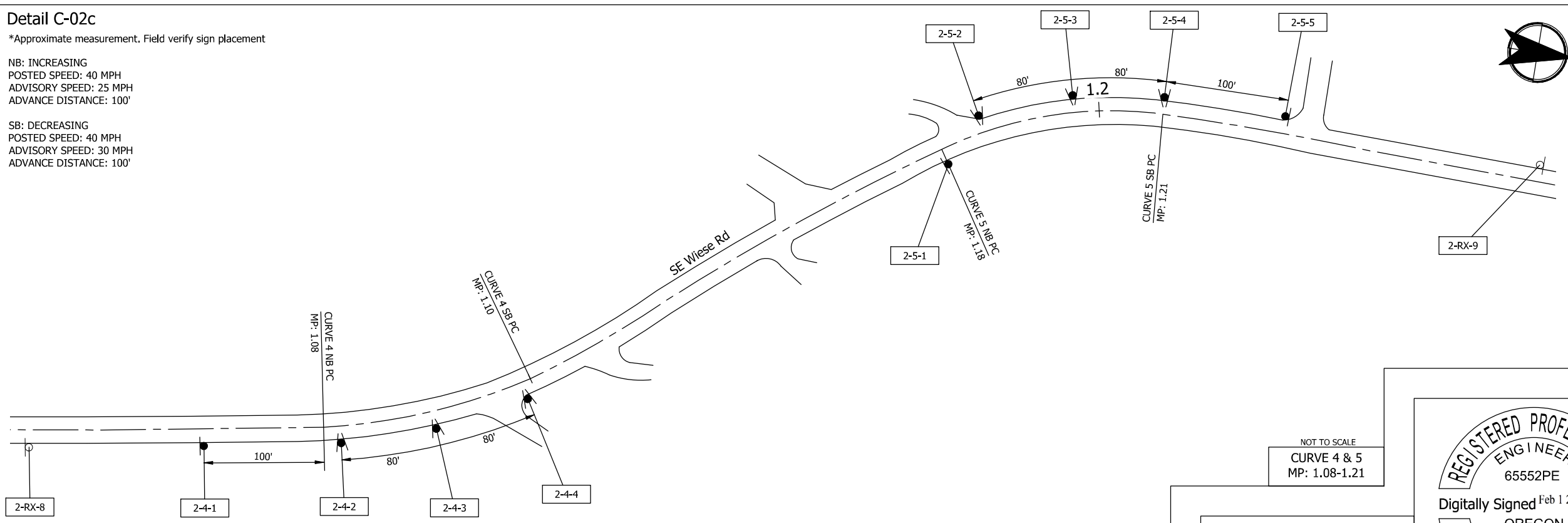
NOT TO SCALE
 CURVE 2 & 3
 MP: 0.50-0.60

Detail C-02c

*Approximate measurement. Field verify sign placement

NB: INCREASING
 POSTED SPEED: 40 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 100'

SB: DECREASING
 POSTED SPEED: 40 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100'



NOT TO SCALE
 CURVE 4 & 5
 MP: 1.08-1.21

Note:
 See sheet D-01 for legend

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 851 SW 6TH AVENUE, SUITE 600
 PORTLAND, OR 97204
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REGISTERED PROFESSIONAL
 ENGINEER
 65552PE
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 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

Damascus Area Systemic Safety Enhancements
SE Wiese Road
 DATE: June 2021 PROJECT NO.: #2019-18

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

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Sheet No. C-02-2

H:\24\24756 - Damascus Safety Countermeasures\design_CD\CD - Corridor - SE Wiese Road.dwg 6/18/2021 10:50 AM Dmitryan Shadrin

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Direction from PC					X	Y	
Corridor 02 - Wiese Rd															
1	1	Northbound	45.41876 -122.4524	40 mph	25 mph	100 ft	-	South	Psst	2"x2"	W1-1R W13-1P-25	Turn Ahead Right Advisory Speed 25 MPH	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-02a	North	Psst	2"x2"	W1-8R W1-8L	Chevron Right Chevron Left	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02a for placement details.
	3					-	See Detail C-02a	North	Psst	2"x2"	W1-8R W1-8L	Chevron Right Chevron Left	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02a for placement details.
	4	Southbound	45.41894 -122.45238	40 mph	25 mph	100 ft	-	North	Psst	2"x2"	W1-1L W13-1P-25	Turn Ahead Left Advisory Speed 25 MPH	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
2	1	Northbound	45.42425 -122.4485	40 mph	30 mph	150 ft	-	South	Psst	2"x2"	W1-3R W13-1P-25	Reverse Turn Right Advisory Speed 25 MPH	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-02b	North	Psst	2"x2"	W1-8R W1-8L	Chevron Right Chevron Left	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02b for placement details.
	3					-	See Detail C-02b	North	Psst	2"x2"	W1-8R W1-8L	Chevron Right Chevron Left	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02b for placement details.
	-	Southbound	45.42437 -122.44842	40 mph	30 mph	-	-	-	-	-	-	-	-	-	-
3	-	Northbound	45.42498 -122.44765	40 mph	25 mph	-	-	-	-	-	-	-	-	-	-
	1	Southbound	45.42514 -122.44759	40 mph	25 mph	-	See Detail C-02b	South	Psst	2"x2"	W1-8L W1-8R	Chevron Left Chevron Right	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02b for placement details.
	2					-	See Detail C-02b	South	Psst	2"x2"	W1-8L W1-8R	Chevron Left Chevron Right	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02b for placement details.
	3					-	See Detail C-02b	South	Psst	2"x2"	W1-8L W1-8R	Chevron Left Chevron Right	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02b for placement details.
	4					100 ft	-	North	Psst	2"x2"	W1-3R W13-1P-25	Reverse Turn Right Advisory Speed 25 MPH	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
4	1	Northbound	45.43227 -122.44841	40 mph	30 mph	100 ft	-	South	Psst	2"x2"	W1-3L W13-1P-25	Reverse Turn Left Advisory Speed 25 MPH	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-02c	North	Psst	2"x2"	W1-8L W1-8R	Chevron Left Chevron Right	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02c for placement details.
	3					-	See Detail C-02c	North	Psst	2"x2"	W1-8L W1-8R	Chevron Left Chevron Right	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02c for placement details.
	4					-	See Detail C-02c	North	Psst	2"x2"	W1-8L W1-8R	Chevron Left Chevron Right	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02c for placement details.
	-	Southbound	45.43257 -122.44863	40 mph	30 mph	-	-	-	-	-	-	-	-	-	
5	1	Northbound	45.43359 -122.44971	40 mph	25 mph	0 ft	-	South	Psst	2"x2"	W1-1aR-25	Supplemental Turn Right (25)	36 36	36 36	Install new sign assembly at field located Point of Curvature.
	2					-	See Detail C-02c	North	Psst	2"x2"	W1-8R W1-8L	Chevron Right Chevron Left	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02c for placement details.
	3					-	See Detail C-02c	North	Psst	2"x2"	W1-8R W1-8L	Chevron Right Chevron Left	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02c for placement details.
	4					-	See Detail C-02c	North	Psst	2"x2"	W1-8R W1-8L	Chevron Right Chevron Left	24 30	30 30	Install new sign assembly "B" distance from next chevron assembly. See C-02c for placement details.
	5	Southbound	45.43378 -122.44983	40 mph	30 mph	100 ft	-	North	Psst	2"x2"	W1-3L W13-1P-30	Reverse Turn Left Advisory Speed 30 MPH	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.

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Damascus Area Systemic Safety Enhancements
SE Wiese Road

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

DAN JOHNSON
DIRECTOR

DESIGNED BY: DZB/SLF
DRAFTED BY: DZB/SLF
CHECKED BY: WES

NO.	DATE	REVISIONS

KITTELSON & ASSOCIATES
851 SW 6TH AVENUE, SUITE 600
PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169



Existing Sign & Sign Removal

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 02 - Wiese Rd								
1	CR1033	"NO THRU TRUCKS/ LOCAL DELIVERY ONLY"	30	36	PSST	0.01	Right	Maintain and protect.
2	W1-1R W13-1P	Right Turn Warning Advisory Speed 25 MPH	30 18	30 18	PSST	0.04	Right	Remove existing sign and support. Remove existing sign.
3	S3-1	"SCHOOL BUS STOP AHEAD"	30	30	PSST	0.1	Right	Maintain and protect.
4	R2-1	Regulatory Speed 40 MPH	30	36	PSST	0.125	Right	Maintain and protect.
5	W1-1L W13-1P	Left Turn Warning Advisory Speed 25 MPH	30 18	30 18	Wood	0.16	Left	Remove existing sign and support. Remove existing sign.
6	W1-3R W13-1P	Reverse Turn Right Warning Advisory Speed 30 MPH	30 18	30 18	Wood	0.46	Right	Remove existing sign and support. Remove existing sign.
7	W1-3R W13-1P	Reverse Turn Right Warning Advisory Speed 30 MPH	30 18	30 18	PSST	0.64	Left	Remove existing sign and support. Remove existing sign.
8	W1-3L W13-1P	Reverse Turn Left Warning Advisory Speed 30 MPH	30 18	30 18	Wood	1.02	Right	Remove existing sign and support. Remove existing sign.
9	W1-3L W13-1P	Reverse Turn Left Warning Advisory Speed 30 MPH	30 18	30 18	PSST	1.27	Left	Remove existing sign and support. Remove existing sign.

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Damascus Area Systemic Safety Enhancements
SE Wiese Road

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: DZB/SLF
DRAFTED BY: DZB/SLF
CHECKED BY: WES

NO.	DATE	REVISIONS

KITTELSON & ASSOCIATES
851 SW 6TH AVENUE, SUITE 600
PORTLAND, OR 97204
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REGISTERED PROFESSIONAL ENGINEER
65552PE
Digitally Signed Feb 1 2022 2:51 PM
OREGON
WADE E. SCARBROUGH
EXPIRES: 06/30/22



*Distance measured from intersection unless otherwise noted.

KITTELSON & ASSOCIATES
 851 SW 6TH AVENUE, SUITE 600
 PORTLAND, OR 97204
 P 503.228.5230 F 503.273.8169

REGISTERED PROFESSIONAL
 ENGINEER
 65552PE
 Digitally Signed Feb 1 2022 2:51 PM
 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

REVISIONS	
NO.	DATE:

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

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

DAN JOHNSON
 DIRECTOR

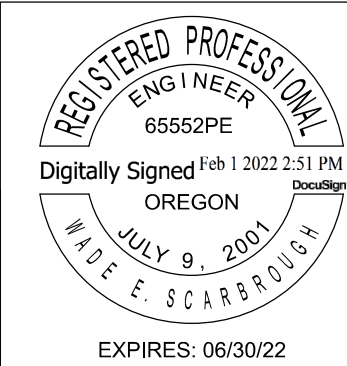
Damascus Area Systemic Safety Enhancements
SE TILLSTROM RD/SE FOSTER RD
 DATE: June 2021 PROJECT NO.: #2019-18

Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)	
Intersection 01: Tillstrom Rd/Foster Rd										
1	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	North	20	Install new sign on new support.
2	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	North	150	Install new sign on new support.
	W16-8P	Advanced Street Name (Foster Rd)	30	8						Install new sign.
3	R2-1-40	Regulatory Speed 40	30	36	PSST	2" x 2"	East	South	240	Install new sign on new support.
4	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	South	150	Install new sign on new support.
	W16-8P	Advanced Street Name (Foster Rd)	30	8						Install new sign.
5	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	South	20	Install new sign on new support.
6	W2-3Ra	Diagonal Road Right-Down Warning	36	36	PSST	2" x 2"	South	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
7	W2-3Ra	Diagonal Road Right-Down Warning	36	36	PSST	2" x 2"	South	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
8	D3-1	Street Name - 2 Sided (← Tillstrom Rd)/(Tillstrom Rd →)	60	12	PSST	2" x 2"	West	North	0	Install new sign on new support.
	D3-1	Street Name (Foster Rd)	48	12						Install new sign.
9	W1-7	Two-Direction Large Arrow Sign	60	30	PSST	2" x 2"	West	North	0	Install new sign on new support.
10	W2-3L	Diagonal Road Left-up Warning	36	36	PSST	2" x 2"	North	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
11	W2-3L	Diagonal Road Left-up Warning	36	36	PSST	2" x 2"	North	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
12	(W11-3)	Advisory Warning - Deer	(30)	(30)	PSST	2" x 2"	North	East	125	Reinstall sign on new support.

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*Distance measured from intersection unless otherwise noted.



Damascus Area Systemic Safety Enhancements
SE TILLSTROM RD/SE FOSTER RD

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

DAN JOHNSON
DIRECTOR

DESIGNED BY: DZS
DRAFTED BY: DZS
CHECKED BY: WES

NO.	DATE	REVISIONS

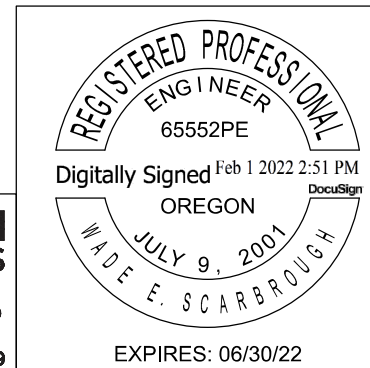
Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)	
Intersection 01: Tillstrom Rd/Foster Rd									
1	R1-1	Stop Sign	36	36	PSST	East	North	15	Remove existing sign and support.
2	OR2-1	SPEED 40	30	36	PSST	East	South	240	Remove existing sign and support.
3	W2-2R	Right Side Road Warning	36	36	PSST	South	East	410	Remove existing sign and support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	12					Remove existing sign.
4	W1-2R	Right Curve Warning	36	36	PSST	South	West	300	Maintain and protect.
	W13-1P-45	Advisory Speed 45 MPH	24	24					
5	D3-1	Street Name (Tillstrom Rd)	48	12	PSST	North	West	-	Remove existing sign and support.
	D3-1	Street Name (Tillstrom Rd)	48	12					Remove existing sign.
	D3-1	Street Name (Foster Rd)	42	12					Remove existing sign.
6	W2-2L	Left Side Road Warning	36	36	PSST	North	West	465	Remove existing sign and support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	12					Remove existing sign.
7	W11-3	Advisory Warning - Deer	30	30	PSST	North	East	185	Remove and save existing sign and support and reinstall in new location.

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*Distance measured from intersection unless otherwise noted.

KITTELSON & ASSOCIATES
 851 SW 6TH AVENUE, SUITE 600
 PORTLAND, OR 97204
 P 503.228.5230 F 503.273.8169



CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	DIRECTOR DAN JOHNSON
Damascus Area Systemic Safety Enhancements SE TILLSTROM RD/SE FOSTER RD	
PROJECT NO.: #2019-18 DATE: June 2021	

DESIGNED BY: DZS	CHECKED BY: WES
DRAFTED BY: DZS	

REVISIONS	
NO.	DATE:

Sheet No.	I-01-3
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*Distance measured from intersection unless otherwise noted.



851 SW 6TH AVENUE, SUITE 600
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EXPIRES: 06/30/22

REVISIONS

NO.	DATE:

Sheet No. I-02-1

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES



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

DAN JOHNSON
 DIRECTOR

Damascus Area Systemic Safety Enhancements
SE TILLSTROM RD/SE 190th DRIVE
 DATE: June 2021 PROJECT NO.: #2019-18

Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)	
Intersection 02: Tillstrom Rd/190th Dr										
1	R1-1	Stop Sign	36	36	PSST	2" x 2"	North	West	15	Install new sign on new support.
2	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	North	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
3	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	North	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
4	R2-1-45	Regulatory Speed 45 MPH	30	36	PSST	2" x 2"	North	East	110	Install new sign on new support.
5	R1-1	Stop Sign	36	36	PSST	2" x 2"	North	East	35	Install new sign on new support.
6	W1-10L	Left Curve Warning With Side Road	36	36	PSST	2" x 2"	East	North	125	Install new sign on new support.
	W13-1P	Advisory Speed 35 MPH	24	24						Install new sign.
	W16-8P	Advanced Street Name (190th Dr)	24	8						Install new sign.
7	D1-1	Destination (Gresham →)	60	12	PSST	2" x 2"	East	North	225	Install new sign on new support.
8	W1-10L	Left Curve Warning With Side Road	36	36	PSST	2" x 2"	East	South	125	Install new sign on new support.
	W13-1P	Advisory Speed 35 MPH	24	24						Install new sign.
	W16-8P	Advanced Street Name (190th Dr)	24	8						Install new sign.
9	D3-1	Street Name - 2 Sided (← 190th Dr)/(190th Dr →)	42	12	PSST	2.5" x 2.5"	East	South	0	Install new sign on new support.
	D3-1	Street Name (Tillstrom Rd)	60	12						Install new sign.
	W1-7	Two-Direction Large Arrow Sign	60	30						Install new sign.
10	W1-10R	Right Curve Warning With Side Road	36	36	PSST	2" x 2"	West	South	125	Install new sign on new support.
	W13-1P	Advisory Speed 40 MPH	24	24						Install new sign.
	W16-8P	Advanced Street Name (190th Dr)	24	8						Install new sign.
11	D1-1	Destination (← Gresham)	60	12	PSST	2" x 2"	West	South	325	Install new sign on new support.
12	W1-10R	Right Curve Warning With Side Road	36	36	PSST	2" x 2"	West	North	125	Install new sign on new support.
	W13-1P	Advisory Speed 40 MPH	24	24						Install new sign.
	W16-8P	Advanced Street Name (190th Dr)	24	8						Install new sign.
13	R2-1-45	Regulatory Speed 45 MPH	30	36	PSST	2" x 2"	West	North	80	Install new sign on new support.

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*Distance measured from intersection unless otherwise noted.

KITTELSON & ASSOCIATES
 851 SW 6TH AVENUE, SUITE 600
 PORTLAND, OR 97204
 P 503.228.5230 F 503.273.8169

REGISTERED PROFESSIONAL ENGINEER
 65552PE
 Digitally Signed Feb 1 2022 2:51 PM
 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

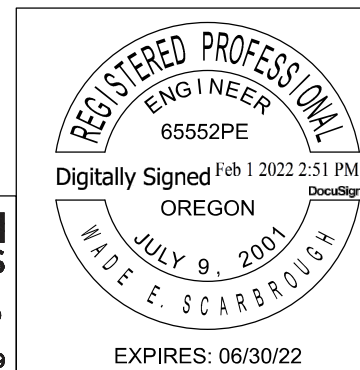
CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045 	DIRECTOR DAN JOHNSON
Damascus Area Systemic Safety Enhancements SE TILLSTROM RD/SE 190th DRIVE	
PROJECT NO.: #2019-18 DATE: June 2021	
DESIGNED BY: DZS DRAFTED BY: DZS CHECKED BY: WES	REVISIONS NO. DATE:
Sheet No. I-02-2	

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)	
Intersection 02: Tillstrom Rd/190th Dr									
1	R1-1	Stop Sign	36	36	PSST	North	West	15	Remove existing sign and support.
2	W3-1	Stop Ahead Warning	30	30	PSST	North	West	500	Remove existing sign and support.
3	OR2-1	SPEED 45	30	36	PSST	North	East	55	Remove existing sign and support.
4	W1-2L W13-1P	Advanced Curve Warning Advisory Speed 35 MPH	30 18	30 18	PSST	South	East	330	Remove existing sign and support.
5	D3-1	Street Name - 2 Sided (190th Dr)	42	12	PSST	South	West	0	Remove existing sign and support.
	D1-1	Destination (← Gresham)	30	8					Remove existing sign.
	D1-1	Destination (Gresham →)	30	8					Remove existing sign.
	D3-1	Street Name (← Tillstrom Rd →)	48	12					Remove existing sign.
	W1-7	Two-Direction Large Arrow Sign	48	24					Remove existing sign.
6	W1-2R W13-1P	Advanced Curve Warning Advisory Speed 40 MPH	30 18	30 18	PSST	West	South	250	Remove existing sign and support.
7	OR2-1	SPEED 45	30	36	PSST	West	North	80	Remove existing sign and support.

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*Distance measured from intersection unless otherwise noted.



Damascus Area Systemic Safety Enhancements

SE TILLSTROM RD/SE 190th DRIVE

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

DAN JOHNSON
DIRECTOR

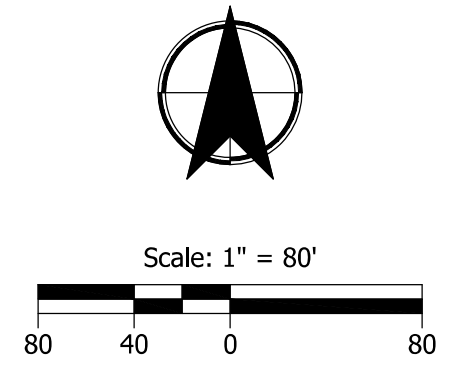
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 DRAFTED BY: DZS
 CHECKED BY: WES

NO.	DATE	REVISIONS

Sheet No. **I-02-3**

PROJECT NO.: #2019-18
DATE: June 2021

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*Distance measured from intersection unless otherwise noted.

KITTELSON & ASSOCIATES
 851 SW 6TH AVENUE, SUITE 600
 PORTLAND, OR 97204
 P 503.228.5230 F 503.273.8169

REGISTERED PROFESSIONAL
 ENGINEER
 65552PE
 Digitally Signed Feb 1 2022 2:51 PM
 OREGON
 WADE E. SCARBROUGH
 JULY 9, 2001
 EXPIRES: 06/30/22

CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		DIRECTOR DAN JOHNSON
DAMASCUS AREA SYSTEMIC SAFETY ENHANCEMENTS SE TILLSTROM RD/SE BORGES RD		PROJECT NO.: #2019-18 DATE: June 2021
DESIGNED BY: DZS	DRAFTED BY: DZS	CHECKED BY: WES
NO. DATE:	REVISIONS:	SHEET NO. I-03-1

Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)	
Intersection 03: Tillstrom Rd/Borges Rd										
1	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	North	10	Install new sign on new support.
2	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	North	155	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
3	R2-1-45	Regulatory Speed 45 MPH	30	36	PSST	2" x 2"	East	South	220	Install new sign on new support.
4	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	South	155	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
5	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	South	12	Install new sign on new support.
6	CR1033 Modified	No Thru Trucks On Borges Rd/ Local Delivery Only	30	36	PSST	2" x 2"	South	East	100	Install new sign on new support.
7	W2-2R	Side Road Right Warning	36	36	PSST	2" x 2"	South	East	200	Install new sign on new support.
	W16-8P	Advanced Street Name (Borges Rd)	30	8						Install new sign.
8	W2-2R	Side Road Right Warning	36	36	PSST	2" x 2"	South	West	200	Install new sign on new support.
	W16-8P	Advanced Street Name (Borges Rd)	30	8						Install new sign.
9	R2-1-45	Regulatory Speed 45 MPH	30	36	PSST	2" x 2"	South	West	120	Install new sign on new support.
10	D3-1	Street Name - 2 Sided (Borges Rd)	48	12	PSST	2.5" x 2.5"	North	West	-	Install new sign on new support.
	D3-2	Street Name (Tillstrom Rd)	60	12						Install new sign.
	W1-7	Two-Direction Large Arrow Sign	60	30						Install new sign.
11	CR1033 Modified	No Thru Trucks On Borges Rd/ Local Delivery Only	30	36	PSST	2" x 2"	North	West	100	Install new sign on new support.
12	W2-2L	Side Road Left Warning	36	36	PSST	2" x 2"	North	West	200	Install new sign on new support.
	W16-8P	Advanced Street Name (Borges Rd)	30	8						Install new sign.
13	W2-2L	Side Road Left Warning	36	36	PSST	2" x 2"	North	East	200	Install new sign on new support.
	W16-8P	Advanced Street Name (Borges Rd)	30	8						Install new sign.

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*Distance measured from intersection unless otherwise noted.



Damascus Area Systemic Safety Enhancements
SE TILLSTROM RD/SE BORGES RD

PROJECT NO.: #2019-18
 DATE: June 2021

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

DIRECTOR
 DAN JOHNSON

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

REVISIONS
 NO. | DATE: |

Sheet No. I-03-2

EXPIRES: 06/30/22

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)	
Intersection 03: Tillstrom Rd/Borges Rd									
1	R1-1	Stop Sign	24	24	PSST	East	North	0	Remove existing sign and support.
2	W3-1	Stop Ahead Warning	30	30	Wood	East	North	550	Remove existing sign and support.
3	EX	Adopt-A-Road	EX	EX	PSST	East	South	250	Maintain and protect.
4	OR2-1	SPEED 40	30	36	PSST	East	South	220	Remove existing sign and support.
5	CR1033	No Thru Trucks/ Local Delivery Only	30	36	PSST	East	South	15	Remove existing sign and support.
6	W2-2R	Right Side Road Warning	30	30	PSST	South	East	590	Remove existing sign and support.
	W16-8P	Advanced Street Name (Borges Rd)	36	12					
7	OR2-1	Regulatory Speed 40 MPH	30	36	PSST	South	West	120	Remove existing sign and support.
8	D3-1	Street Name - 2 Sided (Borges Rd)	54	12	PSST	North	West	0	Remove existing sign and support.
	D3-1	Street Name (Tillstrom Rd)	48	12					Remove existing sign.

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*Distance measured from intersection unless otherwise noted.

KITTELSON & ASSOCIATES
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CLACKAMAS COUNTY
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 AND DEVELOPMENT
 150 BEAVERCREEK ROAD
 OREGON CITY, OR 97045

DAN JOHNSON
 DIRECTOR

NO.	DATE	DESIGNED BY:	DRAFTED BY:	CHECKED BY:	REVISIONS
		DZS	DZS	WES	

Sheet No. **I-03-3**

Damascus Area Systemic Safety Enhancements
SE TILLSTROM RD/SE BORGES RD
 DATE: June 2021 PROJECT NO.: #2019-18

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REGISTERED PROFESSIONAL
 ENGINEER
 65552PE
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 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

REVISIONS	
NO.	DATE:

DESIGNED BY: DZS
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CLACKAMAS COUNTY
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 150 BEAVERCREEK ROAD
 OREGON CITY, OR 97045

CLACKAMAS COUNTY
 DIRECTOR
 DAN JOHNSON

Damascus Area Systemic Safety Enhancements
SE TILLSTROM RD/SE BOHNA PARK RD
 DATE: June 2021 PROJECT NO.: #2019-18

Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)	
Intersection 04: Tillstrom Rd/Bohna Park Rd										
1	W2-3La	Diagonal Left Side Road Warning	36	36	PSST	2" x 2"	East	North	125	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						
2	W2-3La	Diagonal Left Side Road Warning	36	36	PSST	2" x 2"	East	South	125	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						
3	R1-1	Stop Sign	36	36	PSST	2" x 2"	South	North	10	Install new sign on new support.
4	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	South	North	145	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
5	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	South	North	145	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
6	R1-1	Stop Sign	36	36	PSST	2" x 2"	South	South	45	Install new sign on new support.
7	R2-1-40	Regulatory Speed 40 MPH	30	36	PSST	2" x 2"	South	West	25	Install new sign on new support.
8	W2-3R	Diagonal Right Side Road Warning	36	36	PSST	2" x 2"	West	South	150	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
9	W2-3R	Diagonal Right Side Road Warning	36	36	PSST	2" x 2"	West	North	150	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
10	R2-1-40	Regulatory Speed 40 MPH	30	36	PSST	2" x 2"	West	North	140	Install new sign on new support.

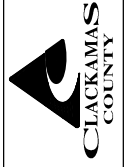
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*Distance measured from intersection unless otherwise noted.

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 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

Damascus Area Systemic Safety Enhancements
SE TILLSTROM RD/SE BOHNA PARK RD
 DATE: June 2021 PROJECT NO.: #2019-18

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

 DIRECTOR
 DAN JOHNSON

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

NO.	DATE	REVISIONS

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)	
Intersection 04: Tillstrom Rd/Bohna Park Rd									
1	D3-1	Street Name (Bohna Park Rd →)	60	10	PSST	North	East	0	Maintain and protect.
	D3-1	Street Name (← Bohna Park Rd)	60	10					
	D3-1	Street Name (Tillstrom Rd)	48	12					
2	W2-3L	Diagonal Left Side Road Warning (Custom)	36	36	PSST	East	North	450	Remove existing sign and support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	48	12					
3	R1-1	Stop Sign	30	30	PSST	South	East	5	Remove existing sign and support.
4	W3-1	Stop Ahead Warning	30	30	PSST	South	North	450	Remove existing sign and support.
5	OR2-1	SPEED 40	30	36	PSST	South	West	25	Remove existing sign and support.
6	D3-1	Street Name (Delia Rd)	EX	EX	PSST	West	South	70	Maintain and protect.
	W14-1aR	Dead End →	EX	EX					
	W14-1aL	← Dead End	EX	EX					
	R1-1	Stop Sign	EX	EX					
7	W1-4L	Reverse Curve Left Warning	36	36	PSST	West	South	225	Remove existing sign and support.
	W13-1P	Advisory Speed 40 MPH	18	18					
8	W2-3R	Diagonal Right Side Road Warning (Custom)	36	36	PSST	West	South	700	Remove existing sign and support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	48	12					
9	W1-4R	Reverse Curve Right Warning	36	36	PSST	West	North	225	Maintain and protect.
	W13-1P	Advisory Speed 40 MPH	24	24					
10	OR2-1	SPEED 40	30	36	PSST	West	North	150	Remove existing sign and support.
11	D3-1	Street Name (Achilles Rd)	EX	EX	PSST	West	North	85	Maintain and protect.
	W14-1aR	Dead End →	EX	EX					
	W14-1aL	← Dead End	EX	EX					
	R1-1	Stop Sign	EX	EX					

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*Distance measured from intersection unless otherwise noted.

Damascus Area Systemic Safety Enhancements
SE TILLSTROM RD/SE BOHNA PARK RD

DATE: June 2021 PROJECT NO.: #2019-18

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: DZS
DRAFTED BY: DZS
CHECKED BY: WES

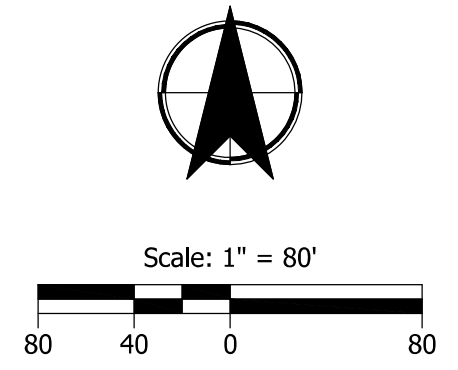
NO.	DATE	REVISIONS

Sheet No.
1-04-3

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OREGON
WADE E. SCARBROUGH
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CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		DIRECTOR DAN JOHNSON
Damascus Area Systemic Safety Enhancements SE WIESE RD/SE BOHNA PARK RD		PROJECT NO.: #2019-18 DATE: June 2021
DESIGNED BY: DZS	DRAFTED BY: DZS	CHECKED BY: WES
NO. DATE:	REVISIONS:	SHEET NO. I-05-01

Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)	
Intersection 05: Wiese Rd/Bohna Park Rd										
1	(D3-1)	Street Name (Wiese Rd →)	(48)	(12)	PSST	2.5" x 2.5"	North	East	0	Reinstall existing sign.
	(D3-1)	Street Name (← Wiese Rd)	(48)	(12)						Reinstall existing sign.
	(D3-1)	Street Name (Bohna Park Rd)	(60)	(12)						Reinstall existing sign.
	W1-7	Two-Direction Large Arrow Sign	60	30						Install new sign on new support.
2	CR1033 Modified	No Thru Trucks On Wiese Rd/ Local Delivery Only	30	36	PSST	2' x 2"	East	North	75	Install new sign on new support.
3	W2-2L	Left Side Road Warning	36	36	PSST	2" x 2"	East	North	150	Install new sign on new support.
	W16-8P	Advanced Street Name (Wiese Rd)	30	8						Install new sign.
4	W2-2L	Left Side Road Warning	36	36	PSST	2" x 2"	East	South	150	Install new sign on new support.
	W16-8P	Advanced Street Name (Wiese Rd)	30	8						Install new sign.
5	R1-1	Stop Sign	36	36	PSST	2" x 2"	South	East	10	Install new sign on existing support.
6	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	South	East	125	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
7	R2-1-40	Regulatory Speed 40 MPH	30	36	PSST	2" x 2"	South	West	185	Install new sign on new support.
8	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	South	West	125	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
9	R1-1	Stop Sign	36	36	PSST	2" x 2"	South	West	10	Install new sign on new support.
10	CR1033 Modified	No Thru Trucks On Wiese Rd/ Local Delivery Only	30	36	PSST	2" x 2"	West	South	75	Reinstall existing sign on new support.
11	W2-2R	Right Side Road Warning	36	36	PSST	2" x 2"	West	South	150	Install new sign on new support.
	W16-8P	Advanced Street Name (Wiese Rd)	30	8						Install new sign.
12	W2-2R	Right Side Road Warning	36	36	PSST	2" x 2"	West	North	150	Install new sign on new support.
	W16-8P	Advanced Street Name (Wiese Rd)	30	8						Install new sign.

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 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

Damascus Area Systemic Safety Enhancements
SE WIESE RD/SE BOHNA PARK RD

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

DAN JOHNSON
 DIRECTOR

DESIGNED BY:	DZS	DRAFTED BY:	DZS	CHECKED BY:	WES
NO. DATE:					
Sheet No.	1-05-02				

PROJECT NO.: #2019-18
DATE: June 2021


Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)	
Intersection 05: Wiese Rd/Bohna Park Rd									
1	D3-1	Street Name (Wiese Rd →)	48	12	PSST	North	East	0	Remove and save existing sign.
	D3-1	Street Name (← Wiese Rd)	48	12					Remove and save existing sign.
	D3-1	Street Name (Bohna Park Rd)	60	12					Remove and save existing sign.
	W1-7	Two-Direction Large Arrow Sign	48	24					Remove existing sign and support.
2	S3-1	School Bus Stop Ahead	30	30	PSST	East	South	350	Maintain and protect.
3	R1-1	Stop Sign	30	30	PSST	South	East	10	Remove existing sign.
4	W3-1	Stop Ahead Warning	30	30	PSST	South	East	250	Remove existing sign and support.
5	OR2-1	SPEED 40	30	36	PSST	South	West	185	Remove existing sign and support.
6	CR1033	No Thru Trucks/ Local Delivery Only	30	36	PSST	South	West	55	Remove existing sign and support.
7	W1-2R	Right Curve Warning	30	30	Wood	West	South	110	Remove existing sign and support.
	W13-1P	Advisory Speed 40 MPH	18	18					Remove existing sign.

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*Distance measured from intersection unless otherwise noted.


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 OREGON
 EXPIRES: 06/30/22

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

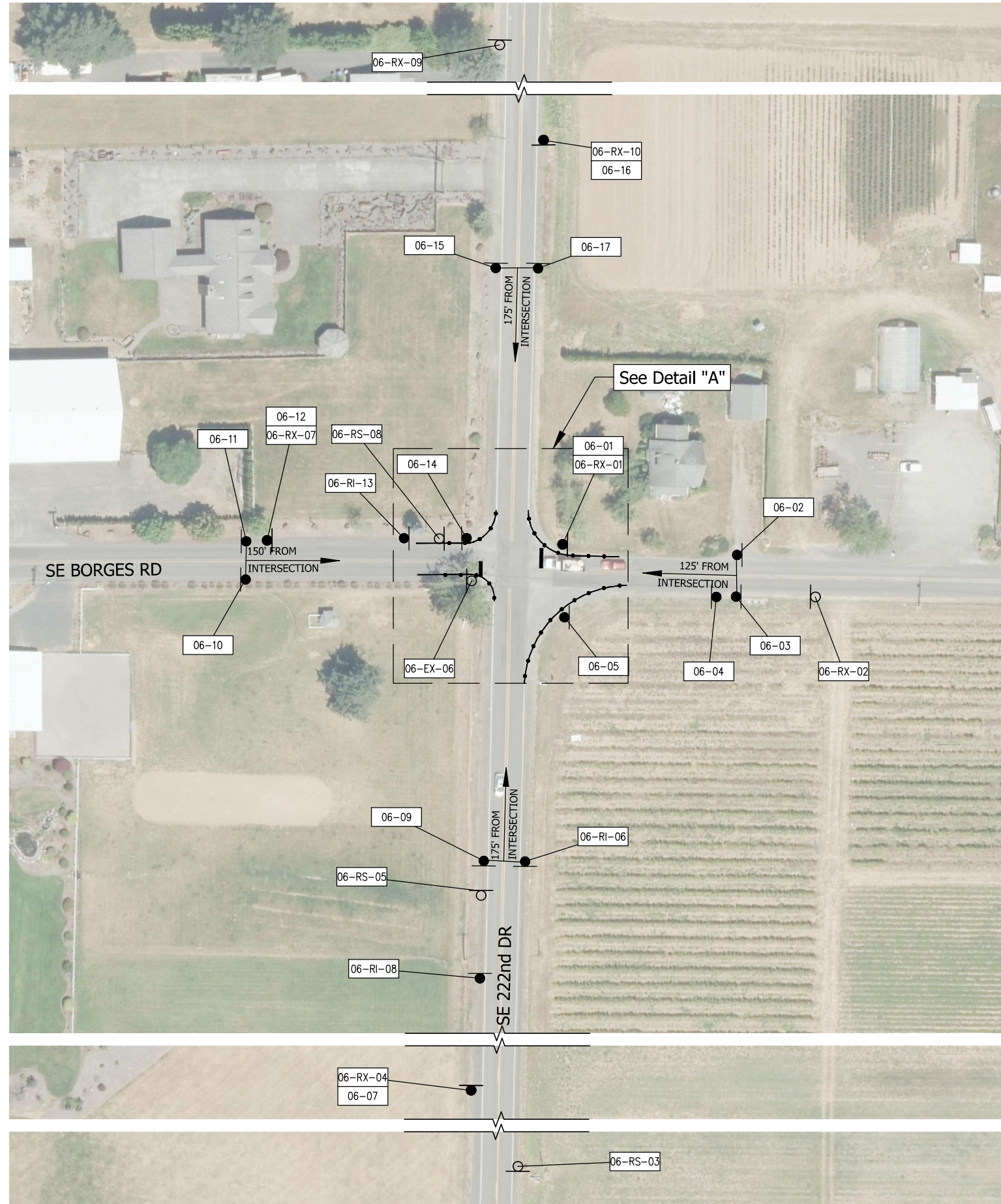
REVISIONS

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 Sheet No. 1-05-03

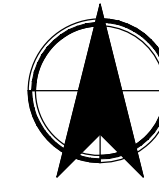

CLACKAMAS COUNTY
 DEPT. OF TRANSPORTATION AND DEVELOPMENT
 150 BEAVERCREEK ROAD
 OREGON CITY, OR 97045
 DIRECTOR
 DAN JOHNSON

Damascus Area Systemic Safety Enhancements
SE WIESE RD/SE BOHNA PARK RD
 DATE: June 2021 PROJECT NO.: #2019-18

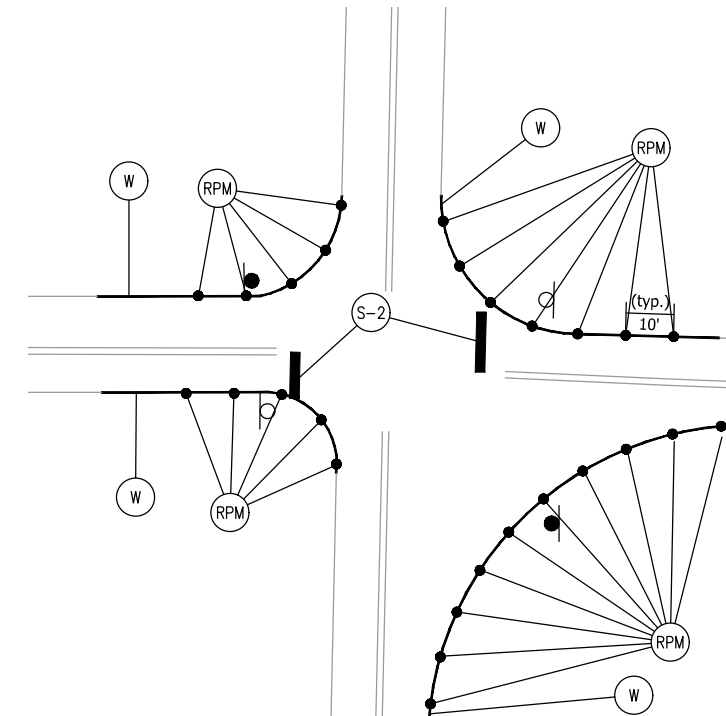
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*Distance measured from intersection unless otherwise noted.



Scale: 1" = 80'



DETAIL "A"



851 SW 6TH AVENUE, SUITE 600
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EXPIRES: 06/30/22

REVISIONS

NO.	DATE:	DESCRIPTION:

Sheet No. I-06-1

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



DAN JOHNSON
 DIRECTOR

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

Damascus Area Systemic Safety Enhancements
SE 222nd DR/SE BORGES RD
 DATE: June 2021 PROJECT NO.: #2019-18

Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)*	
Intersection 06: 222nd Dr/Borges Rd										
1	W4-4P	Cross Traffic Does Not Stop	36	18	PSST	2"x2"	East	North	10	Instal new sign on existing support.
2	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	North	125	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Instal new sign.
3	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	South	125	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Instal new sign.
4	R2-1-40	Regulatory Speed 40	30	36	PSST	2" x 2"	East	South	115	Install new sign on existing support.
5	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	South	10	Install new sign on new support.
	W4-4P	Cross Traffic Does Not Stop	36	18						Instal new sign.
6	(W2-1)	Crossroad Intersection Warning	(36)	(36)	PSST	2" x 2"	South	East	175	Reinstall existing sign on new support.
	W16-8P	Advanced Street Name (Borges Rd)	30	8						Install new sign.
7	R2-1-45	Regulatory Speed 45	30	36	PSST	2" x 2"	South	West	410	Install new sign on existing support.
8	(CCS1389)	Clackamas County Fire	(18)	(24)	PSST	2" x 2"	South	West	250	Reinstall existing sign on new support.
9	W2-1	Crossroad Intersection Warning	36	36	PSST	2" x 2"	South	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Borges Rd)	30	8						Install new sign.
10	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	South	150	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Instal new sign.
11	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	North	150	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Instal new sign.
12	R2-1-40	Regulatory Speed 40	30	36	PSST	2" x 2"	West	North	135	Install new sign on existing support.
13	(R5-2a)	No Thru Trucks	(30)	(36)	PSST	2" x 2"	West	North	50	Reinstall existing sign on new support.
14	R1-1	Stop Sign	36	36	PSST	2" x 2"	West	North	10	Install new sign on new support.
15	W2-1	Crossroad Intersection Warning	36	36	PSST	2" x 2"	North	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Borges Rd)	30	8						Install new sign.
16	R2-1-40	Regulatory Speed 40	30	36	PSST	2" x 2"	North	East	260	Install new sign on existing support.
17	W2-1	Crossroad Intersection Warning	36	36	PSST	2" x 2"	North	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Borges Rd)	30	8						Install new sign.

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*Distance measured from intersection unless otherwise noted.

KITTELSON & ASSOCIATES
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 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

Damascus Area Systemic Safety Enhancements
SE 222nd DR/SE BORGES RD
 DATE: June 2021 PROJECT NO.: #2019-18

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

 DAN JOHNSON
 DIRECTOR

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

NO.	DATE:	REVISIONS

Sheet No. I-06-2

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)*	
Intersection 06: 222nd Dr/Borges Rd									
1	D3-1	Street Name - 2 Sided (Borges Rd)	42	12	PSST	East	North	10	Maintain and protect.
	R1-1	Stop Sign	36	36					Remove existing sign.
	W4-4P	Cross Traffic Does Not Stop	24	12					
2	OR2-1	SPEED 40	30	36	PSST	East	South	175	Remove existing sign and support.
3	W2-1	Crossroad Intersection Warning	36	36	PSST	South	East	500	Remove and save existing sign and reinstall in new location.
	W16-8P	Advanced Street Name (Borges Rd)	36	12					Remove existing sign and support.
4	OR2-1	SPEED 45	30	36	PSST	South	East	410	Remove existing sign and support.
5	CCS1389	Clackamas County Fire	18	24	PSST	South	West	200	Remove and save existing sign and support and reinstall in new location.
6	R1-1	Stop Sign	36	36	PSST	West	South	5	Maintain and protect.
7	OR2-1	SPEED 40	30	36	PSST	West	North	135	Remove existing sign and support.
8	R5-2a	No Thru Trucks	30	36	PSST	West	North	25	Remove and save existing sign and reinstall in new location. Remove existing support.
9	W2-1	Crossroad Intersection Warning	30	30	PSST	South	East	485	Remove existing sign and support.
	W16-8P	Advanced Street Name (Borges Rd)	36	12					Remove existing sign.
10	OR2-1	SPEED 40	30	36	PSST	North	East	260	Remove existing sign and support.

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*Distance measured from intersection unless otherwise noted.

KITTELSON & ASSOCIATES
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REGISTERED PROFESSIONAL ENGINEER
 65552PE
 Digitally Signed Feb 1 2022 2:51 PM
 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

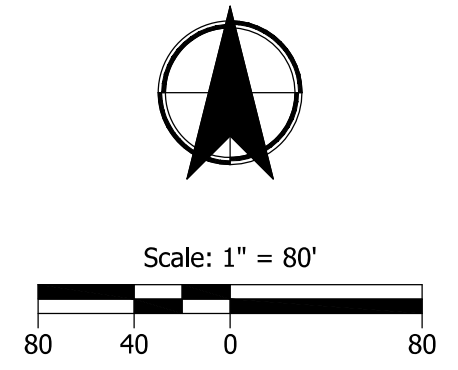
NO.	DATE	REVISIONS

Sheet No. I-06-3

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

Damascus Area Systemic Safety Enhancements
SE 222nd DR/SE BORGES RD
 DATE: June 2021 PROJECT NO.: #2019-18

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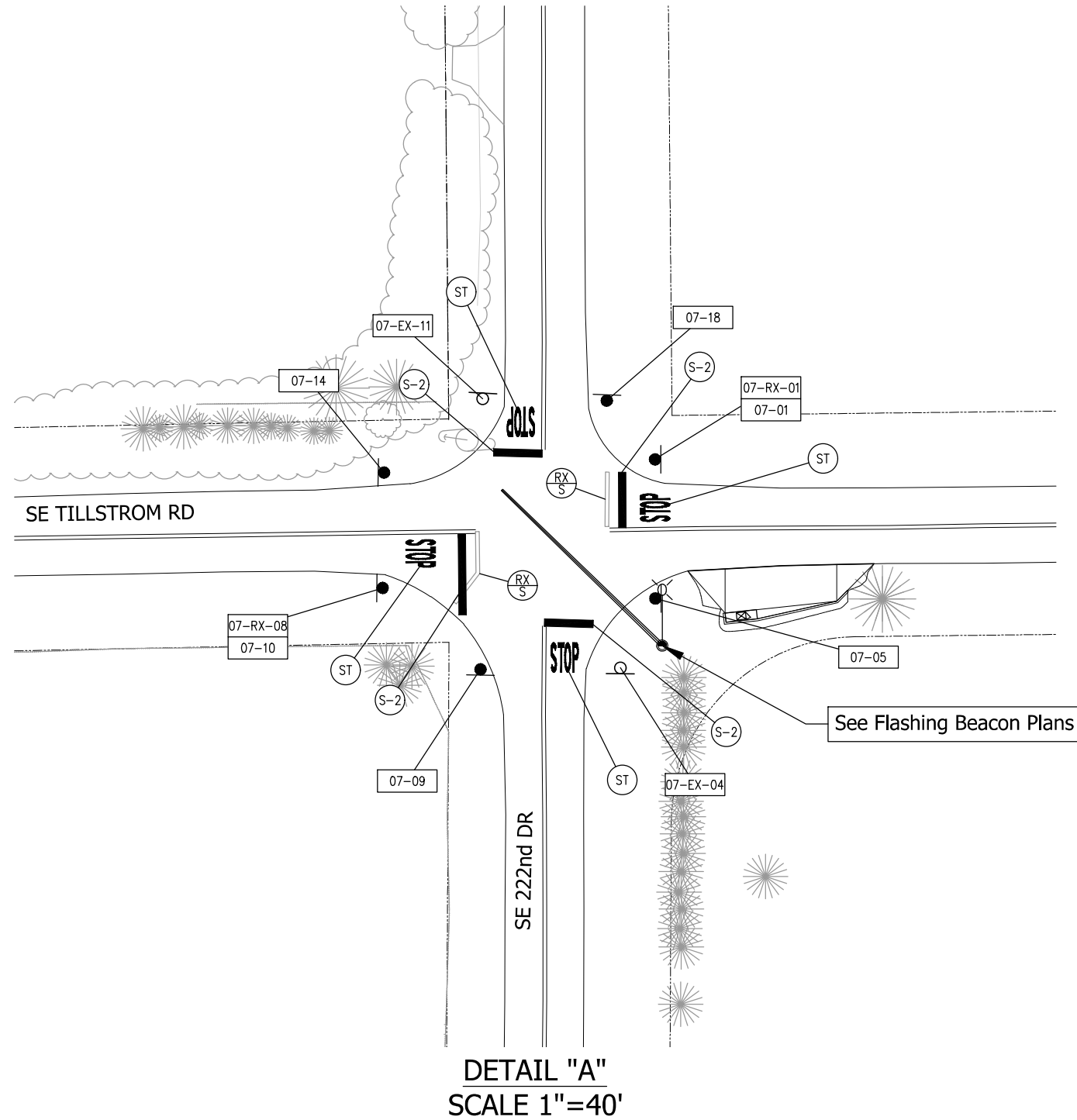
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REGISTERED PROFESSIONAL ENGINEER
 65552PE
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 OREGON
 WADE E. SCARBROUGH
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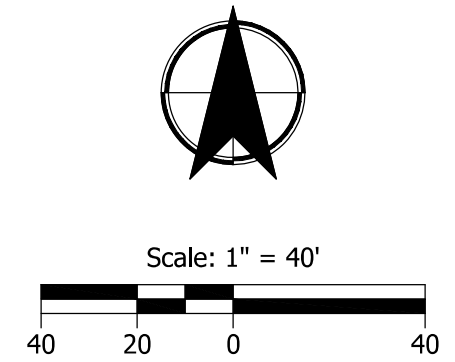
CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		DIRECTOR DAN JOHNSON	
Damascus Area Systemic Safety Enhancements SE 222nd DR/SE TILLSTROM RD		PROJECT NO.: #2019-18 DATE: June 2021	
DESIGNED BY:	DZS	NO. DATE:	
DRAFTED BY:	DZS		
CHECKED BY:	WES		
REVISIONS		Sheet No. I-07-1	

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DETAIL "A"
SCALE 1"=40'



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Sheet No. I-07-2

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



DAN JOHNSON

DIRECTOR

Damascus Area Systemic Safety Enhancements
SE 222nd DR/SE TILLSTROM RD

DATE: June 2021 PROJECT NO.: #2019-18

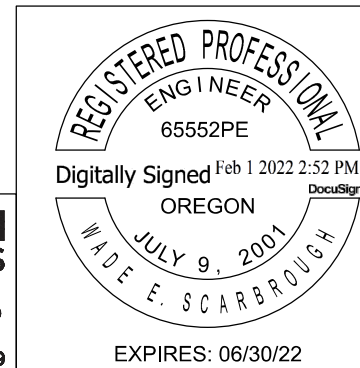
Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)*	
Intersection 07: 222nd Dr/Tillstrom Rd										
1	(D3-1)	Street Name (Tillstrom Rd)	(48)	(12)	PSST	2.5" x 2.5"	East	North	15	Reinstall existing sign.
	(D3-1)	Street Name (Tillstrom Rd)	(48)	(12)						Reinstall existing sign.
	(D3-1)	Street Name (222nd Dr)	(36)	(12)						Reinstall existing sign.
	(D3-1)	Street Name (222nd Dr)	(36)	(12)						Reinstall existing sign.
	R1-1	Stop Sign	36	36						Install new sign new support.
	(R1-3)	All-Way	(18)	(6)						Reinstall existing sign.
2	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	North	125	Reinstall existing sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Install new sign.
3	R2-1-40	Regulatory Speed 40	30	36	PSST	2" x 2"	East	South	365	Install new sign on new support.
4	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	South	125	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Install new sign.
5	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	South	15	Install new sign on new support.
	R1-3	All-Way	18	6						Install new sign.
6	(W3-1)	Stop Ahead Warning	(36)	(36)	PSST	2" x 2"	South	East	175	Reinstall existing sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
7	R2-1-45	Regulatory Speed 45	30	36	PSST	2" x 2"	South	West	635	Install new sign on new support.
8	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	South	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
9	D3-1	Street Name - 2 Sided (Tillstrom Rd)	60	12	PSST	2.5" x 2.5"	South	West	15	Install new sign on new support.
	D3-1	Street Name (222nd Dr)	42	12						Install new sign.
	D3-1	Street Name (222nd Dr)	42	12						Install new sign.
	R1-1	Stop Sign	36	36						Install new sign.
	R1-3	All-Way	18	6						Install new sign.
10	R1-1	Stop Sign	36	36	PSST	2" x 2"	West	South	25	Install new sign on new support.
	R1-3	All-Way	18	6						Install new sign.
11	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	South	155	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Install new sign.
12	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	North	155	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Install new sign.
13	R2-1-40	Regulatory Speed 40	30	36	PSST	2" x 2"	West	North	145	Install new sign on new support.
14	R1-1	Stop Sign	36	36	PSST	2" x 2"	West	North	25	Install new sign on new support.
	R1-3	All-Way	18	6						Install new sign.
15	(W3-1)	Stop Ahead Warning	(36)	(36)	PSST	2" x 2"	North	West	175	Reinstall existing sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
16	R2-1-45	Regulatory Speed 45	30	36	PSST	2" x 2"	North	East	440	Install new sign on new support.
17	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	North	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
18	R1-1	Stop Sign	36	36	PSST	2" x 2"	North	East	10	Install new sign on new support.
	R1-3	All-Way	18	6						Install new sign.

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Damascus Area Systemic Safety Enhancements
SE 222nd DR/SE TILLSTROM RD
 DATE: June 2021 PROJECT NO.: #2019-18

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

DESIGNED BY:	DRAFTED BY:	CHECKED BY:
DZS	DZS	WES

NO.	DATE:	REVISIONS

Sheet No. I-07-3

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)*	
Intersection 07: 222nd Dr/Tillstrom Rd									
1	D3-1	Street Name (Tillstrom Rd)	48	12	PSST	East	North	0	Remove and save existing sign and reinstall in new location.
	D3-1	Street Name (Tillstrom Rd)	48	12					Remove and save existing sign and reinstall in new location.
	D3-1	Street Name (222nd Dr)	36	12					Remove and save existing sign and reinstall in new location.
	D3-1	Street Name (222nd Dr)	36	12					Remove and save existing sign and reinstall in new location.
	R1-1	Stop Sign	30	30					Remove existing sign and support.
	R1-3	All-Way	18	6					Remove and save existing sign and reinstall in new location.
2	W3-1	Stop Ahead Warning	36	36	PSST	East	North	565	Remove and save existing sign and support and reinstall in new location.
3	OR2-1	SPEED 40	30	36	PSST	East	South	365	Remove existing sign and support.
4	R1-1	Stop Sign	36	36	PSST	South	East	5	Maintain and protect.
	R1-3	All-Way	12	6					
5	W3-1	Stop Ahead Warning	36	36	PSST	South	East	520	Remove and save existing sign and support and reinstall in new location.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	12					Remove existing sign.
6	OR2-1	SPEED 45	30	36	PSST	South	West	635	Remove existing sign and support.
7	I-417C	Adopt-A-Road	EX	EX	PSST	South	West	275	Maintain and protect.
8	R1-1	Stop Sign	30	30	PSST	West	South	25	Remove existing sign and support.
	R1-3	All-Way	18	6					Remove existing sign.
9	W3-1	Stop Ahead Warning	36	36	Wood	West	South	700	Remove existing sign and support.
10	OR2-1	SPEED 40	30	36	PSST	West	North	175	Remove existing sign and support.
11	D3-1	Street Name (Tillstrom Rd)	48	12	PSST	North	West	10	Maintain and protect.
	D3-1	Street Name (Tillstrom Rd)	48	12					
	R1-1	Stop Sign	36	36					
	R1-3	All-Way	18	6					
12	W3-1	Stop Ahead Warning	36	36	PSST	North	West	400	Remove and save existing sign and support and reinstall in new location.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	12					Remove existing sign.
13	OR2-1	SPEED 45	30	36	PSST	North	East	440	Remove existing sign and support.

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*Distance measured from intersection unless otherwise noted.

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 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

Damascus Area Systemic Safety Enhancements
SE 222nd DR/SE TILLSTROM RD

PROJECT NO.: #2019-18
 DATE: June 2021

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

DAN JOHNSON
 DIRECTOR

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Sheet No.
I-07-4

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 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

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NO.	DATE:

Sheet No. I-08-1

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 CHECKED BY: WES



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

DAN JOHNSON
 DIRECTOR

Damascus Area Systemic Safety Enhancements
SE 222nd DR/SE BOHNA PARK RD
 DATE: June 2021 PROJECT NO.: #2019-18

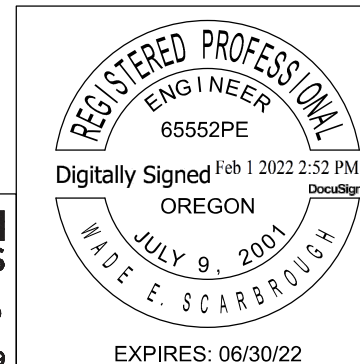
Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)*	
Intersection 08: 222nd Dr/Bohna Park Rd										
1	(D3-1)	Street Name - 2 Sided (Bohna Park Rd)	(60)	(12)	PSST	2.5" x 2.5"	East	North	10	Reinstall existing sign on new support.
	(D3-1)	Street Name (222nd Rd)	(36)	(12)						Reinstall existing sign.
	(D3-1)	Street Name (222nd Rd)	(36)	(12)						Reinstall existing sign.
	R1-1	Stop Sign	36	36						Install new sign.
	W4-4P	Cross Traffic Does Not Stop	36	18						Install new sign.
2	(W3-1)	Stop Ahead Warning	(36)	(36)	PSST	2" x 2"	East	North	125	Reinstall existing sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Install new sign.
3	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	South	125	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Install new sign.
4	R2-1-40	Regulatory Speed 40	30	36	PSST	2" x 2"	East	South	115	Install new sign on new support.
5	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	South	10	Install new sign on new support.
	W4-4P	Cross Traffic Does Not Stop	36	18						Install new sign.
6	W2-1	Crossroad Intersection Warning	36	36	PSST	2" x 2"	South	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
7	W2-1	Crossroad Intersection Warning	36	36	PSST	2" x 2"	South	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
8	(D3-1)	Street Name - 2 Sided (Bohna Park Rd)	(60)	(12)	PSST	2.5" x 2.5"	West	South	20	Reinstall existing sign on new support.
	D3-1	Street Name (222nd Rd)	36	12						Install new sign.
	D3-1	Street Name (222nd Rd)	36	12						Install new sign.
	R1-1	Stop Sign	36	36						Install new sign.
	W4-4P	Cross Traffic Does Not Stop	36	18						Install new sign.
9	(W3-1)	Stop Ahead Warning	(36)	(36)	PSST	2" x 2"	West	South	125	Reinstall existing sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Install new sign.
10	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	North	125	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Install new sign.
11	R1-1	Stop Sign	36	36	PSST	2" x 2"	West	North	20	Install new sign on new support.
12	W2-1	Crossroad Intersection Warning	36	36	PSST	2" x 2"	North	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
13	W2-1	Crossroad Intersection Warning	36	36	PSST	2" x 2"	North	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.

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Damascus Area Systemic Safety Enhancements

SE 222nd DR/SE BOHNA PARK RD

PROJECT NO.: #2019-18

DATE: June 2021

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

DAN JOHNSON
 DIRECTOR

DESIGNED BY:	DRAFTED BY:	CHECKED BY:	NO.	DATE:	REVISIONS
DZS	DZS	WES			

Sheet No. I-08-2


Existing Sign & Sign Removal Table


Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)*	
Intersection 08: 222nd Dr/Bohna Park Rd									
1	D3-1	Street Name - 2 Sided (Bohna Park Rd)	60	12	PSST	East	North	0	Remove and save existing sign and reinstall in new location. Remove existing support.
	D3-1	Street Name (222nd Rd)	36	12					Remove and save existing sign and reinstall in new location.
	D3-1	Street Name (222nd Rd)	36	12					Remove and save existing sign and reinstall in new location.
	R1-1	Stop Sign	30	30					Remove existing sign.
	W4-4P	Cross Traffic Does Not Stop	24	12					Remove existing sign.
2	W3-1	Stop Ahead Warning	36	36	PSST	East	North	540	Remove and save existing sign and reinstall in new location. Remove existing support.
3	OR2-1	SPEED 40	30	36	PSST	East	South	180	Remove existing sign and support.
4	W2-1	Advanced Intersection Warning	30	30	PSST	South	East	500	Remove existing sign and support.
	CCS12	Advance Intersection Sign	24	18					Remove existing sign.
5	D3-1	Street Name - 2 Sided (Bohna Park Rd)	60	12	PSST	West	South	15	Remove and save existing sign and reinstall in new location. Remove existing support.
	R1-1	Stop Sign	30	30					Remove existing sign.
	W4-4P	Cross Traffic Does Not Stop	24	12					Remove existing sign.
6	W3-1	Stop Ahead Warning	36	36	PSST	West	South	335	Remove and save existing sign and reinstall in new location. Remove existing support.
7	W42-8	Slow	36	36	PSST	West	North	290	Maintain and protect.

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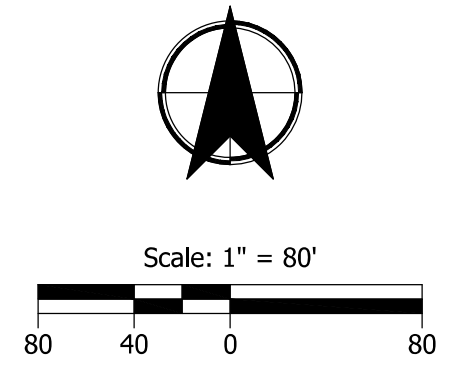
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Damascus Area Systemic Safety Enhancements
SE 222nd DR/SE BOHNA PARK RD
 PROJECT NO.: #2019-18
 DATE: June 2021

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 EXPIRES: 06/30/22

REVISIONS	
NO	DATE

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

Damascus Area Systemic Safety Enhancements
SE 222nd DR/SE HOFFMEISTER RD
 DATE: June 2021 PROJECT NO.: #2019-18

Sheet No. I-09-1


Sign Installation Table


Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)*	
Intersection 09: 222nd Dr/Hoffmeister Rd										
1	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	North	175	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Install new sign.
2	R2-1-40	Regulatory Speed 40	30	36	PSST	2" x 2"	East	South	220	Install new sign on new support.
3	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	South	175	Install new sign on new support.
	W16-8P	Advanced Street Name (222nd Dr)	24	8						Install new sign.
4	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	South	10	Install new sign on new support.
5	W2-2R	Right Side Road Intersection Warning	36	36	PSST	2" x 2"	South	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Hoffmeister Rd)	48	8						Install new sign.
6	W2-2R	Right Side Road Intersection Warning	36	36	PSST	2" x 2"	South	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Hoffmeister Rd)	48	8						Install new sign.
7	W1-7	Two Direction Large Arrow	60	30	PSST	2" x 2"	West	North	0	Install new sign on new support.
8	W2-2L	Left Side Road Intersection Warning	36	36	PSST	2" x 2"	North	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Hoffmeister Rd)	48	8						Install new sign.
9	W2-2L	Left Side Road Intersection Warning	36	36	PSST	2" x 2"	North	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Hoffmeister Rd)	48	8						Install new sign.

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 OREGON CITY, OR 97045

 DIRECTOR
 DAN JOHNSON

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES

NO.	DATE	REVISIONS

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)*	
Intersection 09: 222nd Dr/Hoffmeister Rd									
1	D3-1	Street Name - 2 Sided (222nd Dr)	36	12	PSST	East	North	10	Maintain and protect.
	D3-1	Street Name (Hoffmeister Rd)	60	12					
	D3-1	Street Name (Hoffmeister Rd)	60	12					
	R1-1	Stop Sign	36	36					
2	W3-1	Stop Ahead Warning	30	30	PSST	East	North	400	Remove existing sign and support.
3	OR2-1	SPEED 45	30	36	PSST	East	South	220	Remove existing sign and support.
4	I-417C	Adopt-A-Road	EX	EX	PSST	East	South	90	Maintain and protect.

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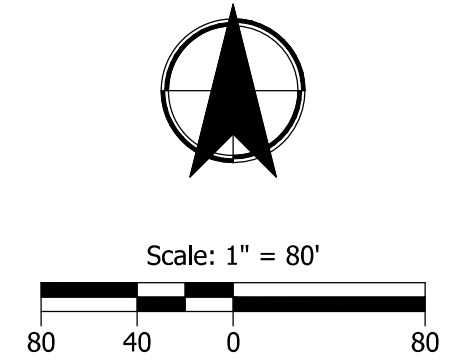

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CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	DIRECTOR DAN JOHNSON	Damascus Area Systemic Safety Enhancements SE 222nd DR/SE HOFFMEISTER RD DATE: June 2021 PROJECT NO.: #2019-18
DESIGNED BY: DZS DRAFTED BY: DZS CHECKED BY: WES	NO. DATE:	REVISIONS
Sheet No. 1-09-3		

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REGISTERED PROFESSIONAL
 ENGINEER
 65552PE
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 OREGON
 WADE E. SCARBROUGH
 JULY 9, 2001
 EXPIRES: 06/30/22

CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		DIRECTOR DAN JOHNSON
Damascus Area Systemic Safety Enhancements SE 242nd AVE/SE SUNSHINE VALLEY RD		PROJECT NO.: #2019-18 DATE: June 2021
DESIGNED BY: DZS	DRAFTED BY: DZS	CHECKED BY: WES
NO. DATE:	REVISIONS:	SHEET NO. I-10-1

Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)*	
Intersection 10: 242nd Ave/Sunshine Valley Rd										
1	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	North	20	Install new sign on new support.
2	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	North	175	Install new sign on new support.
	W16-8P	Advanced Street Name (242nd Ave)	24	8						Install new sign.
3	R2-1-40	Regulatory Speed 40	30	36	PSST	2" x 2"	East	South	335	Install new sign on new support.
4	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	South	175	Install new sign on new support.
	W16-8P	Advanced Street Name (242nd Ave)	24	8						Install new sign.
5	(I-417C)	Adopt-A-Road	(EX)	(EX)	PSST	2" x 2"	East	South	150	Reinstall existing sign on new support.
6	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	South	20	Install new sign on new support.
7	CR1033 Modified	No Thru Trucks On Sunshine Valley RD/ Local Delivery Only	30	36	PSST	2" x 2"	South	East	100	Install new sign on new support.
8	W2-2R	Right Side Road Warning	36	36	PSST	2" x 2"	South	East	200	Install new sign on new support.
	W16-8P	Advanced Street Name (Sunshine Valley Rd)	54	8						Install new sign.
9	W2-2R	Right Side Road Warning	36	36	PSST	2" x 2"	South	West	200	Install new sign on new support.
	W16-8P	Advanced Street Name (Sunshine Valley Rd)	54	8						Install new sign.
10	R2-1-45	Regulatory Speed 45	30	36	PSST	2" x 2"	South	West	130	Install new sign on new support.
11	(D3-1)	Street Name - 2 Sided (Sunshine Valley Rd)	(60)	(10)	PSST	2.5" x 2.5"	West	North	0	Reinstall existing sign on new support.
	(D3-1)	Street Name (242nd Ave)	(42)	(12)						Reinstall existing sign.
	W1-7	Two-Direction Large Arrow	60	30						Install new sign.
12	CR1033 Modified	No Thru Trucks On Sunshine Valley RD/ Local Delivery Only	30	36	PSST	2" x 2"	North	West	100	Install new sign on new support.
13	W2-2L	Left Side Road Warning	36	36	PSST	2" x 2"	North	West	200	Install new sign on new support.
	W16-8P	Advanced Street Name (Sunshine Valley Rd)	54	8						Install new sign.
14	W2-2L	Left Side Road Warning	36	36	PSST	2" x 2"	North	East	200	Install new sign on new support.
	W16-8P	Advanced Street Name (Sunshine Valley Rd)	54	8						Install new sign.
15	R2-1-45	Regulatory Speed 45	30	36	PSST	2" x 2"	North	East	85	Install new sign on new support.

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Damascus Area Systemic Safety Enhancements
SE 242nd AVE/SE SUNSHINE VALLEY RD

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

DAN JOHNSON
 DIRECTOR

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NO. DATE:	
Sheet No.	I-10-2

PROJECT NO.: #2019-18
 DATE: June 2021

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)*	
Intersection 10: 242nd Ave/Sunshine Valley Rd									
1	R1-1	Stop Sign	30	30	PSST	East	North	10	Remove existing sign and support.
2	OR2-1	SPEED 40	30	36	PSST	East	South	335	Remove existing sign and support.
3	I-417C	Adopt-A-Road	EX	EX	PSST	East	South	200	Remove and save existing sign and support and reinstall in new location.
4	CR1033	No Thru Trucks/ Local Delivery Only	30	36	Wood	East	South	40	Remove existing sign and support.
5	W2-2R	Right Side Road Warning	36	36	PSST	South	West	630	Remove existing sign and support.
	W16-8P	Advanced Street Name (Sunshine Valley Rd)	54	12					Remove existing sign.
6	OR2-1	SPEED 45	30	36	PSST	South	West	130	Remove existing sign and support.
7	D3-1	Street Name - 2 Sided (Sunshine Valley Rd)	60	10	PSST	West	North	0	Remove and save existing sign and reinstall in new location.
	D3-1	Street Name (242nd Ave)	42	12					Remove and save existing sign and reinstall in new location.
	W1-7	Two-Direction Large Arrow Sign	48	24					Remove existing sign and support.
8	W2-2L	Left Side Road Warning	36	36	PSST	North	West	710	Remove existing sign and support.
	W16-8P	Advanced Street Name (Sunshine Valley Rd)	54	12					Remove existing sign.
9	OR2-1	SPEED 45	30	36	PSST	North	East	85	Remove existing sign and support.

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CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	DIRECTOR DAN JOHNSON
Damascus Area Systemic Safety Enhancements SE 242nd AVE/SE SUNSHINE VALLEY RD	
DATE: June 2021 PROJECT NO.: #2019-18	

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NO. DATE:	

Sheet No. I-10-3

Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)*	
Intersection 11: 242nd Ave/Tillstrom Rd										
1	(D3-1)	Street Name - 2 Sided (Tillstrom Rd)	(60)	(12)	PSST	2.5" x 2.5"	East	North	0	Reinstall existing sign on new support.
	D1-3	242nd Ave ← Gresham	48	48						Install new sign.
		Damascus → Boring								Install new sign.
2	W1-7	Two Direction Large Arrow	60	30						Install new sign.
2	(W2-2L)	Left Side Road Warning	(36)	(36)	PSST	2" x 2"	South	East	175	Reinstall existing sign on new support.
	(W16-8P)	Advanced Street Name (Tillstrom Rd)	(42)	(12)						Reinstall existing sign.
3	(OR22-11)	Unmuffled Braking Prohibited	(30)	(36)	PSST	2" x 2"	South	East	375	Reinstall existing sign on new support.
4	W2-2L	Left Side Road Warning	36	36	PSST	2" x 2"	South	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
5	R2-1-45	Regulatory Speed 45	30	36	PSST	2" x 2"	South	West	165	Install new sign on new support.
6	R1-1	Stop Sign	36	36	PSST	2" x 2"	West	South	25	Install new sign on new support.
7	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	South	125	Install new sign on new support.
	W16-8P	Advanced Street Name (242nd Ave)	24	8						Install new sign.
8	R2-1-40	Regulatory Speed 40	30	36	PSST	2" x 2"	West	North	280	Install new sign on new support.
9	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	North	125	Install new sign on new support.
	W16-8P	Advanced Street Name (242nd Ave)	24	8						Install new sign.
10	R1-1	Stop Sign	36	36	PSST	2" x 2"	West	North	25	Install new sign on new support.
11	(W2-2R)	Right Side Road Warning	(36)	(36)	PSST	2" x 2"	North	West	175	Reinstall existing sign on new support.
	(W16-8P)	Advanced Street Name (Tillstrom Rd)	(42)	(12)						Reinstall existing sign.
12	W2-2R	Right Side Road Warning	36	36	PSST	2" x 2"	North	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	8						Install new sign.
13	R2-1-45	Regulatory Speed 45	30	36	PSST	2" x 2"	North	East	150	Install new sign on new support.

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Damascus Area Systemic Safety Enhancements

SE 242nd AVE/SE TILLSTROM RD

DATE: June 2021 PROJECT NO.: #2019-18

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

DIRECTOR
 DAN JOHNSON

NO.	DATE	DESIGNED BY:	DRAFTED BY:	CHECKED BY:	WES
		DZS	DZS		

REVISIONS

Sheet No. I-11-2

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)*	
Intersection 11: 242nd Ave/Tillstrom Rd									
1	D3-1	Street Name - 2 Sided (Tillstrom Rd)	60	12	PSST	East	South	0	Remove and save existing sign and reinstall on new support.
	D3-1	Street Name (242nd Ave)	42	12					Remove existing sign.
	D1-1	Destination Sign (Damascus →)	48	12					Remove existing sign.
	D1-1	Destination Sign (← Gresham)	42	12					Remove existing sign.
	D1-1	Destination Sign (Boring →)	36	12					Remove existing sign.
2	OR22-11	Unmuffled Braking Prohibited	30	36	PSST	South	East	150	Remove and save existing sign and support and reinstall in new location.
3	W2-2L	Left Side Road Warning	36	36	PSST	South	East	530	Remove and save existing sign and support and reinstall in new location.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	12					Remove and save existing sign and reinstall in new location.
4	OR2-1	SPEED 45	30	36	PSST	South	West	180	Remove existing sign and support.
5	R1-1	Stop Sign	30	30	PSST	West	South	40	Remove existing sign and support.
6	OR2-1	SPEED 40	30	36	PSST	West	North	280	Remove existing sign and support.
7	W2-2R	Right Side Road Warning	36	36	PSST	North	West	580	Remove and save existing sign and support and reinstall in new location.
	W16-8P	Advanced Street Name (Tillstrom Rd)	42	12					Remove and save existing sign and reinstall in new location.
8	D3-1	Street Name (Three Cedars St)	EX	EX	PSST	North	East	580	Maintain and protect.
	D3-1	Street Name (Three Cedars St)	EX	EX					
	W14-1a	Dead End	EX	EX					
	W14-1a	Dead End	EX	EX					
	R1-1	Stop Sign	EX	EX					
9	OR2-1	SPEED 45	30	36	PSST	North	East	150	Remove existing sign and support.

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Damascus Area Systemic Safety Enhancements
SE 242nd AVE/SE TILLSTROM RD
 DATE: June 2021 PROJECT NO.: #2019-18

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

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 OREGON
 WADE E. SCARBROUGH
 JULY 9, 2001
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		DZS	DZS	WES

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



DAN JOHNSON
 DIRECTOR

Damascus Area Systemic Safety Enhancements
SE 242nd AVE/SE BOHNA PARK RD
 DATE: June 2021 PROJECT NO.: #2019-18

Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)*	
Intersection 12: 242nd Ave/Bohna Park Rd										
1	D3-1	Street Name - 2 Sided (242nd Ave)	42	12	PSST	2.5" x 2.5"	East	North	10	Install new sign on new support.
	D3-1	Street Name (Bohna Park Rd)	60	12						Install new sign.
	D3-1	Street Name (Bohna Park Rd)	60	12						Install new sign.
	R1-1	Stop Sign	36	36						Install new sign.
2	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	North	125	Install new sign on new support.
3	R2-1-25	SPEED LIMIT 25	30	36	PSST	2" x 2"	East	South	115	Install new sign on new support.
4	W2-1	Crossroad Warning	36	36	PSST	2" x 2"	South	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
5	W2-1	Crossroad Warning	36	36	PSST	2" x 2"	South	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
6	R2-1-45	SPEED LIMIT 45	30	36	PSST	2" x 2"	South	West	160	Install new sign on new support.
7	D3-1	Street Name - 2 Sided (242nd Ave)	42	12	PSST	2.5" x 2.5"	West	South	20	Install new sign on new support.
	D3-1	Street Name (Bohna Park Rd)	60	12						Install new sign.
	D3-1	Street Name (Bohna Park Rd)	60	12						Install new sign.
	R1-1	Stop Sign	36	36						Install new sign.
8	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	South	125	Install new sign on new support.
	W16-8P	Advanced Street Name (242nd Ave)	24	8						Install new sign.
9	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	North	125	Install new sign on new support.
	W16-8P	Advanced Street Name (242nd Ave)	24	8						Install new sign.
10	R1-1	Stop Sign	36	36	PSST	2" x 2"	West	North	20	Install new sign on new support.
11	W2-1	Crossroad Warning	36	36	PSST	2" x 2"	North	West	310	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
12	W2-1	Crossroad Warning	36	36	PSST	2" x 2"	North	East	310	Install new sign on new support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	8						Install new sign.
13	R2-1-45	SPEED LIMIT 45	30	36	PSST	2" x 2"	North	East	190	Install new sign on new support.

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CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	DIRECTOR DAN JOHNSON
Damascus Area Systemic Safety Enhancements SE 242nd AVE/SE BOHNA PARK RD	
PROJECT NO.: #2019-18 DATE: June 2021	

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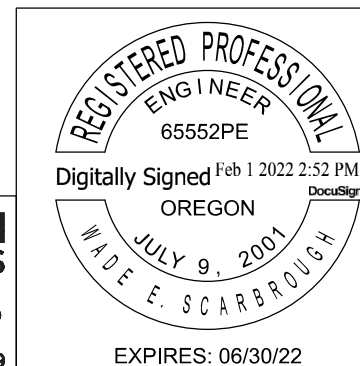
Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)*	
Intersection 12: 242nd Ave/Bohna Park Rd									
1	R1-1	Stop Sign	30	30	PSST	East	North	10	Remove existing sign and support.
2	OR2-1	SPEED 25	30	36	PSST	East	South	115	Remove existing sign and support.
3	W14-2	No Outlet	30	30	PSST	East	South	25	Maintain and protect.
4	W2-1	Crossroad Warning	36	36	Wood	South	East	400	Remove existing sign and support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	12					Remove existing sign.
5	OR2-1	SPEED 45	30	36	Wood	South	West	210	Remove existing sign and support.
6	D3-1	Street Name (Bohna Park Rd)	42	8	PSST	West	South	20	Remove existing sign and support.
	D3-1	Street Name (Bohna Park Rd)	42	8					Remove existing sign.
	D3-1	Street Name (242nd Ave)	30	8					Remove existing sign.
	D3-1	Street Name (242nd Ave)	30	8					Remove existing sign.
	R1-1	Stop Sign	30	30					Remove existing sign.
7	W3-1	Stop Ahead Warning	30	30	PSST	West	South	530	Remove existing sign and support.
8	R2-1	SPEED 40	30	36	PSST	West	North	200	Maintain and protect.
9	W2-1	Crossroad Warning	36	36	PSST	North	West	510	Remove existing sign and support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	12					Remove existing sign.
10	OR2-1	SPEED 45	30	36	PSST	North	East	190	Remove existing sign and support.

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Damascus Area Systemic Safety Enhancements

SE 242nd AVE/SE BOHNA PARK RD

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

DIRECTOR
DAN JOHNSON

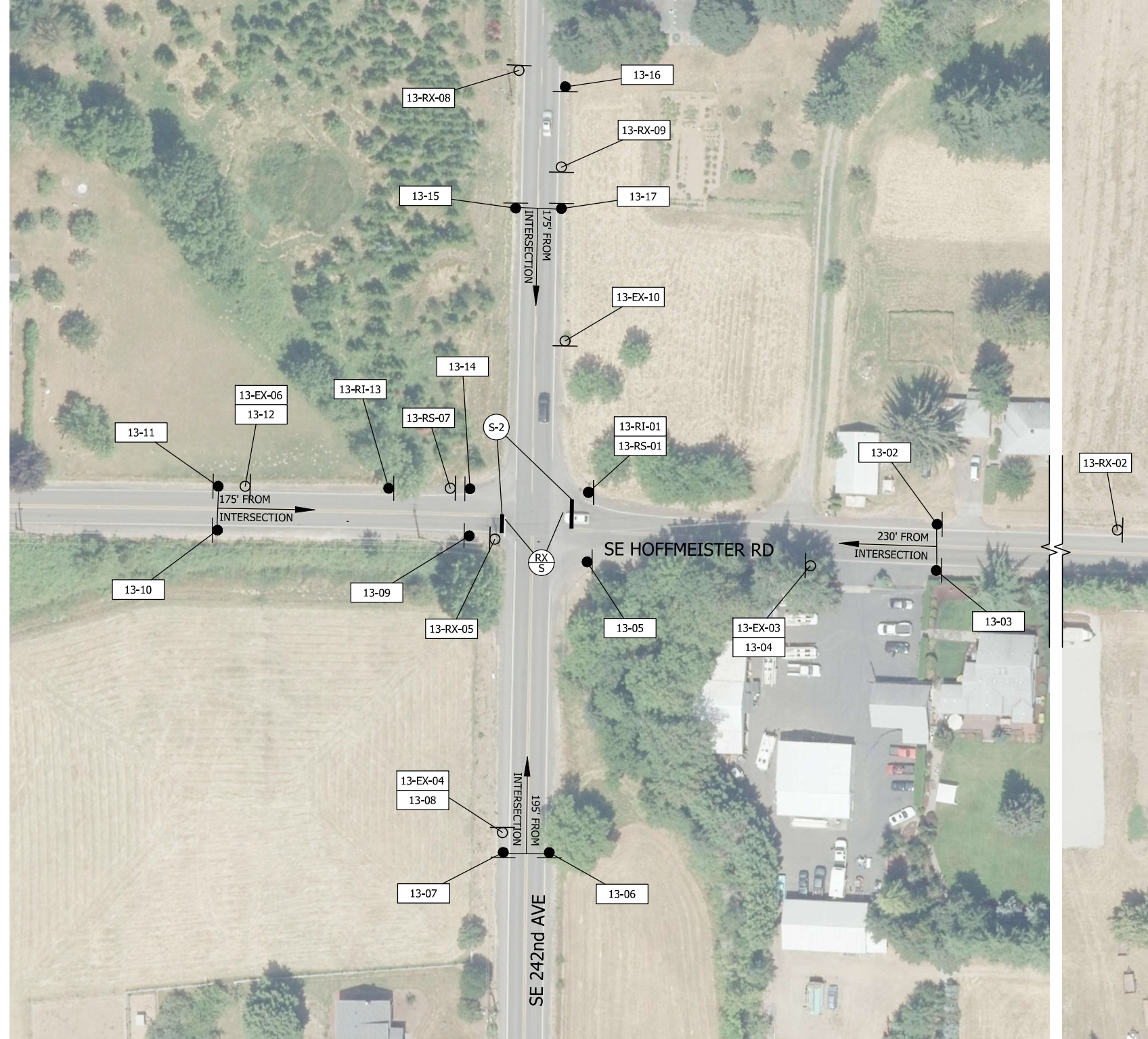
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Sheet No. **I-12-3**

PROJECT NO.: #2019-18
DATE: June 2021

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 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

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 150 BEAVERCREEK ROAD
 OREGON CITY, OR 97045

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 DIRECTOR

Damascus Area Systemic Safety Enhancements
SE 242nd AVE/SE HOFFMEISTER RD

DATE: June 2021 PROJECT NO.: #2019-18

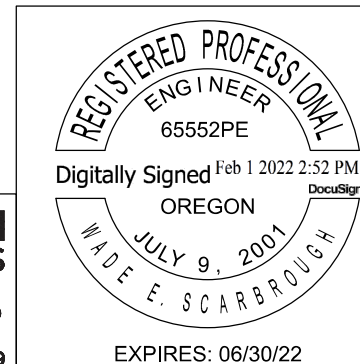
Sign Installation Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Type	Post Size	Sign Location			Remarks
			X	Y			Leg	Side	Distance (ft)*	
Intersection 13: 242nd Ave/Hoffmeister Rd										
1	(D3-1)	Street Name - 2 Sided (Hoffmeister Rd)	(60)	(12)	PSST	2.5" x 2.5"	East	North	15	Reinstall existing sign on new support.
	(D3-1)	Street Name (242nd Ave)	(42)	(12)						Reinstall existing sign.
	(D3-1)	Street Name (242nd Ave)	(42)	(12)						Reinstall existing sign.
	R1-1	Stop Sign	36	36						Install new sign.
2	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	North	230	Install new sign on new support.
	W16-8P	Advanced Street Name (242nd Ave)	24	8						Install new sign.
3	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	East	South	230	Install new sign on new support.
	W16-8P	Advanced Street Name (242nd Ave)	24	8						Install new sign.
4	R2-1-45	SPEED LIMIT 45	30	36	PSST	2" x 2"	East	South	150	Install new sign on new support.
5	R1-1	Stop Sign	36	36	PSST	2" x 2"	East	South	15	Install new sign on new support.
6	W2-1	Crossroad Warning	36	36	PSST	2" x 2"	South	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Hoffmeister Rd)	48	8						Install new sign.
7	W2-1	Crossroad Warning	36	36	PSST	2" x 2"	South	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Hoffmeister Rd)	48	8						Install new sign.
8	R2-1-45	SPEED LIMIT 45	30	36	PSST	2" x 2"	South	West	185	Install new sign on new support.
9	D3-1	Street Name - 2 Sided (Hoffmeister Rd)	66	12	PSST	2.5" x 2.5" (10-ga)	West	South	20	Install new sign on new support.
	D3-1	Street Name (242nd Ave)	42	12						Install new sign.
	D3-1	Street Name (242nd Ave)	42	12						Install new sign.
	R1-1	Stop Sign	36	36						Install new sign.
10	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	South	175	Install new sign on new support.
	W16-8P	Advanced Street Name (242nd Ave)	24	8						Install new sign.
11	W3-1	Stop Ahead Warning	36	36	PSST	2" x 2"	West	North	175	Install new sign on new support.
	W16-8P	Advanced Street Name (242nd Ave)	24	8						Install new sign.
12	R2-1-45	SPEED LIMIT 45	30	36	PSST	2" x 2"	West	North	160	Install new sign on new support.
13	(I-417C)	Adopt-A-Road	(EX)	(EX)	PSST	2" x 2"	West	North	70	Reinstall existing sign on new support.
14	R1-1	Stop Sign	36	36	PSST	2" x 2"	West	South	20	Install new sign on new support.
15	W2-1	Crossroad Warning	36	36	PSST	2" x 2"	North	West	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Hoffmeister Rd)	48	8						Install new sign.
16	R2-1	SPEED LIMIT 45	30	36	PSST	2" x 2"	North	East	250	Install new sign on new support.
17	W2-1	Crossroad Warning	36	36	PSST	2" x 2"	North	East	175	Install new sign on new support.
	W16-8P	Advanced Street Name (Hoffmeister Rd)	48	8						Install new sign.

H:\2424756 - Damascus Safety Countermeasures\design_CD\CD - Intersection - SE 242nd Avenue.dwg 6/18/2021 10:59 AM Dimityan Shadrin

*Distance measured from intersection unless otherwise noted.

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Damascus Area Systemic Safety Enhancements
SE 242nd AVE/SE HOFFMEISTER RD

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

DAN JOHNSON
 DIRECTOR

DESIGNED BY: DZS	CHECKED BY: WES
DRAFTED BY: DZS	NO. DATE:
REVISIONS	
Sheet No. I-13-2	

PROJECT NO.: #2019-18
 DATE: June 2021

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Leg	Side	Distance (ft)*	
Intersection 13: 242nd Ave/Hoffmeister Rd									
1	D3-1	Street Name - 2 Sided (Hoffmeister Rd)	60	12	PSST	East	North	15	Remove and save existing sign and reinstall on new support.
	D3-1	Street Name (242nd Ave)	42	12					Remove and save existing sign and reinstall on new support.
	D3-1	Street Name (242nd Ave)	42	12					Remove and save existing sign and reinstall on new support.
	R1-1	Stop Sign	30	30					Remove existing sign and support.
2	W3-1	Stop Ahead Warning	30	30	PSST	East	North	450	Remove existing sign and support.
3	OR2-1	SPEED 45	30	36	PSST	East	South	150	Remove existing sign and support.
4	OR2-1	SPEED 45	30	36	PSST	South	West	185	Remove existing sign and support.
5	D3-1	Street Name (Hoffmeister Rd)	42	8	PSST	West	South	5	Remove existing sign and support.
	D3-1	Street Name (242nd Ave)	30	8					Remove existing sign.
	R1-1	Stop Sign	30	30					Remove existing sign.
6	OR2-1	SPEED 45	30	36	PSST	West	North	160	Remove existing sign and support.
7	(I-417C)	Adopt-A-Road	(EX)	(EX)	PSST	West	North	30	Remove and save existing sign and reinstall in new location. Remove existing support.
8	W2-1	Crossroad Warning	36	36	PSST	North	West	260	Remove existing sign and support.
	W16-8P	Advanced Street Name (Bohna Park Rd)	42	12					Remove existing sign.
9	OR2-1	SPEED 45	30	36	PSST	North	East	200	Remove existing sign and support.
10	I-417C	Adopt-A-Road	EX	EX	PSST	North	East	90	Maintain and protect.

H:\2424756 - Damascus Safety Countermeasures\design_CD\CD - Intersection - SE 242nd Avenue.dwg 6/18/2021 10:59 AM Dimityan Shadrin

*Distance measured from intersection unless otherwise noted.

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 OREGON
 WADE E. SCARBROUGH
 EXPIRES: 06/30/22

CLACKAMAS COUNTY
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 150 BEAVERCREEK ROAD
 OREGON CITY, OR 97045

 DAN JOHNSON
 DIRECTOR

DESIGNED BY: DZS
 DRAFTED BY: DZS
 CHECKED BY: WES





NO.	DATE:	REVISIONS

Sheet No. I-13-3


Damascus Area Systemic Safety Enhancements
SE 242nd AVE/SE HOFFMEISTER RD
 DATE: June 2021 PROJECT NO.: #2019-18

LEGEND



POLES

-  INSTALL (T=TYPE) CLACKAMAS COUNTY STANDARD TRAFFIC SIGNAL MAST ARM POLE (SEE, "POLE ENTRANCE CHART" AND COUNTY STD. DRAWING ON SHEETS TS-3 THRU TS-5.)
-  INSTALL (L=LENGTH) FOOT TRAFFIC SIGNAL MAST ARM.
-  INSTALL (L=LENGTH) FOOT LUMINAIRE ARM.
-  RETAIN AND PROTECT EXISTING UTILITY POLE (POWER SOURCE).




SIGNALS

-  INSTALL (S=SIZE) INCH TYPE 1R FLASHING RED BEACON with 2" FLUORESCENT YELLOW REFLECTIVE SHEETING ON BACKBOARD PER STD. DWG. TM460.



CABINETS

-  INSTALL BASE MOUNTED SERVICE CABINET, 120/240 VOLT METERED, FOR FLASHING BEACON AND ILLUMINATION SYSTEM. SEE WIRING DIAGRAM BELOW AND STD. DWGS. TM 482 AND TM 485. CABINET SHALL INCLUDE PHOTOELECTRIC CONTROL BEHIND POLYCARBONITE WINDOW WITH LIGHT DEFLECTING COVER.
-  INSTALL RECESSED TERMINAL CABINET

CONDUITS

-  INSTALL (S=SIZE) INCH ELECTRICAL CONDUIT
-  INSTALL CONDUIT BY HORIZONTAL DIRECTIONAL DRILLING. OPEN TRENCH NOT ALLOWED.
-  INSTALL CONDUIT AND WIRE AS REQUIRED BY POWER COMPANY

LUMINAIRES

-  INSTALL LEOTEK TYPE 2, 530MA, 60 LED (LIGHT EMITTING DIODE) LUMINAIRE (CATALOG NO.: GC1-60F-MV-NW-2-GY-530-SC). BOND LUMINAIRE TO POLE GROUNDING TERMINAL.
-  INSTALL PHOTOELECTRIC CONTROL RELAY INSIDE THE BMCL.




SIGNAL MOUNTING OPTIONS

B = Adjustable skybracket (No Tenon)


SIGNAL HEAD OPTIONS

1R = 12" FR

WIRES & CABLES

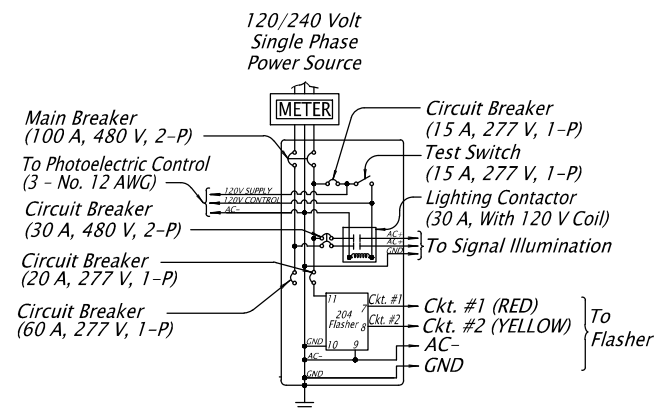
-  INSTALL (X=NUMBER OF CABLES) CONTROL CABLES WITH (N=NUMBER) AWG NO. (G=AWG WIRE SIZE) CONDUCTORS.
-  INSTALL POLY PULL LINE.
-  INSTALL ONE THWN NO. 6 AWG STRANDED COPPER GROUND WIRE.

JUNCTION BOXES

-  INSTALL 30"X17"X12" (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX WITH CONCRETE APRON.

GENERAL NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO CLACKAMAS COUNTY ORDINANCES AND SPECIAL PROVISIONS, THE 2021 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND THE OREGON STANDARD DRAWINGS LISTED BELOW.
2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF EXISTING UTILITIES AND COORDINATE THIS WORK WITH THE UTILITY COMPANIES/AGENCIES TO ELIMINATE ANY CONFLICTS.
3. THE CONTRACTOR SHALL COORDINATE WORK WITH PGE FOR POWER SERVICE CONNECTION. THE CONTRACTOR SHALL INSTALL CONDUIT AND WIRING TO THE POWER SOURCE AS REQUIRED BY PGE. CONTRACTOR SHALL COORDINATE WITH PGE (SERVICE DESK, 503-736-5450) FOR ALL POWER REQUIREMENTS.
4. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL SIGNAL EQUIPMENT BEFORE INSTALLATION.
5. EQUIPMENT SUBMITTALS AND POLE DRAWINGS SHALL BE PROVIDED TO CLACKAMAS COUNTY BY THE CONTRACTOR AFTER AN INITIAL REVIEW HAS BEEN COMPLETED BY THE PROJECT ENGINEER. CLACKAMAS COUNTY APPROVAL OF THESE SUBMITTALS MUST BE OBTAINED PRIOR TO CONSTRUCTION.
6. INSTALL #12 STRANDED COPPER (ORANGE) TRACER WIRE IN ALL CONDUITS. GROUND ALL TRACER WIRES.
7. ALL CONDUIT RUNS SHALL BE WITHIN RIGHT-OF-WAY.
8. INSTALL POLY PULL TAPE (500 LBF MIN. STRENGTH, NON CONDUCTIVE) IN ALL CONDUITS.
9. ALL UNDERGROUND CONDUITS AND FITTINGS SHALL BE SCHEDULE 80 PVC.



SERVICE CABINET WIRING FOR SIGNAL, FLASHER & 240 VOLT ILLUMINATION BMCL

ACCOMPANIED BY DWGS. TM460, TM462, TM470, TM471, TM472, TM482, TM485

Clackamas Co. Dwgs. NWS4700 & NWS4710



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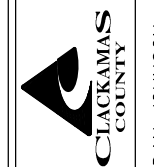
EXPIRES: 06/30/22

REVISIONS

NO. DATE:

Sheet No. TS-1

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: DZS

DRAFTED BY: DZS

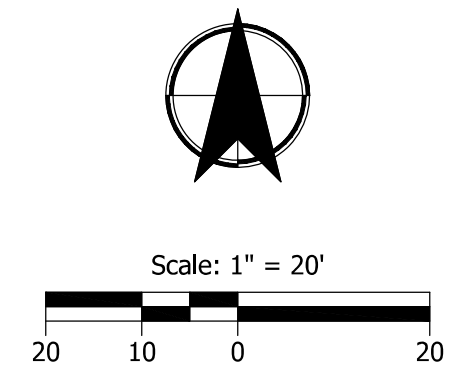
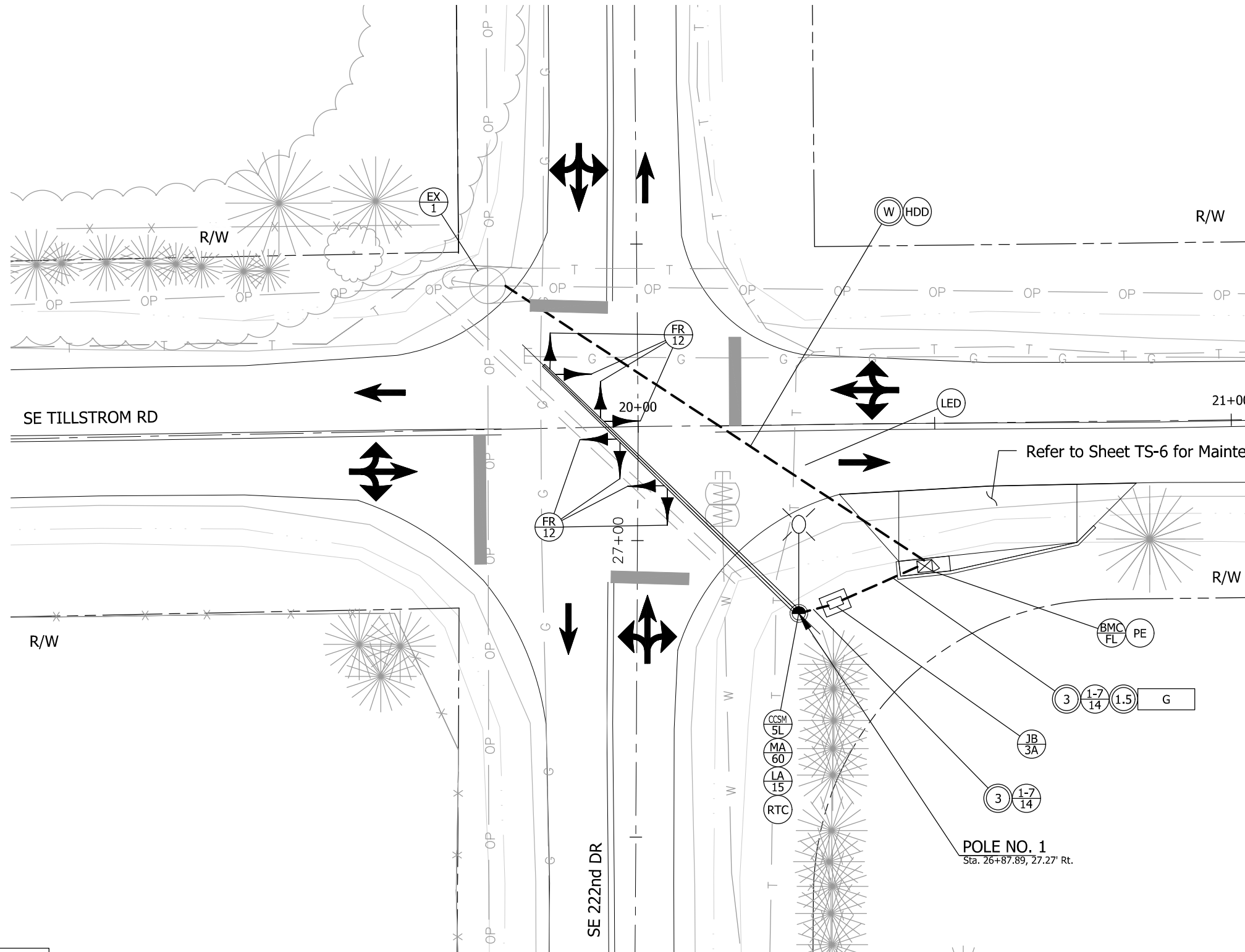
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Damascus Area Systemic Safety Enhancements

Flashing Beacon Legend

DATE: June 2021 PROJECT NO.: #2019-18

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NOTE:
SEE SHEET TS-1
FOR LEGEND

NOTE:
FIELD VERIFY ALL EQUIPMENT BEFORE
CONSTRUCTION

Refer to Sheet TS-6 for Maintenance Pad Details

POLE NO. 1
Sta. 26+87.89, 27.27' Rt.

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REGISTERED PROFESSIONAL
ENGINEER
65552PE
Digitally Signed Feb 1 2022 2:52 PM
OREGON
WADE E. SCARBROUGH
JULY 9, 2001
EXPIRES: 06/30/22

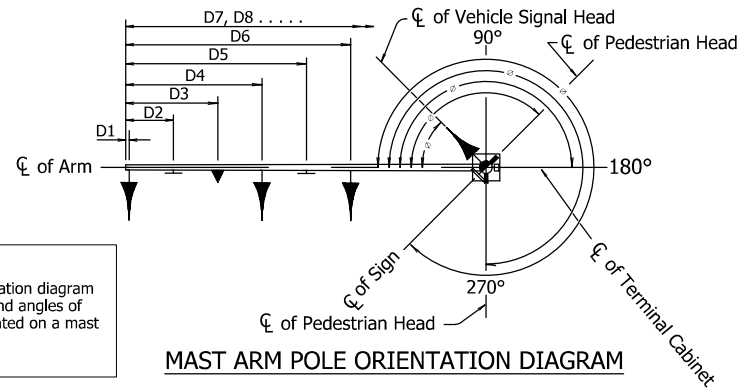
Damascus Area Systemic Safety Enhancements Flashing Beacon Plan DATE: June 2021 PROJECT NO.: #2019-18	
CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	DIRECTOR DAN JOHNSON
DESIGNED BY: DZS DRAFTED BY: DZS CHECKED BY: WES	REVISIONS NO. DATE:
Sheet No. TS-2	

See TM650 thru TM653			EQUIPMENT ON POLE						EQUIPMENT ON MAST ARM (Length in Feet and Equipment Type)								FOUNDATION INFORMATION (See Std. Drg. NWS4710)		LUMINAIRES						
POLE NO.	DWG. NO.	TYPE	PED. SIGNAL DEG.	PUSH BUTTON DEG.	TERM. CABINET DEG.	SIGN DEG.	SIGN DEG.	PHOTO ELECTRIC CELL	ARM LENGTH	D 1	D 2	D 3	D 4	D 5	D 6	D 7	D 8	REQUIRED FOUNDATION DEPTH	FOUNDATION CONTROL POINT ELEVATION	ARM LENGTH	ARM DEG.	MOUNTING HEIGHT	TYPE	FIXTURE	
																							TYPE	WATTAGE	
1	TS-2	CCSM5L	-	-	180	-	-	-	60	$\frac{1.5}{FR}$	$\frac{2.5}{FR}$	$\frac{13.0}{FR}$	$\frac{14.0}{FR}$	$\frac{17.5}{FR}$	$\frac{18.5}{FR}$	$\frac{28.5}{FR}$	$\frac{29.5}{FR}$	10'	575.2'	15'	45	35'	TYPE 2	LED*	101

*LED Luminaire = Leotek GC1-60F-MV-NW-2-GY-530-SC

BRACKET MOUNT

FR = Flashing Red Beacon, Adjustable Bracket Mount Tenon Not Required (See Std. Dwg. TM462)



NOTE
Equipment shown on orientation diagram is an example of distance and angles of equipment that may be located on a mast arm or signal pole.

Damascus Area Systemic Safety Enhancements
Flashing Beacon Details

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

DAN JOHNSON
DIRECTOR

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DRAFTED BY: DZS
CHECKED BY: WES

NO.	DATE:	REVISIONS

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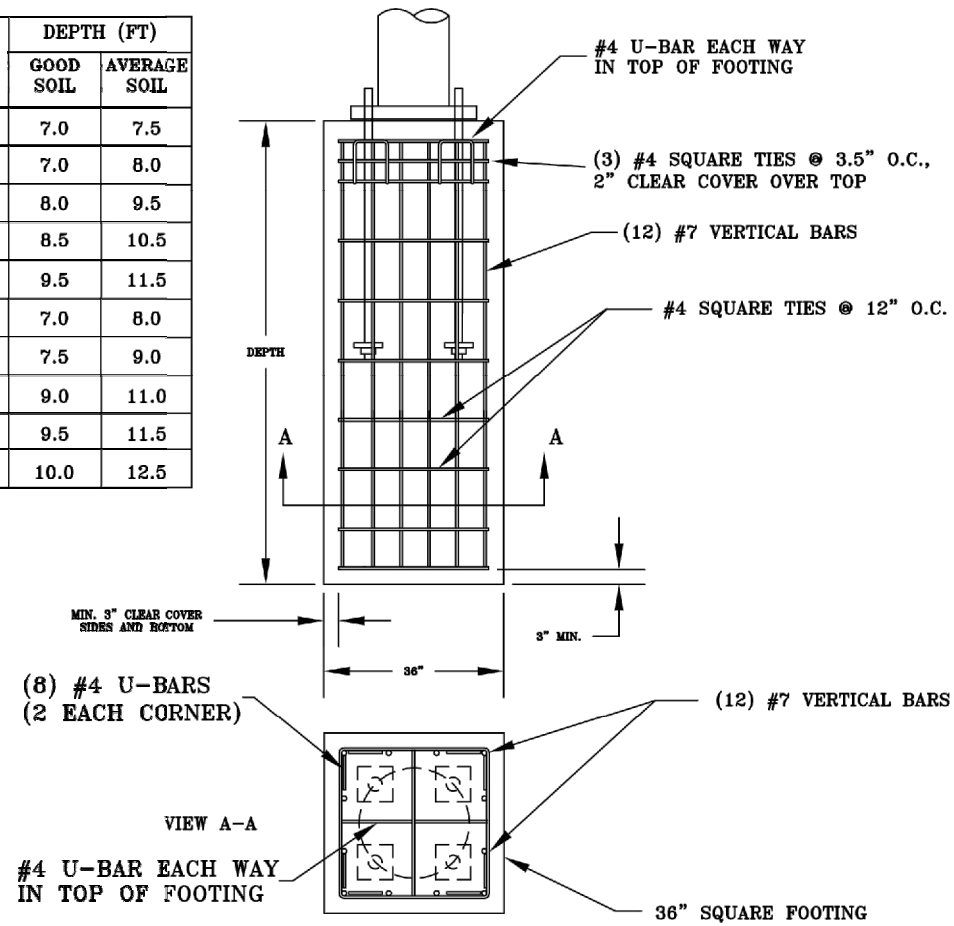
REGISTERED PROFESSIONAL ENGINEER
65552PE
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OREGON
WADE E. SCARBROUGH
EXPIRES: 06/30/22

Sheet No. **TS-3**

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POLE DESIGNATION	DEPTH (FT)	
	GOOD SOIL	AVERAGE SOIL
CCSM1	7.0	7.5
CCSM2	7.0	8.0
CCSM3	8.0	9.5
CCSM4	8.5	10.5
CCSM5	9.5	11.5
CCSM1L	7.0	8.0
CCSM2L	7.5	9.0
CCSM3L	9.0	11.0
CCSM4L	9.5	11.5
CCSM5L	10.0	12.5



NOTES:

- Vertical steel bars should be equally spaced around the perimeter of the footing allowing for a minimum of 3" of concrete cover over the ties.
- Vertical steel shall be ASTM A615 Gr 60 (rebar).
- Minimum concrete strength, $f'c = 3,000$ psi
- Concrete shall be poured against undisturbed soil. If the top layer of the soil is disturbed it shall be discounted and the footing depth shall be increased accordingly.
- The top 4" shall be placed (using concrete or a non-shrinking grout) after installing the pole and appurtenances.

NO.	REVISION	DATE	DRAWING NUMBER			
1	FOUNDATION DEPTH UPDATED	11/19/07	NWS4710			
			SHEET 1 OF 1			
CLACKAMAS COUNTY <small>DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT 100 BEAVERCREEK ROAD OREGON CITY, OREGON</small>						
CLACKAMAS COUNTY MAST ARM FOUNDATION STANDARD						
DESIGNED BY		DATE	DRAWN BY		DATE	
D. EMSLIE		3/21/07	D. EMSLIE		3/21/07	

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Damascus Area Systemic Safety Enhancements
Flashing Beacon Details

PROJECT NO.: #2019-18
 DATE: June 2021

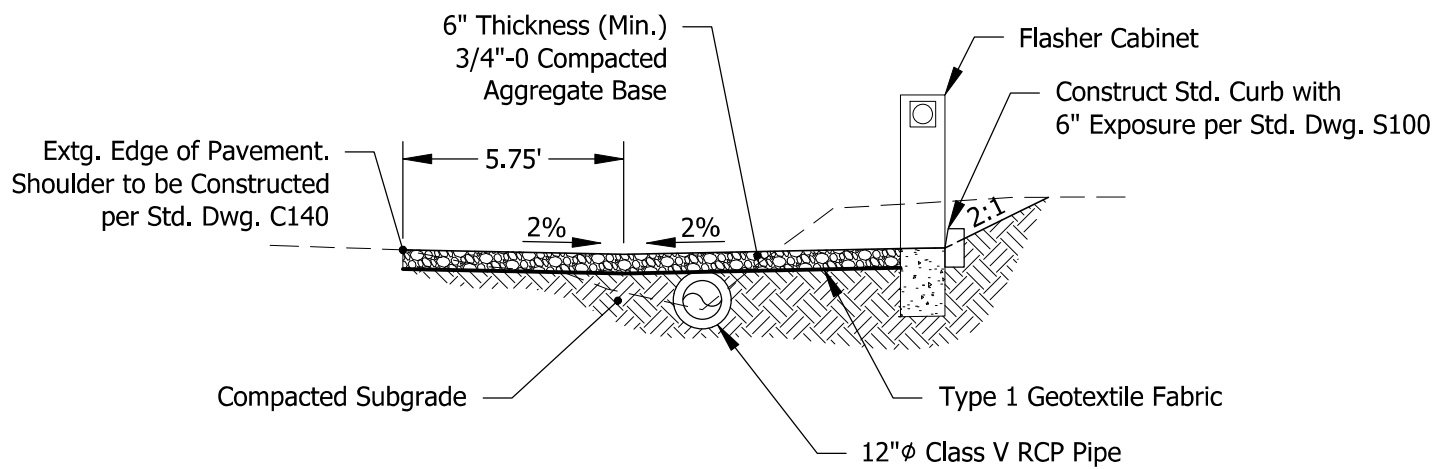
CLACKAMAS COUNTY
 DEPT. OF TRANSPORTATION AND DEVELOPMENT
 150 BEAVERCREEK ROAD
 OREGON CITY, OR 97045

DAN JOHNSON
 DIRECTOR

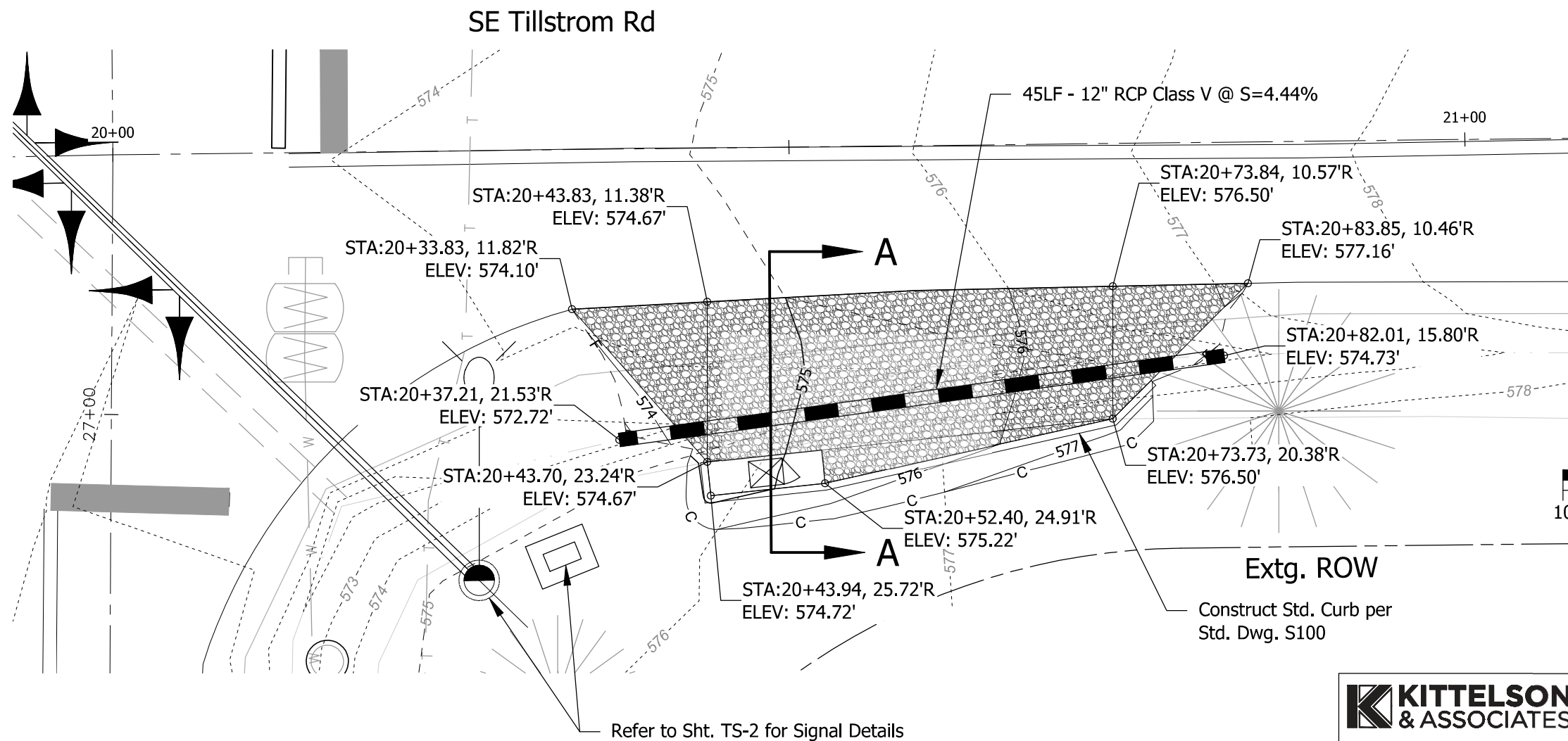
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DZS	DZS	WES

NO.	DATE:	REVISIONS

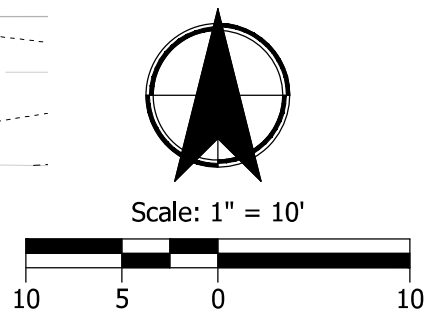
Sheet No. **TS-5**



A Maintenance Pad Section
SCALE: 1" = 5'



Refer to Sht. TS-2 for Signal Details



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JULY 9, 2001
WADE E. SCARBROUGH
EXPIRES: 06/30/22

Damascus Area Systemic Safety Enhancements
Maintenance Pad Details
DATE: June 2021 PROJECT NO.: #2019-18

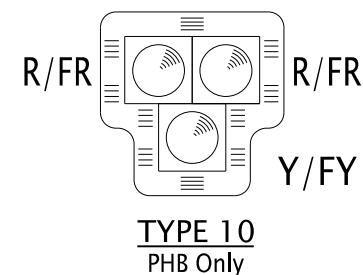
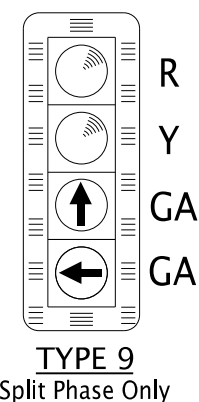
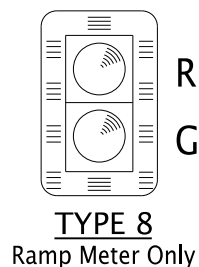
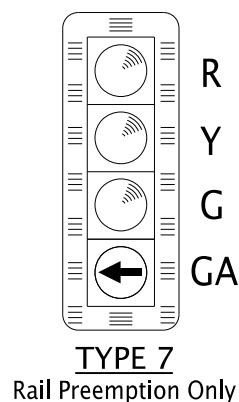
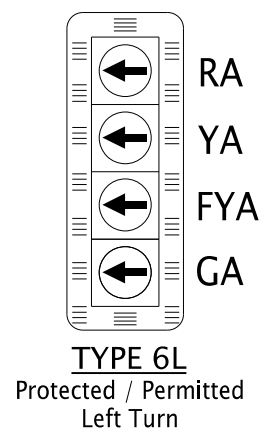
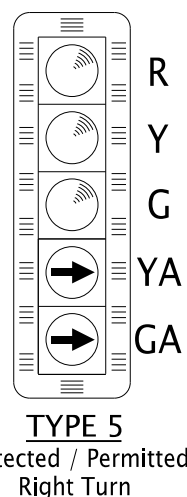
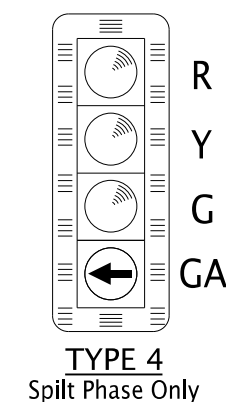
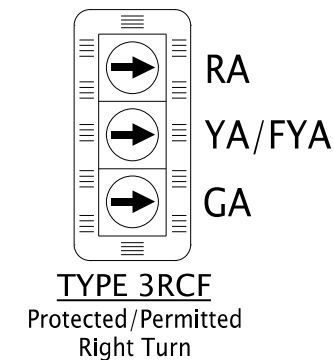
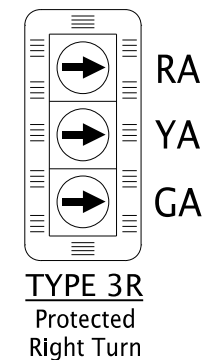
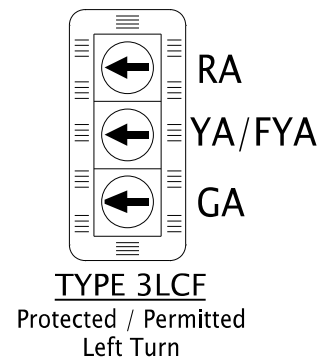
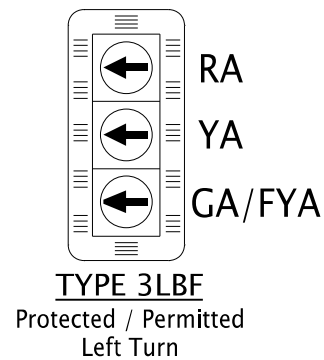
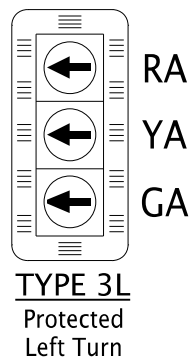
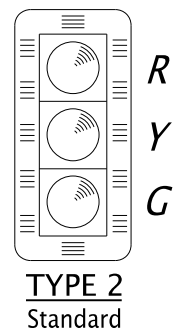
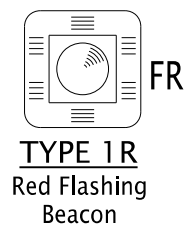
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045
DAN JOHNSON
DIRECTOR

DESIGNED BY: DZS
DRAFTED BY: DZS
CHECKED BY: WES

NO	DATE	REVISIONS

Sheet No. TS-6

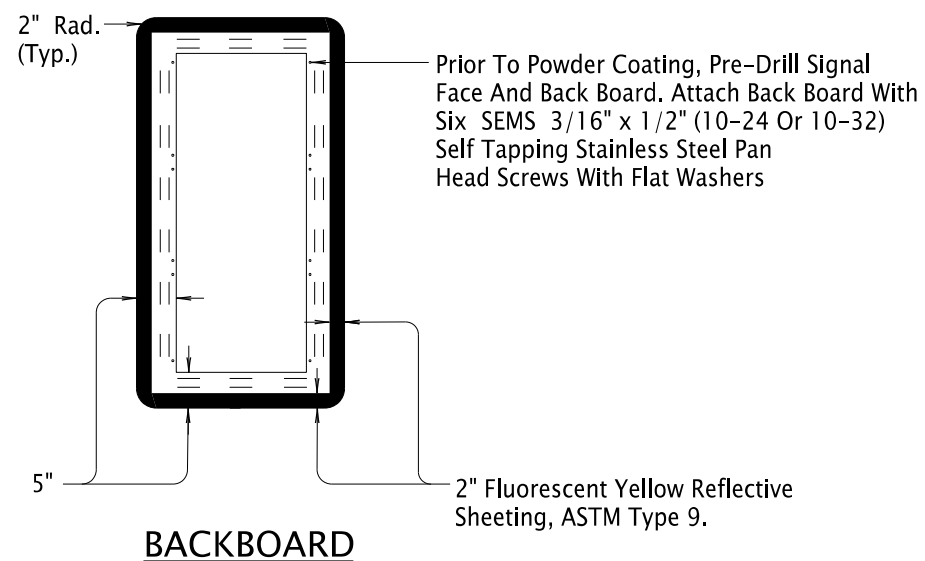
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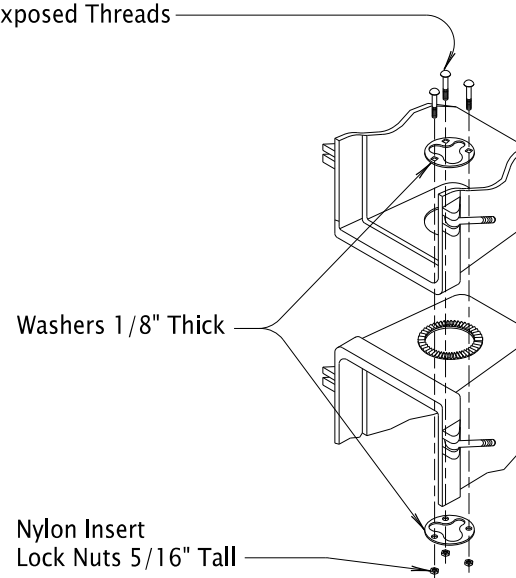
Color Indications.
All Indications Are 12" Diameter.

R	Red Circular Ball
Y	Yellow Circular Ball
G	Green Circular Ball
RA	Red Arrow
YA	Yellow Arrow
GA	Green Arrow
FYA	Flashing Yellow Arrow
FR	Flashing Red Circular Ball
FY	Flashing Yellow Circular Ball

VEHICLE SIGNAL HEAD DESIGNATIONS AND LENS ARRANGEMENT



(3) - Carriage Bolts
1/4" x Length As Req'd. For Three Fully Exposed Threads

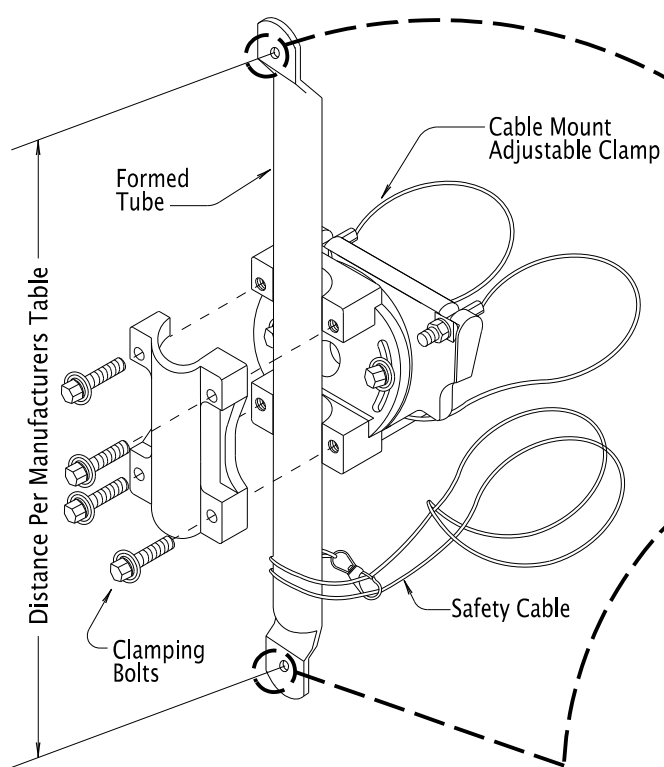


General Notes:

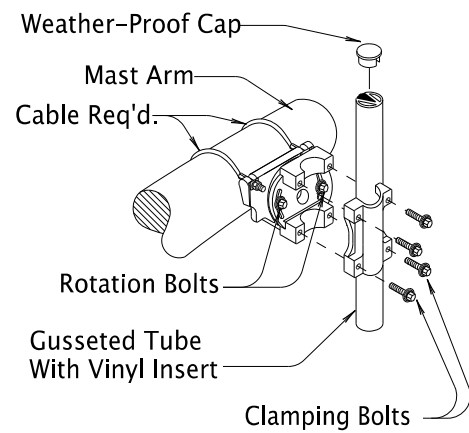
1. All Screws, Bolts, Nuts And Washers Shall Be Type 304 Or 316 Stainless Steel Unless Noted Otherwise.
2. Bolts And Screws Shall Have Square Or Hex Heads Unless Otherwise Noted. Allen Head Fasteners Not Allowed.
3. Assemble The Heavy Duty Polycarbonate Vehicle Signal, Visor, And Backboard With Bolted Connections, Stainless Steel Reinforcing Strips And Stainless Steel Plates.

CALC. BOOK NO. <u>N/A</u>	SDR REPORT DATE <u>1-Jul-2021</u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
VEHICLE SIGNAL DETAILS	
2021	
DATE	REVISION DESCRIPTION
07/21	Added Type 3RCF Head

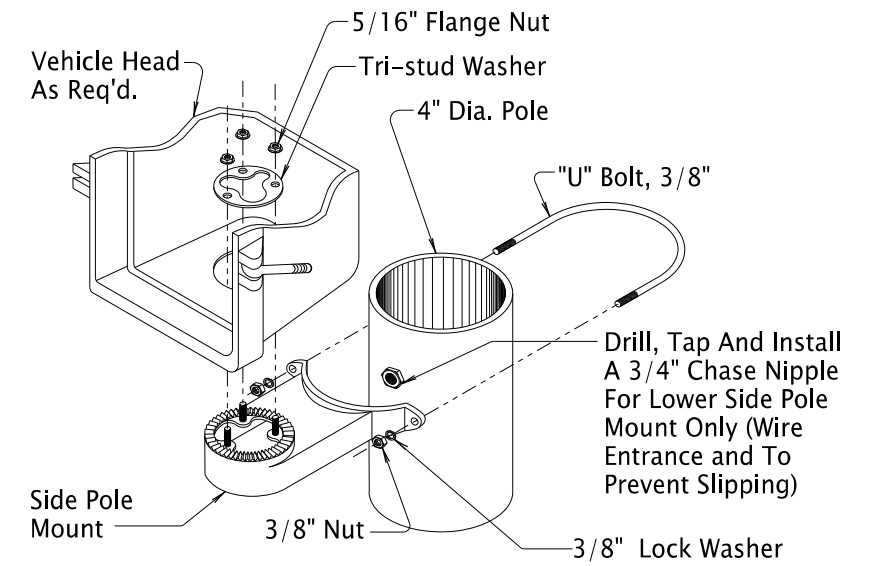
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.



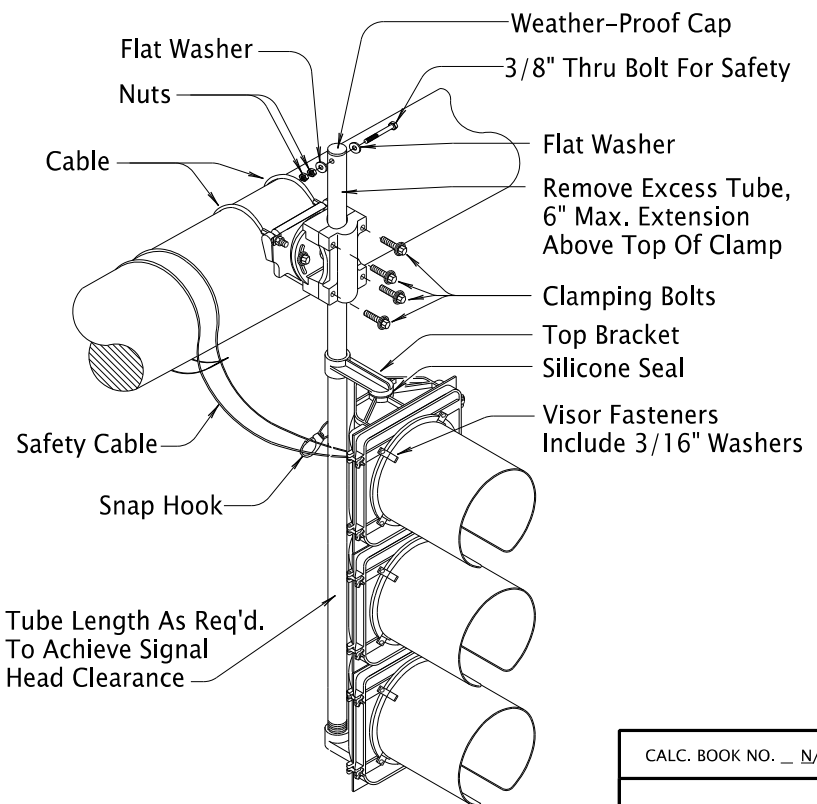
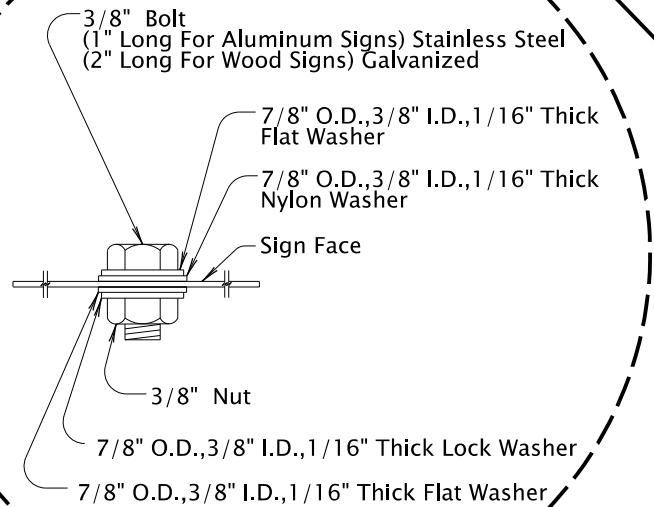
SIGN BRACKET (TYPE "B", MAST ARM/POLE INSTALLATION)



VEHICLE SIGNAL MAST ARM INSTALLATION

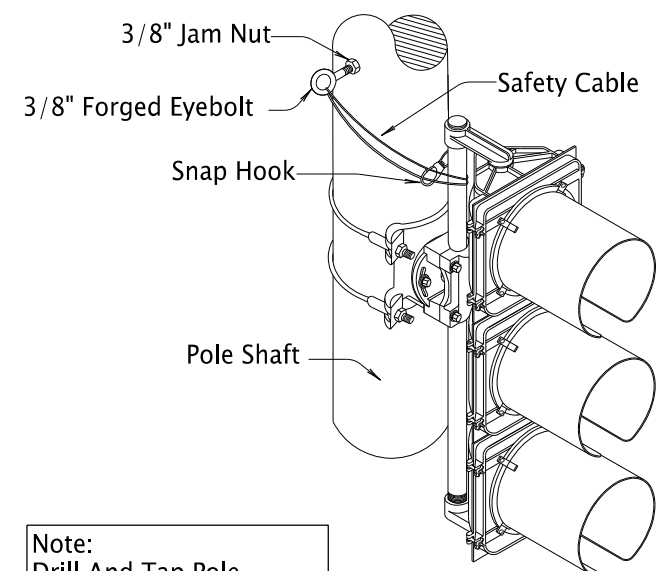


4" SIDE POLE MOUNT INSTALLATION
(For Mounting Signal Heads to Vehicle Pedestals)



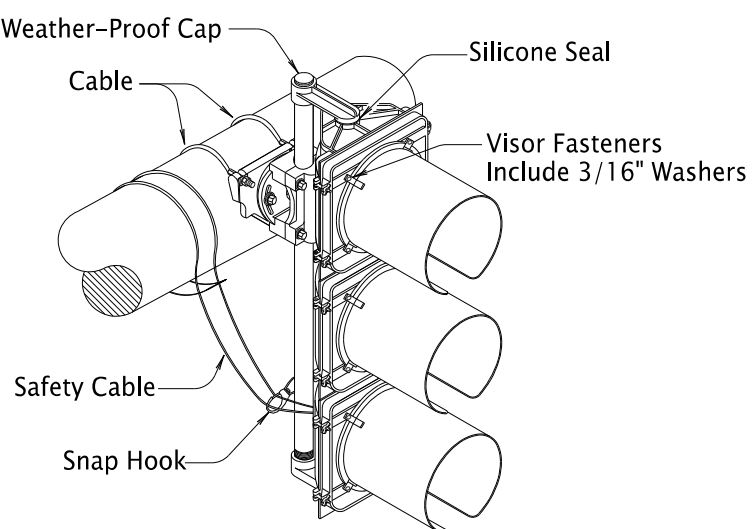
NOTE:
This Detail Can Be Applied To Any Signal Head Configuration. If The Extension Between The Center Line Of The Mast Arm And The Top Bracket Exceeds 18" Consult Engineer For Guidance.

MOUNTING VEHICLE SIGNAL ABOVE BRACKET ARMS



Note:
Drill And Tap Pole For 3/8" Forged Eye Bolt

POLE SHAFT INSTALLATION



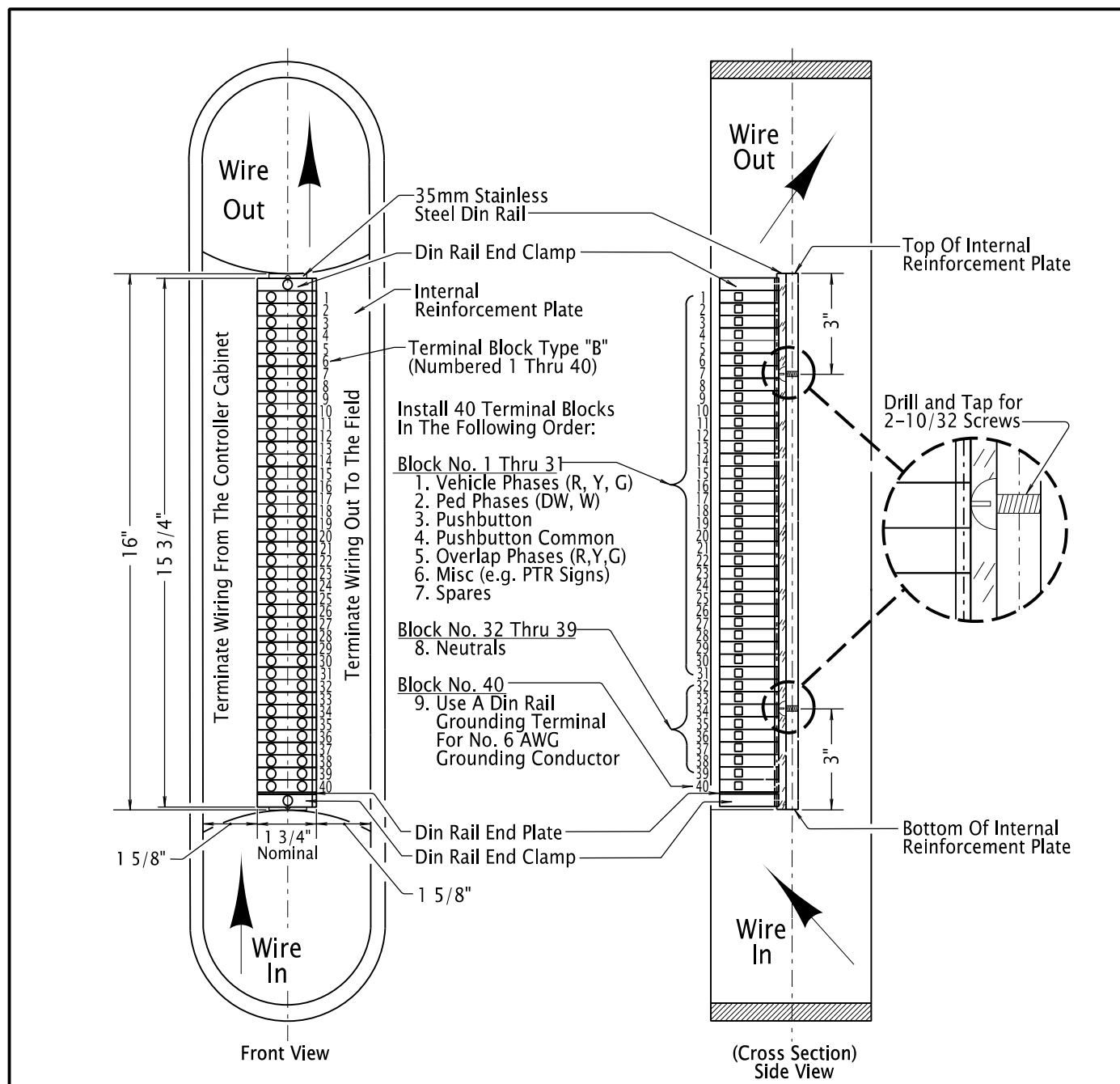
MOUNTING VEHICLE SIGNAL BETWEEN BRACKET ARMS

- General Notes:**
1. All Screws, Bolts, Nuts And Washers Shall Be Type 304 Or 316 Stainless Steel Unless Noted Otherwise.
 2. Bolts And Screws Shall Have Square Or Hex Heads. Allen Head Fasteners Not Allowed.
 3. Follow Manufacturers Recommendations For Installation.

CALC. BOOK NO. _ N/A _		SDR REPORT DATE 1-Jul-2021	
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications			
OREGON STANDARD DRAWINGS			
VEHICLE SIGNAL BRACKET & SIGN BRACKET (TYPE B) DETAILS			
2021			
DATE	REVISION	DESCRIPTION	
07/21		Reformatted Dimensions. Fixed Typo.	

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.

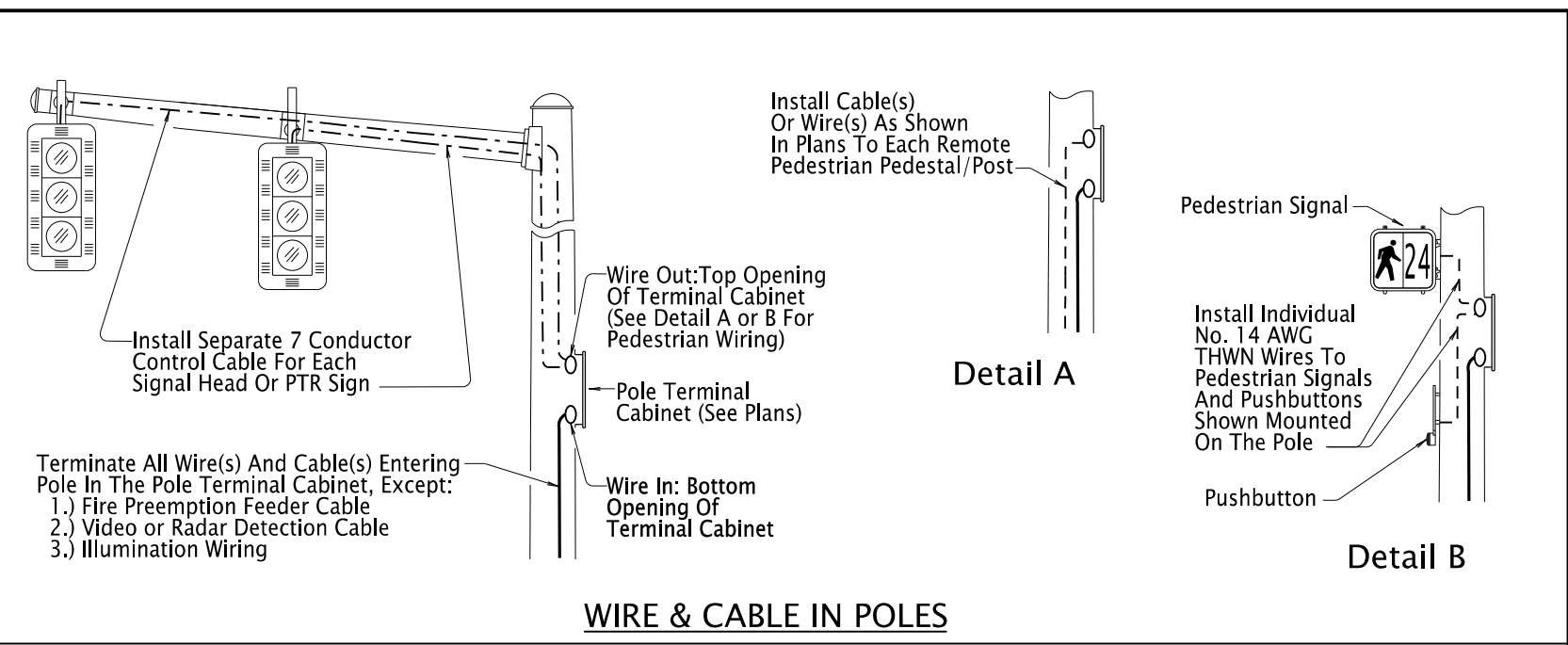
TM462



DIN RAIL, TERMINAL BLOCKS, & WIRING IN POLE RECESSED TERMINAL CABINET

7 CONDUCTOR CONTROL CABLE			PEDESTRIAN PHASES	VEHICLE PHASES	SIGNAL HEAD TYPES			
CONDUCTOR NUMBER	BASE COLOR	FIRST TRACER	1 Pedestrian Phase	1 Vehicle Phase	6L, 3LBF	5 or 7	1R, 1Y, 2, 3L, 3LCF, 3R, 4 or 9	10
1	WHITE	—	NEUTRAL	NEUTRAL	NEUTRAL	NEUTRAL	NEUTRAL	NEUTRAL
2	BLACK	—	WALK	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW
3	RED	—	DONT WALK	RED	RED	RED	RED	RED 1
4	ORANGE	—	P.B. COMMON	SPARE	FLASHING YELLOW	TURN YELLOW	SPARE	RED 2
5	GREEN	—	PUSHBUTTON	GREEN	GREEN	GREEN	GREEN	SPARE
6	BLUE	—	SPARE	SPARE	SPARE	TURN GREEN	SPARE	SPARE
7	WHITE	BLACK	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE

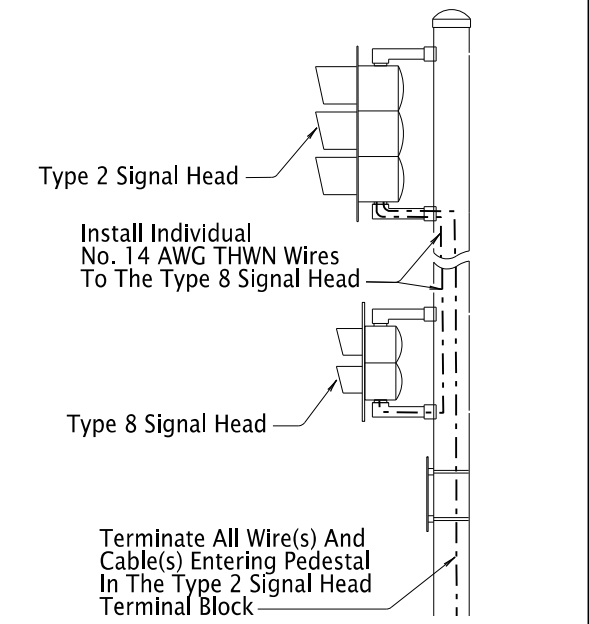
COLOR CODE CHART CONTROL CABLE



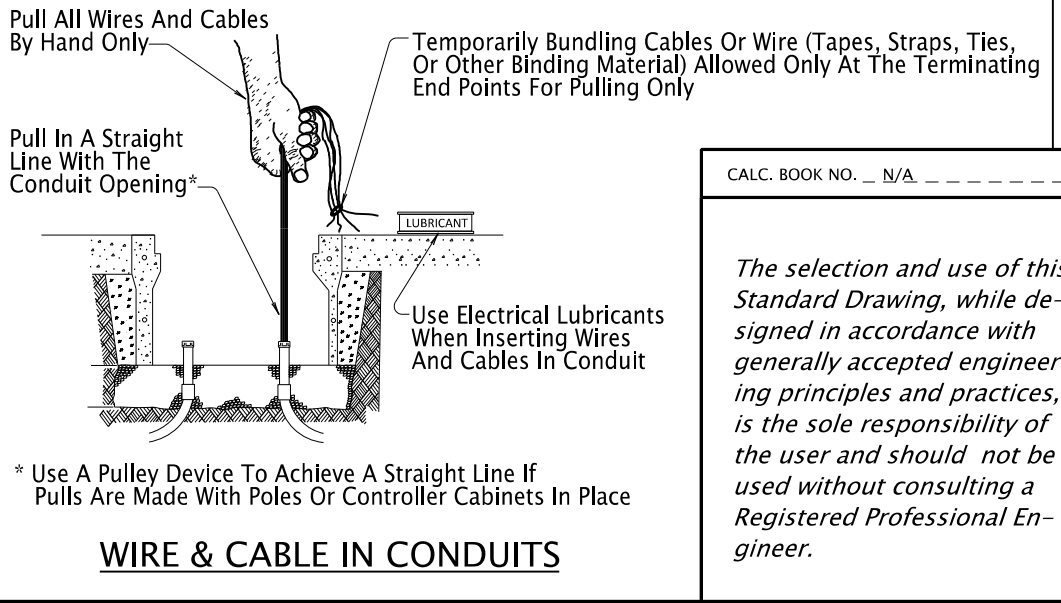
WIRE & CABLE IN POLES

General Notes:

1. Install All Wire And Cable Between Terminal Blocks Without Splicing.
2. Mark Phase Number/Identification On All Cable In Junction Boxes, Terminal Cabinets, Service Cabinets, And Controller Cabinets With Permanent Tags. Use Handheld Labeler (Brady IDXPRT With XC-1500-580-WT-BK Tags Or Approved Equal). Wiring For Overlaps Shall Be Labeled (OLA,OLB,OLC,OLD).
3. Install No. 16 AWG TFFN Orange Base With Blue Tracertone Wire In All Conduits As A Locate Wire. Leave Slack As Required In General Note 5 And Install A Wire Nut. Do Not Join Multiple Locate Wires Under A Common Wire Nut Unless Otherwise Shown.
4. Tape The Ends Of Unsued Conductors With Insulated Vinyl Plastic Tape.
5. Leave Slack In Each Wire And Cable As Follows:
 - A.) 2 Feet In Junction Boxes And Poles
 - B.) 6 Feet In The First Junction Box Nearest The Controller Cabinet
 - C.) 6 Feet In Controller Cabinet And Service Cabinet
6. Install Polyethylene Pull Line In All Conduits Noted On The Plans For Future Use (No Wires/Cables In Conduit). Leave 6 Feet Of Slack Pull Line.
7. At Existing Installations The Contractor Is Responsible For The Re-wiring And Re-numbering Of New And Existing Control Cables, In All Junction Boxes, Terminal Cabinets, Service Cabinets, And Controller Cabinets.



WIRE & CABLE IN RAMP METER PEDESTALS



CALC. BOOK NO. N/A

SDR REPORT DATE 1-Jul-2021

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

OREGON STANDARD DRAWINGS

WIRE & CABLE INSTALLATION

2021

DATE	REVISION	DESCRIPTION
07/21	Reformatted	Dimensions

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.

TM470

Type Of Conduit	Minimum Cover From Top of Finished Surface (Use Permit Depth If Greater Than These)	
	Roadway & Shoulders	Other Areas
Metallic	24"	18"
Non-Metallic	30"	18"

Note:
1.) Additional Cover Depth May Be Necessary Near Foundations And Junction Boxes To Accommodate The Minimum Radius ("R") Of The Conduit Elbow. See "Conduit Elbow", "Conduit Installation In Foundations" And "Conduit Installation In Junction Boxes" Details For More Information.

MINIMUM COVER FROM FINISHED SURFACE

Cables/Wires (Or Pull Line In Conduit For Future Use Only)

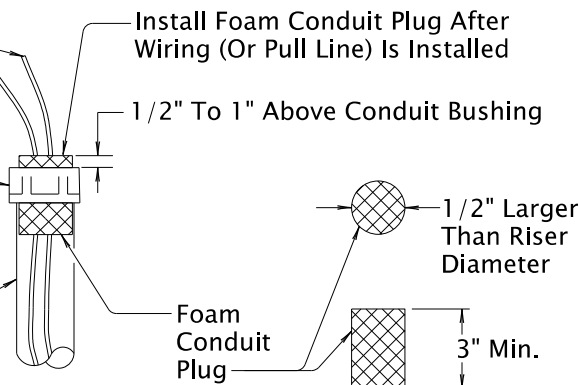
Install Push-On PVC End Bell Conduit Bushings Before Installing Wire

PVC Riser (In Junction Boxes) Or Fiberglass Riser (In Foundations)

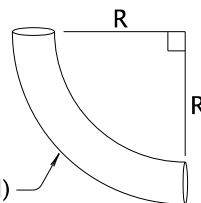
Notes:

- 1.) Ream Conduit Ends To Remove Rough Edges And Burrs
- 2.) Temporarily Plug Or Cap Conduit Ends At All Times To Keep Debris Out

CONDUIT ENDS AND BUSHINGS



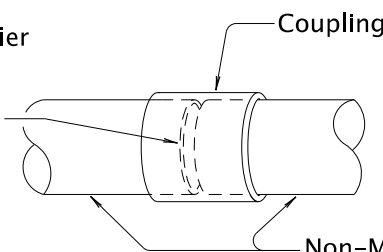
Standard Factory Fiberglass Bend (No Crimping, Flattening, Field Manipulation, Or Cutting In The Field)



Conduit Diameter	R (min.)
1 1/2"	10"
2"	12"
2 1/2"	15"
3"	18"

CONDUIT ELBOWS

Make Cuts Square And True So Conduit Ends Fit Together For Thier Full Circumference. Use Solvent Weld To Connect Conduit As Per Manufacturer's Recommendation.



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

Top Of Trench, Bottom Of Subgrade, Surrounding Ground, Or Upper Limit Of Excavation

Selected Granular Or Selected General (Native) Material. Compact Material In Layers Not Greater Than 6" According To 00405.46(C)(2).

Sand Blanket (May Be Omitted When Using Rigid Metallic Conduit)

UNSURFACED AREAS (new roadway prior to paving, shoulders, under sidewalk, landscaped areas, etc.)

6" Min. Or Match Existing Surface Thickness, Whichever Is Greater

When Excavating, Cut Sharp And Well Defined Pavement Edges With An Approved Pavement Cutting Saw 2" Minimum Depth Along The Boundaries Of The Area To Be Removed

Match Existing Surface Material: PCC Or ACP Compact Material According To 00744, 00745, 00755, And 00756, As Applicable. Finish To A Smooth Riding Surface.

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

Center Underground Marking Tape Over Conduit For The Entire Length Of The Conduit Run

6" (Nominal)

Top Of Finished Surface

Minimum Cover (See Minimum Cover Table)

Conduit

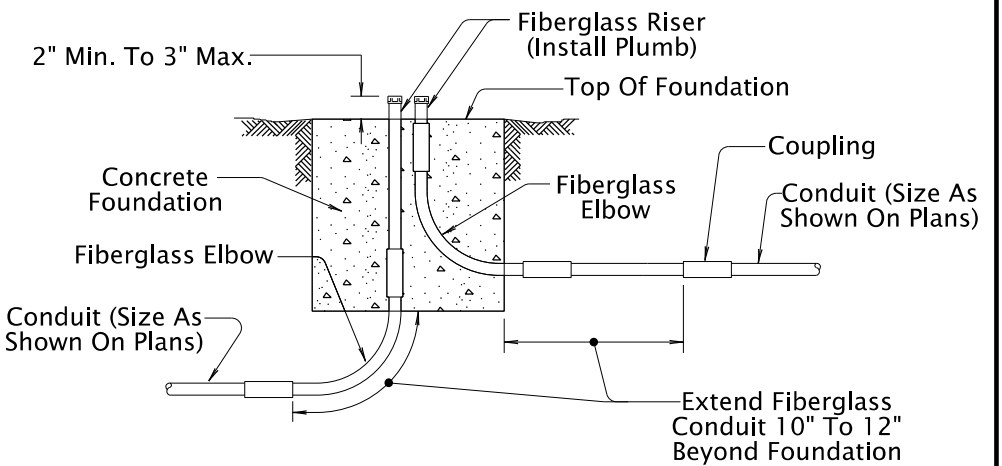
2" Bedding

2" Cover

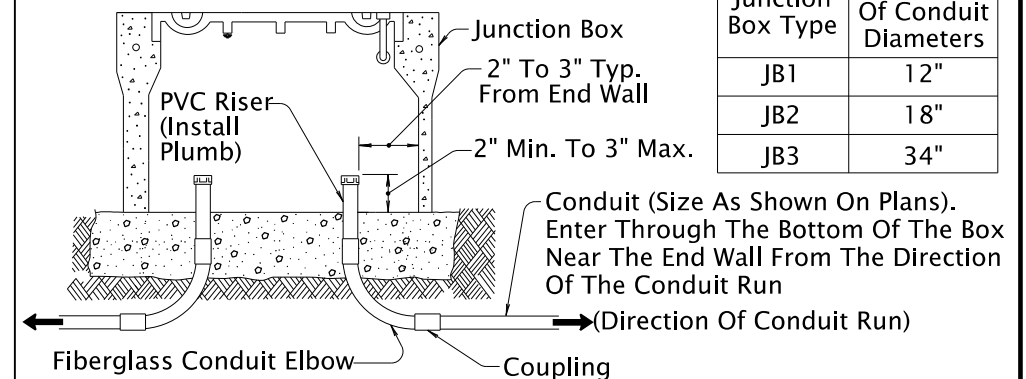
Top Of Existing Surface

CLSM

Conduit



CONDUIT INSTALLATIONS IN FOUNDATIONS (Applicable for Pole, Pedestal, Post, Service Cabinet and Controller Cabinet Foundations)



Junction Box Type	Max. Sum Of Conduit Diameters
JB1	12"
JB2	18"
JB3	34"

CONDUIT INSTALLATION IN JUNCTION BOXES

General Notes:

1. Install Non-Metallic Conduit Unless Otherwise Shown. Conduit Runs Shall Be Continuous 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 If Max. Sum Of Conduit Diameters In Junction Box Is Not Exceeded.

CALC. BOOK NO. _ N/A _ _ _ _ _

SDR REPORT DATE 1-Jul-2021 _ _ _ _ _

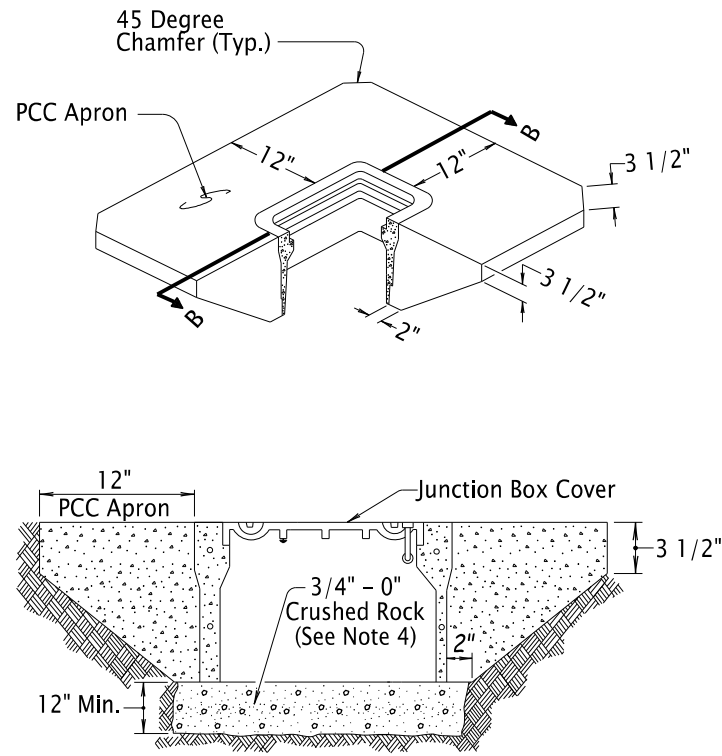
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS TRENCHING & CONDUIT INSTALLATION

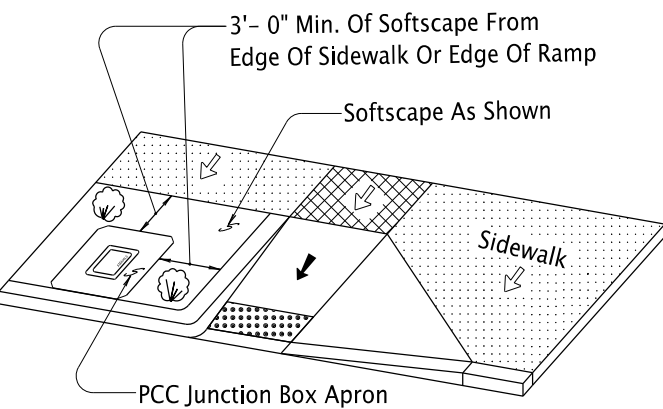
2021

DATE	REVISION DESCRIPTION
01/21	Added Note 1 To "Minimum Cover From Finished Surface" Detail
07/21	Reformatted Dimensions. Modified "Conduit Ends And Bushings" And "Conduit Elbows" Details.

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.



SECTION B-B

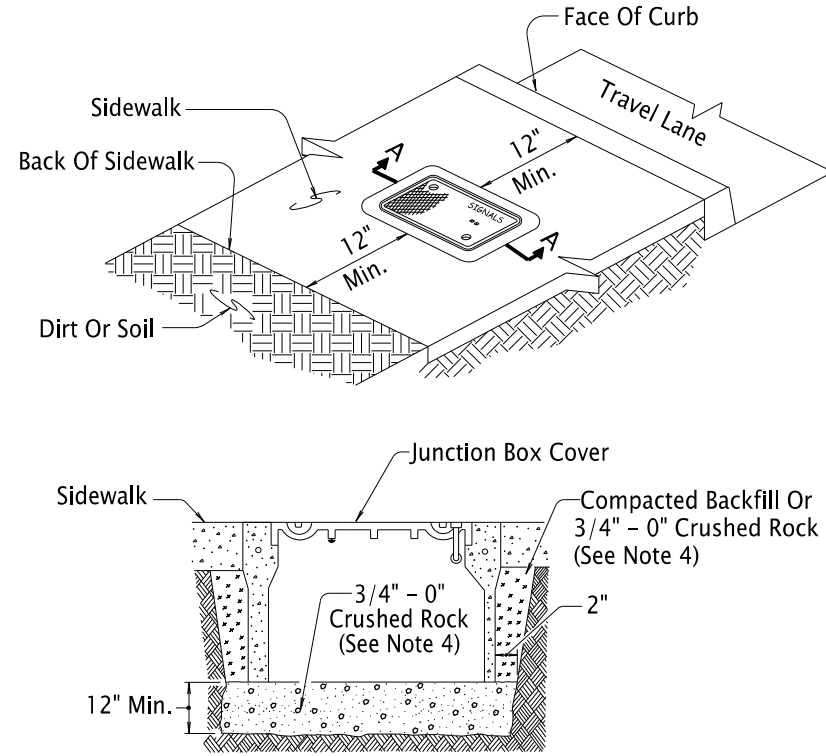


JUNCTION BOX INSTALLATION IN UNSURFACED AREA

(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.)

GENERAL NOTES:

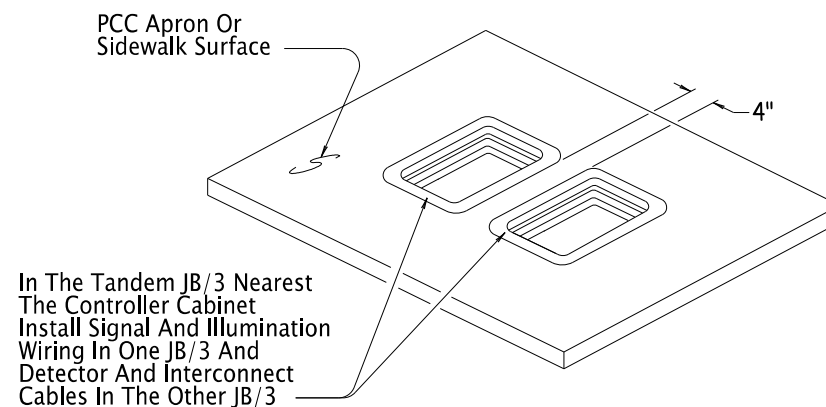
1. Install Top of Junction Box And Hand Hole Flush With The Sidewalk, Surrounding Grade, Or Top Of Curb. For Hand Holes Installed In The Roadway Or Shoulder, Leave The Top Of The Hand Hole 1/2" Below The Pavement Surface.
2. Install Junction Boxes And Hand Holes At The Approximate Locations Shown, Or If Not Shown, No More Than 300 Feet Apart For Junction Boxes And No More Than 1000 Feet Apart For Hand Holes.
3. More Junction Boxes And Hand Holes Than Specified May Be Installed To Facilitate The Work At The Option And Cost Of The Contractor
4. Use Materials According To 00640.10 and 00640.16. Use Compaction Equipment Suitable For Area And Compact Each Six Inch Layer With Sufficient Coverages To Produce A Firm Unyielding Surface. Do Not Install Conductors Until Surface Has Been Constructed.



SECTION A-A

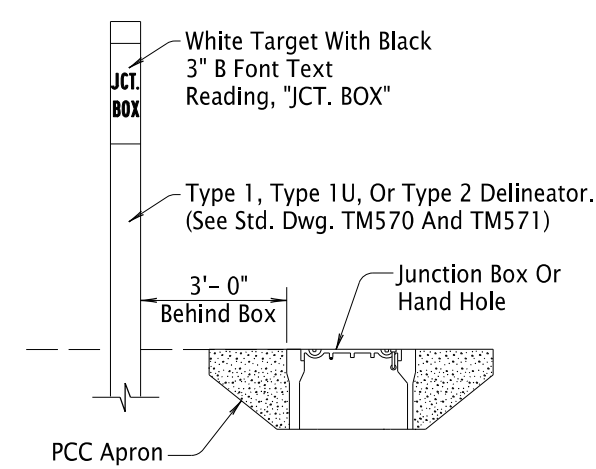
JUNCTION BOX INSTALLATION IN PCC SIDEWALK

(This Detail Only Applicable for Junction Boxes Located In Flat Areas Of Sidewalks. Do Not Install In Slopes Of Ramps Or Driveways)

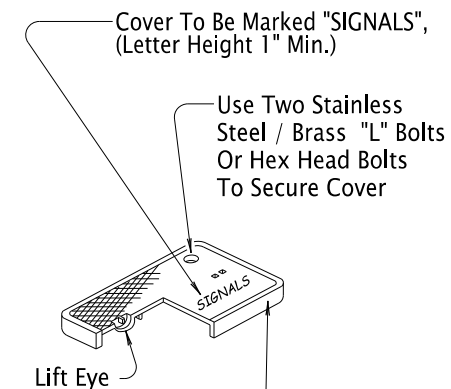


In The Tandem JB/3 Nearest The Controller Cabinet Install Signal And Illumination Wiring In One JB/3 And Detector And Interconnect Cables In The Other JB/3

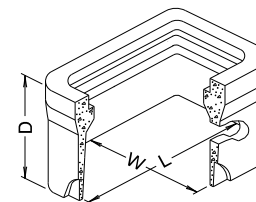
TANDEM JB/3A JUNCTION BOX DETAILS



DELINEATION OF JUNCTION BOX & HAND HOLE IN UNSURFACED AREA



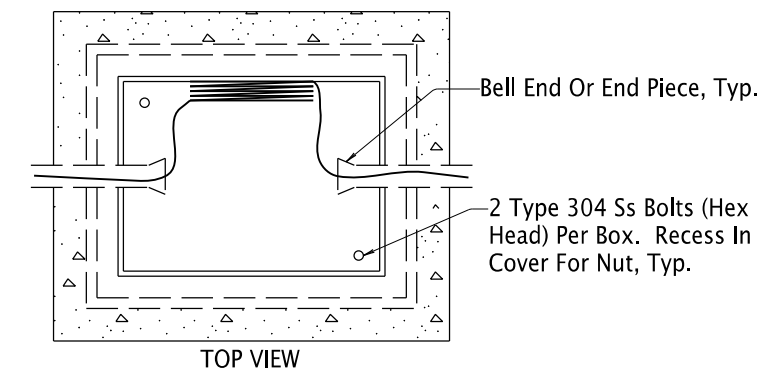
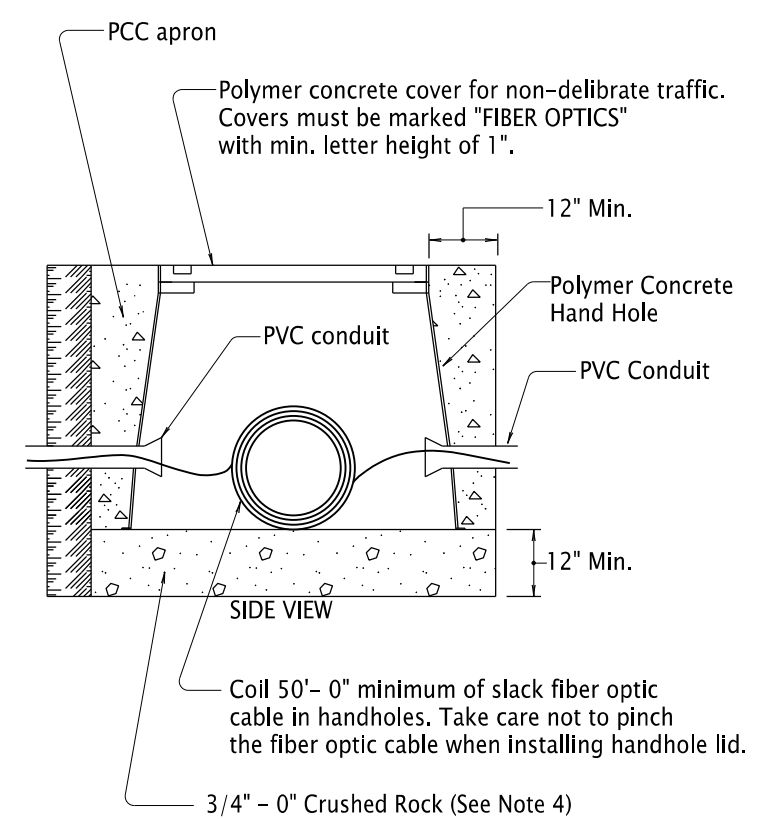
JUNCTION BOX COVER DETAILS



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



FIBER OPTIC CABLE HAND HOLE INSTALLATION

CALC. BOOK NO. _ N/A _ SDR REPORT DATE 1-Jul-2021

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

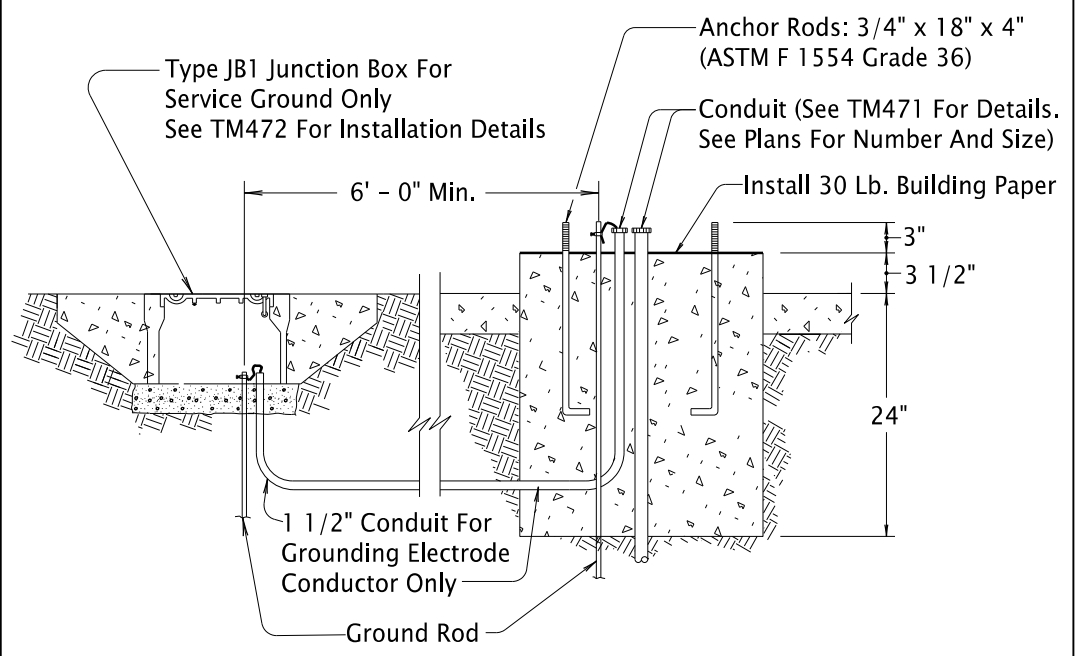
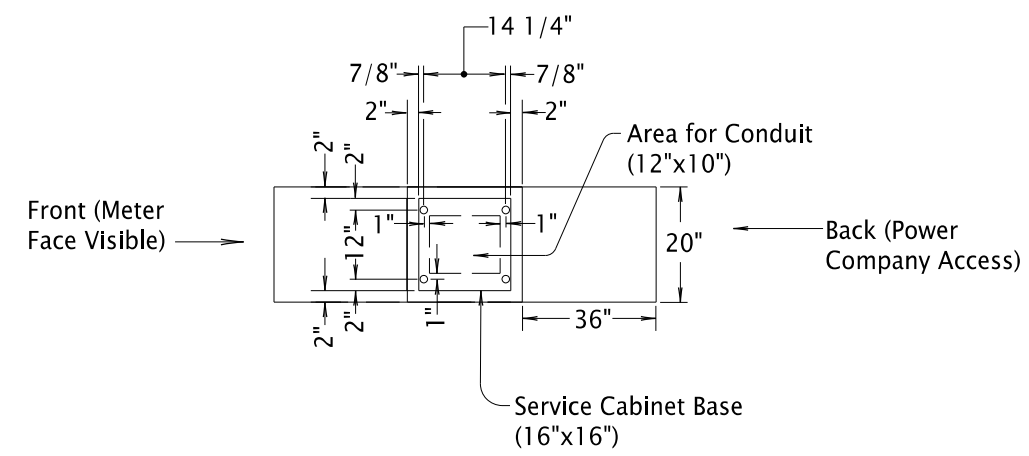
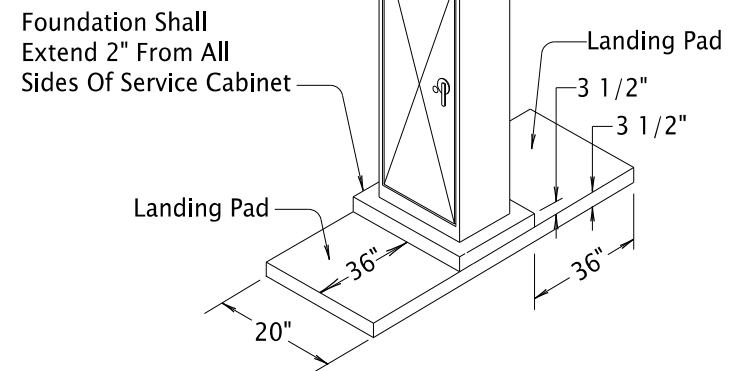
OREGON STANDARD DRAWINGS

TRAFFIC SIGNAL JUNCTION BOXES/ HAND HOLES

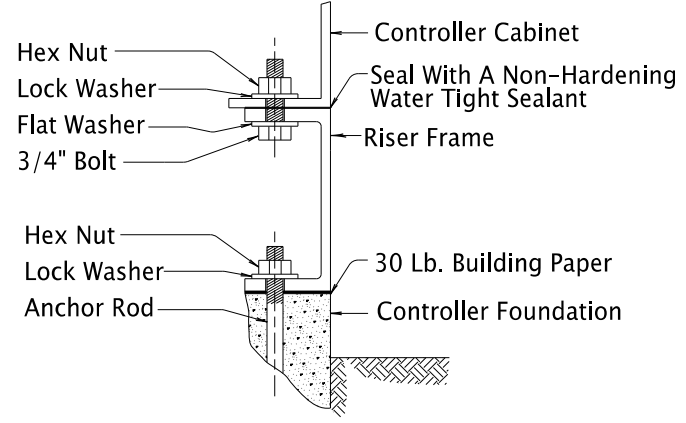
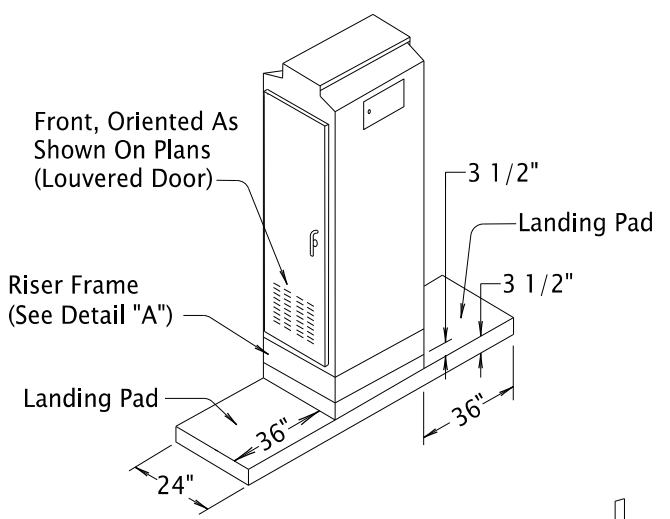
2021

DATE	REVISION	DESCRIPTION
07/21	Reformatted	Dimensions

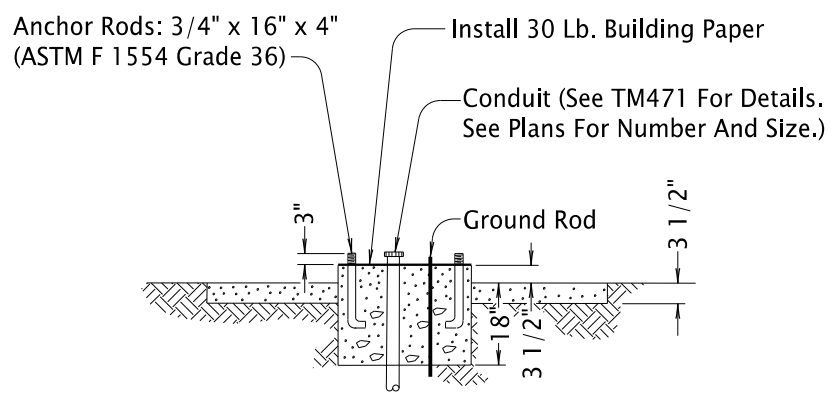
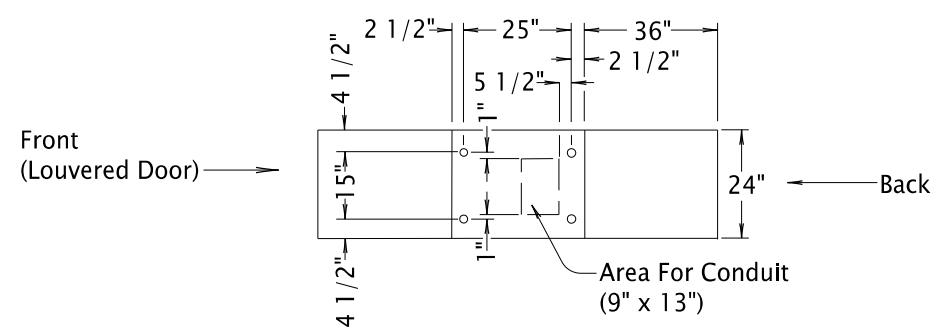
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.



BASE MOUNTED SERVICE CABINET FOUNDATION

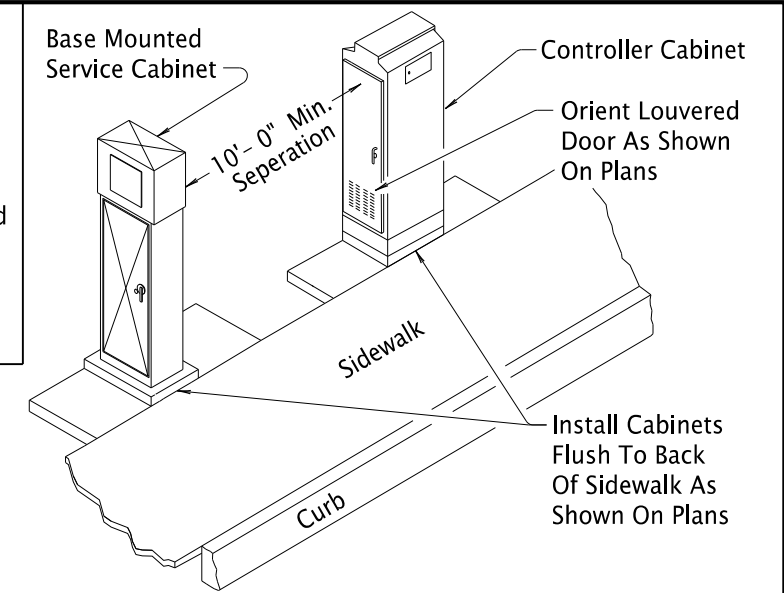


**DETAIL "A"
RISER FRAME CONNECTION**

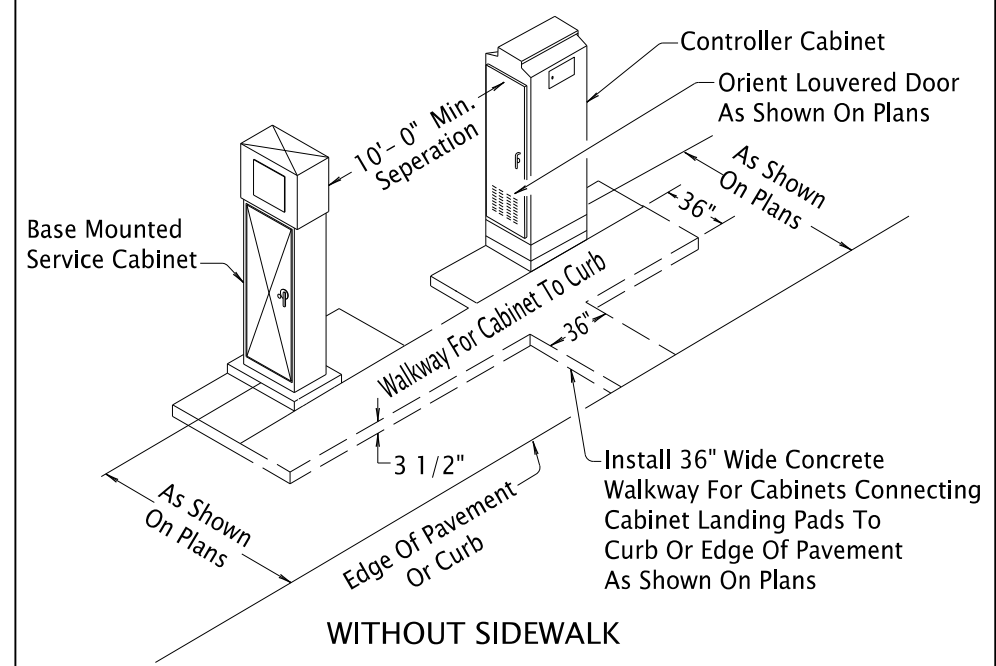


CONTROLLER CABINET FOUNDATION DETAILS
(Model 332S, 332, 334, And 340 Cabinets)

- General Notes:**
1. All Screws, Bolts, Nuts And Washers Shall Be Galvanized Steel Unless Noted Otherwise.
 2. Bolts And Screws Shall Have Square Or Hex Heads. Allen Fasteners Not Allowed.
 3. Type 304 Or 316 Stainless Steel Or Galvanized Steel May Be Used For Mounting Cabinet To Riser Frame.
 4. Provide A 3/4" Chamfer On All Exposed Concrete Edges.



WITH SIDEWALK



WITHOUT SIDEWALK

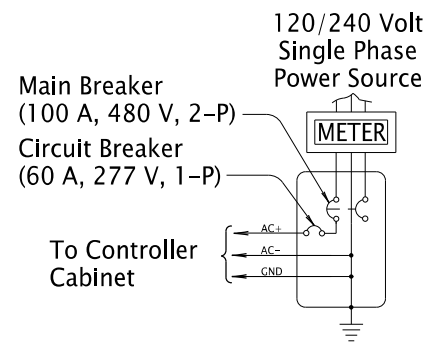
CABINET FOUNDATION LOCATIONS

Note: Verify Base Mounted Service Cabinet Location And Meter Placement Is Acceptable To Local Power Company

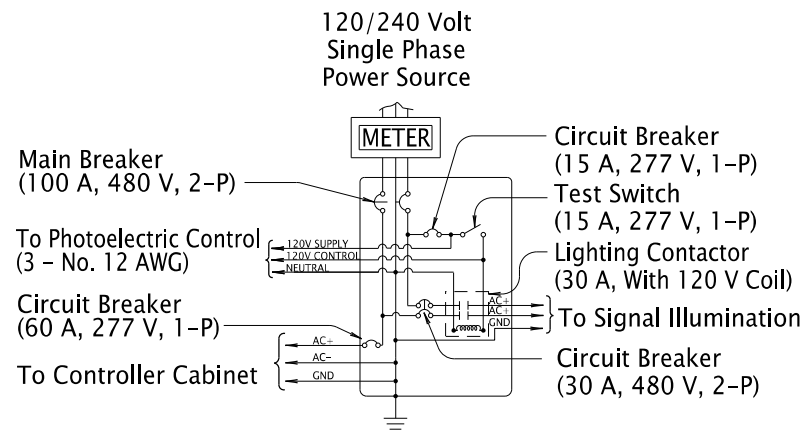
CALC. BOOK NO. N/A	SDR REPORT DATE 1-Jul-2021
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
CONTROLLER CABINET & SERVICE CABINET FOUNDATION DETAILS	
2021	
DATE	REVISION DESCRIPTION
01/21	Updated All Anchor Rod Details
07/21	Reformatted Dimensions. Added General Note #4.

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.

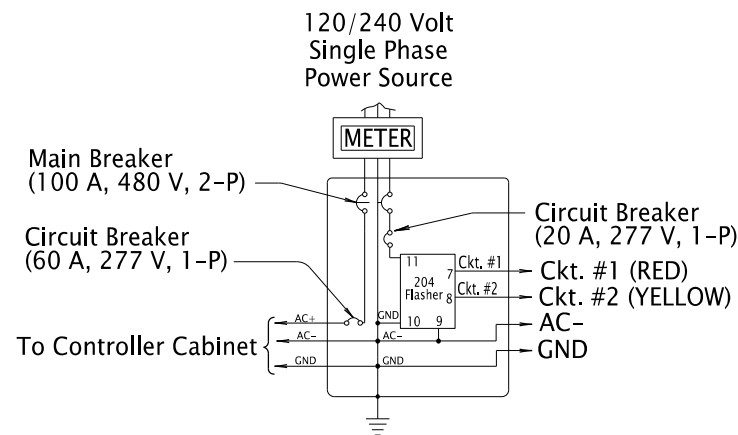
TM482



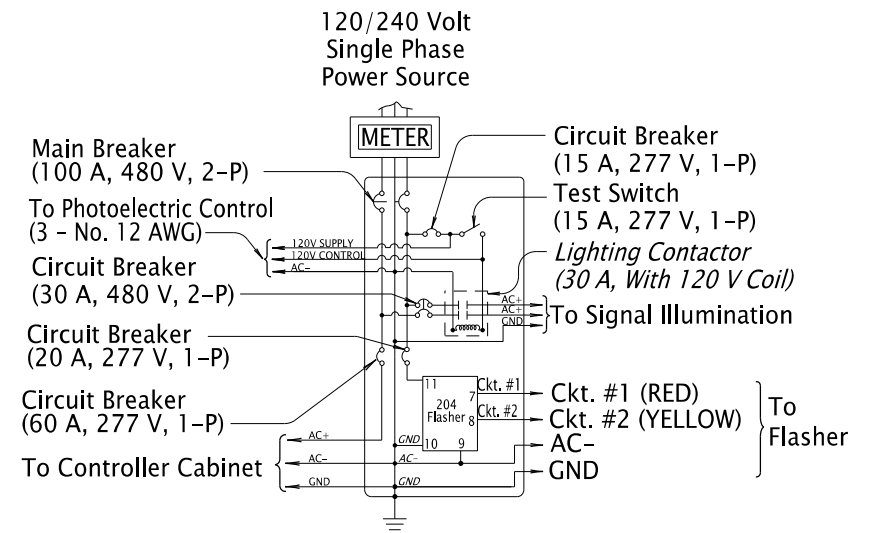
**SERVICE CABINET WIRING FOR
120/240 VOLT SIGNAL SERVICE
BMC**



**SERVICE CABINET WIRING
WITH 240 VOLT ILLUMINATION
BMCL**



**SERVICE CABINET WIRING
WITH FLASHER
BMCF**

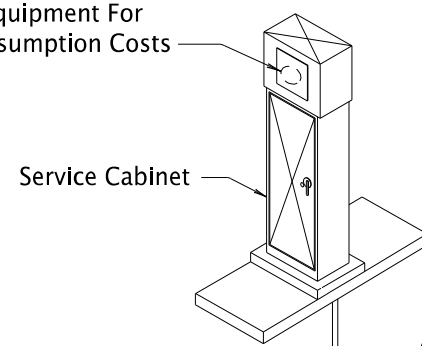


**SERVICE CABINET WIRING
FOR SIGNAL, FLASHER &
240 VOLT ILLUMINATION
BM CFL**

General Notes:

1. Notify Utility Before Making Any Connections To Utility Poles.
2. Service Cabinet Shall Have A Solid Copper Neutral Bus And The Number And Size Of Switches Or Circuit Breakers As Shown. Service Cabinet Can Accommodate A Maximum Of 10 Circuit Breakers.
3. Wiring Connections To The Terminal Screws On The Circuit Breakers And Contactors Shall Make Full Contact Under The Screw Head.
4. Circuit Breakers Shall Be UL489 Listed, Unenclosed, Molded Case Bolt-On Type With End Conductor Terminals Suitable For Surface Mounting In The Cabinet On A False Back Or Bracket.
5. Label Circuit Breakers And Equipment With An Engraved Permanent Label On The Dead Front Panel To Indicate The Circuit Controlled.

Utility Provider To Supply And Install Meter Or Required Equipment For Flat-Rate Power Consumption Costs



UTILITY PROVIDER DETAILS

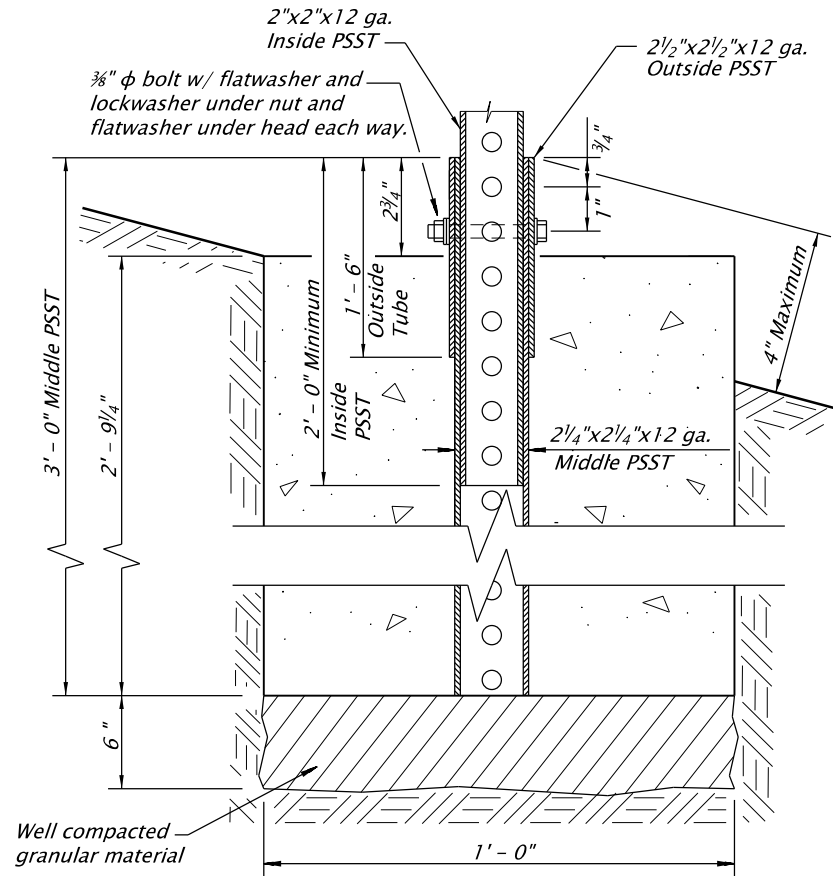
Install Utility Conduit As Per The Size, Material, Depth, And Mounting Requirements Of The Utility Provider. Utility Provider To Install Wiring.

To Commercial Power Source. Service Point Shown On Plans Is Approximate Only. Exact Location Shall Be Verified In The Field.

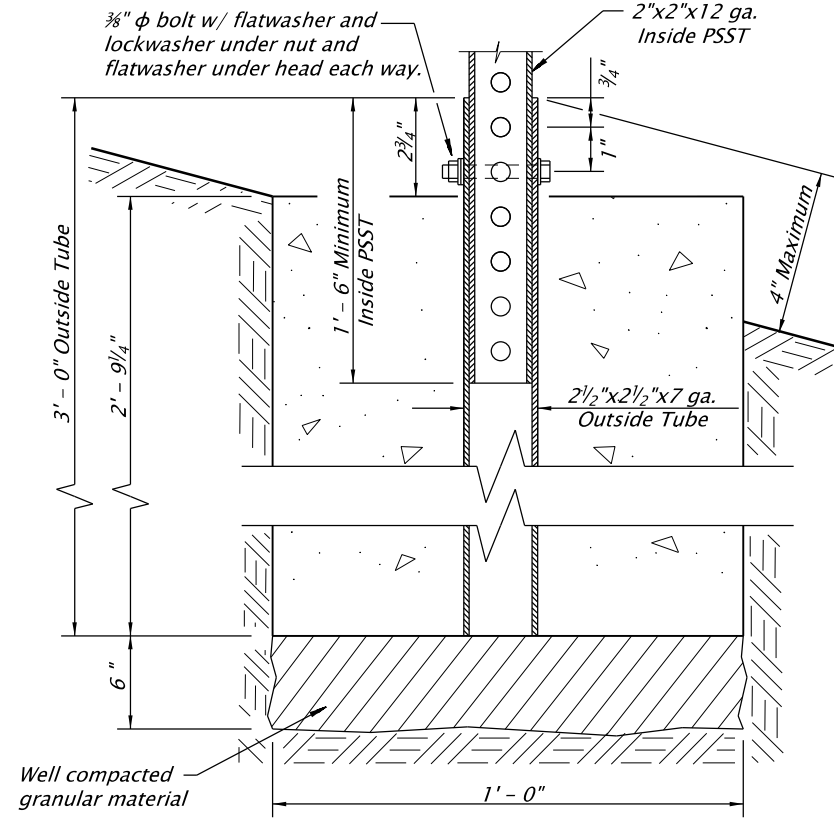
CALC. BOOK NO. _ N/A _ _ _ _ _	SDR REPORT DATE 1-Jul-2021
<p><i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i></p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	OREGON STANDARD DRAWINGS
	SERVICE CABINET WIRING DETAILS
	2021
	DATE REVISION DESCRIPTION
	07/21 Modified General Note #2

tm687.dgn 10-JUL-2020

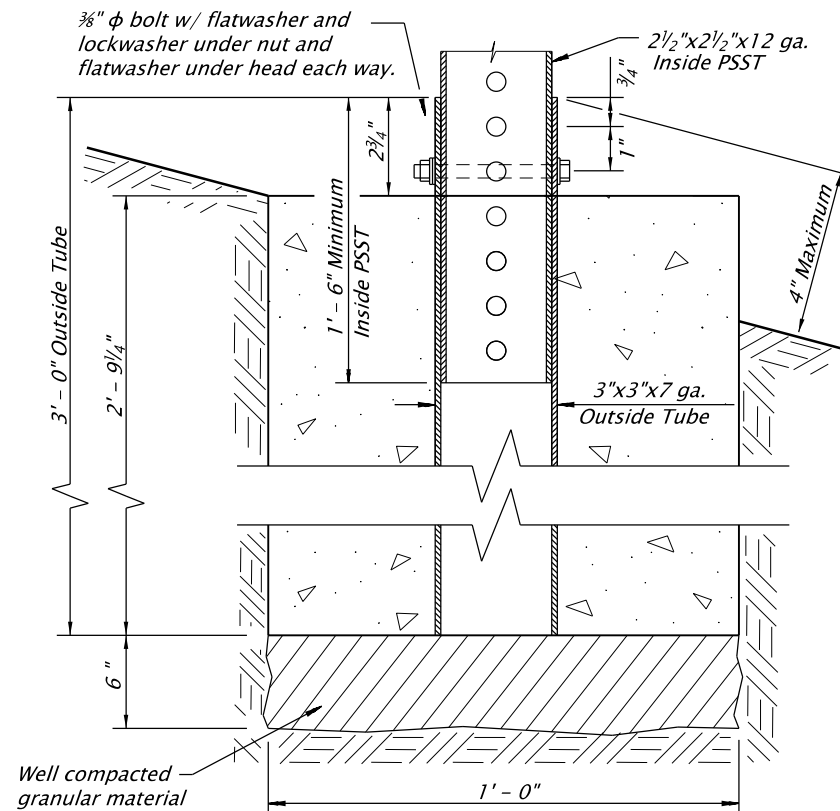
TM687



2" ANCHOR DETAIL
No scale



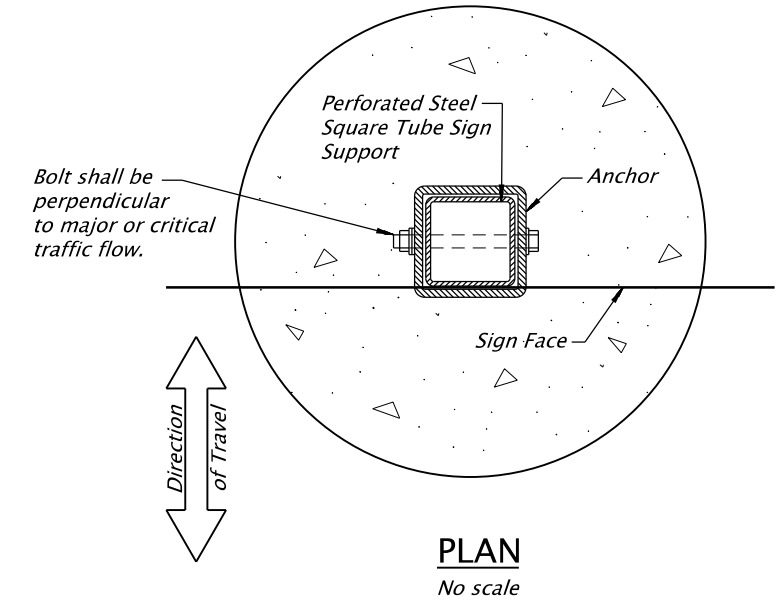
2" OPTIONAL ANCHOR DETAIL
No scale



2 1/2" ANCHOR DETAIL
No scale

General Notes:

1. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
2. Anchor steel shall be hot dipped galvanized or approved equal.
3. Footing concrete shall be Commercial Grade Concrete ($f_c = 3000$ psi) per Specification 00440. The CGC mixture may be accepted at the site of placement according to 00440.14.
4. The estimated concrete volume is .09 cubic yards.



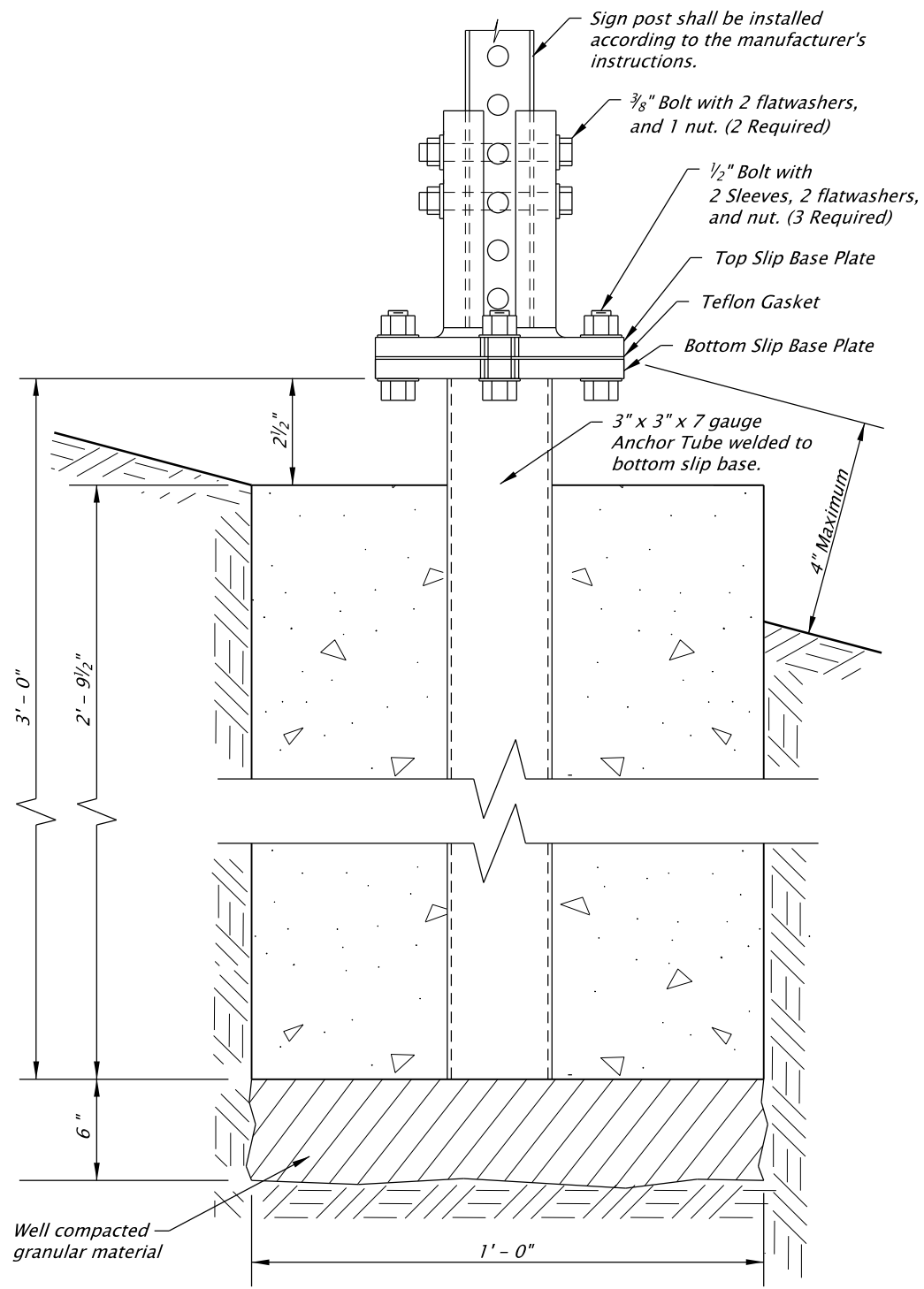
PLAN
No scale

Accompanied by dwgs. TM681, TM688

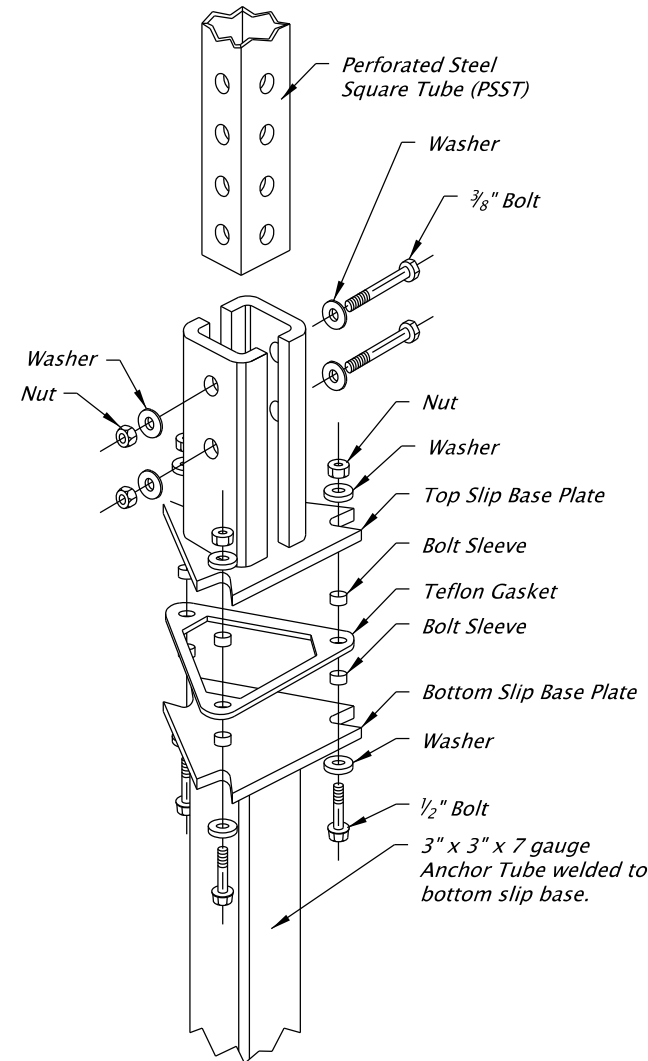
CALC. BOOK NO. 5752	SDR DATE 06-JAN-2012
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
PERFORATED STEEL SQUARE TUBE (PSST) ANCHOR FOUNDATION	
2021	
DATE	REVISION DESCRIPTION

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.

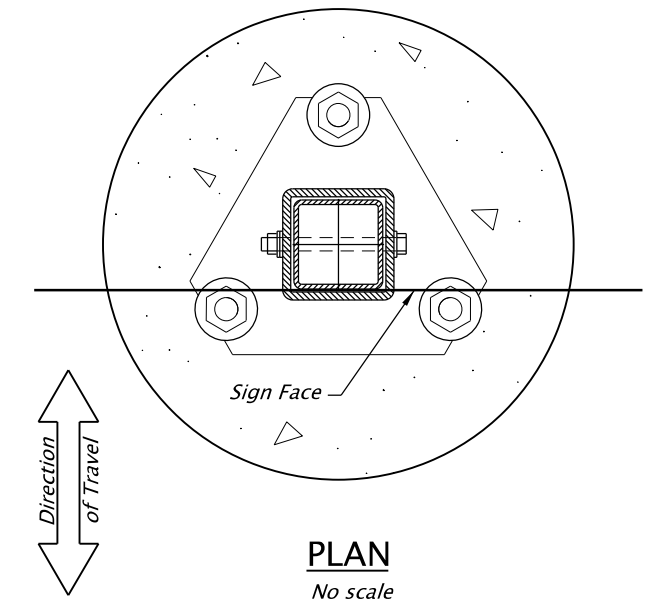
tm688.dgn 10-JUL-2020



SLIP BASE ELEVATION
No scale



SLIP BASE EXPLODED VIEW
No scale



General Notes:

1. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
2. Slip base steel shall be hot dipped galvanized or approved equal.
3. Footing concrete shall be Commercial Grade Concrete ($f_c = 3000$ psi) per Specification 00440. The CGC mixture may be accepted at the site of placement according to 00440.14.
4. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
5. All slip bases shall be pre-assembled by the manufacturer and shall be installed according to the manufacturer's instructions.
6. Use slip bases listed on the ODOT Qualified products list or submit crash testing data, installation instructions, and unstamped working drawings according to 00150.35.
7. Slip base details shown are not for a specific manufacturer and are only shown to convey general pieces of a slip base system. Specific slip base material will be according to the manufacturer's documentation.

Accompanied by dwgs. TM681, TM687

CALC. BOOK NO. <u>5752</u>	SDR DATE <u>06-JAN-2012</u>											
<p>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.</p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications											
	<p>OREGON STANDARD DRAWINGS</p> <p>PERFORATED STEEL SQUARE TUBE (PSST) SLIP BASE FOUNDATION</p> <p>2021</p>											
	<table border="1"> <thead> <tr> <th>DATE</th> <th>REVISION</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DATE	REVISION	DESCRIPTION								
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